



**Final**

**Remedial Investigation Report for  
Installation Restoration Site 34**

**Alameda Point  
Alameda, California**

**May 2008**

Prepared for:  
**Base Realignment and Closure  
Program Management Office West  
San Diego, California**

Prepared by:  
**SulTech, A Joint Venture of Sullivan Consulting Group  
and Tetra Tech EM Inc.  
1230 Columbia Street, Suite 1000  
San Diego, California 92101**

Prepared under:  
**Contract Number N68711-03-D-5104  
Contract Task Order 0105**

**SULT.5104.0105.0004**

# SulTech

A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

## TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N68711-03-D-5104

Document Control No. SULT.5104.0105.0004

TO: Contracting Officer  
Leanora Sili, Code 02RE.LS  
Naval Facilities Engineering Command  
Southwest Division  
1220 Pacific Highway, Bldg 127  
San Diego, CA 92132-5190

DATE: 05/08/08  
CTO: 0105  
LOCATION:  
Alameda Point, Alameda, California

FROM:



**Steven Bradley, Contract Manager**

DOCUMENT TITLE AND DATE:

**Final Remedial Investigation for Installation Restoration Site 34**

**May 2008**

TYPE:  Contractual Deliverable  Technical Deliverable (DS)  Other (TC)

VERSION: Draft Final REVISION #: NA

(e.g., Draft, Draft Final, Final)

ADMIN RECORD: Yes  No  CATEGORY: Confidential

SCHEDULED DELIVERY DATE: 5/09/08 ACTUAL DELIVERY DATE: 5/12/08

NUMBER OF COPIES SUBMITTED TO NAVY: O/8C/6E/1D

O = original transmittal form  
C = copy of transmittal form  
E = enclosure  
D = compact disk

COPIES TO: (Include Name, Navy Mail Code, and Number of Copies)

**NAVY:**

Catharine Haran (BPMOW.CH)

O/1C/1E

J.Howell-Payne (BPMOW.JP)

1C + letter only

Nars Ancog (03EN.NA)

1C + letter only

Diane Silva \*(EVR.DS)

3C/3E/1D

G. Pat Brooks (BPMOW.GB)

1C/1E

John Kowalczyk (BPMOW.JK)

1C/1E

**SulTech:**

File/Doc Control

1C/1D (w/QC)

Craig Hunter

1C/1E

**OTHER:**

SEE ATTACHED LETTER

**Date/Time Received**

# SulTech

A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

## TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N68711-03-D-5104

Document Control No. SULT.5104.0105.0002

TO: Contracting Officer  
Leanora Sili, Code 02RE.LS  
Naval Facilities Engineering Command  
Southwest Division  
1220 Pacific Highway, Bldg 127  
San Diego, CA 92132-5190

DATE: 03/06/08  
CTO: 0105  
LOCATION:  
Alameda Point, Alameda, California

FROM:



Steven Bradley, Contract Manager

DOCUMENT TITLE AND DATE:

**Draft Final Remedial Investigation for Installation Restoration Site 34**

**March 10, 2007**

TYPE:  Contractual Deliverable  Technical Deliverable (DS)  Other (TC)

VERSION: Draft Final REVISION #: NA

(e.g., Draft, Draft Final, Final)

ADMIN RECORD: Yes  No  CATEGORY: Confidential

SCHEDULED DELIVERY DATE: 3/10/08 ACTUAL DELIVERY DATE: 3/10/08

NUMBER OF COPIES SUBMITTED TO NAVY:

O/8C/6E/1D

O = original transmittal form  
C = copy of transmittal form  
E = enclosure  
D = compact disk

COPIES TO: (Include Name, Navy Mail Code, and Number of Copies)

NAVY:

Catharine Haran (BPMOW.FF)

O/1C/1E

Joyce Howell-Payne (BPMOW.JH)

1C + letter only

Nars Ancog (03EN.NA)

1C + letter only

Diane Silva \*(EVR.DS)

3C/3E/1D

T. Macchiarella (BPMOW.TM)

1C/1E

John Kowalczyk (BPMOW.JK)

1C/1E

SulTech:

File/Doc Control

1C/1D (w/QC)

Craig Hunter

1C/1E

OTHER:

SEE ATTACHED LETTER

**Date/Time Received**

Final

**Remedial Investigation Report  
Installation Restoration Site 34  
Alameda Point, Alameda, California**

Contract Task Order 0105  
SULT.5104.0105.0004

**PREPARED FOR:**

**DEPARTMENT OF THE NAVY**

---

**REVIEW AND APPROVAL**

Project Manager:



\_\_\_\_\_  
Craig Hunter, SulTech

Date: 09May2008

# **TABLE OF CONTENTS**

---

REVIEW AND APPROVAL .....	i
ACRONYMS AND ABBREVIATIONS .....	ix
EXECUTIVE SUMMARY .....	ES-1
1.0 INTRODUCTION .....	1-1
1.1 PURPOSE .....	1-1
1.2 REPORT ORGANIZATION .....	1-2
1.3 BACKGROUND.....	1-3
1.3.1 Regulatory Framework .....	1-3
1.3.2 Alameda Point Description and History .....	1-4
1.3.3 IR Site 34 Description and Operations .....	1-5
1.3.4 Previous Investigations at IR Site 34 .....	1-8
1.3.5 Previous Investigations at Adjacent Parcels .....	1-17
1.3.6 Future Use.....	1-17
2.0 PHYSICAL SETTING .....	2-1
2.1 CLIMATE.....	2-1
2.2 TOPOGRAPHY.....	2-1
2.3 GEOLOGY.....	2-1
2.3.1 Regional Geology .....	2-1
2.3.2 IR Site 34 Geology.....	2-2
2.4 HYDROGEOLOGY .....	2-3
2.4.1 Regional Hydrogeology.....	2-3
2.4.2 Alameda Point and IR Site 34 Hydrogeology.....	2-3
2.5 GROUNDWATER USE AND POTENTIAL BENEFICIAL USES .....	2-5
2.6 SURFACE WATER DRAINAGE SYSTEM AND TIDES .....	2-6
2.7 ECOLOGICAL HABITATS.....	2-6
2.8 INITIAL CONCEPTUAL SITE MODEL AND EXPOSURE UNIT IDENTIFICATION.....	2-8
3.0 INVESTIGATION APPROACH AND SCOPE .....	3-1
3.1 DATA QUALITY OBJECTIVES AND ASSESSMENTS.....	3-1
3.2 BACKGROUND COMPARISON.....	3-2
3.3 METHODS AND APPROACH FOR NATURE AND EXTENT EVALUATION .....	3-4
3.4 METHODS AND APPROACH FOR FATE AND TRANSPORT EVALUATION .....	3-6
3.5 METHODS AND APPROACH FOR HUMAN HEALTH RISK ASSESSMENT .....	3-6
3.5.1 Data Evaluation and Selection of Chemicals of Potential Concern.....	3-7

**TABLE OF CONTENTS (Continued)**

---

3.5.2	Exposure Assessment.....	3-7
3.5.3	Toxicity Assessment.....	3-9
3.5.4	Risk Characterization.....	3-11
3.5.5	Uncertainty Analysis.....	3-12
3.6	METHODS AND APPROACH FOR SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT.....	3-13
3.6.1	Exposure Evaluation.....	3-14
3.6.2	Risk Characterization.....	3-16
3.6.3	Risk Refinement.....	3-19
3.6.4	Uncertainty Analysis.....	3-20
4.0	NATURE AND EXTENT OF CONTAMINATION.....	4-1
4.1	NATURE AND EXTENT OF SOIL CONTAMINATION.....	4-1
4.1.1	Metals in Soil.....	4-1
4.1.2	Volatile Organic Compounds in Soil.....	4-4
4.1.3	Semivolatile Organic Compounds in Soil.....	4-5
4.1.4	Polycyclic Aromatic Hydrocarbons in Soil.....	4-6
4.1.5	Pesticides in Soil.....	4-7
4.1.6	Polychlorinated Biphenyls in Soil.....	4-7
4.1.7	Total Petroleum Hydrocarbons in Soil.....	4-8
4.1.8	Summary of Contamination in Soil.....	4-9
4.2	NATURE AND EXTENT OF GROUNDWATER CONTAMINATION.....	4-11
4.2.1	Metals in Groundwater.....	4-11
4.2.2	Volatile Organic Compounds in Groundwater.....	4-13
4.2.3	Semivolatile Organic Compounds in Groundwater.....	4-14
4.2.4	Polycyclic Aromatic Hydrocarbons in Groundwater.....	4-15
4.2.5	Pesticides in Groundwater.....	4-15
4.2.6	Polychlorinated Biphenyls in Groundwater.....	4-16
4.2.7	Total Petroleum Hydrocarbons in Groundwater.....	4-16
4.2.8	Summary of Contamination in Groundwater.....	4-17
4.3	NATURE AND EXTENT CONCLUSIONS.....	4-18
5.0	FATE AND TRANSPORT OF CHEMICALS IN SOIL AND GROUNDWATER AT IR SITE 34.....	5-1
5.1	POTENTIAL MIGRATION PATHWAYS.....	5-2
5.1.1	Particulate Dispersion.....	5-2
5.1.2	Volatilization to Ambient Air.....	5-2
5.1.3	Infiltrating Precipitation or Fluctuating Groundwater Table.....	5-3

**TABLE OF CONTENTS (Continued)**

---

5.1.4	Groundwater Migration .....	5-3
5.1.5	Subsurface Conduits .....	5-4
5.2	PHYSICAL CHARACTERISTICS AND PRIMARY FATE PROCESSES THAT AFFECT CHEMICALS OF INTEREST .....	5-4
5.2.1	Metals.....	5-5
5.2.2	Volatile Organic Compounds .....	5-7
5.2.3	Polycyclic Aromatic Hydrocarbons.....	5-8
5.2.4	Pesticides.....	5-9
5.2.5	Polychlorinated Biphenyls.....	5-10
5.2.6	Petroleum Hydrocarbons .....	5-10
5.3	CONCEPTUAL SITE MODEL .....	5-12
5.4	FATE AND TRANSPORT SUMMARY .....	5-14
6.0	BASELINE HUMAN HEALTH RISK ASSESSMENT .....	6-1
6.1	TOTAL AND INCREMENTAL RISKS.....	6-1
6.2	FUTURE WORKERS AND RECREATIONAL USERS .....	6-2
6.3	FUTURE RESIDENTS .....	6-3
6.4	RISK DRIVERS.....	6-4
6.4.1	Risk Drivers in Soil.....	6-4
6.4.2	Risk Drivers in Groundwater.....	6-7
6.5	UNCERTAINTY ANALYSIS .....	6-8
6.6	CONCLUSIONS.....	6-9
7.0	SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT.....	7-1
7.1	EXPOSURE EVALUATION.....	7-1
7.2	RISK CHARACTERIZATION .....	7-3
7.3	STEP 3A RISK REFINEMENT.....	7-5
7.3.1	Risk Refinement for Terrestrial Wildlife.....	7-5
7.3.2	Risk Refinement for Aquatic Life.....	7-6
7.4	UNCERTAINTY .....	7-6
7.5	CONCLUSIONS.....	7-7
8.0	CONCLUSIONS AND RECOMMENDATIONS .....	8-1
8.1	CONCLUSIONS.....	8-1
8.1.1	Nature and Extent Conclusions.....	8-1
8.1.2	Chemical Fate and Transport Conclusions .....	8-4
8.1.3	Human Health Risk Assessment Conclusions .....	8-4
8.1.4	Risk Driver Evaluation .....	8-5

**TABLE OF CONTENTS (Continued)**

---

8.1.5	Screening-Level Ecological Risk Assessment and Risk Refinement Conclusions.....	8-6
8.2	RECOMMENDATIONS.....	8-7
9.0	REFERENCES .....	9-1

**Appendix**

A	Investigation Procedures and Field Methodology	
B	Soil Boring Logs	
C	Aquifer Testing	
D	Analytical Results for Soil Samples	
E	Analytical Results for Groundwater Samples	
F	Data Quality Control Summary Report	
G	Methods for Calculating Exposure Point Concentrations and Conducting Background Screening of Soil and Groundwater	
H	Baseline Human Health Risk Assessment	
I	Screening-Level Ecological Risk Assessment	
J	Responses to Regulatory Agency Comments on the Draft Remedial Investigation Report and Draft Final Remedial Investigation Report for Installation Restoration Site 34	

## FIGURES

---

- 1-1 Alameda Point Regional Map
- 1-2 Site Location Map
- 1-3 Site Features
- 1-4 IR Site 34 Soil Sampling Locations
- 1-5 Groundwater Sample Locations
  
- 2-1 Generalized Stratigraphic and Hydrologic Units at Alameda Point
- 2-2 Schematic Geologic Cross Section A-A'
- 2-3 Schematic Geologic Cross Section B-B'
- 2-4 Groundwater Elevation Map, First Water Bearing Zone (Basewide)
- 2-5 IR Site 34 Groundwater Elevation Map
- 2-6 Initial Conceptual Site Model
  
- 3-1 Fill History
  
- 4-1 Analytical Results for Arsenic in Soil Samples
- 4-2 Analytical Results for Chromium in Soil Samples
- 4-3 Analytical Results for Iron in Soil Samples
- 4-4 Analytical Results for Lead in Soil Samples
- 4-5 Analytical Results for Vanadium in Soil Samples
- 4-6 Analytical Results for Benzo(a)pyrene Equivalent in Soil Samples
- 4-7 Analytical Results for Pesticides in Soil Samples
- 4-8 Analytical Results for Aroclor-1248 in Soil Samples
- 4-9 Analytical Results for Aroclor-1254 in Soil Samples
- 4-10 Analytical Results for Aroclor-1260 in Soil Samples
- 4-11 Analytical Results for Aroclor-1268 in Soil Samples
- 4-12 Analytical Results for Diesel Range Petroleum Hydrocarbons in Soil Samples
- 4-13 Analytical Results for Motor Oil Range Petroleum Hydrocarbons in Soil Samples
- 4-14 Areas of Concern in Soil Based on Nature and Extent Evaluation
- 4-15 Results for Arsenic in Groundwater
- 4-16 Results for Manganese in Groundwater
- 4-17 Results for Trichloroethene in Groundwater
- 4-18 Results for cis-1,2-Dichloroethene in Groundwater
- 4-19 Results for Diesel Range Hydrocarbons in Groundwater
- 4-20 Results for Motor Oil Range Hydrocarbons in Groundwater
- 4-21 Results for Gasoline Range Hydrocarbons in Groundwater
- 4-22 Analytical Results for Cadmium in Soil Samples
  
- 8-1 Locations Where Human Health Risk Drivers Were Detected Above Risk-Based Concentrations in Soil Under a Residential Use Scenario

***TABLE OF CONTENTS (Continued)***

---

- 8-2 Locations Where Human Health Risk Drivers Were Detected Above Risk-Based Concentrations in Soil Under a Recreational Use Scenario
  
- 8-3 Areas of Concern in Soil Proposed for Further Evaluation in the Feasibility Study

## **TABLES**

---

- ES-1 Human Health Risk Drivers Using EPA Toxicity Values, Reasonable Maximum Exposure
  
- 1-1 Summary of Historical Uses, Investigations, and Findings for IR Site 34 Buildings
- 1-2 Samples Collected and Laboratory Analyses Performed at IR Site 34
  
- 2-1 Depth to Groundwater from Top of Well Casing
- 2-2 Well Construction Details
  
- 3-1 Site 34 Remedial Investigation DQO Process
- 3-2 Summary of Descriptive Statistics for the Pink Background Data Set
- 3-3 Summary of Descriptive Statistics for the Background Groundwater Data Set
  
- 4-1 Summary of Analytical Results for Chemicals Detected in Soil Samples
- 4-2 Soil Background Comparison
- 4-3 Benzo(a)pyrene Equivalents in Soil
- 4-4 Summary of Analytical Results for Chemicals Detected in Groundwater Samples
- 4-5 Background Screen for Metals in Groundwater
  
- 6-1 Total, Incremental, and Background Risks by Pathway, Reasonable Maximum Exposure, Using EPA Toxicity Sources
- 6-2 Total, Incremental, and Background Risks by Pathway, Reasonable Maximum Exposure, Using DTSC-Preferred Toxicity Sources
- 6-3 Total Human Health Risks
- 6-4 Total Risks by Pathway, Reasonable Maximum Exposure
- 6-5 Total Risks by Pathway, Central Tendency Exposure
- 6-6 Total Human Health Risk Drivers Using EPA Toxicity Values, Reasonable Maximum Exposure
  
- 7-1 Chemicals of Potential Ecological Concern in Soil at IR Site 34
- 7-2 Chemicals of Potential Ecological Concern in Groundwater at IR Site 34
- 7-3 Bird and Mammal Hazard Quotients (Step 2)
- 7-4 Bird and Mammal Hazard Quotients (Step 3a)

## **ACRONYMS AND ABBREVIATIONS**

---

µg/dL	Microgram per deciliter
µg/L	Microgram per liter
95UCL	95 Percent upper confidence limit of the mean
Army	U.S. Department of the Army
ARRA	Alameda Reuse and Redevelopment Authority
AST	Aboveground storage tanks
B(a)P	Benzo(a)pyrene
BAF	Bioaccumulation factor
Bay	San Francisco Bay
BCF	Bioconcentration factor
bgs	Below ground surface
BHC	Benzene hexachloride
BRAC	Base Realignment and Closure
BSU	Bay Sediment Unit
BTAG	Biological Technical Assistance Group
CAA	Corrective Action Area
Cal/EPA	California Environmental Protection Agency
CCC	Criteria continuous concentration
CDI	Chronic daily intake
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMC	Continuous maximum concentration
COEC	Chemical of ecological concern
COI	Chemical of interest
COPC	Chemical of potential concern
COPEC	Chemical of potential ecological concern
CSF	Cancer slope factor
CSM	Conceptual site model
CTE	Central tendency exposure
CTR	California Toxics Rule
DCA	Dichloroethane
DCB	Dichlorobenzene
DCE	Dichloroethene
DoD	Department of Defense
DQO	Data quality objective
DTSC	Department of Toxic Substances Control
EBS	Environmental Baseline Survey
EDC	Economic development conveyance

## ***ACRONYMS AND ABBREVIATIONS (Continued)***

---

EPA	U.S. Environmental Protection Agency
EPC	Exposure point concentration
ERA	Ecological Risk Assessment
ESL	Environmental screening level
FS	Feasibility Study
FWBZ	First water-bearing zone
GAP	Generator accumulation point
gpd	Gallon per day
GT	Gehan-Wilcoxon
HEAST	Health Effects Assessment Summary Tables
HHRA	Human Health Risk Assessment
HI	Hazard index
HQ	Hazard quotient
IR	Installation Restoration
IRIS	Integrated Risk Information System
IT Corp.	IT Corporation
$k_{oc}$	Organic-carbon-normalized partition coefficient
LUFT	Leaking Underground Fuel Tank
$m^3/kg$	Cubic meter per kilogram
mg/kg	Milligram per kilogram
mg/kg-day	Milligram per kilogram per day
mg/L	Milligram per liter
msl	Mean sea level
NARF	Naval Air Rework Facility
NAS	Naval Air Station
Navy	U.S. Department of the Navy
NAWQC	National Ambient Water Quality Criteria
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NOAEL	No observable adverse effects level
OEHHA	Office of Environmental Health Hazard Assessment
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PEF	Particulate emission factor
PPRTV	Provisional Peer-Review Toxicity Value

## ***ACRONYMS AND ABBREVIATIONS (Continued)***

---

PRC	PRC Environmental Management, Inc.
PRG	Preliminary remediation goal
QA	Quality assurance
QC	Quality control
QT	Quantile test
RAGS	Risk Assessment Guidance for Superfund
RCRA	Resource Conservation and Recovery Act
redox	Oxidation and reduction potential
REL	Reference exposure level
Res.	Resolution
RfC	Reference concentration
RfD	Reference dose
RI	Remedial Investigation
RME	Reasonable maximum exposure
SCI	Subsurface Consultants, Inc.
SI	Site Inspection
SLERA	Screening-level ecological risk assessment
SUF	Site use factor
SVOC	Semivolatile organic compound
SWBZ	Second water-bearing zone
SWRCB	State Water Resources Control Board
TCE	Trichloroethene
TDS	Total dissolved solids
TEF	Toxicity equivalency factor
Tetra Tech	Tetra Tech EM Inc.
TPH	Total petroleum hydrocarbons
TRV	Toxicity reference value
TSTA	Temporary storage and treatment area
USGS	United States Geologic Survey
UST	Underground storage tank
VOC	Volatile organic compound
Water Board	San Francisco Bay Regional Water Quality Control Board
WRS	Wilcoxon rank sum
XRF	X-ray fluorescence

## **EXECUTIVE SUMMARY**

---

The U.S. Department of the Navy (Navy) has completed a Remedial Investigation (RI) for Installation Restoration (IR) Site 34, at the former Naval Air Station (NAS) Alameda in Alameda, California. NAS Alameda is now known as Alameda Point. The purpose of this RI was to (1) collect data to eliminate previously identified data gaps; (2) evaluate the nature and extent of soil and groundwater contamination; and (3) assess the risk to human health and the environment at IR Site 34. Data generated during the RI were used to complete the characterization of soil and groundwater conditions at IR Site 34 and to support risk estimate calculations for a baseline human health risk assessment (HHRA) and a screening-level ecological risk assessment (SLERA). This RI was performed as part of the ongoing activities and responsibilities required under the Navy's IR Program.

The following sections describe the site and its history, and summarize the future land use; previous investigations; the results of the evaluations of nature and extent of contamination, fate and transport, and risk to humans and ecological receptors; and the conclusions and recommendations based on the RI and risk assessment data presented in Sections 1.0 through 7.0 of the RI Report.

### **SITE DESCRIPTION AND HISTORY**

IR Site 34 is located in the north-central portion of Alameda Point, adjacent to the Oakland Inner Harbor (see Figure 1-2). IR Site 34 is a 4.18-acre area that is a partially paved, relatively flat open space. IR Site 34 was a Naval Air Rework Facility (NARF) used to maintain base equipment such as scaffolding and other apparatus. The site was used primarily for painting services, storage, wood and metal shop activities, and sandblasting activities. IR Site 34 formerly contained several structures, including 12 buildings (331, 330, 343, 475, 344, 510, 474, 477, 604, 476, 479, and 472) and intervening open areas; seven aboveground storage tanks (AST) (330A, 330B, 344A, 344B, 344C, 344D, and 331); generator accumulation points (GAP) 78 and 79; 15 transformers; and an aviation gasoline fuel line. All buildings, ASTs, GAPs, transformers, and fuel lines were removed between 1996 and 2000, except for their concrete pads. Figure 1-3 of the RI Report shows the historical and existing site features at IR Site 34.

### **FUTURE LAND USE**

IR Site 34 is considered part of the Northwest Territories. The Northwest Territories are designated as Public Open Space and Parks (City of Alameda 2003). Future use of IR Site 34 is designated as part of a golf course area. In addition, Site 34 has been identified as a tideland trust area that is subject to the limitations expressed in the Coastal Zone Management Act, including a restriction on residential use.

## PREVIOUS INVESTIGATIONS

Numerous investigations have been conducted at IR Site 34, including the Phase 1 environmental baseline survey (EBS) (Environmental Resources Management West, Inc. [ERM-West] 1994), Phase 2a and 2b EBS (International Technology Corporation [IT Corp.] 2001), fuel pipeline removal action (IT Corp. 1999), and a site inspection (Bechtel Environmental, Inc. 2003). Based on the results of these investigations, the Navy decided that an RI was necessary at IR Site 34. Fieldwork for the RI was conducted from February 2006 through March 2007 (SulTech 2006). The fieldwork consisted of two separate mobilizations. During the first mobilization, modified grid samples were collected from 19 sampling locations, fence line samples were collected from 13 sampling locations, hotspot samples were collected from 20 sampling locations, paint waste samples were collected from 24 sampling locations, off-site samples at adjacent parcels were collected from 2 sampling locations, and groundwater samples were collected from 19 sampling locations. Field activities also included the installation of four shallow and one deep monitoring wells, aquifer testing, and two rounds of groundwater sampling. The purpose of the second mobilization was to obtain more data on potential migration of chemicals to groundwater and to clarify some of the analytical results from the first mobilization of the RI fieldwork.

## NATURE AND EXTENT OF CONTAMINATION – SOIL AND GROUNDWATER

The RI report presents the analytical results of five investigations completed at IR Site 34, as discussed in the previous section. Data collected during these previous investigations were used to evaluate site conditions for the HHRA and SLERA.

Samples were analyzed for metals, volatile organic compounds (VOC), semivolatile compounds (SVOC), polycyclic aromatic hydrocarbons (PAH), pesticides, polychlorinated biphenyls (PCB), and total petroleum hydrocarbons (TPH).

Soil data collected during these investigations were screened against a number of comparison criteria, including U.S. Environmental Protection Agency (EPA) and California-modified residential preliminary remediation goals (PRGs), EPA and California-modified industrial PRGs, San Francisco Bay Regional Water Quality Control Board (Water Board) environmental screening levels (ESL) (for diesel, gasoline, and motor oil), background concentrations of metals in soil samples from the Pink Fill Area and screening level established by the Navy and agencies for PAHs as average benzo(a)pyrene [B(a)P] equivalent concentrations. Groundwater data collected during these investigations were screened against EPA tap water PRGs, background concentrations for metals in shallow groundwater samples from the Alameda Point, and Water Board ESLs to evaluate potential vapor intrusion concerns for residential land use in high-permeability vadose zone soils. Using residential PRGs, ESLs, and EPA tap water PRGs to estimate the nature and extent of contamination at IR Site 34 may be an overly conservative comparison given the intended future use as a golf course and the restriction against residential use of tidelands trust areas.

## Summary of Soil Nature and Extent

For the purposes of this RI, contamination is defined as a chemical detected in an environmental sample at IR Site 34 at a concentration exceeding comparison criteria. Metals, VOCs, PAHs, pesticides, PCBs, and TPH were detected at concentrations above comparison criteria in soil samples collected at IR Site 34. Only the following seven chemicals were detected above comparison criteria in more than 10 percent of the samples:

- Metals (arsenic, iron, lead)
- PCBs (Aroclor-1254, Aroclor-1260)
- TPH (as diesel, as motor oil)

Although PAHs were detected above comparison criteria in less than 10 percent of the samples and the evaluation of PAHs relative to B(a)P equivalents showed the site-wide average B(a)P equivalent concentration is below the comparison criteria of 0.62 milligram per kilogram (mg/kg), the site-wide average concentration is influenced by an EPA B(a)P-equivalent value of 8.4 mg/kg and an Office of Environmental Health Hazard Assessment (OEHHA) B(a)P-equivalent value of 9.5 mg/kg in a sample of anomalous soil collected above a black clayey sand with a strong diesel odor at location DP16 (north of Building 331).

In addition to exceeding comparison criteria in more than 10 percent of the samples, these seven chemicals, and the following additional chemicals were determined to likely pose potential risk, based on a residential exposure (see the HHRA, Section 6.0)

- PCBs (Aroclor-1248, 1268)
- Pesticides (dieldrin, heptachlor epoxide),
- SVOC (naphthalene)
- VOCs (1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-dichlorobenzene (DCB), and 1,4-DCB)

After taking into consideration that further evaluation in a feasibility study (FS) is based on the risk assessments and reviewing the distribution of concentrations for those chemicals driving risk, residual soil contamination appears to be collocated and limited to six specific areas of concern (AOC) at IR Site 34. The list below (as shown on Figure 4-14) indicates which chemicals are present at each AOC at concentrations potentially posing risk and the likely historical sources of the contaminants.

- **Northwest corner of the site, near the former railroad and former Building 510:** arsenic, PCBs, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to site use and historical sandblasting in former Building 510. Oils and solvents may have been released from sandblasting equipment.
- **North of Building 331:** arsenic, lead, PCBs, naphthalene, and TPH as diesel. Residual contamination in this area appears to be related to use of oils and solvents for woodwork at the former building and metal working at Building 330 to the west.
- **Along the former railroad and south of former Building 331:** lead, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to site use, historical releases from former AST 331, and use of oils and solvents for woodwork at the former building.
- **Southwest corner of former Building 343 and east of former Building 475:** PCBs. Residual contamination in this area appears to be related to the transformer formerly located in Building 475 and the release of oils from sandblasting equipment.
- **Southeast corner of former Building 343 and northeast corner of former Building 344:** iron, lead, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to historical releases from former AST 344D, sandblasting of lead-based paints, and lubricants used for sheet metal fabrication. The floor of former Building 343 was rusted, which may have released metals to nearby soil.
- **Southwest corner of the site:** pesticides, PCBs, and VOCs. This area was used between 1995 and 1997 for temporary storage of PCB- and lead-contaminated soil excavated from IR Site 15 (see Section 1.3.3.1). Residual contamination in this area may be related to operation of the temporary storage and treatment area (TSTA) and application of pesticides for weed control.

## Summary of Groundwater Nature and Extent

Metals, VOCs, and PAHs were detected at concentrations exceeding comparison criteria in groundwater samples collected at IR Site 34. Diesel- and motor oil-range petroleum hydrocarbons had a greater than 50 percent detection frequency across IR Site 34. The most likely sources of these chemicals are from the disposal of used sandblasting and paint grit; painting activities; chemical storage; sheet metal fabrication; spills near the GAP; leaks from ASTs; and application of chemicals for weed control. However, all of these potential sources were removed after closure of NAS Alameda in 1997. Groundwater contamination at IR Site 34 appears to be confined to several specific areas, as listed below.

- Near the open area in the western-central portion of the site

- Near former Buildings 331, 474, 476, and 604; former GAP 78; the former petroleum fuel pipeline in the southwest corner of the site; and former ASTs 330B, 331, 344A, 344B, and 344D.

These areas have been identified using EPA tap water PRGs as a preliminary screening tool, even though groundwater beneath IR Site 34 is not a potential drinking water source.

## **CHEMICAL FATE AND TRANSPORT**

Potential transport mechanisms that may allow chemicals at IR Site 34 to migrate were evaluated. The most significant transport mechanisms are listed below.

- Migration of chemicals by leaching from vadose zone soils to groundwater by infiltration of rainwater, and to a lesser extent by seasonal and tidal fluctuations in groundwater elevations.
- Horizontal migration of chemicals toward the Oakland Inner Harbor because of groundwater flow and tidal fluctuation.
- Migration of chemicals because of groundwater flow into and along storm sewers. However, based on groundwater data collected during the RI investigation and chemical distribution at the site, it appears that the chemicals are not migrating along this pathway.

## **BASELINE HUMAN HEALTH AND RISK ASSESSMENT**

The baseline HHRA estimated potential risks for future hypothetical commercial/industrial workers, construction workers, recreational users, and residents at IR Site 34. The HHRA estimated risks using EPA and California Department of Toxic Substances Control (DTSC) toxicity values assuming both a reasonable maximum exposure (RME) scenario and a central tendency exposure (CTE) scenario. RME is intended to represent the upper end of exposure, whereas CTE represents an average exposure. Table ES-1 presents the total RME risks estimated using EPA toxicity values. Section 6.0 and Appendix H discuss potential risks estimated using DTSC toxicity values and risks estimated under the CTE scenario.

IR Site 34 is currently unoccupied land, thus receptors are not present at the site. The planned reuse of this area is recreational and includes the development of a golf course. IR Site 34 has been identified as a tidelands trust area that is subject to the limitations expressed in the Coastal Zone Management Act, including a restriction on residential use. Although planned reuse of IR Site 34 is recreational and the future residential scenario evaluated in the HHRA is unlikely, the HHRA evaluated a residential scenario to provide alternative risk estimates for unrestricted reuse of the site and to support risk management decisions for the site.

Table ES-1 identifies the risk drivers in soil and groundwater. The HHRA identified a chemical of potential concern (COPC) as a risk driver when the COPC-specific cancer risk exceeded  $1 \times 10^{-6}$  or the COPC-specific hazard quotient (HQ) exceeded 1. Lead was identified as a risk driver because blood-lead modeling resulted in 99th percentile concentrations greater than 10 micrograms per deciliter for adult and child residents. As summarized below, each risk driver was evaluated to determine whether a risk driver should be considered in an FS.

### **Human Health Risk Drivers**

The RI Report evaluated each risk driver to determine whether a risk driver should be considered in an FS. As described in Section 6.4, factors considered when including or excluding chemicals for further considerations in FS included background concentrations, frequency of detection, exposure pathways, the B(a)P-equivalent screening level, and sampling methodology (grab samples).

### **Human Health Risk Drivers in Soil Recommended for Consideration in a Feasibility Study**

The table below lists the risk drivers recommended for further consideration in an FS.

<b>Risk Drivers in Soil Recommended for Further Consideration in an FS</b>			
1,2,3-Trichlorobenzene	1,4-DCB	Aroclor-1260	Iron
1,2,4-Trichlorobenzene	Aroclor-1268	Arsenic	Lead
1,2,4-Trimethylbenzene	Aroclor-1248	Dieldrin	Naphthalene
1,2-DCB	Aroclor-1254	Heptachlor epoxide	

As shown on Table ES-1, potential cancer risks from 1,4-DCB ( $1.4 \times 10^{-4}$ ) contributes the most to the total cancer risk ( $2.7 \times 10^{-4}$ ) under the residential scenario. Potential cancer risks were less than  $4 \times 10^{-5}$  for all other risk drivers. The noncancer hazard quotient of naphthalene (48), 1,2,4-trichlorobenzene (18), and 1,2,3-trichlorobenzene (5.2) contributes the most to the total hazard index (82) under the residential scenario. The hazard quotients were less than 2 for all other risk drivers under the residential scenario.

The potential for human health effects caused by lead is typically estimated on the basis of blood-lead concentrations. Blood-lead modeling resulted in 99th percentile concentrations greater than 10 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ) for the adult and child residents. Lead concentrations were greater than the background concentration of 37.7 mg/kg in 45 of 105 soil samples. Lead concentrations ranged from 1.1 mg/kg to 21,000 mg/kg and the average was 520 mg/kg. Lead concentrations exceeded the California-modified residential PRG of 150 mg/kg in 29 soil samples and the EPA industrial PRG of 800 mg/kg in 7 soil samples.

Although the RI recommends consideration in an FS for the chemicals listed above, potential risks for many of these chemicals are based on very conservative assumptions that may have overestimated risks and include risk drivers for hypothetical residential scenarios that are

unlikely. For example, 1,2,3-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and iron were only risk drivers under the residential scenario. As discussed previously, residential development of IR Site 34 is unlikely.

Many conservative assumptions were used that may have overestimated the risks. For example, the VOCs (1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and 1,4-DCB) were only detected in 1 of 32 soil samples, and all at the same location (DP2). Thus, estimated risks for these VOCs are not representative of site-wide conditions, but rather represent the potential risks at only one soil sampling location. The risk from naphthalene is also based on the maximum detected concentration. However, these VOCs are recommended for consideration in an FS because they contribute the most to the total cancer risks and noncancer hazard index. In addition, these VOCs are collocated with (though likely unrelated to) PCBs that are also recommended for further consideration in an FS.

As another example, EPA derived a provisional reference dose for iron based on a specific metabolic disorder. Incorporation of this reference dose resulted in a chemical-specific HQ exceeding 1. The significance of this result is uncertain because ongoing debate over this provisional reference dose has not resulted in its incorporation into the EPA Integrated Risk Information System (IRIS).

**Human Health Risk Drivers in Soil not Recommended for Consideration in a Feasibility Study**

The table below lists the risk drivers in soil not recommended for further consideration in an FS.

Risk Drivers in Soil not Recommended for Further Consideration in an FS			
Soil			
4-Nitroaniline	B(a)P	Dibenzo(a,h)anthracene	4-Nitroaniline
Aluminum	Benzo(b)fluoranthene	Indeno(1,2,3-cd)pyrene	Aluminum
Benzo(a)anthracene	Bis(2-ethylhexyl)phthalate	Manganese	Benzo(a)anthracene

Most of the risk from 4-nitroaniline and bis(2-ethylhexyl)phthalate was from the homegrown produce pathway and both were identified as risk drivers only for the future hypothetical resident. The HHRA used conservative assumptions to estimate risks for the homegrown produce pathway, so the risks for these risk drivers are likely overestimated. In addition, 4-nitroaniline was only detected in 1 of 24 samples (with a maximum detected concentration of 0.62 mg/kg) and does not exceed the residential soil PRG of 37 mg/kg. Bis(2-ethylhexyl)phthalate was only detected in 5 of 38 soil samples (with a maximum detected concentration of 14 mg/kg) and does not exceed the residential soil PRG of 35 mg/kg. These two risk drivers are not collocated with other chemicals exceeding comparison criteria, and bis(2-ethylhexyl)phthalate is known to be a common laboratory contaminant. The cancer risk to a hypothetical future hypothetical resident from exposure to 4-nitroaniline in surface and subsurface soil is  $1.4 \times 10^{-6}$ . The cancer risk to a hypothetical future hypothetical resident from

exposure to bis(2-ethylhexyl)phthalate in surface soil is  $3.3 \times 10^{-6}$  and  $2.2 \times 10^{-6}$  in subsurface soil. The results for 4-nitroaniline and bis(2-ethylhexyl)phthalate are all at the lower end of the risk management range of  $10^{-6}$  to  $10^{-4}$ . In addition, the noncancer hazards for both of these risk drivers in surface and subsurface soil are less than the noncancer threshold of 1.0. Thus, consideration of 4-nitroaniline and bis(2-ethylhexyl)phthalate in an FS is not recommended.

Aluminum and manganese were the only risk drivers for the future hypothetical construction worker. Historical activities and the distribution of aluminum and manganese concentrations exceeding background concentrations do not indicate aluminum and manganese are related to Navy activities at IR Site 34. Thus, the RI Report does not recommend consideration of aluminum and manganese in an FS.

PAHs were identified as risk drivers; however, previous agreements between the Navy and regulatory agencies established a screening level of 0.62 milligram per kilogram (mg/kg) for an average B(a)P equivalent concentration. The average EPA and OEHHA B(a)P equivalent concentrations (0.47 mg/kg and 0.52 mg/kg, respectively) are below the established screening level of 0.62 mg/kg. The site-wide average concentrations are influenced by an EPA B(a)P-equivalent value of 8.4 mg/kg and an OEHHA B(a)P-equivalent value of 9.5 mg/kg in a sample of anomalous soil collected above a black clayey sand with a strong diesel odor at location DP16. The site-wide average EPA and OEHHA B(a)P equivalent concentrations without this sample are 0.23 mg/kg and 0.25 mg/kg, respectively. Elevated concentrations of PAHs were confined to individual sample locations and do not appear to represent large masses of contaminated media. Thus, the RI Report does not recommend further consideration of PAHs in an FS.

#### ***Human Health Risk Drivers in Groundwater***

The only risk driver identified in groundwater is trichloroethene (TCE). The vapor intrusion pathway accounted for 98 percent of the estimated cancer risk for TCE. Many of the exposure assumptions used to evaluate the vapor intrusion pathway are highly conservative and may have overestimated risks. For example, the vapor intrusion models assumed steady-state concentrations of volatile COPCs in the subsurface for the entire duration of exposure. The assumption of steady-state concentrations for extended durations is conservative because, over time, chemicals may migrate from one medium to another or from one location to another within a particular medium. In addition, the assumption of steady-state concentrations for the entire duration of exposure assumes that reductions in concentrations that would likely occur through transformation or degradation processes—such as hydrolysis, photolysis, and biodegradation—do not occur. TCE was detected in 8 of 30 groundwater samples. The two highest TCE concentrations (0.6 micrograms per liter [ $\mu\text{g/L}$ ]) were detected in grab groundwater samples collected using direct-push technologies. The highest TCE concentration detected in a monitoring well was an estimated value (J-qualified) of 0.2  $\mu\text{g/L}$ . Thus, the RI Report does not recommend further consideration of TCE in an FS.

Groundwater at IR Site 34 is not reasonably anticipated to serve as a public drinking water supply. Accordingly, the HHRA did not quantitatively evaluate domestic use of groundwater

because it considers domestic use of groundwater to be an incomplete pathway. Thus, no further evaluation of groundwater is required and no action is recommended.

### **SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A RISK REFINEMENT**

A SLERA was conducted as part of the RI to evaluate potential risks to ecological receptors from chemicals in soil and groundwater at IR Site 34. Direct soil ingestion, ingestions via the food chain, and horizontal migration of groundwater to surface water were identified as potentially complete exposure pathways for ecological receptors. Tier 1 of the ecological risk assessment process was completed to calculate screening-level HQs. Tier 1, composed of two steps, used existing data and conservative assumptions to evaluate risk at the site. In Step 1, Exposure Evaluation, potentially complete exposure pathways were examined to determine if links between site chemicals and ecological receptors exist at IR Site 34. In Step 2, Risk Characterization, risk was estimated for chemicals with potentially complete exposure pathways identified in Step 1. Risk for terrestrial receptors was estimated based on the HQ approach, and effects on aquatic life were qualitatively evaluated by comparing chemicals in groundwater to four sets of primary aquatic comparison criteria potentially applicable to the site (threshold criteria).

The data evaluated in Steps 1 and 2 indicated chemicals in soil and groundwater at IR Site 34 may pose unacceptable risk to receptors; therefore, the Navy initiated the risk refinement step (Step 3a) of the baseline ERA. In order to generate a slightly more realistic estimate of risk, while maintaining the conservative nature of the SLERA, a Step 3a risk refinement was conducted for any chemical of potential ecological concern (COPEC) with an HQ greater than 1 and a frequency of detection of 5 percent or greater, COPECs without toxicity reference values (TRV) and groundwater COPECs that exceeded the four sets of aquatic threshold criteria. Refined risk estimates were not prepared for several pesticides and the PCB Aroclor-1248 that had HQs greater than 1 because their frequency of detection is less than 5 percent. For terrestrial receptors, risk estimations were refined by using the lower of the 95 percent upper confidence limit of the mean (95UCL) and the maximum detected concentration as the exposure point concentration and modifying the exposure factors to reflect more realistic values for each receptor. For aquatic life, those groundwater COPECs retained from the initial screening were evaluated chemical by chemical based upon the maximum detected concentration and 95UCL compared to the four sets of threshold criteria; a supplemental literature search for additional criteria; the sample location (for example, the first water-bearing zone [FWBZ] versus the second water-bearing zone [SWBZ], at locations with other elevated metals); sampling date; sampling methods (for example, monitoring well versus direct push), and the groundwater data set (for example, exposure point concentration driven by outlier). The SLERA intentionally incorporates conservative assumptions to identify any potential risk from site-related chemicals to ecological receptors. As a result, this assessment likely overestimates the risk associated with the risk

Based on the results of the Step 3a risk refinement, the following chemical was identified as a risk driver in soil at IR Site 34.

- Lead

No risk drivers were identified in groundwater at Site 34.

Although lead may contribute to ecological risk at IR Site 34, based on the SLERA, a baseline ecological risk assessment (ERA) is not recommended because the SLERA likely overestimated risk, there is a lack of current suitable habitat, and future land use would not generate much ideal habitat for wildlife. IR Site 34 currently consists of predominantly Intensively Developed area and two potential wetland areas. Intensively Developed areas have little vegetation and typical urban wildlife, such as California ground squirrel, scrub jays, and American robins, may be observed in these areas but to a lesser extent than in the landscaped/developed areas, because less foraging habitat is available in these areas. The potential wetland areas provide minimal habitat to support plant and invertebrate populations and do not provide suitable habitat for small mammals. In addition, because of high marine vessel activity in the Oakland Inner Harbor it is unlikely that this area will be used by nesting birds.

Site-related chemicals in soil and groundwater at IR Site 34 are not expected to affect the potential wetland areas or the Oakland Inner Harbor for the following reasons. It is unlikely that groundwater or surface water runoff from IR Site 34 would affect the potential seasonal wetland located within the southwest corner of the site because the site topography would prevent it from reaching this potential wetland. Although surface water generally flows towards the wetland located to the north of the site, precipitation typically evaporates into the atmosphere, infiltrates to groundwater, or runs off into the storm drain system. The potential wetland is also not likely to be affected by site-related chemicals in groundwater because it lies between a series of parallel rock riprap walls that together form a terrace of land that is the shoreline and is tidally inundated at such a frequency as to not present suitable habitat for small mammals, dilution would occur as groundwater mixes with surface water (Oakland Inner Harbor), and groundwater COPECs were identified based on the assumption that no dilution, retardation, or degradation will occur between the location where the groundwater risk drivers were detected and the Oakland Inner Harbor/wetland. In addition, the low-flow velocities of groundwater, low concentrations of VOCs in groundwater, high potential for retardation along the groundwater flow path, and tidal action and surface water flow that create a mixing zone at the interface with the Oakland Inner Harbor suggest that chemicals will not discharge to the Oakland Inner Harbor at concentrations of concern.

Following further evaluation of the COPECs, this assessment was determined to likely overestimate risk to terrestrial and aquatic receptors (including the wetland); therefore, further investigation or assessment of ecological risk from soils and groundwater at IR Site 34 is not recommended.

## **RECOMMENDATIONS**

Based on the conclusions of the evaluations discussed above, additional site characterization of soil or groundwater is unnecessary at IR Site 34 to complete the RI. The nature and extent of

soil and groundwater contamination has been adequately characterized and the data were found to be sufficient to conduct an HHRA and SLERA.

The Navy recommends the chemicals listed below and the five AOCs where contamination appears to be limited to be further considered in an FS (See Figure 8-3). No action is recommended for groundwater or the AOC located in the southwest corner of former Building 343 and east of former Building 475. Although PCBs were detected in samples collected within this area at concentrations greater than the residential PRGs, this area is not specifically identified for further evaluation in an FS because of the relatively low risk of PCBs based on the HHRA.

- **Northwest corner of the site, near the former railroad and former Building 510:** arsenic, PCBs, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to site use and historical sandblasting in former Building 510. Oils and solvents may have been released from sandblasting equipment.
- **North of Building 331:** arsenic, lead, PCBs, and naphthalene. Residual contamination in this area appears to be related to use of oils and solvents for woodwork at the former building.
- **Along the former railroad and south of former Building 331:** lead, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to site use, historical releases from former AST 331, and use of oils and solvents for woodwork at the former building.
- **Southeast corner of former Building 343 and northeast corner of former Building 344:** iron, lead, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to historical releases from former AST 344D, sandblasting of lead-based paints, and lubricants used for sheet metal fabrication. The floor of former Building 343 was rusted, which may have released metals to nearby soil.
- **Southwest corner of the site:** pesticides, PCBs, and VOCs (1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and 1,4-DCB). This area was used between 1995 and 1997 for temporary storage of PCB- and lead-contaminated soil excavated from IR Site 15 (see Section 1.3.3.1). Residual contamination in this area may be related to operation of the TSTA and application of pesticides for weed control.

The Navy recommends an FS be prepared to evaluate options to address contamination at IR Site 34 posing a risk to human health. The FS should consider the future land use in evaluating these options. In addition, the Navy recommends the following additional sampling for inclusion in the FS:

- Sampling within the vicinity of DP02 to verify previous VOC results

- Sampling of soil and groundwater for fuel-related contamination north of Building 331 and near sampling location DP16, where a layer of black sand with a strong diesel odor was identified

Additionally, concentrations of TPH were detected above the comparison criteria, and low-level concentrations of TPH were detected across IR Site 34. Although TPH is not a contaminant under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), it was addressed in the nature and extent evaluation because fuels and lubricants were used at various locations across the site and an objective of this RI was to meet TPH closure requirements. At Site 34, TPH-affected soil (mostly diesel and motor oil) appears to be located at isolated locations near former ASTs and buildings where lubricants were used. Based on the current data, TPH in soil is collocated with CERCLA chemicals in soil and will be addressed with the CERCLA chemicals identified above in the FS. Further consideration of TPH-affected soil in the TPH program is not recommended.

**TABLES**

---

**TABLE ES-1: HUMAN HEALTH RISK DRIVERS USING EPA TOXICITY VALUES, REASONABLE MAXIMUM EXPOSURE**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Exposure Medium	Future Industrial Worker (0-2 ft bgs)	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	Future Industrial Worker (0-4 ft bgs)	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	Future Construction Worker (0-2 ft bgs)	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	Future Construction Worker (0-4 ft bgs)	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	
Risk Drivers in Soil <sup>a</sup>	1,2,4-Trichlorobenzene	--	1.7	1,2,4-Trichlorobenzene	--	1.7	Aluminum	--	1.2	Aluminum	--	1.3	
	1,4-Dichlorobenzene	2.1E-05	0.012	1,4-Dichlorobenzene	2.1E-05	0.012	Benzo(a)pyrene	1.6E-06	--	Arsenic	1.3E-06	0.15	
	Aroclor-1248	2.2E-06	0.15	Aroclor-1248	2.2E-06	0.15	Manganese	--	4.6	Benzo(a)pyrene	1.4E-06	--	
	Arsenic	4.3E-06	0.027	Arsenic	6.7E-06	0.042				Manganese	--	4.2	
	Benzo(a)anthracene	3.2E-06	--	Benzo(a)anthracene	2.7E-06	--							
	Benzo(a)pyrene	1.1E-05	--	Benzo(a)pyrene	8.9E-06	--							
	Benzo(b)fluoranthene	1.8E-06	--	Benzo(b)fluoranthene	1.6E-06	--							
	Dibenzo(a,h)anthracene	2.0E-06	--	Dibenzo(a,h)anthracene	1.7E-06	--							
	Naphthalene	--	4.2	Naphthalene	--	4.2							
	<b>Total</b>		<b>4.9E-05</b>	<b>7.4</b>		<b>4.8E-05</b>	<b>7.4</b>		<b>4.8E-06</b>	<b>8.4</b>		<b>4.8E-06</b>	<b>8.0</b>
	Risk Drivers in Groundwater												
<b>Total</b>		<b>8.2E-07</b>	<b>0.0071</b>		<b>8.2E-07</b>	<b>0.0071</b>		<b>2.3E-09</b>	<b>0.00047</b>		<b>2.3E-09</b>	<b>0.00047</b>	

Exposure Medium	Future Resident (Adult + Child) (0-2 ft bgs) <sup>b</sup>	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	Future Resident (Adult + Child) (0-4 ft bgs) <sup>b</sup>	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	Future Recreational User (Adult + Child) (0-2 ft bgs) <sup>b</sup>	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>
Risk Drivers in Soil <sup>a</sup>	1,2,3-Trichlorobenzene	--	5.2	1,2,3-Trichlorobenzene	--	5.2	Aroclor-1248	2.5E-06	0.48
	1,2,4-Trichlorobenzene	--	18	1,2,4-Trichlorobenzene	--	18	Aroclor-1260	1.1E-06	0.21
	1,2,4-Trimethylbenzene	--	1.1	1,2,4-Trimethylbenzene	--	1.1	Arsenic	4.5E-06	0.079
	1,2-Dichlorobenzene	--	1.8	1,2-Dichlorobenzene	--	1.8	Benzo(a)anthracene	3.6E-06	--
	1,4-Dichlorobenzene	1.4E-04	0.12	1,4-Dichlorobenzene	1.4E-04	0.12	Benzo(a)pyrene	1.2E-05	--
	4-Nitroaniline	1.4E-06	0.056	4-Nitroaniline	1.4E-06	0.056	Benzo(b)fluoranthene	2.0E-06	--
	Aroclor-1248	5.7E-06	1.1	Aroclor-1248	5.7E-06	1.1	Dibenzo(a,h)anthracene	2.3E-06	--
	Aroclor-1254	3.3E-06	0.48	Aroclor-1254	3.3E-06	0.47			
	Aroclor-1260	2.5E-06	0.49	Aroclor-1260	2.3E-06	0.44			
	Arsenic	2.0E-05	--	Arsenic	3.2E-05	0.48			
	Benzo(a)anthracene	8.2E-06	--	Benzo(a)anthracene	6.9E-06	--			
	Benzo(a)pyrene	2.7E-05	--	Benzo(a)pyrene	2.3E-05	--			
	Benzo(b)fluoranthene	5.2E-06	--	Benzo(b)fluoranthene	4.6E-06	--			
	bis(2-ethylhexyl)phthalate	3.3E-06	--	bis(2-ethylhexyl)phthalate	2.2E-06	0.021			
	Dibenzo(a,h)anthracene	5.3E-06	--	Dibenzo(a,h)anthracene	4.6E-06	--			
	Dieldrin	4.2E-05	0.14	Dieldrin	3.7E-05	0.12			
	Heptachlor Epoxide	9.9E-06	0.20	Heptachlor Epoxide	8.7E-06	0.18			
	Indeno(1,2,3-cd)pyrene	1.5E-06	--	Iron	--	1.6			
	Iron	--	1.8	Naphthalene	--	48			
	Naphthalene	--	48						
	<b>Total</b>		<b>2.8E-04</b>	<b>82</b>		<b>2.7E-04</b>	<b>82</b>		<b>3.2E-05</b>
Risk Drivers in Groundwater	Trichloroethene	3.5E-06	0.0037	Trichloroethene	3.5E-06	0.0037			
<b>Total</b>		<b>5.2E-06</b>	<b>0.065</b>		<b>5.2E-06</b>	<b>0.065</b>		<b>1.5E-08</b>	<b>0.000064</b>

Notes:  
 -- Not applicable; chemical either does not have a cancer risk or a hazard index.  
 a Risk drivers are those chemicals for which the total chemical-specific cancer risk for a given exposure medium (for example, groundwater) exceeds 1.0E-06 or the chemical-specific noncancer hazard index exceeds 1.0.  
 b The total cancer risks for the resident and the recreational user are the combined cancer risk of the child and the adult. The total hazard indices presented for the resident and recreational user are the total hazard index for the child only.  
 c The total cancer risk and hazard index estimates include background concentrations of metals.  
 ft bgs Feet below ground surface

## 1.0 INTRODUCTION

The U.S. Department of the Navy (Navy) has completed a Remedial Investigation (RI) for Installation Restoration (IR) Site 34, at the former Naval Air Station (NAS) Alameda in Alameda, California. NAS Alameda is now known as Alameda Point. This report presents geologic, hydrologic, and chemical data collected during the Phase 1 Environmental Baseline Survey (EBS) (Environmental Resources Management West, Inc. [ERM-West] 1994), the Phases 2a and 2b EBS (International Technology Corporation [IT Corp.] 2001), a fuel pipeline removal action (IT Corp. 1999), a Site Inspection (SI) (Bechtel Environmental, Inc. 2003), and the RI sampling events (SulTech 2006). Data generated during these investigations were used to complete the characterization of soil and groundwater conditions at IR Site 34 and to support risk estimate calculations for human and ecological receptors. This RI Report summarizes the findings of the RI and provides conclusions and recommendation for IR Site 34.

The remainder of this section discusses the purpose of the RI for IR Site 34, presents the organization of this report, and summarizes the background of the site.

### 1.1 PURPOSE

The purpose of this RI was to (1) collect data to eliminate previously identified data gaps; (2) evaluate the nature and extent of soil and groundwater contamination; and (3) assess the risk to human health and the environment at IR Site 34. This report documents the approach used to conduct the RI for IR Site 34 and the results of the field investigations and risk assessments, and recommends further assessment in a Feasibility Study (FS), if necessary, so an informed risk management decision can be made about the need for response actions (U.S. Environmental Protection Agency [EPA] 1988b). The following list provides the specific objectives of the RI for IR Site 34:

- Collect soil and groundwater data for site characterization and in support of a feasibility study (FS), if necessary
- Evaluate the physical setting, geology, hydrogeology, and ecology of IR Site 34
- Assess the nature and extent and fate and transport of those chemicals at the site demonstrating significant risk to human health or the environment
- Conduct background comparisons for soil and groundwater
- Conduct a Baseline Human Health Risk Assessment (HHRA) and Screening-Level Ecological Risk Assessment (SLERA).

This RI Report is divided into nine sections, as summarized below.

- Section 1.0, Introduction – identifies the purpose of the RI Report, outlines the organization of the report, and presents background information for IR Site 34.
- Section 2.0, Physical Setting – describes the climate, topography, geology, hydrogeology, groundwater use, surface water drainage system and tides, and ecological habitats of Alameda Point and IR Site 34. This section also presents the initial conceptual site model (CSM) and the identification of exposure units.
- Section 3.0, Investigation Approach and Scope – describes the methods and approaches for conducting the RI, including (1) establishing data quality objectives (DQO) and conducting data quality assessments; (2) conducting background comparisons; (3) evaluating the nature and extent of contamination; (4) performing fate and transport analyses; and (5) conducting the HHRA and the SLERA.
- Section 4.0, Nature and Extent of Contamination – summarizes the sample history, the results for each medium collected, and the chemicals exceeding comparison criteria at IR Site 34.
- Section 5.0, Fate and Transport of Chemicals in Soil and Groundwater at IR Site 34 – presents the evaluation of chemicals exceeding comparison criteria and migration pathways to determine the fate and transport of chemicals in soil and groundwater at IR Site 34.
- Section 6.0, Baseline Human Health Risk Assessment – summarizes the approach, receptors evaluated, and uncertainty analysis conducted as part of the HHRA; and presents the conclusions based on the HHRA results.
- Section 7.0, Screening-Level Ecological Risk Assessment – summarizes the characterization of ecology at IR Site 34, including the receptors evaluated and the chemicals of potential ecological concern (COPEC) based on the data. This section also describes the uncertainties associated with the SLERA and presents the conclusions based on the SLERA results.
- Section 8.0, Conclusions and Recommendations – describes the conclusions and recommendations for IR Site 34 based on the RI results.
- Section 9.0, References – lists the documents used to prepare this RI Report.

Figures and tables are provided at the end of the section of the text in which they are first mentioned. This RI Report also includes the following nine appendices, which contain supplemental information used to prepare this report and are presented after Section 9.0:

- Appendix A, Investigation Procedures and Field Methodology
- Appendix B, Soil Boring Logs
- Appendix C, Aquifer Testing
- Appendix D, Analytical Results for Soil Samples
- Appendix E, Analytical Results for Groundwater Samples
- Appendix F, Quality Control Summary Report
- Appendix G, Methods for Calculating Exposure Point Concentrations and Conducting Background Comparison of Soil and Groundwater
- Appendix H, Baseline Human Health Risk Assessment
- Appendix I, Screening-Level Ecological Risk Assessment
- Appendix J, Responses to Regulatory Agency Comments on the Draft Remedial Investigation Report

## **1.3 BACKGROUND**

This section summarizes the regulatory framework for the RI (see Section 1.3.1), briefly describes the location and history of Alameda Point (see Section 1.3.2), describes the history and previous operations at IR Site 34 (see Section 1.3.3); summarizes the previous investigations at IR Site 34 (see Section 1.3.4) and previous investigations of properties bordering IR Site 34 (see Section 1.3.5), and presents the future uses of the land at IR Site 34 (see Section 1.3.6).

### **1.3.1 Regulatory Framework**

In 1975, the U.S. Department of Defense (DoD) initiated a program to identify and investigate potential hazardous waste sites at military installations. The program was the result of increasing public and government concern over the potential impacts of past hazardous waste disposal methods. This program was expanded in 1980 as the DoD IR Program.

Concurrent with the formation of the IR Program, the U.S. Congress directed EPA to develop a comprehensive national program to manage past disposal sites. The basis for this program is the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or "Superfund") as amended in 1986 by the Superfund Amendments and Reauthorization Act.

CERCLA Section 120 was adopted by DoD in 1986 as the driver for Federal Facility Cleanup, which established the Navy as the lead agency and defined roles for EPA and state agencies. In 1988, DoD adopted EPA's terminology for the investigation and remediation of past hazardous waste disposal sites for use in its IR Program.

The Navy is responsible for environmental restoration at IR Site 34. The lead oversight agency is the EPA; however, the California Environmental Protection Agency's (Cal/EPA) Department of Toxic Substances Control (DTSC) and the San Francisco Regional Water Quality Control Board (Water Board) must concur with all of the property transfers. These regulatory agencies along with the Base Realignment and Closure (BRAC) Environmental Coordinator are responsible for the transfer of the base property and facilities to the community as expeditiously as possible and with a minimal effect on the local community.

Alameda Point was identified for closure in 1993. In April 1994, the City of Alameda signed a Joint Powers Agreement and established the Alameda Reuse and Redevelopment Authority (ARRA). The ARRA was recognized by the DoD as the responsible entity for submitting and completing the community reuse plan for Alameda Point. In 1997, the base was closed, and the Navy began the process of property transfer to the City of Alameda.

In July 1999, Alameda Point was identified as a National Priorities List site. Therefore, EPA and Navy RI protocols were followed while conducting the fieldwork and preparing this RI Report for IR Site 34. The RI/FS process includes evaluating the nature and extent of contamination, the human and ecological risk posed by the contamination, and options for clean up of the contamination.

Petroleum fuel sites and Resource Conservation and Recovery Act (RCRA) sites at Alameda Point are being investigated concurrently with the CERCLA investigations under the Navy's total petroleum hydrocarbons (TPH) and RCRA programs. As part of the Navy's TPH program, TPH contamination evaluations were conducted across Alameda Point. Fourteen Corrective Action Areas (CAA) and two fuel line CAAs were designated as a result of these evaluations. The CAA program for petroleum-affected areas at Alameda Point is overseen by the Water Board, in cooperation with the DTSC and EPA. Two TPH CAAs are present at IR Site 34, which are further described in Section 1.3.4.4.

### **1.3.2 Alameda Point Description and History**

Originally a peninsula, Alameda Island was detached from the mainland in 1876, when a channel was cut to link San Leandro Bay with the San Francisco Bay (also referred to as the Bay). The area encompassed by Alameda Point was historically a combination of submerged lands, tideland, and dry land. Alameda Point occupies the flattest portion of Alameda, reflecting its origins as diked bay lands and mudflats. Much of the land now occupied by Alameda Point was originally covered by the waters of the San Francisco Bay or tidal flats, but was gradually filled using hydraulically placed dredge spoils from the surrounding San Francisco Bay, Seaplane Lagoon, and Oakland Inner Harbor. The first documented filling of tidal and submerged land began some time during 1887. By 1927, the northern part of what later became Alameda Point

had been filled, primarily with dredge materials from U.S. Army Corps of Engineers projects associated with the Oakland Inner Harbor and other harbors throughout the East Bay (see Figure 1-1).

In 1887, two narrow-gauge railroads were constructed parallel to the Oakland Inner Harbor and extended to a pier and ferry terminal (known as the "Alameda Mole") on the northwestern tip of Alameda Point. Aerial photographs show the railroads crossed the area that is now designated IR Site 34. The Alameda Mole burned down in 1902, was rebuilt in 1903, and continued operation until 1939. The Alameda Mole was used primarily for passenger transport to the ferry terminal, but also was used for loading and unloading ships.

The filled land was partially occupied by the Alameda Airport, a City-owned facility, and Benton Field, a minor U.S. Army Air Corps facility. The U.S. Department of the Army (Army) acquired the Alameda Point site from the City of Alameda in 1930 and began construction activities in 1931. The Navy acquired title to the land from the Army in 1936 and began building the air station called NAS Alameda. NAS Alameda was commissioned on November 1, 1940. Its original primary mission was to provide facilities and support for fleet aviation activities. Following World War II, NAS Alameda served as a critical component to support Navy activities during the Korean War, the Vietnam War, and Operation Desert Storm (Kuwait). During its history, NAS Alameda housed approximately 60 military tenant commands for a combined military and civilian work force of over 18,000 personnel.

### **1.3.3 IR Site 34 Description and Operations**

IR Site 34 is located in the north-central portion of Alameda Point, adjacent to the Oakland Inner Harbor (see Figure 1-2). The boundaries of IR Site 34 were identified during the 2003 SI in which site risks were identified based on results of EBS samples (Bechtel Environmental, Inc. 2003). IR Site 34 is a 4.18-acre area that is a partially paved, relatively flat open space. IR Site 34 consists of EBS Parcels 4 and 18, a small unused portion of EBS Parcel 16, and an unnamed portion of land between the EBS parcels and the Oakland Inner Harbor. IR Site 34 was a Naval Air Rework Facility (NARF) used to maintain base equipment such as scaffolding and other apparatus. The site was used primarily for painting services, storage, wood and metal shop activities, and sandblasting activities. Numerous structures, including 12 buildings (330, 331, 343, 344, 472, 474, 475, 476, 477, 479, 510, and 604) and intervening open areas; seven aboveground storage tanks (AST) (330A, 330B, 344A, 344B, 344C, 344D, and 331); generator accumulation points (GAP) 78 and 79; 15 transformers (previously located in Buildings 330, 331, 343, 344, 472, 474, 475, 476, 477, and 479); and an aviation gasoline fuel line were present within IR Site 34. All buildings, ASTs, GAPs, transformers, and fuel lines were removed between 1996 and 2000, except for their concrete pads. Various pesticides were used for weed control throughout Alameda Point. Figure 1-3 shows the historical and existing site features at IR Site 34.

### **1.3.3.1 Historical Ownership and Operations**

The site history and descriptions of site physical features summarized below were developed based on review of the Phase 1 EBS Report (ERM-West 1994), Site 15 Removal Action Closeout Report (Tetra Tech EM Inc. [Tetra Tech] 1998), historical aerial photographs, and discussions with Navy staff who worked at the base in the 1990s.

IR Site 34 was once part of the San Francisco Bay along the Oakland Inner Harbor's southern border. In the 1920s, most of IR Site 34 was filled with estuary dredging material during construction of the Posey Tube, which is about 2 miles east of the site. In 1936, 68.47 acres along the northern boundary of the base (including IR Site 34) was transferred to the Navy from the Army.

No records exist indicating buildings were present at IR Site 34 prior to the Navy's operations at the site. The Navy constructed 12 buildings at IR Site 34 (see Figure 1-3). Table 1-1 summarizes the construction dates, activities, and investigation findings for each building. Based on a review of aerial photographs and discussion with Navy staff, all buildings and associated structures were removed between 1996 and 2000. Associated structures included seven ASTs, three designated RCRA sites, electrical transformers, and open space. A storm sewer line ran adjacent to the CERCLA boundary line located between Parcels 4 and 18 within IR Site 34. Another storm sewer extended approximately 40 feet onto IR Site 34 from its western border.

All activity at IR Site 34 ceased when the base closed in 1996. Based on the age of the buildings, lead-based paint was most likely used on all former buildings in IR Site 34 (mostly Parcels 4 and 18) and surrounding parcels. No activity occurred within the portion of EBS Parcel 16 that lies within IR Site 34 and the unnamed portion of land between the EBS parcels and the Oakland Inner Harbor (ERM-West 1994).

The southwest corner of IR Site 34 (listed as "Open Space 2" in Table 1-1) was used as a temporary storage and treatment area (TSTA) for soil excavated from IR Site 15 between 1995 and 1997 (Tetra Tech 1998b). The removal action was based on a cleanup level of 1 milligram per kilogram (mg/kg) for polychlorinated biphenyls (PCB) in soil. The TSTA was a bermed containment cell consisting of a double layer of 20-millimeter-thick high-density polyethylene over 4 to 6 inches of imported sand. The sand was used to provide positive slopes to the containment area to allow for collection of runoff water. The TSTA had a leachate collection system consisting of a leachate collection trench around the edges of the containment cell, a sump pump, a 5,000-gallon recovery tank, and a 21,000-gallon leachate storage tank. Contaminated soil was transported to the TSTA in November and December 1995. Soil was placed in three discrete stockpiles based on its chemical characteristics (for example, low concentrations of PCBs, high concentrations of PCBs, and high concentrations of lead). All stockpiles were covered with geotextile landfill cover material. Daily, weekly, and monthly inspections were performed during operation and maintenance of the TSTA.

In February 1996, a 30-mil-thick high-density polyethylene sheet was placed over the stockpiles to reduce infiltration of rainwater and contaminated leachate runoff. Leachate was pumped to recovery and storage tanks, analyzed, and then disposed of at an EPA-approved disposal facility. During September and October 1997, the stockpiled soil was characterized for disposal and transported to an EPA-approved landfill. After the removal of contaminated soil from the TSTA, samples were collected from the sand bed, underlying containment cell, and soil beneath the leachate recovery trench and analyzed for PCBs and lead. The sand bed was over-excavated and disposed of in a Class II disposal site.

### **1.3.3.2      *Adjacent Parcels***

The parcels adjacent to IR Site 34 include (counter-clockwise from the northwest) EBS Parcels 16, 17, 23H, 19, and 21 (see Figure 1-3). The adjacent parcels are briefly summarized below.

**EBS Parcel 16.** This parcel is approximately 6 acres in size and is located northwest of IR Site 34. Parcel 16 contains two buildings (375, tank truck loading stand, and 376, an electrical transformer house that housed five transformers) and three underground storage tanks (UST) (374P-1, 374-1, and 374-2).

UST 374-P-1 was removed in 1994, and further investigations were conducted in 1995 and 1997 to 2001. Analytical results reported all chemicals were below 1996 residential preliminary remediation goals (PRG), background concentrations, and TPH criteria; therefore, no further action was recommended (IT Corp. 1999).

USTs 374-1 and 374-2 were filled with concrete and closed in place in September 1997 (IT Corp. 1999). Soil and groundwater samples were collected near the USTs 374-1 and 374-2 during the EBS Phase 2A and 2B investigations. Concentrations of TPH and polycyclic aromatic hydrocarbons (PAH) were detected in soil and groundwater near the USTs. USTs 374-1 and 374-2 are part of Fuel Line CAA A, and will be investigated further as part of the CAA (IT Corp. 1999).

**EBS Parcel 17.** Parcel 17 is approximately 2 acres in size and is located directly west of IR Site 34. Parcel 17 formerly contained four buildings: 22, use unknown; 83, offices; 528, maintenance shop; and 597, welding, steel cutting, and tire shop. All four buildings were over 300 feet west of IR Site 34.

**EBS Parcel 23H.** Parcel 23H is approximately 71.5 acres in size and is located along the southern boundary of IR Site 34. There is no documented use of this site.

**EBS Parcel 19.** This parcel is 1 acre in size and located along the east boundary of IR Site 34. Parcel 19 formerly contained six buildings: 469, sewage pump station; 345, welding and general maintenance; 471, general maintenance including welding sandblasting and painting; 473, housed a large metal shear; 478, housed a large saw to support carpentry activity; and 479, hazardous flammable storage unit. Parcel 19 also formerly contained UST 473-1, located along

the southeastern border of the IR Site 34 boundary. No documentation was found on historical activities at Buildings P45, 291, and a former building located in the southern portion of Parcel 19. In general, the area was used to support ground maintenance activity associated with aircraft repair.

**EBS Parcel 21.** This parcel is 1.6 acres in size and is located northeast of IR Site 34. The parcel is roughly "L"-shaped, and its eastern border is adjacent to IR Site 15. Eighty percent of Parcel 21 is open space; 90 percent of which is paved with asphalt. It was used to support aircraft ground support equipment. Parcel 21 formerly contained four buildings: 28, a steel workshop; 240, a carpentry shop; 290, an electric shop; and 300, used for tool room, dry storage, and weight room.

### **1.3.4 Previous Investigations at IR Site 34**

The Navy conducted various investigations within IR Site 34 after it was used as a NARF. These previous investigations included the Phase 1 EBS investigation, TPH CAA investigations, the SI, and RI fieldwork. Results and conclusions and recommendations, if applicable, of each previous investigation are summarized in the following subsections.

#### **1.3.4.1 1994-1998 EBS Investigation**

The EBS program at Alameda Point began in 1993 under BRAC to assess the environmental conditions associated with each land parcel. Environmental conditions were assessed in accordance with RCRA, CERCLA, and the Community Environmental Response Facilitation Act regulations. The EBS program at Alameda Point was implemented in two phases: Phase 1, which included an assessment of all environmental effects associated with base operations for each parcel; and Phase 2, which was subdivided into phases 2A and 2B and consisted of collection of samples to evaluate the potential effects to soil and groundwater at Alameda Point. Phase 1 was conducted in 1994, and Phase 2 was conducted from 1994 to 1998. Each phase is briefly summarized below.

#### **Phase 1 EBS Investigation**

Phase 1 activities included site visits, brief employee interviews, and historical documentation about the various parcels (ERM-West 1994). The Navy conducted Phase 1 of their EBS investigation in 1994 to observe base operations and determine environmental conditions associated with each parcel at the base. The Phase 1 investigation provided the historical and operational information.

The findings of the Phase 1 investigation indicated that IR Site 34 was a NARF used to maintain base equipment such as scaffolding and other apparatus. The site was used primarily for painting services, storage, wood and metal shop activities, and sandblasting activities. IR Site 34 formerly contained several structures, including 12 buildings (331, 330, 343, 475, 344, 510, 474,

477, 604, 476, 479, and 472) and intervening open areas; seven ASTs (330A, 330B, 344A, 344B, 344C, 344D, and 331); GAPS 78 and 79; 15 transformers; and an aviation gasoline fuel line.

Detailed discussion of historical and operational information at IR Site 34 is presented in Section 1.3.3.1.

### **Phase 2A EBS Investigation**

During Phase 2A, surface soil (0.5 to 1 foot below ground surface [bgs]) samples were collected from four sampling locations (004-001-001, 004-001-002, 004-002-003, and 004-Z03-004) at Parcel 4 within IR Site 34. Samples contained stained or suspected TPH in surface soil. Samples were analyzed at a mobile laboratory, and one sample was analyzed at an off-site fixed laboratory. Samples were analyzed for metals, TPH as extractables, TPH as purgeables, and/or pesticides/PCBs. Analytical results indicated lead was the only metal detected at concentrations exceeding its 1996 EPA PRG or background concentration (IT Corp. 2001). Results for two samples indicated TPH as diesel and motor oil concentrations exceeded TPH comparison criteria. A confirmation sample was collected from location 004-001-002, and results indicated TPH as motor oil was below the comparison criteria. Aroclor-1260 was detected in one sample at concentrations exceeding the EPA 1996 PRG (IT Corp. 2001).

Parcel 18 had six target areas: (1) the ASTs (330A-B and 344A-D); (2) perimeters of Buildings 343 and 330; (3) Buildings 476, 477, and 479; (4) Open Space 2; (5) perimeter of Building 604; and (6) the area north of Building 510. Thirty surface soil samples, 3 duplicates, and 9 samples were collected from 30 locations sampling locations (018-001-001, 018-001-002, 018-001-005 through 018-001-008, 018-002-003, 018-002-004, 018-002-009 through 018-002-012, 018-003-013 through 018-003-019, 018-004-020 through 018-004-023, 018-005-024, 018-005-025, 018-006-026, 018-Z03-027 through 018-Z03-030). All samples were analyzed at an off-site fixed laboratory for the chemicals listed below.

- Samples from locations 018-001-001, 018-001-002, 018-001-005 through 018-001-008 were analyzed for TPH as extractables and TPH as purgeables.
- Samples from locations 018-002-003, 018-002-004, 018-002-009 through 018-002-012, and 018-006-026 were analyzed for metals.
- Samples from locations 018-003-013 through 018-003-019 were analyzed for volatile organic compounds (VOC).
- Samples from locations 018-004-020 through 018-004-023 were analyzed for metals, semivolatile organic compounds (SVOC), TPH as extractables, and TPH as purgeables.
- Samples from locations 018-005-024 and 018-005-025 were analyzed for metals, TPH as extractables, and TPH as purgeables.

- Samples from locations 018-Z03-027 through 018-Z03-030 were analyzed for pesticides and PCBs.

Analytical results indicated lead was present in soil in sampling locations north of Building 510 and east of Building 343 at concentrations exceeding the 1996 EPA PRG. Cadmium was detected collocated with the elevated lead in a surface sample, and an elevated concentration of arsenic was collocated with lead in a sample collected between 2.0 and 2.5 feet bgs. Aroclor-1254 and Aroclor-1260 were detected at concentrations exceeding the 1996 EPA PRGs in two soil samples collected from the southwest area of Parcel 18. TPH as diesel and TPH as motor oil exceeded the TPH comparison criteria in samples collected from AST-330B, AST 344A, AST-344B, and AST-344D. TPH constituents did not exceed the TPH comparison criteria in samples collected from ASTs 330A and 344C.

Additionally, a sediment sample was collected from storm drain catch basin AAA (AA-IT001-01). The sediment sample was analyzed for metals, VOCs, SVOCs, pesticides and organophosphorous pesticides, PCBs, TPH as extractables, and TPH as purgeables, TPH as oil and grease, herbicides, and organotins. Analytical results indicated sediment contained chromium, lead, and Aroclor-1260 at concentrations exceeding their respective 1996 EPA PRGs. This sediment was removed between 1996 and 1997 (Tetra Tech 2000b).

Based on these results, it was recommended that additional samples be collected at Parcels 4 and 18. More specifically, within the following locations at Parcels 4 and 18:

- Parcel 4: the southwest corner of Building 331 based on elevated concentrations of metals and TPH, former AST 331-1 based on elevated concentrations of metals and TPH, and within an unpaved and landscaped area based on an elevated concentration of Aroclor-1260.
- Parcel 18: between Buildings 330 and 343 because of widespread elevated concentrations of TPH; perimeters of Buildings 330 and 343 because of elevated concentrations of metals; Open Space 2 based on elevated concentrations of metals and TPH; perimeter of Building 604 based on elevated concentrations of TPH; and area north of Building 510 based on elevated concentrations of metals.

### **Phase 2B EBS Investigation**

In 1995, the Navy performed the Phase 2B EBS investigation at Parcels 4 and 18. Parcel 4 had three target areas: (1) the southwest corner of Building 331, (2) former AST 331, and (3) the northern border of Building 331. Based on the Phase 2A EBS sampling results, soil samples also were collected from one zone-specific area (northeast portion of Building 331) and analyzed for pesticides and PCBs. In total, 11 soil samples, including 1 duplicate sample, were collected from 5 sampling locations (004-003-008, 004-003-009, 004-Z03-005, 004-Z03-006, and 004-Z03-007). Two soil samples were collected from each sampling location: one surface soil sample and one deeper sample between 2.5 and 4.0 feet bgs. Soil samples collected from sampling locations 004-003-008 and 004-003-009 were analyzed for metals, SVOCs, TPH as

extractables, and TPH as purgeables; and soil samples collected from sampling locations 004-Z03-005 through 004-Z03-007 were analyzed for pesticides and PCBs. In addition, two groundwater samples were collected from locations 004-003-008 and 004-003-009 and analyzed for SVOCs and TPH as extractables.

Analytical results indicated several SVOCs exceeded the 1996 EPA PRGs in one sample from location 004-003-008 (IT Corp. 2001). TPH results for soil samples collected between 2.5 and 6 feet bgs were below laboratory detection limits, and TPH as diesel was detected at concentrations below the TPH screening criterion in groundwater. Pesticides and PCBs were not detected in any soil samples from Parcel 4.

The Phase 2B EBS investigation at Parcel 18 had five target areas: (1) between Buildings 330 and 343, (2) perimeters of Buildings 330 and 343, (3) Open Space 2, (4) perimeter of Building 604, and (5) area north of Building 510. In total, 17 soil samples, including 2 duplicate samples, were collected from 11 sampling locations (018-007-033 through 018-007-041 and 018-Z03-031 through 018-Z03-032). The samples (one surface soil sample and one deeper sample collected between 2.5 and 4.0 feet bgs) were collected from sampling location 018-007-035, 018-007-039, 018-Z03-031, and 018-Z03-032. Soil samples were collected between 2.5 and 4.5 feet bgs at the remaining sampling locations. Soil samples collected from locations 018-007-033, 018-007-035, 018-007-036, 018-007-038, 018-007-039, and 018-007-041 were analyzed for metals, SVOCs, TPH as extractables, and TPH as purgeables; samples from locations 018-007-034, 018-007-037, and 018-007-040 were analyzed for metals; and samples from locations 018-Z03-031 through 018-Z03-032 were analyzed for pesticides and PCBs.

All metals, except arsenic and lead, were detected at concentrations within the range of Alameda Point background or below the 1996 EPA PRGs. Arsenic and lead concentrations exceeded the 1996 EPA PRGs and background concentrations at one sampling location north of Building 510 (IT Corp. 2001). Benzo(a)pyrene [B(a)P] was the only detected SVOC that exceeded the 1996 EPA PRGs at location 018-007-035 (IT Corp. 2001). Pesticides and PCBs were not detected at concentrations exceeding laboratory reporting limits in four samples from two locations in the southwest portion of Parcel 18 (IT Corp. 2001). Analytical results indicated concentrations of TPH in one soil sample was less than the TPH comparison criteria (IT Corp. 2001).

Six groundwater samples, including one duplicate sample, were collected from locations 018-007-033, 018-007-035, 018-007-036, 018-007-039, and 018-007-041 within Parcel 18 and analyzed for SVOCs, TPH as extractables, and TPH as purgeables. No SVOCs were detected in the groundwater samples (IT Corp. 2001). Analytical results indicated concentrations of TPH in two groundwater samples were less than the TPH comparison criteria (IT Corp. 2001).

In addition, a groundwater sample was collected within the boundaries of IR Site 34 at location 473-002 during the removal of an off-site UST located on Parcel 19, east of IR Site 34. The groundwater sample collected from location 473-002 was analyzed for VOCs only. The groundwater sample collected from location 018-007-035 also was analyzed for metals. No VOCs were detected above detection limits, and all metals were detected at concentrations within the range of Alameda Point background or below the 1996 EPA PRGs (IT Corp. 2001).

Review of the Phase 2A and Phase 2B sampling data indicated the target areas in Parcels 4 and 18 have been sufficiently evaluated (IT Corp. 2001). The procedures and field methodology for this investigation is provided in Appendix A

#### **1.3.4.2 TPH CAA Investigations**

Naval aviation and Pacific Fleet operations conducted at Alameda Point involved the use of petroleum products. Tanks (aboveground and underground) and fuel lines were used to store and transport these products. After Alameda Point was included on the BRAC list in September 1993, the Navy was tasked to remove the tanks and begin cleanup activities to prepare the property for transfer to the City of Alameda. Evaluations of TPH contamination across Alameda Point have resulted in the designations of 14 CAAs and two fuel line CAAs. The CAA program for petroleum-affected areas at Alameda Point is overseen by the Water Board, in cooperation with the DTSC and EPA. Two TPH CAAs (14 and CAA A) are present at IR Site 34, as described below.

**CAA 14.** CAA 14 is located in the northwestern portion of Alameda Point along the southern shore of Oakland Inner Harbor. The CAA encompasses EBS Parcel 4. CAA 14 formerly contained Building 331 and associated AST 331. The nearest storm sewer line is orientated northeast to southwest 23 feet outside of the western boundary of the CAA. The same line includes one catch basin located about 30 feet west of Building 331, and empties into Oakland Inner Harbor at Outfall AA. CAA 14 was investigated during the Phase 1 EBS (ERM-West 1994) and the Phase 2 A and B EBS (IT Corp. 2001).

During the Phase 1 EBS investigation, the field crew observed TPH stained soil in two areas at CAA 14 south of Building 331 (location of former AST 331 and a former equipment pad). During the Phase 2 EBS investigation, the Navy collected four surface soil samples (004-001-002, 004-002-003, 004-003-008, and 004-003-009) south of former Building 331 (former location of AST 331 and a metal equipment pad). Two deeper soil samples also were collected at locations 004-003-008 and 004-003-009 between 2.5 and 6.0 feet bgs. Surface soil samples collected from locations 004-001-002 and 004-001-003 were analyzed for metals, TPH as extractables, and TPH as purgeables. Surface soil samples collected from locations 004-003-008 and 004-003-009 were analyzed for SVOCs, and the deeper soil samples collected from these locations also were analyzed for metals and TPH as extractables. In addition, groundwater samples were collected at sampling locations 004-003-008 and 004-003-009. Groundwater samples were analyzed for SVOCs and TPH as extractables.

Soil and groundwater sample results from the Phase 2 EBS indicated diesel fuel was released into shallow soil near former AST 331 (south of former Building 331) and motor oil was released to shallow soil under the metal equipment pad but does not extend to deeper soil or groundwater at concentrations greater than the TPH criteria (see Figures 1-4 and 1-5). Fuel line CAA 14 meets Water Board criteria for low-risk fuel site closure. As a result, the Navy requested no further action for CAA 14 from the Water Board (Tetra Tech 2004).

**Fuel Line CAA A.** Former Fuel Line CAA A was established because samples collected during removal of the fuel lines indicated jet fuel had been released to soil and groundwater, requiring an evaluation of potential risk to human and marine ecological receptors from TPH-related constituents. Prior to its removal, this fuel line crossed the southwestern portion of IR Site 34 and also crossed the storm drain lines associated with outfall BB at one location beyond the southwest of the border of IR Site 34. Between August and November 1997, a 240-foot segment of the fuel lines was removed by Allied Technology Group, Inc. IT Corp. removed the remaining 7,100 feet of fuel lines associated with Fuel Line CAA A in November and December 1998 (IT Corp. 1999).

In November and December 1998, the Navy collected 24 soil samples and 13 groundwater confirmation samples from the excavation during the removal of the fuel line. Only one soil and one groundwater sample (030-FLI-519 and 030-FLI-122, respectively) were collected from IR Site 34. In addition, two field screening samples were collected. Soil and groundwater samples were analyzed for benzene, toluene, ethylbenzene, xylenes, TPH as extractables, and TPH as purgeables. Results indicated TPH as gasoline exceeded the TPH comparison criteria in one of the field screening samples. Since reuse of this area does not include residential use, and TPH as gasoline was not detected in soil samples, corrective action is not warranted. Additionally, fuel line CAA A also met Water Board criteria for low-risk fuel site closure. No further action was recommended for CAA A (IT Corp. 2001).

#### **1.3.4.3 2003 Site Inspection**

The Navy conducted an SI on economic development conveyance (EDC)-3, which includes IR Site 34. EDC-3 consists of approximately 116 acres, of which 75 percent is open space. The Navy used this land for aircraft maintenance, runway facilities, storage and warehousing, and some maintenance shops. The SI was focused on further evaluation of the potential presence of PAHs in fill material in the EDC. During the SI, additional data were collected and combined with existing data from the EBS investigation to recalculate the risk to human health at EBS parcels within the EDC. Based on this information, the transfer parcels or portions of the transfer parcels were recommended for further action under the CERCLA or property transfer, whichever was appropriate (Bechtel Environmental, Inc. 2003).

Integration of the EBS data results indicated target risk levels were exceeded at Parcels 4 and 18 (which together comprise 99 percent of IR Site 34). Concentrations of Aroclor-1260 exceeded 1996 EPA PRGs at Parcel 4, and concentrations of arsenic exceeded the Alameda Point background concentration at Parcel 18 (Bechtel Environmental, Inc. 2003). Therefore, it was recommended that further action under CERCLA be taken at these two EBS parcels within IR Site 34.

#### **1.3.4.4 2006-2007 RI Field Work**

Based on the results of previous investigations and the identified data gaps at IR Site 34 the Navy decided that an RI was necessary. Fieldwork for the RI was conducted from February 2006 through March 2007 (SulTech 2006). The fieldwork for the RI was designed to address the

following types of data gaps: (1) need for further delineation of one or more chemicals that exceeded 1996 EPA PRGs; (2) need to fully investigate potential sources of contamination (such as the fence line, sandblasting areas, GAP sites, and the storm drain corridors); and (3) need to provide overall coverage of the entire site for the full list of chemicals of potential concern (COPC) for IR Site 34. The fieldwork consisted of two separate mobilizations, which are summarized below.

### **Field Mobilization 1**

During the first mobilization, the following types of samples were collected: (1) modified grid samples, (2) fence line PCB samples, (3) hotspot samples, (4) paint waste samples, (5) off-site samples at adjacent parcels, and (6) groundwater samples. The purpose of the first mobilization was to close the following data gaps:

1. Collect data from sampling locations previously lacking data for one or more chemicals
2. Determine the extent of soil containing metals and PCBs at concentrations exceeding PRGs
3. Collect a sufficient number of samples near former GAPs and storm sewers
4. Adequately define areas where chemicals were present above PRGs for the purposes of estimating potential risks to human and ecological receptors
5. Collect soil samples below the northern and western fence lines, where PCB-containing oil may have been applied for weed control
6. Evaluate whether paint wastes are present around buildings where sandblasting activities occurred
7. Evaluate shallow and deep soil exposure pathways

Thirty-eight modified grid soil samples (designated as DP01, DP02, and so forth) were collected from 14 sampling locations (DP01, DP02, DP05, DP06, DP07, DP08, DP10, DP12, DP13, and DP15 through DP19). Surface soil (0 to 1 foot bgs) and deeper soil (1.5 and 2.0 feet bgs) samples were collected from all sampling locations. Subsurface soil samples also were collected at 7.0 feet bgs (above the groundwater interface) from sampling locations DP05 through DP08, DP10, DP12, DP13, DP15, and DP16 to determine the vertical boundaries of chemicals in soil (SulTech 2006). Surface soil and deeper soil samples were analyzed for metals, PAHs, pesticides, and PCBs. The subsurface soil samples were analyzed for metals, VOCs, SVOCs (including PAHs), pesticides, PCBs, TPH as extractables, and TPH as purgeables.

Nineteen fence line surface soil samples were collected from 13 sampling locations (FS1 through FS5, FS5A, FS6, FS7, FS7A, FS8 through FS10, and FS10A). Deeper soil samples were also

collected between 1.5 and 2 feet bgs at six sampling locations (FS10, FS10A, FS5, FS5A, FS7, and FS7A). The fence line soil samples were analyzed for PCBs.

Thirty confirmation surface soil samples were collected from 20 sampling locations (HS1A, HS1E, HS1N, HS1W, HS2A, HS2W, HS3A, HS3E, HS3S, HS3SA, HS3W, HS4E, HS4W, HS5E, HS5S, HS6N, HS6S-5W, HS7N, HS7S, and HS7W). In addition, subsurface samples were collected between 1.0 and 4.0 feet bgs from 10 sampling locations (HS1N, HS1W, HS2W, HS3A, HS3E, HS3W, HS5E, HS6S-5W, HS7N, and HS7W). Four borings were collected where metals exceeded 1996 EPA PRGs during previous sampling events. The soil samples were analyzed for a combination of or all of the following chemicals: metals (including chromium), pesticides, and PCBs. Please see Table 1-2 for the corresponding analytical group for each sample.

Thirty-three paint waste soil samples were collected from 24 sampling locations (PW-1 through PW-18, PW1A, PW4A, PW7A, PW9-10-15A, PW9-6A, and PW16-17-18A). A minimum of one surface soil (0 to 0.5 feet bgs), one deeper surface soil (1.0 to 1.5 feet bgs), or one subsurface soil (2.0 to 2.5 feet bgs) sample was collected at each location. Surface and subsurface samples were collected from five sampling locations (PW6, PW9, PW14, PW15, and PW4A), and samples from all three depth intervals were collected from two sampling locations (PW10 and PW7). Soil samples were analyzed for a combination of or all of the following chemicals: metals and PCBs. Please see Table 1-2 for the corresponding analytical group for each sample.

Four off-site soil samples were collected. Two surface soil samples (0 to 0.5 foot bgs) and two deeper surface soil samples (1.0 to 1.5 feet bgs) were collected from two sampling locations (OS 1 and OS 2). These soil samples were analyzed for pesticides and PCBs.

Groundwater samples were collected from 19 sampling locations (DP01 through DP19), and 1 duplicate sample was collected from location DP16. Groundwater samples were analyzed for metals, VOCs, SVOCs (including PAHs), pesticides, PCBs, and TPH.

## **Field Mobilization 2**

During the second mobilization, the following activities were performed: (1) installation and development of four shallow and one deep monitoring wells, (2) collection of soil samples during each well installation, (3) aquifer testing, and (4) collection of groundwater samples. The purpose of the second mobilization was to obtain more data on potential migration of chemicals to groundwater and to clarify some of the analytical results from the first mobilization of the RI fieldwork.

As concentrations of chemicals in groundwater collected during the first mobilization exceeded the comparison criteria presented in the RI work plan (Sultech 2006), groundwater monitoring wells (MW-20 through MW-24) were installed during the second mobilization to monitor conditions at the site. Two monitoring wells were installed down gradient of the apparent source of groundwater contamination near the Oakland Inner Harbor, one shallow well (MW-23) and

one deeper well (MW-24) (see Figure 1-5). One well was installed near the source of the plume (MW-21), and the remaining two monitoring wells were installed to monitor the lateral limits of chemicals in groundwater to the south of the plume and the site (MW-22 and MW-20).

Eight soil samples were collected during the installation of five groundwater monitoring wells (MW-20 through MW-24). Two surface soil (0 to 1.0 foot bgs) samples were collected from wells MW-21, MW-22, and MW-24 and subsurface soil (1.0 to 4.0 feet bgs) samples were collected from wells MW-20, MW-21, MW-22, and MW-24. Only one soil sample was collected from MW-23 (105-S34-171) at a depth of 0.5 to 2.0 feet bgs because the deeper soil was saturated. Soil samples were analyzed for metals, VOCs, SVOCs (including PAHs), pesticides, PCBs, TPH as extractables, TPH as purgeables, and herbicides.

In July 2006, aquifer tests were conducted at one shallow well (MW-20) and one deep monitoring well (MW-24). The aquifer tests consisted of slug withdrawal testing or "rising head" tests. A solid slug of known volume was rapidly withdrawn from the well, and water levels were monitored using an electronic probe that was placed inside the well. Data from the slug test were analyzed using the methods of Bouwer and Rice (1976) for unconfined aquifers. In March 2007, an additional aquifer test was conducted on monitoring well (MW-24). The data and results from these slug tests are presented in Appendix C.

Two rounds of groundwater sampling were conducted. The first round of groundwater sampling was conducted in July 2006, and the second round of groundwater sampling was conducted in March 2007. The groundwater samples were analyzed for metals, VOCs, SVOCs (including PAHs), low-level pesticides, PCBs, TPH as extractables, and TPH as purgeables, and total dissolved solids (TDS).

### **Deviations from the RI Work Plan**

Several deviations from the RI work plan (Sultech 2006) occurred during the field investigations as a result of field conditions and are specified below.

- Pavement was encountered at some fence line locations (FSx); therefore, samples were collected at alternate locations approximately 10 feet from the fence line. Alternate locations were designated with an "A" in the location ID (FSxA).
- Sample location FS4A met refusal at 1-foot bgs due to rock/cobbles/boulder; therefore, only a surface sample was collected.
- Sample location FS6 was obstructed by vegetation and wooden forms along the edge of the former building; therefore, samples were collected from the west side of the fence.
- Sample location FS9 met refusal at 8 inches bgs; no deeper samples were collected.
- Sample location PW2 met groundwater at 7 inches bgs.

- Samples were only collected at locations PW10 and PW11 at 2 to 4 inches bgs due to bobcat auger malfunctions.

### **1.3.5 Previous Investigations at Adjacent Parcels**

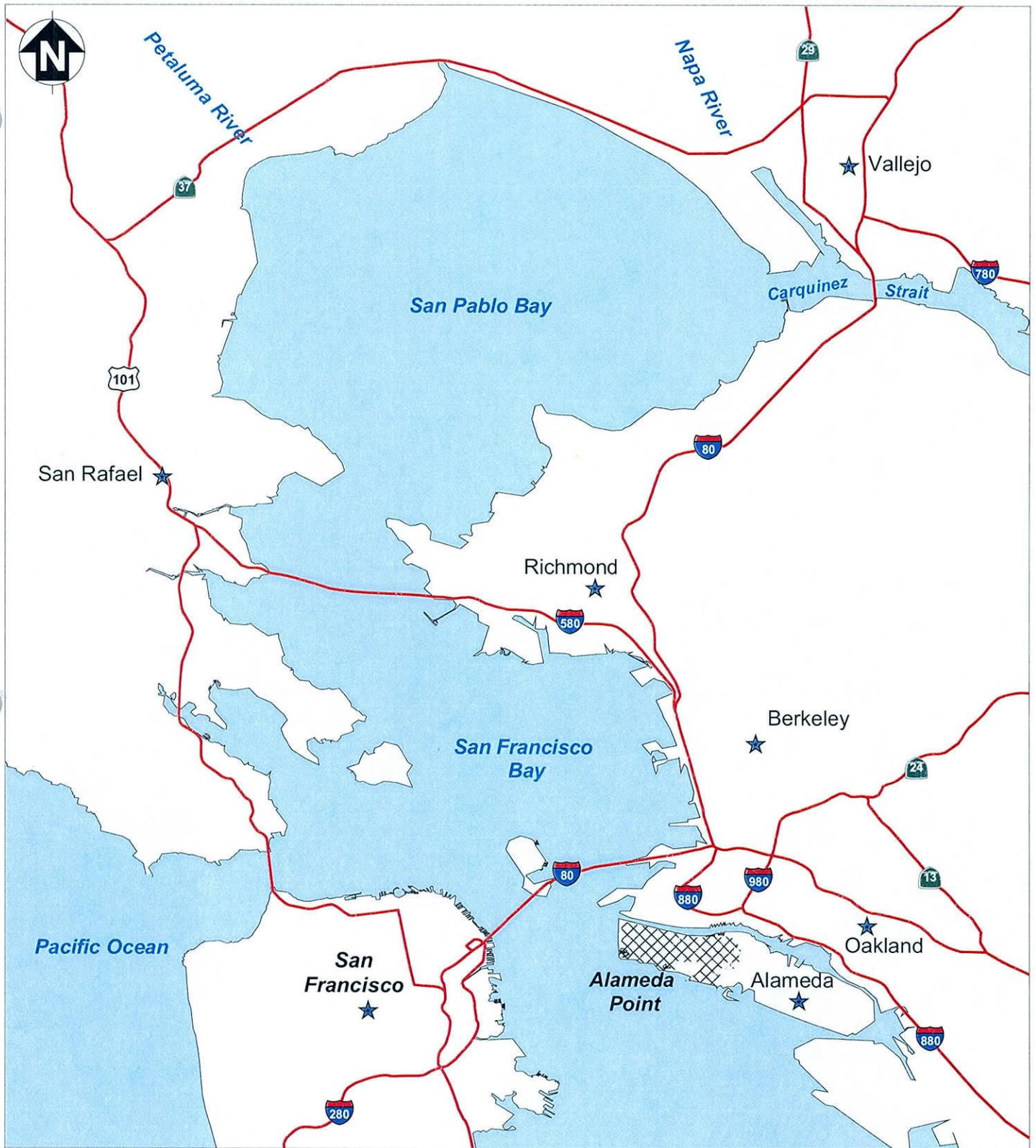
Investigations at the parcels adjacent to IR Site 34 included the EBS investigation (ERM-West 1994; IT Corp. 2001), TPH investigations of the pipeline (IT Corp. 1999), and the SI for Parcel 23H (Bechtel Environmental, Inc. 2003). The EBS investigation included Parcels 16, 17, 19, 21, and 23H. Results of the EBS sampling and UST removals indicated PCB contamination in soil at Parcel 16 has a potential to affect IR Site 34. The results of the previous investigations also indicated Parcels 17, 19, 21, and 23H have a low potential to affect IR Site 34.

### **1.3.6 Future Use**

IR Site 34 is considered part of the Northwest Territories. The Northwest Territories are designated as Public Open Space and Parks (City of Alameda 2003). Future use of IR Site 34 is designated as part of a golf course area. In addition, Site 34 has been identified as a tideland trust area that is subject to the limitations expressed in the Coastal Zone Management Act, including a restriction on residential use.

**FIGURES**

---



**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

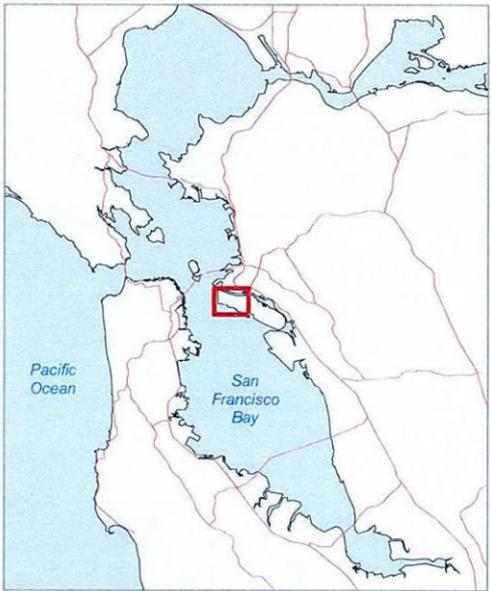
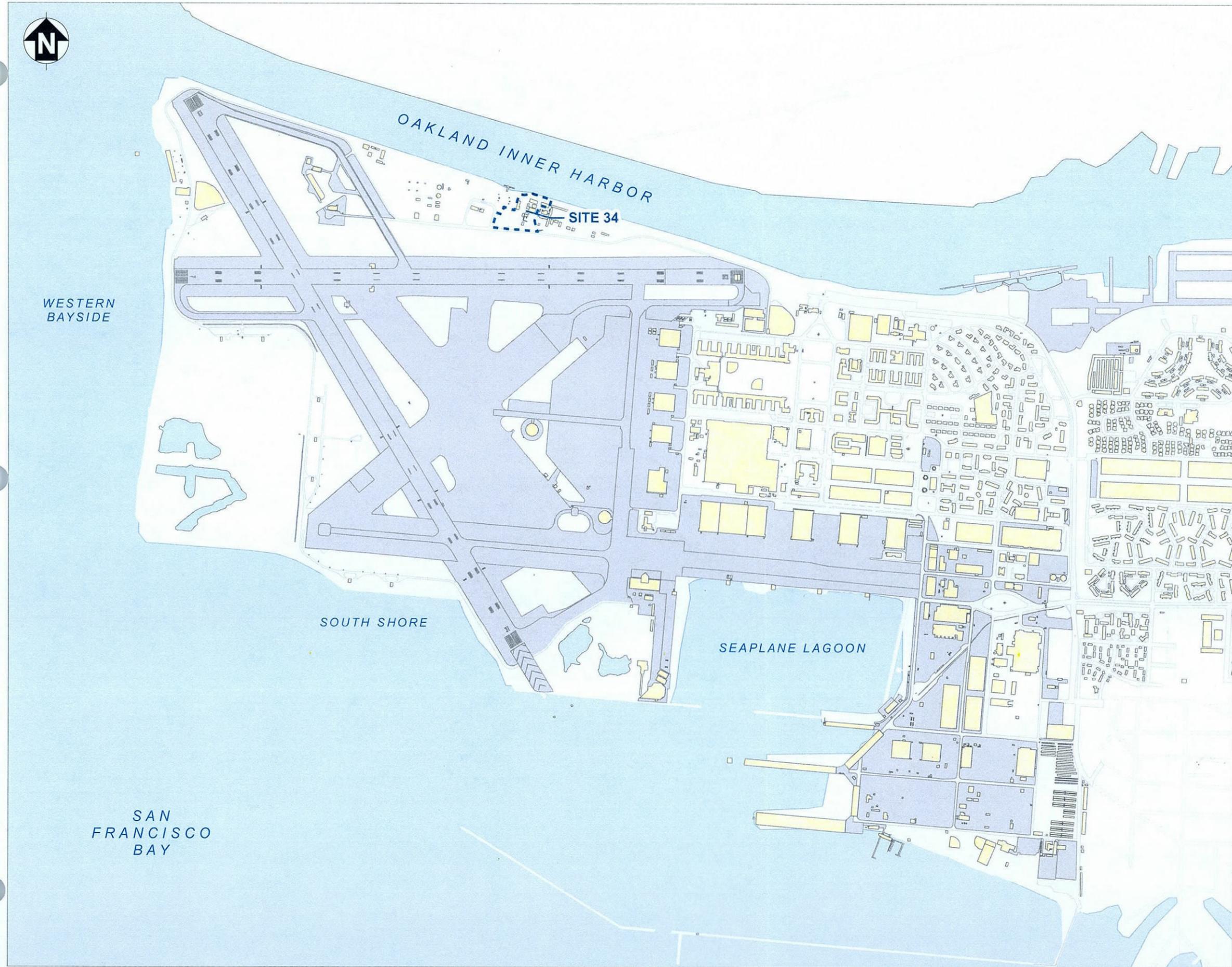
**FIGURE 1-1**

**ALAMEDA POINT REGIONAL MAP**

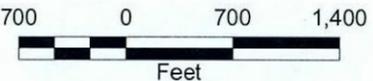
RI Report for IR Site 34

 Alameda Point





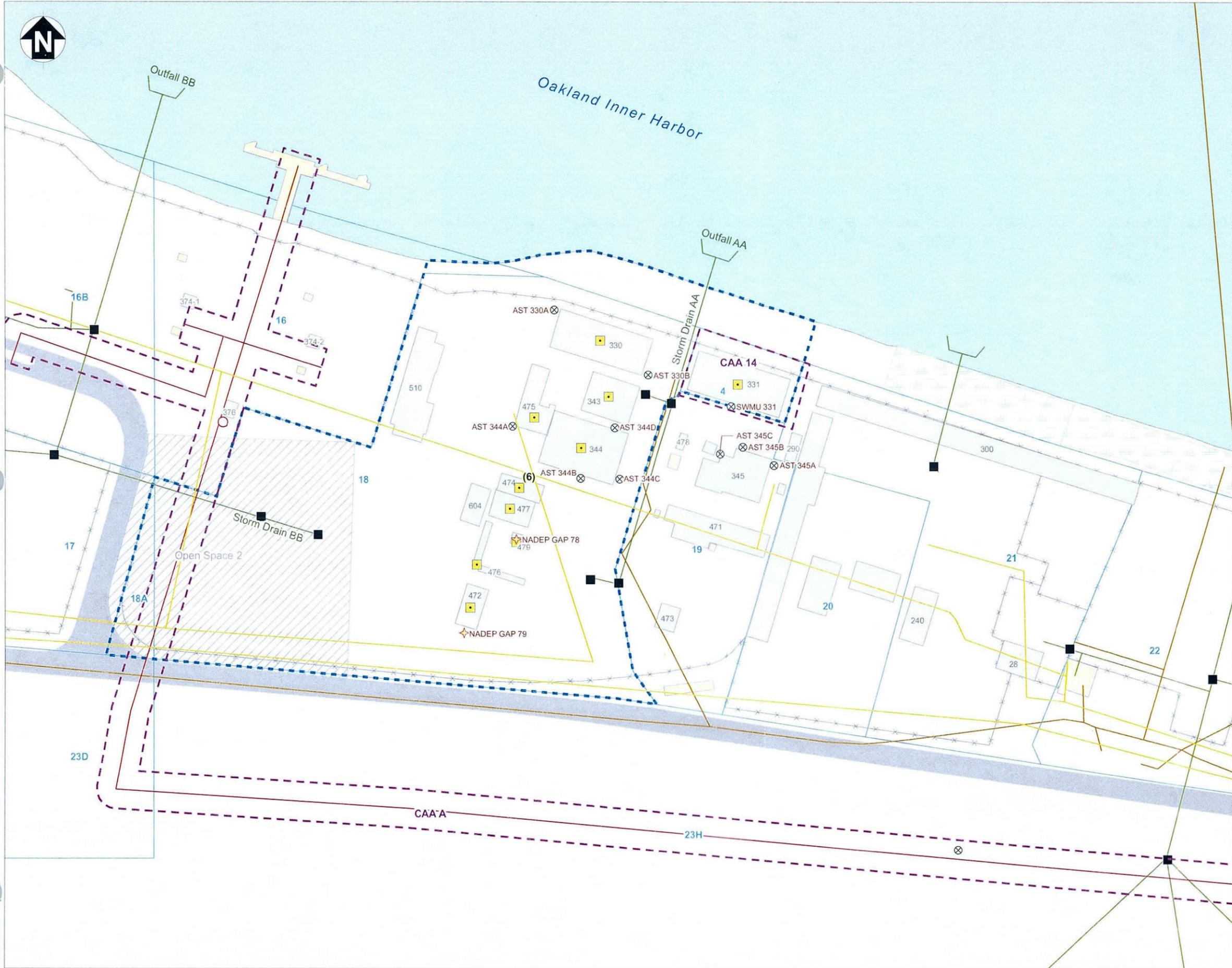
-  Installation Restoration Site 34 Boundary
-  Paved Area
-  Road
-  Structure
-  Water



**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 1-2**  
**SITE LOCATION MAP**

RI Report for IR Site 34



- Catch Basin
- ✦ Generator Accumulation Point (Removed)
- ⊗ Aboveground Storage Tank (Removed)
- Transformer (Removed)<sup>1, 2</sup>
- CERCLA Site 34 Boundary
- Corrective Action Area Boundary
- TSTA, Temporary Storage and Treatment Area (Removed) / Open Space 2
- Building (Present)
- Building (Removed)
- Environmental Baseline Survey Parcel
- Road
- Water
- Fence
- Utilities
- Electric
- Fuel
- Sanitary Sewer
- Storm Sewer

Notes:

1. Former transformer locations are approximated by a point within their associated building
2. There were 15 transformers at 10 locations. The location at Building 474 contained six transformers while all others contained one.

CAA Corrective action area

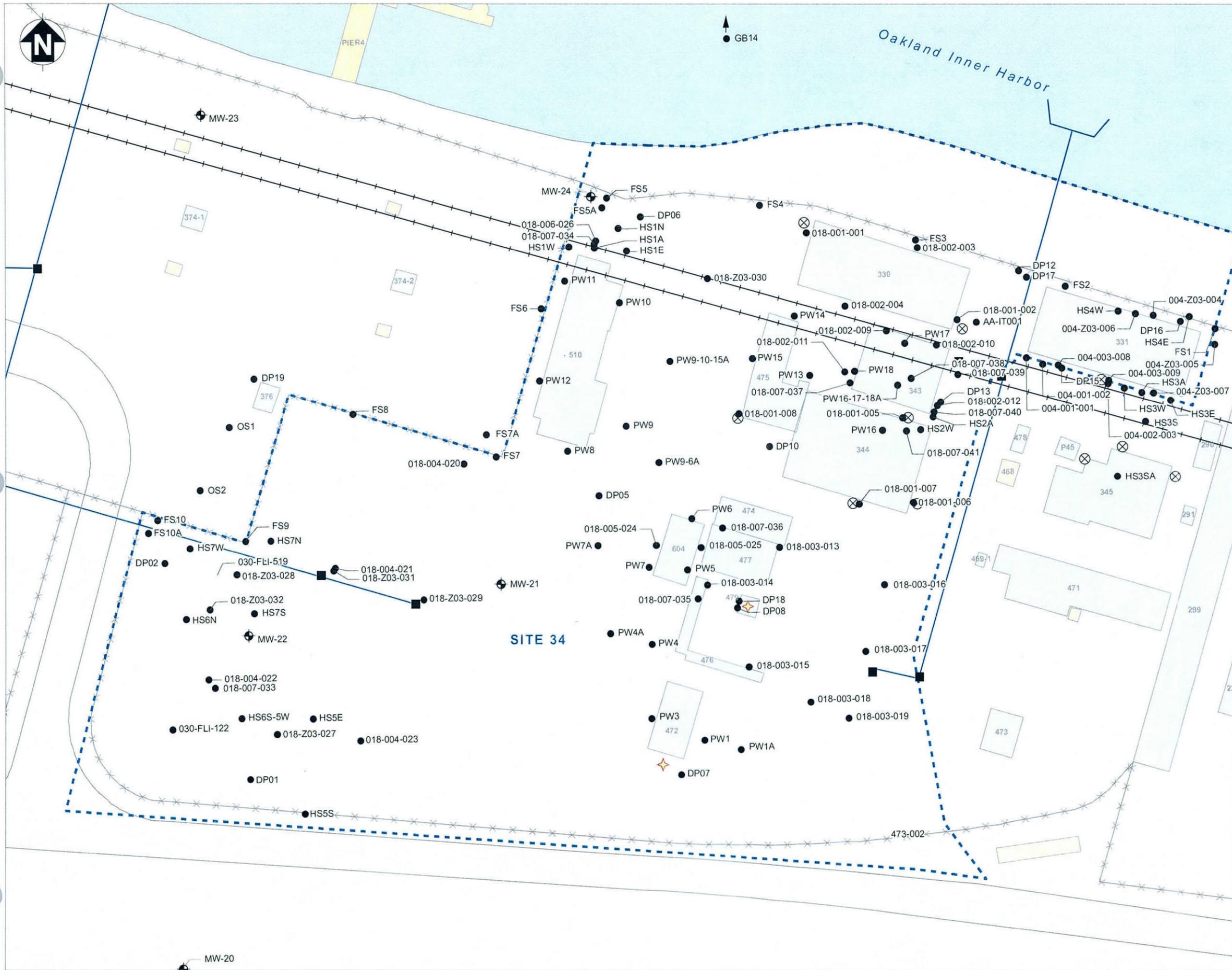


Alameda Point, Alameda CA  
 Department of the Navy, BRAC PMO West, San Diego, California

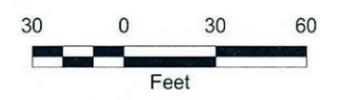
**FIGURE 1-3**

**SITE FEATURES**

RI Report for IR Site 34



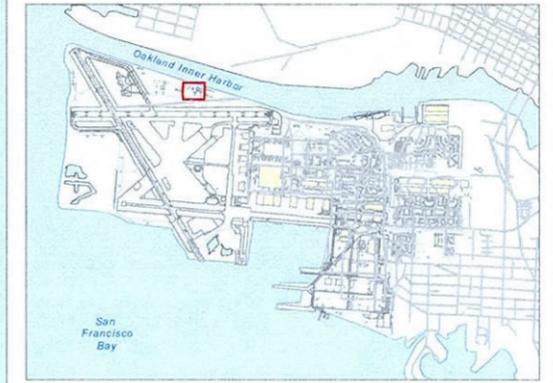
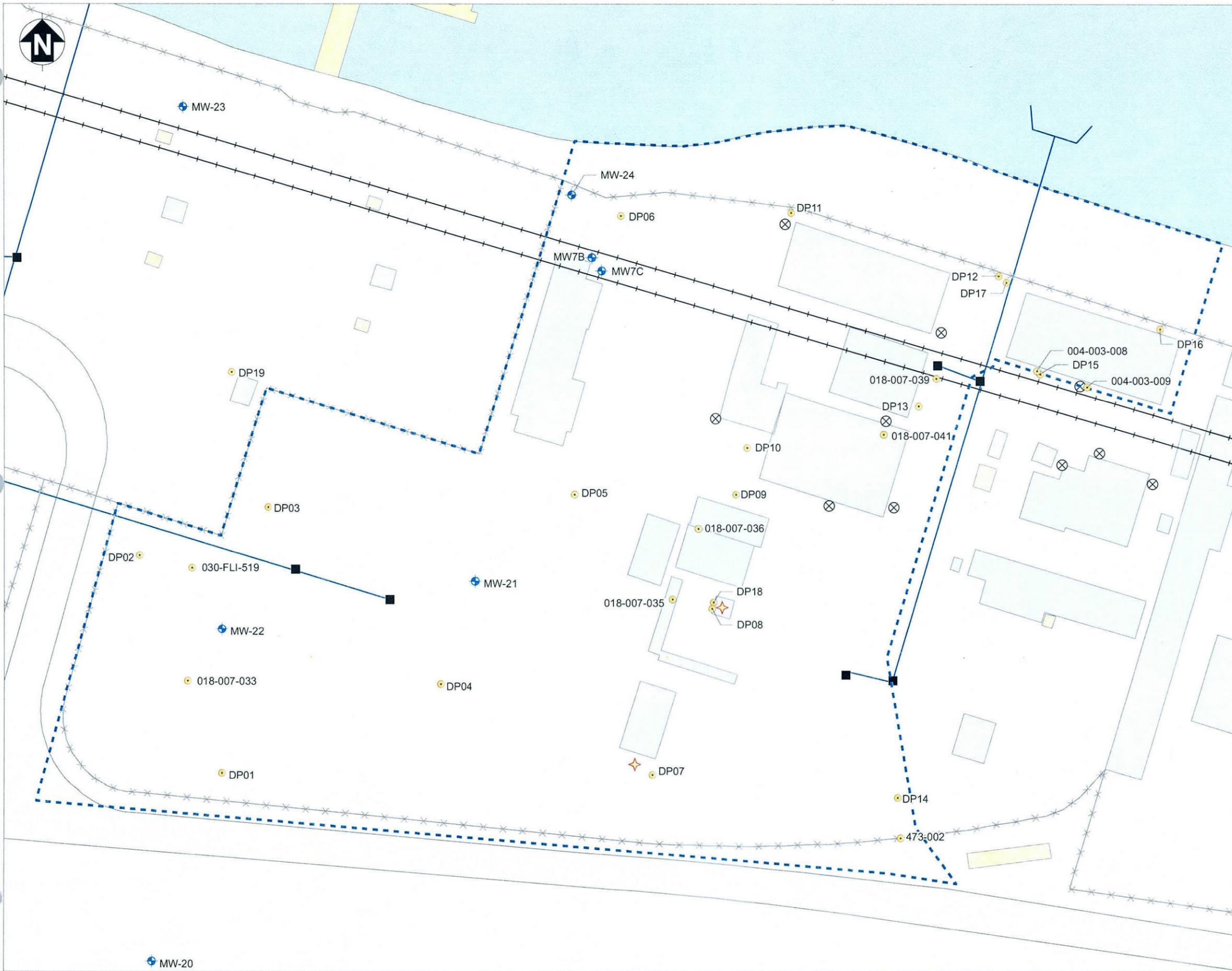
- Soil Sample Location
  - ⊕ Monitoring Well Location
  - Catch Basin
- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ★ Generator Accumulation Point (Removed)
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ××× Fence
  - Site 34 Boundary
  - Building (Present)
  - Building (Removed)
  - Road
  - Unpaved Area
  - Water



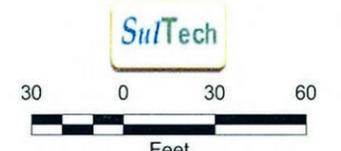
Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 1-4**  
**IR SITE 34**  
**SOIL SAMPLING LOCATIONS**

RI Report for IR Site 34



- + Monitoring Well Location
- Direct Push Groundwater Sample Location
- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
- ★ Generator Accumulation Point (Removed)
- Catch Basin
- Railroad Track (Removed)
- Storm Sewer Line
- Fence
- Building (Present)
- Building (Removed)
- Site 34 Boundary
- Road
- Unpaved Area
- Water



**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 1-5**  
**GROUNDWATER SAMPLE**  
**LOCATIONS**

RI Report for IR Site 34

**TABLES**

---

**TABLE 1-1: SUMMARY OF HISTORICAL USES, INVESTIGATIONS, AND FINDINGS FOR IR SITE 34 BUILDINGS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Building/ Structure	Construction Date	Building Area (ft <sup>2</sup> )	Current Status (year)	Activity/ Associated Feature	Field Observations
330	1948	4,000	Demolished (1996-2001)	Metal working, carpentry, and storage of equipment salvaged from other buildings, ASTs 330A and 330B, and one transformer	Two diesel ASTs <sup>1</sup> (330A and 330B) were observed at the northwest and the southeast corners of Building 330. Two areas of heavy oil staining were observed near the location of the diesel ASTs. A stained concrete slab was observed where a diesel heater used to be located adjacent to Building 330. TPH was detected above the comparison criteria. Stains also were observed throughout the operations area of the building.
331	1948	4,000	Demolished (1996-2000)	NARF woodworking, AST 331 and one transformer	Staining was observed on a metal pad adjacent to the southwest side of the building, and heavily stained soil was observed around the AST area. Metals, PAHs, and PCBs were detected above 1996 EPA PRGs. TPH was detected above the comparison criteria. Building 331 was designated as a CAA because of a fuel releases associated with the AST.
343	1949	2,000	Demolished (1996-2000)	Sandblasting shop, storage of equipment and one transformer	Stored sandblasting grit was observed on the floor, and sandblasting equipment was stored in the building. The floor was rusted because of saltwater intrusions into the building.
344	1950	4,400	Demolished (1996-2000)	Sheet metal fabrication, lubricant use, three diesel ASTs, and one transformer	Three ASTs <sup>2</sup> (344B through 344D) were observed at Building 344. An empty flammable storage cabinet was observed, and 60 percent of the floor in the building was stained from lubricants. Staining was observed around all of the ASTs. The northeastern tank was surrounded by 15 by 30 ft <sup>2</sup> of stained soil. TPH was detected above the comparison criteria.

**TABLE 1-1: SUMMARY OF HISTORICAL USES, INVESTIGATIONS, AND FINDINGS FOR IR SITE 34 BUILDINGS (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Building/ Structure	Construction Date	Building Area (ft <sup>2</sup> )	Current Status (year)	Activity/ Associated Feature	Field Observations
472	1946	800	Demolished (unknown)	Metal and lumber storage, one transformer	No observations were made about conditions of the building during field activities for the EBS report.
474	1950	810	Demolished (1996-2000)	Sheet metal fabrication, lubricant use, and six transformers	No observations were made about conditions of the building during field activities for the EBS report.
475	1952	1,750	Demolished (1996-2000)	Bead blasting activities, one AST, and one transformer	Staining was observed below the AST <sup>2</sup> (344A). Chemicals that may have been used in the building included abrasive blast media and paint removed during blasting activities. TPH was detected above the comparison criteria.
476	1953	750	Demolished (1996-2000)	Paint storage and one transformer	Paint stains were observed on the floor of the building, and a rust-colored material was observed in the dirt in front of the building. PAHs were detected above the 1996 EPA PRGs in one surface sample.
477	1952	1,000	Demolished (1996-2000)	Painting activities— Paint Booth and one transformer	Paint booths contained water and paint residue and paints, solvents, and paint waste were stored in the building. TPH was detected above the comparison criteria.
479	1951	216	Demolished (1996-2000)	Storage area for hazardous wastes, RCRA GAP 78 and one transformer	Staining, mottling, and corrosion were observed on the concrete.

**TABLE 1-1: SUMMARY OF HISTORICAL USES, INVESTIGATIONS, AND FINDINGS FOR IR SITE 34 BUILDINGS (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Building/ Structure	Construction Date	Building Area (ft <sup>2</sup> )	Current Status (year)	Activity/ Associated Feature	Field Observations
510	1967	3,700	Demolished (1996-2000)	Storage of wood and metal	Stains were observed on the floor of the building and in the shed area. Additionally, sandblasting grit was present in the shed area and along the exterior of the building. Arsenic and lead were detected above the 1996 EPA PRGs and background concentrations (north side of the building).
604	1952	800	Demolished (1996-2000)	Paint removal; two air compressors in the building and one compressor outside the building	Chemicals included petroleum oils associated with the air compressors, an empty kerosene drum located outside of the building, and red-colored sand from garnet blast media.
SWMU (AST 331-1)	1948	NA	Removed (1996-2000)	Storage of diesel fuel	Soil around the AST was heavily stained.
NADEP GAP 78	NA	216	Demolished (1996-2000)	GAP	GAP 78 occupied the entire space of Building 479. An accumulation of drums and cans of paint were observed.
NADEP GAP 79	NA	NA	Demolished (1996-2000)	Storage building	This GAP was located south of Building 472. Sandblasting grit was observed.
UST/ Fuel Lines	NA	NA	Removed (1998)	Transporting fuel for base operations	Breaks in the pipeline were observed before the removal in 1998. TPH-motor oil detected in soil and TPH-gasoline detected in groundwater were below TPH comparison criteria.
Transformers	NA	NA	Removed (1996-2000)	Transformer	Fifteen transformers were previously located at IR Site 34. No stains were associated with the transformers. No transformers remain at IR Site 34.

**TABLE 1-1: SUMMARY OF HISTORICAL USES, INVESTIGATIONS, AND FINDINGS FOR IR SITE 34 BUILDINGS (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Building/ Structure	Construction Date	Building Area (ft <sup>2</sup> )	Current Status (year)	Activity/ Associated Feature	Field Observations
Storm Drain AA	NA	NA	Cleaned	Storm drain	Storm drain line was cleaned by high-pressure jetting and vacuum collection of sediments. Observations after cleaning indicated the line was clean.
Storm Drain BB	NA	NA	Cleaned	Storm drain	Storm drain line was cleaned by high-pressure jetting and vacuum collection of sediments. Observations after cleaning indicated the line was clean.
Open Space 1	NA	136,560	NA	Stage equipment and materials	No observations were made about conditions of Open Space 1 during field activities for the EBS report.
Open Space 2	NA	45,520	NA	Stage equipment and materials	During Phase 1 EBS, aerial photographs indicated staining was present in this area. This area was also used as a temporary storage and treatment area for soil excavated from IR Site 15 between 1995 and 1997.

Notes:

- 1 The ASTs at Building 330 were removed between 1996 and 2000.
- 2 AST 344A is associated with Building 344 but located at Building 475.

AST Aboveground storage tank  
 CAA Corrective Action Area  
 EBS Environmental Baseline Survey  
 EPA U.S. Environmental Protection Agency  
 ft<sup>2</sup> Square feet  
 GAP Generator accumulation point  
 IR Installation Restoration  
 NA Not applicable  
 NADEP Naval Aviation Depot  
 NARF Naval Air Rework Facility  
 PAH Polycyclic aromatic hydrocarbon  
 PCB Polychlorinated biphenyl

**TABLE 1-1: SUMMARY OF HISTORICAL USES, INVESTIGATIONS, AND FINDINGS FOR IR SITE 34 BUILDINGS (CONTINUED)**  
Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

PRG Preliminary remediation goal  
RCRA Resource Conservation and Recovery Act  
SWMU Solid waste management unit  
TPH Total petroleum hydrocarbons  
UST Underground storage tank

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS
AA-IT001-01	SEDIMENT	11/22/94	AA-IT001	ORIG		✓	✓	✓	✓			✓+P	✓				✓	✓	✓	✓	
004-0001M	SOIL	04/27/95	004-001-001	ORIG	0.50 - 1.00			✓					✓								
004-0002	SOIL	04/27/95	004-001-002	ORIG	0.50 - 1.00		✓	✓					✓								
004-0002M	SOIL	04/27/95	004-001-002	ORIG	0.50 - 1.00		✓	✓					✓								
004-0003M	SOIL	04/27/95	004-002-003	ORIG	0.30 - 0.80		✓	✓					✓								
004-0011	SOIL	10/25/95	004-003-008	ORIG	1.00 - 1.50				✓												
004-0012	SOIL	10/25/95	004-003-008	ORIG	5.00 - 6.00		✓		✓				✓								
004-0014	SOIL	10/25/95	004-003-009	ORIG	0.50 - 1.00				✓												
004-0015	SOIL	10/25/95	004-003-009	ORIG	2.50 - 3.50		✓		✓				✓								
004-0004	SOIL	04/27/95	004-Z03-004	ORIG	0.50 - 1.00							✓+P									
004-0005	SOIL	10/25/95	004-Z03-005	ORIG	0.50 - 1.50							✓+P									
004-0006	SOIL	10/25/95	004-Z03-005	ORIG	3.00 - 3.50							✓+P									
004-0017	SOIL	10/25/95	004-Z03-005	DUP	0.50 - 1.50							✓+P									
004-0007	SOIL	10/24/95	004-Z03-006	ORIG	0.50 - 1.00							✓+P									
004-0008	SOIL	10/24/95	004-Z03-006	ORIG	2.50 - 3.00							✓+P									
004-0009	SOIL	10/24/95	004-Z03-007	ORIG	0.50 - 1.00							✓+P									
004-0010	SOIL	10/24/95	004-Z03-007	ORIG	3.50 - 4.00							✓+P									
018-0001M	SOIL	04/26/95	018-001-001	ORIG	0.00 - 0.50		✓	✓													
018-0002	SOIL	04/26/95	018-001-002	ORIG	0.00 - 0.50		✓	✓													
018-0002M	SOIL	04/26/95	018-001-002	ORIG	0.00 - 0.50		✓	✓													
018-0005M	SOIL	04/27/95	018-001-005	ORIG	0.00 - 0.50		✓	✓													
018-0006M	SOIL	04/27/95	018-001-006	ORIG	0.50 - 1.00		✓	✓													
018-0007	SOIL	04/27/95	018-001-007	ORIG	0.50 - 1.00		✓	✓													
018-0007M	SOIL	04/27/95	018-001-007	ORIG	0.50 - 1.00		✓	✓													

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34 (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS	
018-0008M	SOIL	04/27/95	018-001-008	ORIG	0.50 - 1.00		✓	✓														
018-0003	SOIL	04/26/95	018-002-003	ORIG	0.00 - 0.50								✓									
018-0003M	SOIL	04/26/95	018-002-003	ORIG	0.00 - 0.50								✓									
018-0004M	SOIL	04/26/95	018-002-004	ORIG	0.00 - 0.50								✓									
018-0009M	SOIL	04/26/95	018-002-009	ORIG	0.00 - 0.50								✓									
018-0010M	SOIL	04/26/95	018-002-010	ORIG	0.00 - 0.50								✓									
018-0011M	SOIL	04/26/95	018-002-011	ORIG	0.00 - 0.50								✓									
018-0033M	SOIL	04/26/95	018-002-011	DUP	0.00 - 0.50								✓									
018-0012	SOIL	04/27/95	018-002-012	ORIG	0.00 - 0.50								✓									
018-0012M	SOIL	04/27/95	018-002-012	ORIG	0.00 - 0.50								✓									
018-0013	SOIL	05/03/95	018-003-013	ORIG	3.00 - 3.50	✓																
018-0014	SOIL	04/27/95	018-003-014	ORIG	3.00 - 3.50	✓																
018-0015	SOIL	04/27/95	018-003-015	ORIG	3.00 - 3.50	✓																
018-0016	SOIL	04/27/95	018-003-016	ORIG	1.00 - 1.50												✓					
018-0017	SOIL	04/27/95	018-003-017	ORIG	0.50 - 1.00												✓					
018-0018	SOIL	04/27/95	018-003-018	ORIG	0.50 - 1.00												✓					
018-0019	SOIL	04/27/95	018-003-019	ORIG	0.50 - 1.00												✓					
018-0020M	SOIL	04/25/95	018-004-020	ORIG	0.00 - 0.50		✓	✓	✓				✓									
018-0021	SOIL	04/25/95	018-004-021	ORIG	0.00 - 0.50		✓	✓	✓				✓									
018-0021M	SOIL	04/25/95	018-004-021	ORIG	0.00 - 0.50		✓	✓					✓									
018-0031	SOIL	04/25/95	018-004-021	DUP	0.00 - 0.50		✓	✓	✓				✓									
018-0022	SOIL	04/25/95	018-004-022	ORIG	0.00 - 0.50				✓													
018-0022M	SOIL	04/25/95	018-004-022	ORIG	0.00 - 0.50		✓	✓					✓									
018-0023	SOIL	04/25/95	018-004-023	ORIG	0.00 - 0.50				✓													

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34 (Continued)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS	
018-0023M	SOIL	04/25/95	018-004-023	ORIG	0.00 - 0.50		✓	✓					✓									
018-0024	SOIL	04/27/95	018-005-024	ORIG	0.50 - 1.00		✓	✓					✓									
018-0024M	SOIL	04/27/95	018-005-024	ORIG	0.50 - 1.00		✓	✓					✓									
018-0025M	SOIL	04/27/95	018-005-025	ORIG	0.00 - 0.50		✓	✓					✓									
018-0026	SOIL	04/25/95	018-006-026	ORIG	0.00 - 0.50								✓									
018-0038	SOIL	10/23/95	018-007-033	ORIG	2.50 - 3.50		✓	✓					✓									
018-0040	SOIL	10/23/95	018-007-034	ORIG	2.00 - 2.50								✓									
018-0041	SOIL	10/23/95	018-007-035	ORIG	0.50 - 1.00		✓	✓	✓													
018-0042	SOIL	10/23/95	018-007-035	ORIG	3.00 - 4.00		✓	✓	✓				✓									
018-0044	SOIL	10/23/95	018-007-036	ORIG	3.00 - 4.00		✓	✓	✓				✓									
018-0046	SOIL	10/24/95	018-007-037	ORIG	3.50 - 4.50								✓									
018-0055	SOIL	10/24/95	018-007-037	DUP	3.50 - 4.50								✓									
018-0047	SOIL	10/24/95	018-007-038	ORIG	4.00 - 5.00		✓	✓	✓				✓									
018-0048	SOIL	10/23/95	018-007-039	ORIG	0.50 - 1.50		✓	✓	✓													
018-0049	SOIL	10/23/95	018-007-039	ORIG	2.00 - 3.00		✓	✓	✓				✓									
018-0054	SOIL	10/23/95	018-007-039	DUP	0.50 - 1.50		✓	✓	✓													
018-0051	SOIL	10/24/95	018-007-040	ORIG	4.00 - 4.50								✓									
018-0052	SOIL	10/24/95	018-007-041	ORIG	3.50 - 4.50		✓	✓	✓				✓									
018-0027	SOIL	04/25/95	018-Z03-027	ORIG	0.00 - 0.50								✓+P									
018-0028	SOIL	04/25/95	018-Z03-028	ORIG	0.00 - 0.50								✓+P									
018-0029	SOIL	04/25/95	018-Z03-029	ORIG	0.00 - 0.50								✓+P									
018-0030	SOIL	04/26/95	018-Z03-030	ORIG	0.00 - 0.50								✓+P									
018-0032	SOIL	04/26/95	018-Z03-030	DUP	0.00 - 0.50								✓+P									
018-0034	SOIL	10/23/95	018-Z03-031	ORIG	0.50 - 1.00								✓+P									

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34 (Continued)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS	
018-0035	SOIL	10/23/95	018-Z03-031	ORIG	3.00 - 3.50							✓+P										
018-0036	SOIL	10/23/95	018-Z03-032	ORIG	0.50 - 1.00							✓+P										
018-0037	SOIL	10/23/95	018-Z03-032	ORIG	3.00 - 3.50							✓+P										
030-FLI-122	SOIL	12/04/98	030-FLI-122	ORIG	0.00 - 3.00	✓ B	✓	✓														
105-S34-001	SOIL	02/08/06	DP01	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-002	SOIL	02/08/06	DP01	ORIG	0.85 - 1.30	✓	✓	✓		✓	✓	✓	✓									
105-S34-005	SOIL	02/08/06	DP02	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-006	SOIL	02/08/06	DP02	ORIG	0.50 - 0.90	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-013	SOIL	02/08/06	DP05	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-014	SOIL	02/08/06	DP05	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-015	SOIL	02/08/06	DP05	ORIG	7.00 - 7.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-017	SOIL	02/08/06	DP06	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-018	SOIL	02/08/06	DP06	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-019	SOIL	02/08/06	DP06	ORIG	2.00 - 2.50	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-021	SOIL	02/06/06	DP07	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-022	SOIL	02/06/06	DP07	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-023	SOIL	02/06/06	DP07	ORIG	7.00 - 7.00	✓		✓			✓	✓	✓									
105-S34-025	SOIL	02/06/06	DP08	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-026	SOIL	02/06/06	DP08	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-027	SOIL	02/06/06	DP08	ORIG	7.00 - 7.00	✓		✓			✓	✓	✓									
105-S34-030	SOIL	02/06/06	DP10	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-031	SOIL	02/06/06	DP10	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-032	SOIL	02/06/06	DP10	ORIG	7.00 - 7.00	✓		✓			✓	✓	✓									
105-S34-035	SOIL	02/07/06	DP12	ORIG	0.00 - 0.50					✓	✓	✓	✓									

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34 (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS	
105-S34-036	SOIL	02/07/06	DP12	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-196	SOIL	02/07/06	DP12	ORIG	7.00 - 7.00	✓		✓					✓									
105-S34-037	SOIL	02/07/06	DP13	ORIG	0.00 - 1.00					✓	✓	✓	✓									
105-S34-038	SOIL	02/07/06	DP13	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-039	SOIL	02/07/06	DP13	ORIG	7.00 - 7.00	✓		✓					✓									
105-S34-042	SOIL	02/07/06	DP15	ORIG	0.00 - 1.00					✓	✓	✓	✓									
105-S34-043	SOIL	02/07/06	DP15	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-044	SOIL	02/07/06	DP15	ORIG	7.00 - 7.00	✓		✓					✓									
105-S34-046	SOIL	02/07/06	DP16	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-047	SOIL	02/07/06	DP16	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-048	SOIL	02/07/06	DP16	ORIG	7.00 - 7.00	✓		✓					✓									
105-S34-050	SOIL	02/07/06	DP17	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-051	SOIL	02/07/06	DP17	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-052	SOIL	02/07/06	DP17	ORIG	7.00 - 7.00	✓		✓					✓									
105-S34-055	SOIL	02/08/06	DP18	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-056	SOIL	02/08/06	DP18	ORIG	1.50 - 2.00	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-060	SOIL	02/08/06	DP19	ORIG	0.00 - 0.50					✓	✓	✓	✓									
105-S34-061	SOIL	02/08/06	DP19	ORIG	0.80 - 1.30	✓	✓	✓		✓	✓	✓	✓									
105-S34-064	SOIL	02/13/06	FS1	ORIG	0.00 - 0.50						✓	✓										
105-S34-100	SOIL	02/13/06	FS10	ORIG	0.00 - 0.50						✓	✓										
105-S34-101	SOIL	02/13/06	FS10	ORIG	1.50 - 2.00						✓	✓										
105-S34-102	SOIL	02/13/06	FS10A	ORIG	0.00 - 0.50						✓	✓										
105-S34-103	SOIL	02/13/06	FS10A	ORIG	1.50 - 2.00						✓	✓										
105-S34-068	SOIL	02/13/06	FS2	ORIG	0.00 - 0.50						✓	✓										

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34 (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS		
105-S34-072	SOIL	02/13/06	FS3	ORIG	0.00 - 0.50						✓	✓											
105-S34-076	SOIL	02/13/06	FS4	ORIG	0.00 - 0.50						✓	✓											
105-S34-080	SOIL	02/13/06	FS5	ORIG	0.00 - 0.50						✓	✓											
105-S34-081	SOIL	02/13/06	FS5	ORIG	1.00 - 2.00						✓	✓											
105-S34-082	SOIL	02/13/06	FS5A	ORIG	0.00 - 0.50						✓	✓											
105-S34-083	SOIL	02/13/06	FS5A	ORIG	1.50 - 2.00						✓	✓											
105-S34-084	SOIL	02/13/06	FS6	ORIG	0.00 - 0.50						✓	✓											
105-S34-088	SOIL	02/13/06	FS7	ORIG	0.00 - 0.50						✓	✓											
105-S34-089	SOIL	02/13/06	FS7	ORIG	1.50 - 2.00						✓	✓											
105-S34-090	SOIL	02/13/06	FS7A	ORIG	0.00 - 0.50						✓	✓											
105-S34-091	SOIL	02/13/06	FS7A	ORIG	1.50 - 2.00						✓	✓											
105-S34-092	SOIL	02/13/06	FS8	ORIG	0.00 - 0.50						✓	✓											
105-S34-096	SOIL	02/13/06	FS9	ORIG	0.00 - 0.50						✓	✓											
105-S34-104	SOIL	02/15/06	HS1A	ORIG	0.00 - 0.50						✓	✓	✓		✓								
105-S34-110	SOIL	02/15/06	HS1E	ORIG	0.00 - 0.50						✓		✓		✓								
105-S34-113	SOIL	02/15/06	HS1N	ORIG	0.00 - 0.50						✓		✓		✓								
105-S34-114	SOIL	02/15/06	HS1N	ORIG	2.00 - 2.50						✓		✓		✓								
105-S34-107	SOIL	02/15/06	HS1W	ORIG	0.00 - 0.50						✓		✓		✓								
105-S34-109	SOIL	02/15/06	HS1W	ORIG	3.50 - 4.00						✓		✓		✓								
105-S34-116	SOIL	02/15/06	HS2A	ORIG	0.00 - 0.50						✓	✓	✓		✓								
105-S34-122	SOIL	02/15/06	HS2W	ORIG	0.00 - 0.50						✓		✓		✓								
105-S34-123	SOIL	02/15/06	HS2W	ORIG	1.00 - 1.50						✓		✓		✓								
105-S34-124	SOIL	02/16/06	HS3A	ORIG	0.00 - 0.50						✓	✓	✓		✓								
105-S34-125	SOIL	02/16/06	HS3A	ORIG	1.00 - 1.50						✓	✓											

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34 (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS
105-S34-126	SOIL	02/16/06	HS3E	ORIG	0.00 - 0.50						✓				✓						
105-S34-127	SOIL	02/16/06	HS3E	ORIG	1.00 - 1.50						✓	✓									
105-S34-128	SOIL	02/16/06	HS3S	ORIG	0.00 - 0.50						✓		✓		✓						
105-S34-318	SOIL	02/17/06	HS3SA	ORIG	0.00 - 0.50						✓		✓								
105-S34-130	SOIL	02/16/06	HS3W	ORIG	0.00 - 0.50						✓										
105-S34-131	SOIL	02/16/06	HS3W	ORIG	1.00 - 1.50						✓										
105-S34-132	SOIL	02/16/06	HS4E	ORIG	0.00 - 0.50						✓	✓									
105-S34-134	SOIL	02/16/06	HS4W	ORIG	0.00 - 0.50						✓	✓									
105-S34-136	SOIL	02/15/06	HS5E	ORIG	0.00 - 0.50						✓	✓									
105-S34-137	SOIL	02/15/06	HS5E	ORIG	1.00 - 1.50						✓	✓									
105-S34-138	SOIL	02/15/06	HS5S	ORIG	0.00 - 0.50						✓	✓									
105-S34-144	SOIL	02/15/06	HS6N	ORIG	0.00 - 0.50						✓		✓		✓						
105-S34-146	SOIL	02/15/06	HS6S-5W	ORIG	0.00 - 0.50						✓		✓		✓						
105-S34-147	SOIL	02/15/06	HS6S-5W	ORIG	1.00 - 1.50						✓		✓		✓						
105-S34-150	SOIL	02/15/06	HS7N	ORIG	0.00 - 0.50						✓	✓									
105-S34-151	SOIL	02/15/06	HS7N	ORIG	1.00 - 1.50						✓	✓									
105-S34-152	SOIL	02/15/06	HS7S	ORIG	0.00 - 0.50						✓	✓									
105-S34-154	SOIL	02/15/06	HS7W	ORIG	0.00 - 0.50						✓	✓									
105-S34-155	SOIL	02/15/06	HS7W	ORIG	1.00 - 1.50						✓	✓									
105-S34-156	SOIL	06/26/06	MW-20	ORIG	2.00 - 2.50	✓	✓	✓	✓	✓	✓	✓	✓				✓				
105-S34-158	SOIL	06/23/06	MW-21	ORIG	0.00 - 1.00	✓	✓	✓	✓	✓	✓	✓	✓				✓				
105-S34-159	SOIL	06/23/06	MW-21	ORIG	2.00 - 2.50	✓	✓	✓	✓	✓	✓	✓	✓				✓				
105-S34-160	SOIL	06/23/06	MW-22	ORIG	0.00 - 1.00	✓	✓	✓	✓	✓	✓	✓	✓				✓				
105-S34-162	SOIL	06/23/06	MW-22	ORIG	2.00 - 2.50	✓	✓	✓	✓	✓	✓	✓	✓				✓				

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34 (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS
105-S34-171	SOIL	09/06/06	MW-23	ORIG	0.50 - 2.00	✓	✓	✓	✓		✓	✓	✓				✓				
105-S34-165	SOIL	06/22/06	MW-24	ORIG	3.00 - 4.00	✓	✓	✓	✓	✓	✓	✓	✓				✓				
105-S34-168	SOIL	06/22/06	MW-24	ORIG	0.00 - 1.00	✓	✓	✓	✓	✓	✓	✓	✓				✓				
105-S34-192	SOIL	02/16/06	OS1	ORIG	0.00 - 0.50						✓	✓									
105-S34-193	SOIL	02/16/06	OS1	ORIG	1.00 - 1.50						✓	✓									
105-S34-194	SOIL	02/16/06	OS2	ORIG	0.00 - 0.50						✓	✓									
105-S34-195	SOIL	02/16/06	OS2	ORIG	1.00 - 1.50						✓	✓									
105-S34-157	SOIL	02/14/06	PW1	ORIG	1.00 - 1.50						✓		✓		✓						
105-S34-174	SOIL	02/14/06	PW10	ORIG	0.00 - 0.50						✓		✓		✓						
105-S34-175	SOIL	02/14/06	PW10	ORIG	1.00 - 1.50						✓										
105-S34-313	SOIL	02/16/06	PW10	ORIG	2.00 - 2.50						✓										
105-S34-177	SOIL	02/14/06	PW11	ORIG	1.00 - 1.50						✓										
105-S34-179	SOIL	02/14/06	PW12	ORIG	1.00 - 1.50						✓										
105-S34-180	SOIL	02/14/06	PW13	ORIG	0.00 - 0.50						✓										
105-S34-182	SOIL	02/14/06	PW14	ORIG	0.00 - 0.50						✓		✓		✓						
105-S34-183	SOIL	02/14/06	PW14	ORIG	1.00 - 1.50						✓										
105-S34-184	SOIL	02/14/06	PW15	ORIG	0.00 - 0.50						✓										
105-S34-185	SOIL	02/14/06	PW15	ORIG	1.00 - 1.50						✓										
105-S34-186	SOIL	02/14/06	PW16	ORIG	0.00 - 0.50						✓										
105-S34-321	SOIL	02/17/06	PW16-17-18A	ORIG	0.00 - 0.50						✓										
105-S34-189	SOIL	02/14/06	PW17	ORIG	1.00 - 1.50						✓		✓		✓						
105-S34-190	SOIL	02/14/06	PW18	ORIG	0.00 - 0.50						✓		✓		✓						
105-S34-331	SOIL	02/16/06	PW1A	ORIG	1.00 - 1.50						✓										
105-S34-161	SOIL	02/14/06	PW3	ORIG	1.50 - 2.00						✓										

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34 (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS	
105-S34-163	SOIL	02/14/06	PW4	ORIG	1.00 - 1.50						✓		✓		✓							
105-S34-304	SOIL	02/14/06	PW4A*	ORIG	2.00 - 2.50						✓											
105-S34-316	SOIL	02/17/06	PW4A*	ORIG	1.00 - 1.50						✓		✓									
105-S34-164	SOIL	02/14/06	PW5	ORIG	0.00 - 0.50						✓											
105-S34-166	SOIL	02/14/06	PW6	ORIG	0.00 - 0.50						✓											
105-S34-167	SOIL	02/14/06	PW6	ORIG	1.00 - 1.50						✓											
105-S34-169	SOIL	02/14/06	PW7	ORIG	1.00 - 1.50						✓											
105-S34-170	SOIL	02/14/06	PW7	ORIG	0.00 - 0.50						✓		✓		✓							
105-S34-300	SOIL	02/14/06	PW7	ORIG	0.00 - 0.50						✓											
105-S34-325	SOIL	02/16/06	PW7A	ORIG	0.50 - 0.80						✓											
105-S34-308	SOIL	02/16/06	PW8	ORIG	2.00 - 2.50						✓				✓							
105-S34-172	SOIL	02/14/06	PW9	ORIG	0.00 - 0.50						✓											
105-S34-173	SOIL	02/14/06	PW9	ORIG	1.00 - 1.50						✓											
105-S34-311	SOIL	02/16/06	PW9-10-15A	ORIG	0.00 - 0.50						✓		✓									
105-S34-330	SOIL	02/16/06	PW9-10-15A	ORIG	1.00 - 1.50						✓		✓									
105-S34-312	SOIL	02/16/06	PW9-6A	ORIG	0.00 - 0.50						✓		✓		✓							
004-0013	WATER	10/25/95	004-003-008	ORIG	NA		✓		✓													
004-0016	WATER	10/25/95	004-003-009	ORIG	NA		✓		✓													
018-0039	WATER	10/23/95	018-007-033	ORIG	NA		✓	✓														
018-0056	WATER	10/23/95	018-007-033	DUP	NA		✓	✓														
018-0043	WATER	10/23/95	018-007-035	ORIG	NA		✓	✓	✓				✓									
018-0045	WATER	10/23/95	018-007-036	ORIG	NA		✓	✓	✓													
018-0050	WATER	10/23/95	018-007-039	ORIG	NA		✓	✓	✓													
018-0053	WATER	10/24/95	018-007-041	ORIG	NA		✓	✓	✓													

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34 (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS	
030-FLI-519	WATER	12/04/98	030-FLI-519	ORIG	NA	✓ B	✓	✓														
030-USTF-112	WATER	09/07/99	473-002	ORIG	NA	✓																
105-S34-004	WATER	02/09/06	DP01	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-010	WATER	02/09/06	DP02	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-011	WATER	02/09/06	DP03	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-012	WATER	02/08/06	DP04	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-016	WATER	02/08/06	DP05	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-020	WATER	02/08/06	DP06	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-024	WATER	02/06/06	DP07	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-028	WATER	02/06/06	DP08	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-029	WATER	02/06/06	DP09	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-033	WATER	02/06/06	DP10	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-034	WATER	02/07/06	DP11	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-197	WATER	02/07/06	DP12	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-040	WATER	02/07/06	DP13	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-041	WATER	02/06/06	DP14	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-045	WATER	02/07/06	DP15	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-049	WATER	02/07/06	DP16	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-200	WATER	02/07/06	DP16	DUP	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-054	WATER	02/08/06	DP17	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-059	WATER	02/09/06	DP18	ORIG	NA	✓	✓	✓	✓	✓	✓	✓		✓								
105-S34-063	WATER	02/09/06	DP19	ORIG	NA	✓	✓	✓	✓			✓		✓								
105-S34-409	WATER	09/15/06	MW-20	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-420	WATER	03/01/07	MW-20	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓

**TABLE 1-2: SAMPLES COLLECTED AND LABORATORY ANALYSES PERFORMED AT SITE 34 (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Sample No.	Matrix	Sample Date	Sampling Location	Sample Type	Depth (feet bgs)	VOC	TPH-e	TPH-p	SVOC	PAH	PCB	PEST	METL	DMETL	CR	DIOXIN	HERB	O&G	ORGAN	PESTO	TDS	
105-S34-406	WATER	09/14/06	MW-21	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-421	WATER	03/01/07	MW-21	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-407	WATER	09/15/06	MW-22	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-410	WATER	09/15/06	MW-22	DUP	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-422	WATER	03/01/07	MW-22	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-423	WATER	03/01/07	MW-22	DUP	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-408	WATER	09/15/06	MW-23	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-424	WATER	03/01/07	MW-23	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-405	WATER	09/14/06	MW-24	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-425	WATER	03/01/07	MW-24	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									✓
105-S34-401	WATER	02/14/06	MW7B	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									
105-S34-400	WATER	02/14/06	MW7C	ORIG	NA	✓	✓	✓	✓	✓	✓	✓	✓									
<b>TOTAL</b>						73	100	105	96	70	160	131	123	20	24	4	9	1	1	1	12	

- Notes:**
- bgs Below ground surface
  - CR Chromium/Hexavalent Chromium
  - DMETL Metals (filtered)
  - HERB Chlorinated Herbicides
  - METL Metals (total - unfiltered)
  - NA Not applicable
  - O&G Oil and grease
  - ORGAN Organotins
  - PAH Polycyclic aromatic hydrocarbon
  - PCB Polychlorinated biphenyls
  - PEST Pesticides
  - PESTO Organophosphorus pesticides
  - SVOC Semivolatile organic compound
  - TDS Total dissolved solids
  - TPH-e Total petroleum hydrocarbons, extractables
  - TPH-p Total petroleum hydrocarbons, purgeables
  - VOC Volatile organic compound
  - ✓ Sample collected and analyzed; blank cell indicates no sample collected.
  - ✓+P Pesticides include PCB analyses.
  - ✓B Sample analyzed for benzene, toluene, ethylbenzene, and xylene only.

## **2.0 PHYSICAL SETTING**

Alameda Point is located at the west end of Alameda Island and is bordered by the Oakland Inner Harbor (north and east sides), and San Francisco Bay (west and south sides) (see Figure 1-1). No naturally occurring surface streams or ponds are present at Alameda Point, so precipitation either returns to the atmosphere by evapotranspiration, runs off in the storm drain system that discharges to San Francisco Bay, or infiltrates to groundwater (Tetra Tech 1998b). Physical features at Alameda Point include streets, buildings (including hangars), runways, fuel lines and utility lines, ASTs, and USTs. Some of the fuel lines, ASTs, and USTs have been removed, while others have been closed.

### **2.1 CLIMATE**

The San Francisco Bay Area experiences a maritime climate with mild summer and winter temperatures. The varied topography of the San Francisco Bay Area affects climactic conditions of subareas within the San Francisco Bay region. Heavy fogs occur on an average of 21 days per year, and rainfall occurs primarily during the months of October through April; Alameda Point averages approximately 18 inches of rainfall a year (Air Traffic Control, NAS Alameda 1992). Prevailing winds usually blow from west to east in the Bay Area.

### **2.2 TOPOGRAPHY**

The Bay Area is characterized by its varied topography. As indicated above in Section 2.1, climactic conditions vary considerably throughout the San Francisco Bay region as a result of the varied topography. Alameda Point is located at the base of a gently westward-sloping plain that extends from the Oakland-Berkeley Hills in the east to the shore of the San Francisco Bay on the west. Alameda Point is characterized by a low topographic profile. The surface elevations vary from mean sea level (msl) to approximately 30 feet above msl. IR Site 34 is located in the northwestern portion of Alameda Point. The area is flat with ground surface elevations from approximately 9 to 10 feet above msl.

### **2.3 GEOLOGY**

This section provides an overview of the geology in the region (see Section 2.3.1) and at IR Site 34 (see Section 2.3.2). The description of the regional geology and the IR Site 34 geology is based on the work of Trask and Ralston (1951), Treasher (1963), Radbruch (1957, 1969), Atwater and others (1977), Atwater (1979), Helley and others (1979), Rogers and Figuers (1991), Sloan (1990, 1992), Figuers (1998), and SulTech (2006). Boring logs also were reviewed to provide more information about the geology of IR Site 34 (see Appendix B).

#### **2.3.1 Regional Geology**

Alameda Point occupies a depression between two uplifted areas: the Berkeley Hills on the east and the San Bruno and other mountains on the San Francisco Peninsula to the west. The

depression and uplifted areas are formed by two subparallel, active faults: the San Andreas (western) and the Hayward (eastern) Faults.

In the subsurface, the San Francisco Bay is approximately coincident with the axis of the bedrock trough, which was formed 1 million to 500,000 years ago by crustal movements associated with two active faults. During interglacial periods, the Pacific Ocean entered the basin, which resulted in wide deposition of estuarine muds (Figuers 1998). Additionally, the trough would fill with sand and silt, and gravel eroded from the surrounding hills through a sequence of coalescing alluvial fans. A compound alluvial fan (bajada) was formed.

Today, regional geologic conditions in the Bay Area reflect this depositional history. Alameda and the surrounding San Francisco Bay are underlain by 400 to 500 feet of unconsolidated sediments that overlie the metamorphosed sandstone, siltstone, shale, greywacke, and igneous bedrock, which forms the Franciscan Formation (Bechtel Environmental, Inc. 2003).

Surface and near-surface soil at Alameda Point consists of artificial fill emplaced during historical filling of the tidal marshlands and the subtidal area of San Francisco Bay during site development. The fill material consists of sediments that were dredged from the San Francisco Bay and Oakland Inner Harbor and is characterized by sands, clays, and silts dredged from the tidal flats in the region (Bechtel Environmental, Inc. 2003). The unconsolidated sediments that lie beneath the artificial fill consist of the following units, from oldest to youngest: (1) Franciscan Formation, (2) the Alameda Formation, (3) the lower unit of the San Antonio Formation (Yerba Buena Mud), (4) the upper unit of the San Antonio Formation, (5) the Merritt Sand Formation, and (6) the Bay Sediment Unit (BSU) (see Figure 2-1).

A layer with high organic content, called the "marsh crust," typically marks the top of the BSU throughout the eastern portion of Alameda Point. The marsh crust is a layer of contaminated sediment that was formed by the discharge of petroleum waste from two gas plants and an oil refinery. This waste migrated over much of the surface of the surrounding marshlands and was deposited through tidal actions under what would later become the Alameda Annex and the eastern portion of Alameda Point. The marsh crust has been identified south and east of IR Site 34, but has not been identified beneath IR Site 34.

### **2.3.2 IR Site 34 Geology**

Artificial fill at IR Site 34 extended from ground surface to depth ranging from 6 feet to 14 feet or more bgs, and overlies the BSU. The fill material is primarily poorly graded, fine- to medium-grained sand, with interbedded clay and sandy clay. The BSU is found from about 6 to 50 feet bgs. The Merritt Sand Formation was present in one soil boring located in the central portion of IR Site 34 at 30 feet bgs. In the northern portion of IR Site 34, the Upper San Antonio Formation ranged from 13 feet to 82 feet bgs, with the Lower San Antonio Formation ranging from 82 feet to 135 feet bgs (Subsurface Consultants, Inc. [SCI] 1998). In the northern portion of IR Site 34 the Alameda Foundation was encountered at 135 feet bgs (SCI 1998; SCI and Todd Engineers 1998). Soil boring depths within the central and southern portions IR Site 34 did not exceed 44 feet bgs; therefore, deeper formation information is not available. Figures 2-2 and 2-3

show the north to south cross section of IR Site 34 and the east to west cross section of IR Site 34, respectively. Available boring logs for IR Site 34 are presented in Appendix B.

## **2.4 HYDROGEOLOGY**

This section describes the regional hydrogeology and the hydrogeology of Alameda Point and IR Site 34.

### **2.4.1 Regional Hydrogeology**

Alameda Point is near the center of the San Francisco Basin. The lower half of the San Francisco Basin is filled with continental units; the upper part of the San Francisco Basin is filled with an alternating sequence of marine and continental units. The San Francisco Basin is an elongated, sediment-filled trough oriented in a northwest-southeast direction, parallel to the trend of regional geologic structural features. Regional aquifers identified in the San Francisco Basin correlate with the continental/alluvial fan deposits. Regional aquitards correspond to estuarine mud deposits such as the Younger Bay Mud and the Yerba Buena Mud. Aquifers in the eastern San Francisco Bay extend east to the Hayward Fault, where they merge into a vertically continuous, coarse-grained alluvial fan sequence. The aquifers are nonhomogeneous, with the particle size of materials generally becoming smaller from east to west. The aquifers can exhibit significant lateral and vertical variations, which reflect changes in the natural localized depositional environments (SulTech 2006).

The three primary aquifers in the east Bay Area (upper to lower) are: (1) Newark, (2) Centerville, and (3) Fremont. The Newark Aquifer is 100 to 150 feet thick in the region and is contained within sediments of the San Antonio and Merritt Sand Formations. The Newark Aquifer is confined in the areas where the Merritt Sand is overlain by the Younger Bay Mud. The Irvington Aquitard confines the Newark Aquifer from below. The Irvington Aquitard is contained in fine-grained sediments of the Yerba Buena Mud. The underlying Centerville Aquifer is about 100 ft thick and extends to depths of about 220 ft (Maslonkowski 1988). Fremont aquifer is a generic name for discontinuous sand and gravel deposits between 240 and 400 ft below land surface.

The following section describes the hydrostratigraphy or system of aquifers and intervening aquitards underlying Alameda Point and IR Site 34. The water-bearing units encountered at Alameda Point have been named based on their sequence in the subsurface; the aquitards are named based on the formation they are in. The local hydrostratigraphic units at Alameda Point correlate with regional hydrostratigraphic units, as shown in parentheses in the following text.

### **2.4.2 Alameda Point and IR Site 34 Hydrogeology**

Five local hydrostratigraphic units are identified at Alameda Point. Water-bearing units include the first water-bearing zone (FWBZ) and the second water-bearing zone (SWBZ) (confined Newark Aquifer). The FWBZ and the SWBZ are separated by the BSU (Newark Aquitard). The

occurrence of the SWBZ depends on the presence of the BSU, which acts as an aquitard separating the FWBZ and the SWBZ. The water-bearing units are underlain by the Yerba Buena Aquitard (Irvington Aquitard), which is underlain by the Alameda aquifer (the installation equivalent of the regional Centerville aquifer). However, beneath Site 34 the Alameda aquifer is deeper than 200 feet bgs and is overlain by approximately 175 feet thick aquitard. No data from Site 34 are available for this aquifer, so it will not be discussed further.

The FWBZ is an unconfined aquifer that occurs within the uppermost permeable units at Alameda Point, primarily the artificial fill materials, if present, or the Merritt Sand and the Upper San Antonio Formation in areas where the artificial fill and BSU are absent. Groundwater in most of the FWBZ at Alameda Point is fresh, but may be brackish (slightly saline) in areas near the shoreline. The depth to groundwater of the FWBZ ranges from 3 to 8 feet bgs across most of the installation. During drilling at Site 34, the groundwater was encountered at 2 to 6.5 feet bgs.

The SWBZ is a semiconfined and confined aquifer that occurs within the Merritt Sand and the Upper San Antonio Formation. The SWBZ is found only in portions of the installation where the overlying BSU is both present and consists of low permeability materials, such that it acts as a confining unit for the SWBZ. The SWBZ extends to the top of the Yerba Buena Mud, which functions as a confining unit below the SWBZ. Groundwater in SWBZ at Alameda Point is brackish to saline. At Site 34, the depth to the SWBZ ranges from approximately 30 to 50 feet bgs (see Figures 2-2 and 2-3).

Groundwater in both the FWBZ and the SWBZ under most of Alameda Point generally flows in a radial pattern toward the San Francisco Bay, the Oakland Inner Harbor, and the Seaplane Lagoon (see Figure 2-4). Groundwater flow directions vary through the year as a result of seasonal changes in precipitation rates and diurnal variations related to tidal cycles.

At IR Site 34, limited groundwater measurements from the four permanent monitoring wells screened in the FWBZ (see Tables 2-1 and 2-2) indicated that groundwater generally flows from south to north of the site toward the Oakland Inner Harbor at a gradient of up to 0.0015 (see Figure 2-5). The shallow unconfined aquifer in the FWBZ is composed primarily of fine, artificially deposited, estuarine sand fill with hydraulic conductivity characteristic of silty sands. Only one permanent monitoring well at Site 34 is screened in the SWBZ, so the site-specific data are insufficient for the determination of the groundwater flow direction and hydraulic gradient. However, based on the basewide map (see Figure 2-4), the groundwater flow direction and hydraulic gradient for the SWBZ at Site 34 are expected to be similar to those of the FWBZ.

The hydraulic conductivity of the FWBZ and SWBZ at IR Site 34 was evaluated through slug tests at monitoring wells MW-20 and MW-24, respectively. The results of the slug test were assessed using the rising head method of Bouwer and Rice. The average hydraulic conductivity for FWBZ was estimated at 22.3 feet per day [ft/day] (well MW-20). The average hydraulic conductivity and the storage coefficient value for the SWBZ are 0.052 and 0.002 ft/day, respectively (well MW-24). A more detailed discussion of the slug test results can be found in Appendix C.

The estimated hydraulic conductivity value for the FWBZ appears higher than expected for the logged lithology (fine sand) within the screened interval (see boring log for well MW-20 in Appendix B). Based on the estimated hydraulic conductivity value and hydraulic gradient and assuming a typical value of effective porosity for sands of 0.25, the calculated groundwater flow velocity in the FWBZ is approximately 49 feet per year. The estimated hydraulic conductivity value for the SWBZ appears to represent primarily the silty clay logged within the screened interval (see boring log for well MW-24 in Appendix B). The more permeable portion of the SWBZ is expected to have a much higher hydraulic conductivity. Although the data is insufficient to calculate the groundwater flow velocity for the SWBZ at Site 34, the velocity is expected to be comparable to that estimated for the FWBZ.

## **2.5 GROUNDWATER USE AND POTENTIAL BENEFICIAL USES**

Groundwater beneath the central portions of Alameda Point (including IR Site 34) is not currently used for drinking water, irrigation, or industrial supply. Drinking water is supplied to Alameda Point by the East Bay Municipal Utilities District.

Other potential beneficial uses of groundwater include industrial supply and agricultural use (crop irrigation or livestock watering). However, a beneficial use evaluation conducted for the purposes of CERCLA cleanup decisions determined that groundwater in the western portion of Alameda Point (including IR Site 34) is unlikely to be used as a potential drinking water source, or for watering livestock, based on proposed land uses (Tetra Tech 2000a). High concentrations of TDS in groundwater (or the likelihood of saltwater intrusion if any significant pumping takes place) would require pretreatment, which would not be economical. Within the western region of Alameda Point, which includes IR Site 34, no water supply wells exist within or downgradient of groundwater contamination. In addition, groundwater beneath IR Site 34 has little potential as a source of municipal or domestic water supply based upon the discussion below.

According to the Basin Plan for the San Francisco Bay (Water Board 1995) and the East Bay Plain Groundwater Basin Beneficial Use Evaluation Report (Water Board 1999), groundwater at Alameda Point has the following existing or potential beneficial uses:

1. Agricultural water supply
2. Industrial service and process supply
3. Freshwater replenishment to surface water
4. Municipal and domestic water supply

However, in 2000, the Water Board adopted groundwater basin plan amendments (Water Board Res. 00-024) that redesignated the municipal supply beneficial use for portions of Alameda Point, including IR Site 34. These amendments are still subject to approval by Cal/EPA's SWRCB and the State Office of Administrative Law. At this time, SWRCB staff has not yet determined when these amendments will be considered. However, in a letter dated July 21,

2003, the Navy received concurrence from the Water Board that groundwater meets the municipal and domestic water supply designation exemption criteria in SWRCB Res. 88-63, "Sources of Drinking Water" (SWRCB 1988), and Water Board Res. 89-39 for groundwater west of Saratoga Street at Alameda Point (Water Board 2003). Res. 89-39 includes groundwater beneath IR Site 34.

In addition, EPA stated that based on (1) the shallow depth of the aquifer in this area, (2) the likelihood of saltwater intrusion (based on directions of groundwater flow) if any significant pumping takes place, and (3) the fact that no wells currently exist within or close to this area, it seems unlikely that groundwater in this area will be a potential source of drinking water in the future (EPA 2000a).

Therefore, based on the following, groundwater beneath Site 34 is not reasonably expected to serve as a public drinking water supply: (1) drinking water is supplied to Alameda Point by the East Bay Municipal Utilities District; (2) the Water Board provided the Navy with a letter exempting groundwater west of Saratoga Street at Alameda Point, which includes groundwater beneath Site 34 from the beneficial use of drinking water, (3) although the FWBZ qualifies as a Class II aquifer under federal guidelines, the BCT concluded that groundwater at the site is unlikely to be used as a source of drinking water, and (4) Alameda County well construction standards require that all wells be sealed and screened below the first confining layer in a shallow aquifer system and the FWBZ is a shallow unconfined aquifer.

## **2.6 SURFACE WATER DRAINAGE SYSTEM AND TIDES**

The FWBZ is tidally influenced on the northern, western, and southern sides of Alameda Point. Tidal influence studies indicated the region of influence extends about 250 to 300 feet inland on the northern and southern sides of Alameda Island and about 1,000 to 1,500 feet inland on the west side. Daily tidal fluctuations measured in the FWBZ ranged from 0.1 to 4 feet. Based on the measurements in monitoring wells and piezometers screened in the SWBZ for the central portion of Alameda Island, the amplitude of groundwater level fluctuations due to tides ranged from 0.07 to 2.22 feet (PRC Environmental Management, Inc. [PRC] 1997b).

Streams or ponds are not naturally occurring at Alameda Point. As a result, precipitation evaporates into the atmosphere, infiltrates to groundwater, or runs off into the storm drain system. Rainfall is likely to cause minor ponding, as well as groundwater infiltration, in the unpaved areas at IR Site 34. Surface water runoff flowing directly into the Oakland Inner Harbor could also occur. Oakland Inner Harbor is contiguous with the San Francisco Bay. The water level in the Bay is not affected by seasonal changes, but tidal fluctuations of 4 to 9 feet occur daily.

## **2.7 ECOLOGICAL HABITATS**

Alameda Point contains the following six major terrestrial and aquatic wildlife habitats identified for an Environmental Impact Report for the facility (City of Alameda 2003), and descriptions of

the habitat are supplemented by a site visit and information from the California Wildlife Habitat Relationships System (California Department of Fish and Game [CDFG] 2005):

- Open Water Area
- Grassland
- Landscaped or Developed
- Intensively Developed
- Airfield (Paved) Area
- Rock Breakwaters and Rip Rap

IR Site 34 is considered an Intensively Developed area and is bordered by Open Water Area and RipRap to the north, Grassland to the south, and Intensively Developed areas to the east and west. Intensively Developed areas have little vegetation and typical urban wildlife, such as California ground squirrel, scrub jays, and American robins, may be observed in these areas but to a lesser extent than in the landscaped/developed areas, because less foraging habitat is available in these areas (Navy 1999a). Feral cats also are found in the intensively developed area.

Dominant plant species in the nonnative grassland habitat to the south include ryegrass (*Lolium perenne*), yellow sweet clover (*Melilotus officinalis*), and common plantain (*Plantago major*). Blacktailed jackrabbits (*Lepus californicus*), Canada geese (*Branta canadensis*); and European starlings (*Sturnus vulgaris*) are the dominant animal species in this habitat (Navy 1999a). Species composition and density vary depending on the amount and type of vegetation present. This habitat supports wildlife that have adapted to disturbed environments.

Riprap and a potential saline emergent wetland area line the northern boundary of IR Site 34 along the shoreline of the Oakland Inner Harbor, and an additional potential seasonal wetland occurs in the southwest corner of the site. These potential wetlands have not been formally delineated. In 2001, a wetland delineation was conducted on the northern edge of Site 15, which is located to the east of Site 34, and about 1 acre of the site is classified as wetlands (Tetra Tech 2001a). Dominant plant species in that wetland area include pickleweed (*Salicornia virginica*), Carolina geranium (*Geranium carolinum*), and prickly lettuce (*Lactuca serriola*). Feral cats have been observed in the riprap near the potential wetland. During the site visit, a small area of geraniums (*Geranium carolinum*) and prickly lettuce (*Lactuca serriola*), as well as other unidentified wetland plants, were observed in the potential seasonal wetland in the southwest corner of Site 34. The potential wetlands provide minimal habitat to support plant and invertebrate populations, and the potential wetland to the north is tidally inundated at such a frequency as to not provide suitable habitat for small mammals. In addition, because of high marine vessel activity in the Oakland Inner Harbor it is unlikely that this area will be used by nesting birds.

Possible wetlands are discussed further in Appendix I.

## 2.8 INITIAL CONCEPTUAL SITE MODEL AND EXPOSURE UNIT IDENTIFICATION

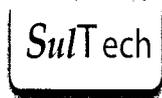
Previous investigations indicated the most probable sources for most of the chemicals detected at IR Site 34 are sandblasting grit, waste paint material, transformers, ASTs, and chemical storage. Soil and groundwater are expected to be the primary exposure media through ingestion, inhalation, and direct contact exposure routes. Migration of chemicals along fuel line or storm sewer bedding material (if present) may also occur. Chemicals sorbed to surface soils also may be transported by the wind. Potential human receptors at IR Site 34 include commercial/industrial workers, construction workers, residents, and recreational receptors, which could be exposed to on-site soils. Based on this information, in addition to known current and expected future reuse for IR Site 34, an initial CSM was developed and is presented on Figure 2-6.

IR Site 34 is currently unoccupied land. The planned reuse of this area is recreational and includes the development of a golf course. To be conservative and maximize future reuse potential, the Navy has evaluated the potential risks to potential future commercial/industrial workers, construction workers, and residents. These receptors could be exposed to shallow soil, deeper soil (through dermal contact), or groundwater (through inhalation of VOCs).

**FIGURES**

---

TOP OF UNIT (IN FEET BELOW GROUND SURFACE)	STRATIGRAPHIC UNITS		HYDROGEOLOGIC UNITS
0	FILL (UNDERLAIN BY MARSH CRUST AT SOME LOCATIONS)		WATER TABLE AQUIFER - NOT A PRIMARY AQUIFER (FWBZ)
5-15	BAY SEDIMENT UNIT (BSU)		AQUITARD
20-50	MERRITT SAND FORMATION		MERRITT SAND AQUIFER - A PRIMARY AQUIFER (SWBZ)
60-80	SAN ANTONIO FORMATION	UPPER UNIT ALLUVIAL DEPOSITS	
90-120		LOWER UNIT YERBA BUENA MUD OTHER ESTUARINE DEPOSITS	AQUITARD
100-200	ALAMEDA FORMATION	UPPER CLAY-RICH PORTION	ALAMEDA AQUIFER - PRINCIPAL REGIONAL AQUIFER
180-220		ALLUVIAL DEPOSITS	
400-800	FRANCISCAN FORMATION		



**NOTES:**

FWBZ First water-bearing zone  
 SWBZ Second water-bearing zone

**SOURCE:**

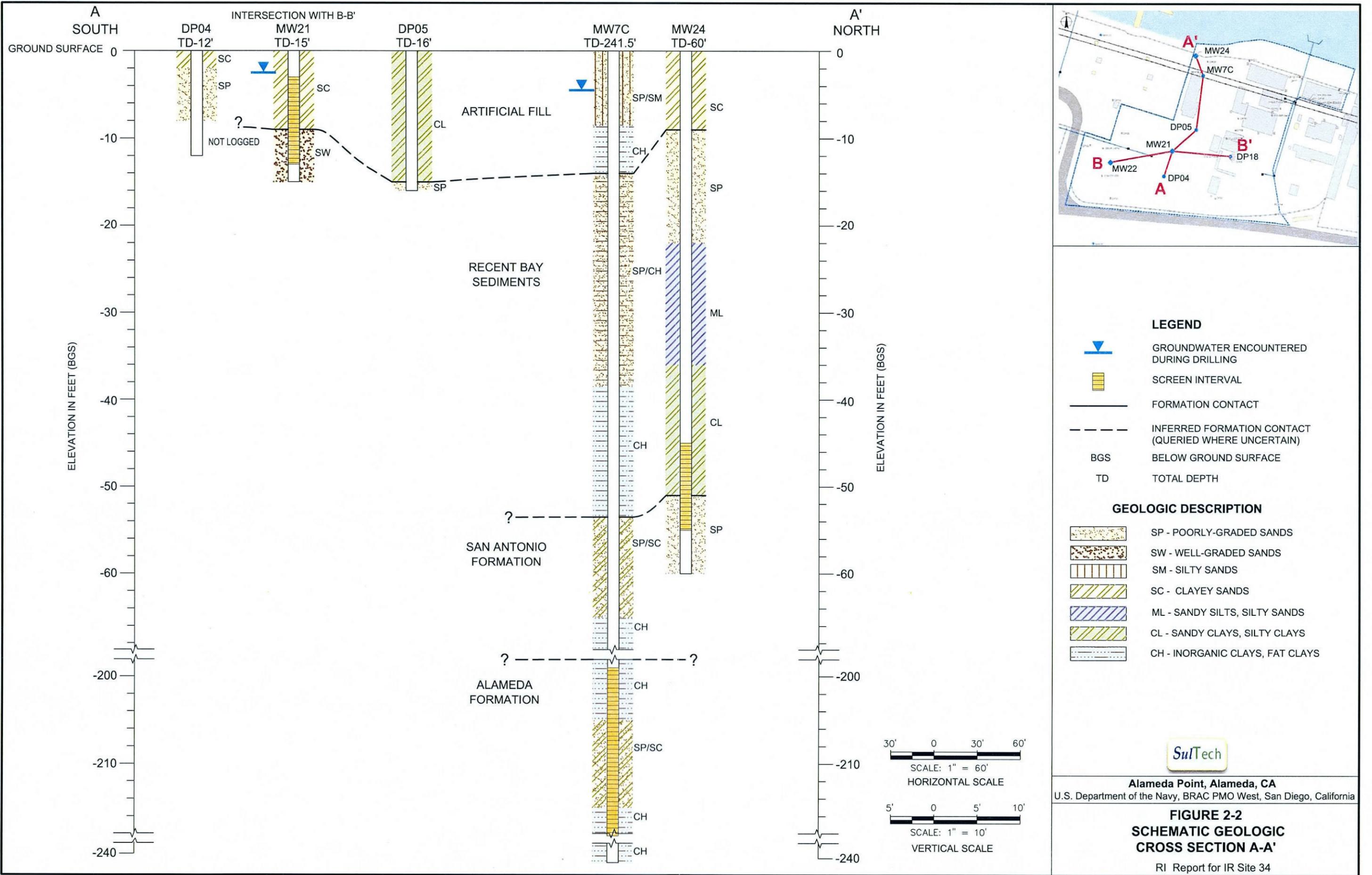
Tetra Tech EM Inc. 1999. "OU-2 RI Report Draft, Alameda Point, Alameda, California." June 29.

**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 2-1**  
**GENERALIZED STRATIGRAPHIC  
 AND HYDROLOGIC UNITS AT  
 ALAMEDA POINT**

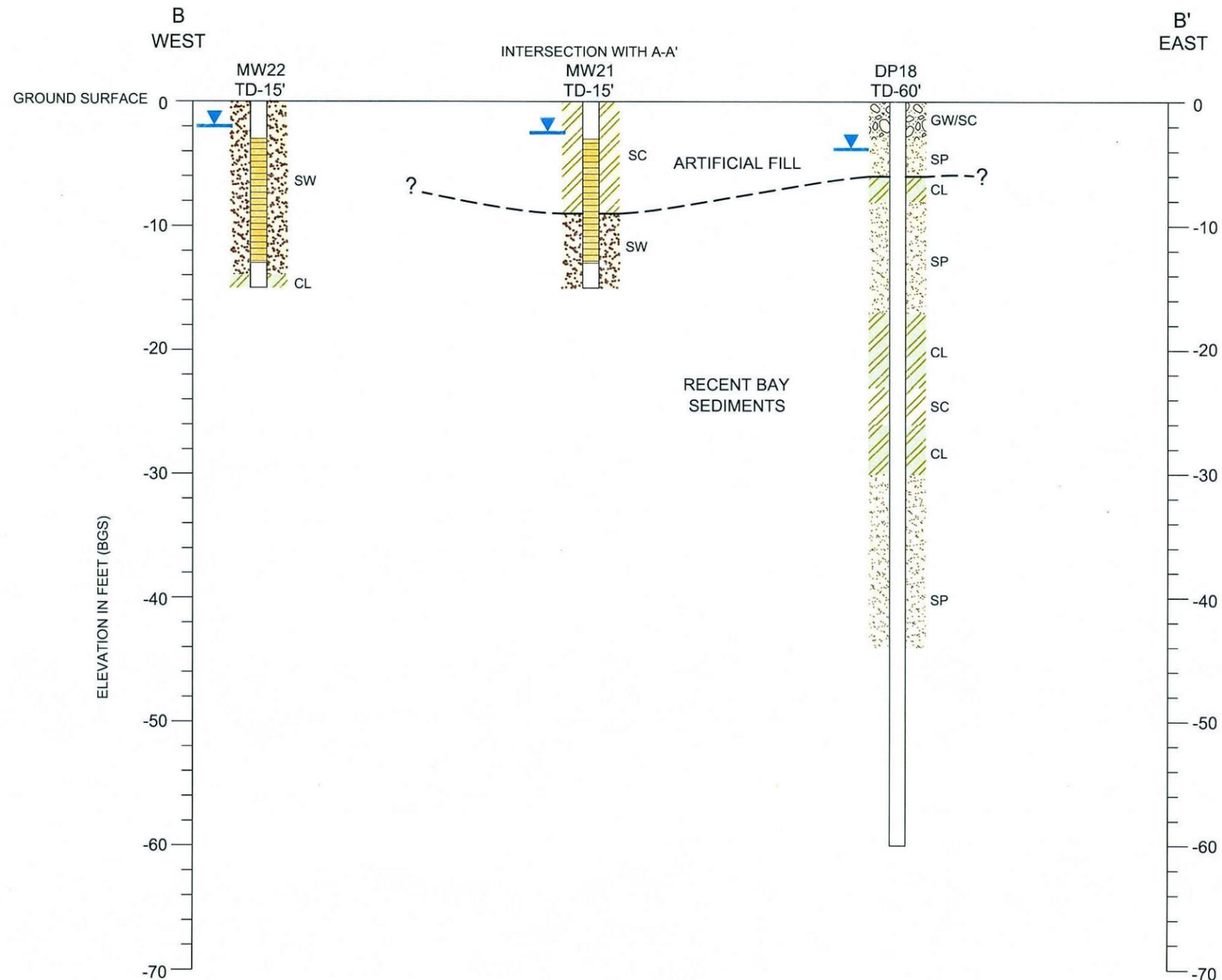
RI Report for IR Site 34

R:\Navy\Alameda\G9018105\0503\Fig \_CrossSections A-B.dwg 02/26/2008 deborah.ford DN



Alameda Point, Alameda, CA  
U.S. Department of the Navy, BRAC PMO West, San Diego, California

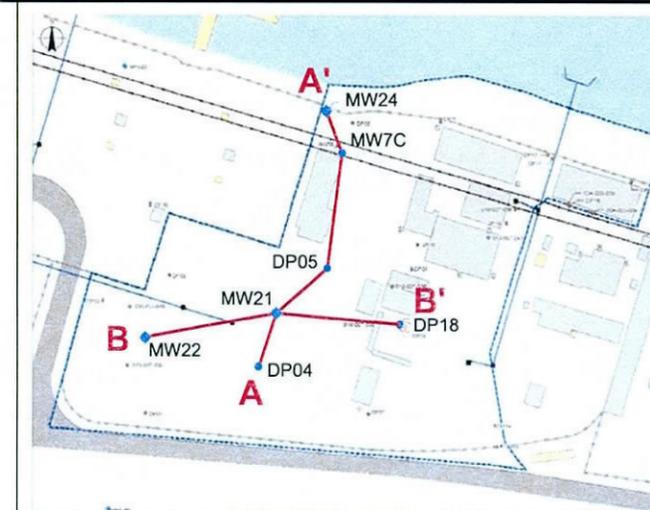
R:\Navy\Alameda\G9018105\0503\Fig - CrossSections A-B.dwg 02/28/2008 deborah.ford DN



SCALE: 1" = 60'  
HORIZONTAL SCALE



SCALE: 1" = 10'  
VERTICAL SCALE



**LEGEND**

- GROUNDWATER ENCOUNTERED DURING DRILLING
- SCREEN INTERVAL
- FORMATION CONTACT
- INFERRED FORMATION CONTACT (QUERIED WHERE UNCERTAIN)
- BGS BELOW GROUND SURFACE
- TD TOTAL DEPTH

**GEOLOGIC DESCRIPTION**

- GW - WELL-GRADED GRAVEL WITH SAND
- SP - POORLY-GRADED SANDS
- SW - WELL-GRADED SANDS
- SM - SILTY SANDS
- SC - CLAYEY SANDS
- ML - SANDY SILTS, SILTY SANDS
- CL - SANDY CLAYS, SILTY CLAYS
- CH - INORGANIC CLAYS, FAT CLAYS



Alameda Point, Alameda, CA  
U.S. Department of the Navy, BRAC PMO West, San Diego, California

**FIGURE 2-3  
SCHEMATIC GEOLOGIC  
CROSS SECTION B-B'**

RI Report for IR Site 34

SAN FRANCISCO BAY

Oakland Inner Harbor

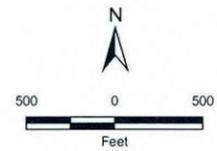
Seaplane Lagoon

SAN FRANCISCO BAY

**Legend**

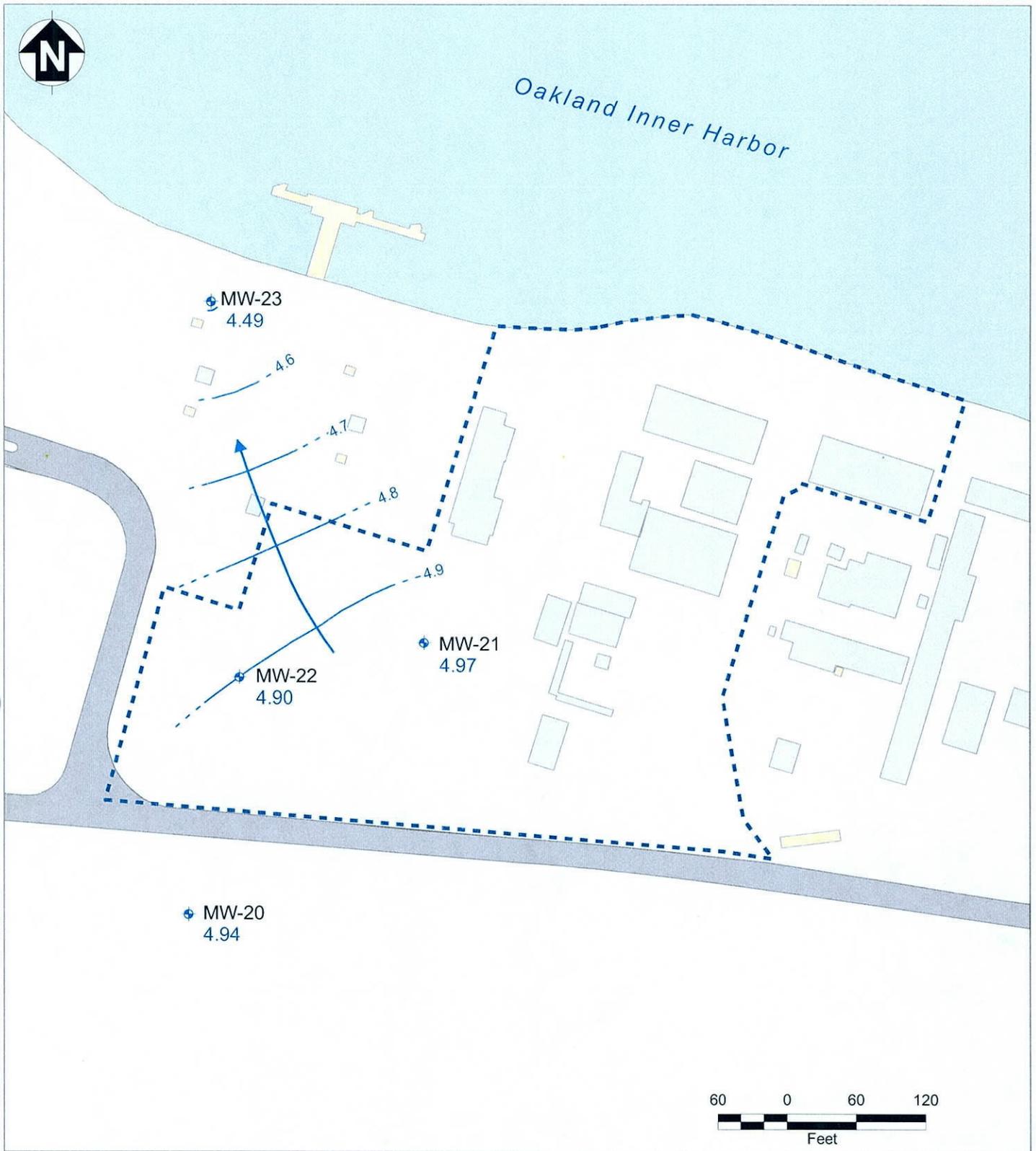
- FWBZ Groundwater Elevation Contour (feet above msl)
- Dashed where Inferred
- Hachures indicate Closed Depression in Groundwater Contours
- SWBZ Groundwater Elevation Contour (feet above msl)
- Dashed where Inferred
- Hachures indicate Closed Depression in Groundwater Contours
- First Water Bearing Zone (FWBZ) Wells
- Second Water Bearing Zone (SWBZ) Wells
- Facility Infrastructure
- IR Site Boundary

\*\* Well not used for contouring purposes  
Contour interval one foot except where noted.



Alameda Point, Alameda, CA  
U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 2-4**  
**GROUNDWATER ELEVATION MAP**  
**FIRST AND SECOND**  
**WATER BEARING ZONES**  
**(BASEWIDE)**  
RI Report for IR Site 34



- Groundwater Elevation Contour Line\* (feet above MSL)
- Uncertain Groundwater Elevation Contour Line
- Groundwater Flow Direction
- Monitoring Well
- Site 34 Boundary
- Building (Present)
- Building (Removed)
- Road
- Water

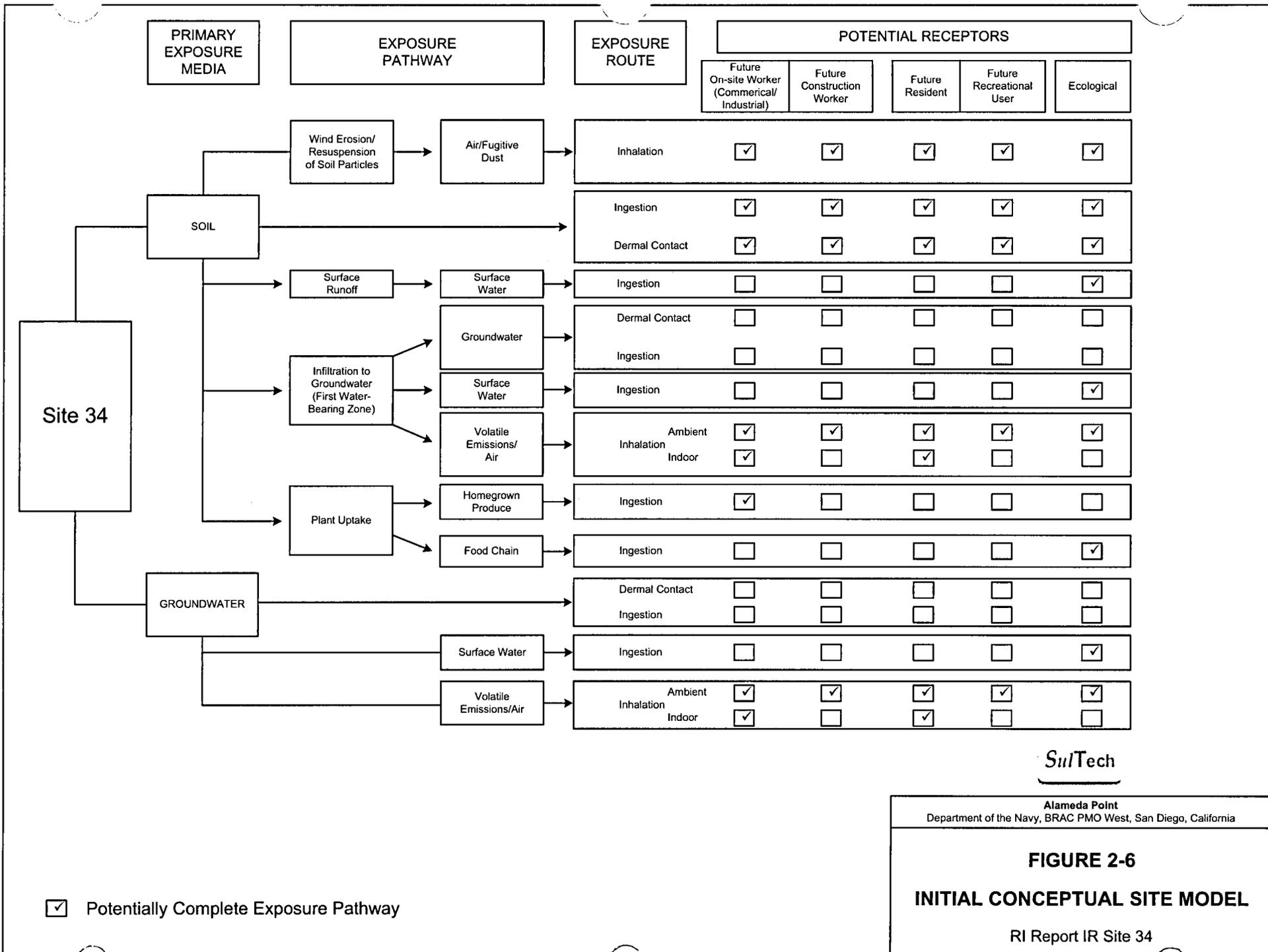
Notes:  
 \* Based on Fall 2006 measurements  
 MSL Mean sea level



**Alameda Point, Alameda CA**  
 Department of the Navy, BRAC PMO West, San Diego, California

**FIGURE 2-5**  
**IR SITE 34 GROUNDWATER**  
**ELEVATION MAP FOR THE**  
**FIRST WATER-BEARING ZONE**

RI Report for IR Site 34



**SuTech**

Alameda Point  
Department of the Navy, BRAC PMO West, San Diego, California

**FIGURE 2-6**  
**INITIAL CONCEPTUAL SITE MODEL**

RI Report IR Site 34

Potentially Complete Exposure Pathway

**TABLES**

---

**TABLE 2-1: DEPTH TO GROUNDWATER FROM TOP OF WELL CASING**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Well ID	Date Measured	Screen Interval Depth (feet below TOC)		TOC (feet)	Depth to Groundwater from Well TOC (feet)	Groundwater Elevation (feet)
		Top	Bottom			
MW20	10/1/2006	3.0	13.0	8.85	3.91	4.94
MW21	10/1/2006	3.0	13.0	7.57	2.60	4.97
MW22	10/1/2006	3.0	13.0	7.31	2.41	4.90
MW23	10/1/2006	3.0	13.0	8.38	3.89	4.49
MW24	10/1/2006	45.0	55.0	8.39	4.06	4.33

## Notes:

ID Identification  
MW Monitoring well  
TOC Top of casing

**TABLE 2-2: WELL CONSTRUCTION DETAILS**

Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Well ID	Installed Date	Material	Surface Completion Type	Diameter (inches)	Slot Size (inches)	Total Depth (feet below TOC)	Screen Interval Depth (feet below TOC)	
							Top	Bottom
MW20	6/26/2006	PVC	Flushmount	2	0.01	15.0	3.0	13.0
MW21	6/23/2006	PVC	Flushmount	2	0.01	15.0	3.0	13.0
MW22	6/23/2006	PVC	Flushmount	2	0.01	15.0	3.0	13.0
MW23	6/22/2006	PVC	Flushmount	2	0.01	13.0	3.0	13.0
MW24	6/22/2006	PVC	Flushmount	2	0.01	60.0	45.0	55.0

Notes: All wells are monitoring wells, and all wells were installed by SulTech.

Flushmount Protective casing completed at ground surface  
PVC Polyvinyl chloride  
ID Identification  
MW Monitoring well  
TOC Top of casing

### 3.0 INVESTIGATION APPROACH AND SCOPE

Analytical data collected under environmental investigations at IR Site 34, including the RI fieldwork investigation, were combined to form a comprehensive data set for the site. The sections below describe how this data set and the CSM presented in Section 2.8 were used in the RI to define the nature, extent, fate, and transport of contaminants on site and the risk posed to potential human and ecological receptors.

#### 3.1 DATA QUALITY OBJECTIVES AND ASSESSMENTS

DQOs are qualitative and quantitative statements developed through the seven-step DQO process (EPA 2000b). The DQOs clarify the study objective, define the most appropriate data to collect and conditions for which to collect data, and specify tolerable limits on decision errors that will be used as the basis for establishing the quantity and quality of data needed to support decision-making. DQOs are used to develop a scientific and resource-effective design for data collection. The project-specific DQOs and the CSM developed for the investigation and evaluation of IR Site 34 are presented in Table 3-1 and Figure 2-6, respectively.

In order to fulfill DQOs, the analytical data gathered must be usable. The chemical analytical program for the IR Site 34 data set included the following analyses and methods:

- Metals by SW-846 EPA Method 6020/7470A&7471A (EPA 1996)
- Hexavalent chromium by EPA Method 7196A (EPA 1996)
- VOCs by the SW-846 EPA Methods 5035 and 8260B (EPA 1996)
- SVOCs by the SW-846 EPA Method 8270C (EPA 1996)
- PAHs by SW-846 EPA Method 8270C Selective Ion Monitoring (EPA 1996)
- Organochlorine pesticides by SW-846 EPA Method 8081A (EPA 1996)
- PCBs by SW-846 EPA Method 8082 (EPA 1996)
- Chlorinated herbicides by SW-846 EPA Method 8151A (EPA 1996)
- TPH as purgeables by the State of California Leaking Underground Fuel Tank (LUFT) Field Manual (State of California 1989) and by SW-846 Methods 5035 and 8015A (EPA 1996)
- TPH as extractables according to the State of California LUFT Field Manual (State of California 1989) and by SW-846 EPA Method 8015A (EPA 1996)
- TDS by Methods for Chemical Analysis of Water and Wastes 160.1 (EPA 1983)

Laboratory analytical data collected for these methods were validated according to procedures outlined in the EPA Contract Laboratory Program National Functional Guidelines for Inorganic and Organic Data Review (EPA 1994, 1999, 2004c). Although some qualifiers were added to the data, a final review of the data set with respect to the EPA data quality parameters indicated the data are of high overall quality (see Appendix F). The data meet all the requirements of the precision, accuracy, representativeness, completeness, and comparability data quality indicators described in EPA guidance for quality assurance project plans (EPA 2001a) and are usable for risk assessment purposes. The overall assessment of the sampling program, quality assurance (QA) and quality control (QC) data, data review, and data validation results indicates that these investigation data are of acceptable precision, accuracy, representativeness, completeness, and comparability.

The EPA Risk Assessment Guidance for Superfund (RAGS) was used to determine the usability of the validated data (EPA 1991). Exhibit 5-5 in RAGS states that data qualified as estimated (J) based on data validation reports should be used in quantitative risk assessments. Although this guidance is specifically for HHRAs, the same usability criteria were used for all IR Site 34 data. Except for nondetected results in one groundwater sample analyzed for pesticides that were qualified as rejected (R), all remaining data were appropriate for use in the RI Report and corresponding risk assessments.

### **3.2 BACKGROUND COMPARISON**

Background concentrations of metals have been established for soil and groundwater at Alameda Point. The data set considered to represent naturally occurring metals or background conditions was selected using a series of statistical tests conducted on data sets for each sample medium. Details of the construction of the background data sets are provided in Appendix G.

As presented in the background comparisons report for soil, areas of Alameda Point with geologically similar soils that represent a single background data set were designated as pink, blue, or yellow areas (PRC 1997a). These areas correspond with a particular fill event provided as follows and shown on Figure 3-1.

- Pink Area: Runway area and central portion of Alameda Point (Fill Area 1)
- Blue Area: Southeast portion of Alameda Point (Fill Area 2)
- Yellow Area: Far west portion of Alameda Point (Fill Area 3)

IR Site 34 is located in the Pink Fill Area. The background soil comparison in this RI Report was performed by comparing analytical results from soil samples collected at IR Site 34 with the Pink Fill Area data set. The upper bound (95 percentile) of the distribution was calculated for each metal included in the Pink Fill Area data set. The upper-bound value was used as an initial indicator to determine how many analytical results exceeded background concentrations.

Details of the construction of the background groundwater data set are provided in the "Technical Memorandum for Estimation of Ambient Metal Concentrations in Shallow Groundwater" (Tetra Tech 1998a). The background groundwater comparison in this RI Report was performed by comparing analytical results from shallow groundwater samples collected at IR Site 34 with the established background data set. The upper bound (95 percentile) of the distribution was calculated for each metal included in the background groundwater data set. The upper-bound value was used as an initial indicator to determine how many analytical results exceeded background concentrations.

Two-population statistical tests were used to compare metals concentrations in IR Site 34 soil and groundwater samples with background concentrations determined for Alameda Point. The background comparison procedures are described in greater detail in Appendix G. The following methods were used to conduct two-population tests, depending on the relative frequency of detection and sample size of each of the populations being compared:

- Wilcoxon rank sum (WRS) and Gehan-Wilcoxon (GT) tests
- Test of proportions
- Quantile test (QT)

One-sided statistical tests were used in all cases and employ a Type I error rate of 0.05. WRS and GT tests were used for metals with at least 60 percent detected data and single detection limits in both the site and background populations. Testing was performed using the nonparametric WRS test. For chemicals with fewer than 60 percent detected data, the detection frequencies in the site and background populations were compared using the test of proportions. The QT was conducted for all chemicals with less than 60 percent detected data and for all cases where either the WRS or GT test did not reject the null hypothesis (that is, when it was concluded that the median concentrations at the site and background concentrations were not significantly different) (Navy 1999b).

Background concentrations of metals in soil and groundwater were used to support the nature and extent evaluation, fate and transport evaluation, HHRA, and SLERA. Background concentrations of metals in soil and groundwater are presented in Tables 3-2 and 3-3, respectively.

### 3.3

## METHODS AND APPROACH FOR NATURE AND EXTENT EVALUATION

A data set that included all of the validated analytical data from IR Site 34 was evaluated to determine the nature and extent of chemicals in soil and groundwater. For the purposes of this RI Report, contamination is defined as a chemical detected in an environmental sample at IR Site 34 at a concentration exceeding comparison criteria. The following comparison criteria were used to evaluate the nature and extent of contamination in soil at IR Site 34:

- 2004 EPA and California-modified residential PRGs (EPA 2004e)
- 2004 EPA and California-modified industrial PRGs (EPA 2004e)
- Water Board environmental screening levels (ESL) for diesel, gasoline, and motor oil in shallow soil where groundwater is not a current or potential source of drinking water (Water Board 2005)
- The upper-bound (95 percentile) concentration of the distribution of metals in background soil samples from the Pink Fill Area

These comparison criteria were applied to both analytical results from fixed-laboratory analyses and from a portable x-ray fluorescence (XRF) unit, which was used to measure chromium and lead concentrations in 106 soil samples during the RI field investigation. Field XRF readings were used as a screening tool to estimate the extent of metals contamination in areas where paint waste was suspected. XRF field screening is a rapid and economical approach for estimating metals concentrations; XRF allows analysis of many more samples than can be done by a fixed laboratory with available time and financial resources. Twenty percent of XRF samples were also submitted to a fixed laboratory for analysis. Table D-2 in Appendix D presents results of XRF field screening and results from fixed-laboratory analysis for the collected soil samples, and Appendix E presents the analytical results for groundwater samples. Although a correlation study was not performed, qualitative comparison of XRF and fixed-laboratory data suggested XRF results for chromium and lead have a high bias relative to fixed-laboratory results, thus chromium and lead contamination on site was exaggerated. Laboratory analyses are considered more accurate than XRF screening results because more stringent QA/QC procedures were applied to the laboratory data (including independent data validation). XRF screening results are used to show areas of possible metals contamination, as discussed in Section 4.1.1. Numerical results from XRF field screening were not included in statistical calculations or used to support the risk assessment.

PAHs in soil were evaluated relative to B(a)P equivalents. B(a)P equivalents were calculated by multiplying the detected concentrations of the cancer PAHs by appropriate toxicity equivalency factors (TEF), then adding the resulting values to obtain a total B(a)P-equivalent value for individual samples. The TEFs are based on the cancer potency of each compound relative to B(a)P (EPA 1993a, OEHHA 2001). Previous agreements between the Navy and regulatory agencies established screening level of 0.62 milligram per kilogram (mg/kg) for PAHs (Navy 2001b), so a screening criterion of 0.62 mg/kg was used for B(a)P equivalents in soil. The EPA

and Cal/EPA TEFs for the seven PAHs that are considered by EPA to be probable human carcinogens are as follows.

Chemical	EPA Toxicity Equivalency Factor	Cal/EPA Toxicity Equivalency Factor
B(a)P	1.0	- 1.0
Benz(a)anthracene	0.1	0.1
Benzo(b)fluoranthene	0.1	0.1
Benzo(k)fluoranthene	0.01	0.1
Chrysene	0.001	0.01
Dibenz(a,h)anthracene	1.0	1.1
Indeno(1,2,3-c,d)pyrene	0.1	0.1

Comparison criteria for groundwater samples were modified from the criteria suggested in the RI Work Plan (SulTech 2006) based on exposure pathways in the CSM. The Water Board has found that groundwater in the FWBZ and SWBZ underlying IR Site 34 is not a potential source of drinking water (Water Board 2003). Therefore, comparison of chemical concentrations in groundwater at IR Site 34 with standards for drinking water is inappropriate and excessively conservative. The following comparison criteria were used to evaluate the nature and extent of contamination in groundwater at IR Site 34:

- EPA tap water PRGs (EPA 2004e)
- Water Board groundwater ESLs for evaluation of potential vapor intrusion concerns (Water Board 2005)
- The upper-bound (95 percentile) concentration of the distribution of metals in background shallow groundwater samples from Alameda Point

Potential risk from groundwater by the vapor intrusion pathway is evaluated in the HHRA (see Section 3.5 and Appendix H). Potential risk from groundwater to aquatic receptors is evaluated in the SLERA qualitative evaluation through a comparison with aquatic comparison criteria (see Section 3.6 and Appendix I).

The nature and extent evaluation assesses whether contamination data gaps are present at IR Site 34. Although TPH is not a CERCLA contaminant, it is addressed in the nature and extent evaluation because fuels and lubricants were used at various locations across the site and an objective of this RI is to meet TPH closure requirements. Section 4.0 presents the results of the nature and extent evaluation for contamination in soil and groundwater at IR Site 34.

### 3.4 METHODS AND APPROACH FOR FATE AND TRANSPORT EVALUATION

This evaluation assesses whether chemicals identified in the nature and extent evaluation as exceeding comparison criteria have migrated or degraded, are being released from a continuing source of contamination, or are likely to be distributed by groundwater or other potential pathways. This evaluation used geological and hydrogeological properties in combination with chemical data and primarily included the following steps:

- Identify soil and groundwater sampling locations with the maximum concentrations of chemicals detected above comparison criteria
- Identify the presence of breakdown or parent products for chemicals detected above comparison criteria
- Evaluate the effect of groundwater flow or other potential pathways on the distribution of chemicals detected above comparison criteria

The fate and transport evaluation emphasizes the chemical pathways and release mechanisms identified in the CSM (see Figure 2-6). Section 5.0 presents the results of the fate and transport evaluation for contamination in soil and groundwater at IR Site 34.

### 3.5 METHODS AND APPROACH FOR HUMAN HEALTH RISK ASSESSMENT

The purpose of the HHRA at IR Site 34 is to quantify the potential for adverse health risks associated with potential exposure to chemicals in the environment. The methods and assumptions used in this RI Report were selected or developed to be consistent with Navy, EPA, and DTSC guidelines for baseline HHRA's (EPA 1991, DTSC 1992, Navy 2001a). In accordance with the EPA risk assessment model, the process of conducting an HHRA included the following four steps (EPA 1991):

- **Data Evaluation and Selection of Chemicals of Potential Concern** – Collect and analyze data and select COPCs (see Section 3.5.1)
- **Exposure Assessment** – Analyze sources of contamination, identify receptors and pathways of exposure, and estimate exposure point concentrations (EPC) and chemical intakes (see Section 3.5.2)
- **Toxicity Assessment** – Collect toxicity information and select toxicity values (see Section 3.5.3)
- **Risk Characterization** – Characterize potential health effects and summarize risk information (see Section 3.5.4)
- **Uncertainty Analysis** – Analyzes the major uncertainties associated with the calculated risks (see Section 3.5.5)

Methods and assumptions used to perform each of these steps are described in the subsections below. Section 6.0 summarizes the results of the HHRA for IR Site 34. The complete baseline HHRA for IR Site 34 is presented in Appendix H.

### **3.5.1 Data Evaluation and Selection of Chemicals of Potential Concern**

The objective of data evaluation is to develop a list of COPCs for risk assessment purposes. COPCs are defined as the subset of chemicals at a site most likely to present a potential health risk. A limited list of COPCs is desirable when the list of detected chemicals (1) exceeds 80 detected chemicals, as suggested in RAGS (EPA 2001d), or (2) requires intensive modeling. However, based on agreement with the regulatory agencies, the HHRA quantitatively evaluated all chemicals detected in soil and groundwater, except for essential nutrients (calcium, magnesium, potassium, and sodium).

Data were considered to be appropriate for use in the HHRA if they (1) were validated, (2) were not qualified as rejected ("R"), (3) met the DQOs for the RI (set forth in the task-specific sampling and analysis plan[s]) (SulTech 2006), and (4) reflect current site conditions. In general, the HHRA did not use field data, screening-level data (including XRF data), and data collected to characterize potential historical releases but physically present in paved structures (such as sediment from drain piping or oil-water separators). Section H4.0 in Appendix H provides additional detail on the data and methods used to select COPCs.

### **3.5.2 Exposure Assessment**

The exposure assessment in the HHRA identifies the ways in which humans may come into contact with COPCs at IR Site 34 under current or potential future uses of the site. The quantitative assessment of human exposure to chemicals in the environment involves the following steps:

- Identify potentially complete exposure pathways and determine how and with what frequency and magnitude individuals may be exposed to the chemical concentrations under various exposure scenarios (see Section 3.5.2.1)
- Estimate the chemical concentrations or EPCs in the environment (such as soil, water, and air) to which individuals may be exposed (see Section 3.5.2.2)
- Estimate Chronic Daily Intakes (CDI). Appendix H describes the methods used to calculate CDIs.

The combinations of exposure scenarios and pathways described below are shown in the CSM for the HHRA at IR Site 34 (see Figure H-1 in Appendix H).

### 3.5.2.1 *Potential Receptors and Exposure Pathways*

The HHRA evaluates potential risks to humans through the exposure pathways identified in the CSM. Potential human health risks associated with exposure to chemicals at IR Site 34 were evaluated for relevant current and/or future human populations and land uses in accordance with RAGS Part A (EPA 1991). IR Site 34 is currently not used and access is restricted. Therefore, human receptors are not present at IR Site 34 at this time. Potential future human receptors at IR Site 34 include:

- Commercial/industrial workers
- Construction workers
- Residents, both adults and children
- Recreational users, both adults and children

Although it is unlikely that IR Site 34 will be used to support residential use in the future, residential use was evaluated to address unrestricted use of the site. The intended future use of IR Site 34 is a recreational area and golf course, as discussed in Section 1.3.6. Groundwater is not a current or future source of drinking water at IR Site 34, and the risk assessment does not quantitatively evaluate domestic use of groundwater.

Exposure pathways assessed for potential future receptors at IR Site 34 include:

- Soil ingestion
- Dermal contact with soil
- Inhalation of nonvolatile chemicals bound to airborne soil particulates
- Inhalation of volatile chemicals in outdoor air from soil and groundwater
- Inhalation of volatile chemicals in indoor air that migrate from soil and groundwater in the vapor phase (commercial/industrial workers and residents only)
- Ingestion of homegrown produce (residents only)

Although it is acknowledged that construction workers also may have dermal contact with groundwater during excavation activities that intercept the shallow water table (located at about 4 feet bgs across the site), construction in saturated trench conditions is generally avoided and dewatering is quickly implemented for effective construction activities. Therefore, groundwater-related pathways of exposure for a construction worker are potentially complete, but are expected to be quantitatively negligible relative to all other pathways, and are not quantitatively evaluated in the HHRA for IR Site 34.

### **3.5.2.2 Exposure Points and Exposure Point Concentrations**

EPCs are the concentrations of chemicals in a medium (soil, water, or air) used to calculate risk to human health. The EPCs for chemicals in soil and groundwater were the lower of the 95th percent upper confidence limit of the arithmetic mean (95UCL) sample concentration and the maximum sample concentration. The 95UCL is defined as a value that, when calculated repeatedly for randomly drawn subsets of site data, equals or exceeds the true mean 95 percent of the time (EPA 1992). Use of the 95UCL is better for predicting actual chronic exposure conditions because the 95UCL is an upper-bound estimate of the average exposure concentration (that is, the resulting EPC accounts for the probability of long-term random contact with contaminated areas). Section H5.3.1 of Appendix H describes the specific methods used to calculate the 95UCL.

The HHRA calculated EPCs in soil based on data segregated into the following data sets:

- Surface Soil Data (0 to 2 feet bgs): Soil data from this depth interval were applied to commercial/industrial workers, construction workers, residents, and recreational users.
- Subsurface Soil Data (0 to 4 feet bgs): Because shallow groundwater is present at IR Site 34, soil data from the ground surface to the water table (located at approximately 4 feet bgs) were evaluated. Soil data from this depth interval were applied to commercial/industrial workers, construction workers, and residents.

Volatile chemicals in soil and groundwater may be released to outdoor air. The HHRA applied volatilization factors to the EPCs in soil and groundwater to calculate EPCs in outdoor air. Section H5.0 of Appendix H describes the methods used to calculate the volatilization factors.

Vapor intrusion modeling was used to calculate indoor air concentrations for future commercial/industrial workers and future residents in a future hypothetical building. The Johnson and Ettinger model (EPA 2004a and 2004b) was used to estimate the volatile emissions from contaminated soil and groundwater. The model parameters listed as default values in EPA's model were replaced with California-specific parameters listed in DTSC's vapor intrusion model (DTSC 2005a). The DTSC-modified version of the EPA vapor intrusion model uses soil and groundwater data to calculate indoor air concentrations. The vapor intrusion model usually results in very conservative risk assessment results. Appendix H provides detailed descriptions of the methods used to calculate EPCs in indoor.

### **3.5.3 Toxicity Assessment**

The objective of the toxicity assessment is to evaluate the relationship between dose and toxic response for each COPC identified during the COPC selection process. The toxicity assessment identifies toxicity criteria (values) for each chemical chosen for inclusion in the risk assessment and the kind of effect each chemical could produce. The toxicity values used in the HHRA are

cancer slope factors (CSF) (in units of mg/kg per day [mg/kg-day]) for cancer effects and reference doses (RfD) (in units of mg/kg-day) for chronic exposures associated with noncancer effects.

The HHRA used a dual-tracking approach to consider both EPA and DTSC toxicity values. To satisfy federal (Navy and EPA) and state (DTSC) requirements, this HHRA prepared a set of risk assessment results using EPA toxicity values, referred to as Method 1, and a separate set of risk assessment results using DTSC toxicity values, referred to as Method 2.

Toxicity factors for Method 1 were compiled from EPA-approved sources using the following hierarchy:

- EPA's Integrated Risk Information System (IRIS) Values: IRIS is an online database that contains EPA-approved RfDs and CSFs (or reference concentrations [RfC] and unit risk factors converted to RfDs and CSFs) (EPA 2005a). The RfDs and CSFs have undergone extensive review and have agency-wide consensus.
- EPA's Provisional Peer-Reviewed Toxicity Values (PPRTV): PPRTVs are presented in the EPA Region 9 PRG table (EPA 2004e). PPRTVs were developed by the Office of Research and Development/National Center for Environmental Assessment, and Superfund Health Risk Technical Support Center when requested by EPA's Superfund program (EPA 2004f).
- Other EPA Sources: These sources include provisional values from the National Center for Environmental Assessment as presented in the EPA Region 9 PRG table (EPA 2004e), and EPA's Health Effects Assessment Summary Tables (HEAST) (EPA 1997a).

Toxicity factors for Method 2 used State of California CSFs developed by the Office of Environmental Health Hazard Assessment (OEHHA). These CSFs are available from the "Toxicity Criteria Database" (OEHHA 2007). If an OEHHA CSF was not available, the EPA hierarchy was followed to select CSFs. In addition to CSFs, OEHHA has developed reference exposure levels (REL) to assess noncancer endpoints of inhalation exposures (OEHHA 2005); however, RELs were not subjected to as stringent a peer review as federal RfCs available from IRIS. As a result, the HHRA used the prioritization summarized below for inhalation noncancer toxicity values in the risk characterization of COPCs selected under Method 2:

- The EPA IRIS RfC or inhalation RfD was used if the value was based on an inhalation study.
- The OEHHA REL was used if the EPA IRIS inhalation RfD was extrapolated from an oral study.
- The OEHHA REL was used if no EPA IRIS RfC or inhalation RfD value was available.

- An alternative source (such as PPRTVs, HEAST, or route-extrapolated values) was used if no EPA IRIS RfC or inhalation RfD value was available and no OEHHA REL was available.

Finally, because OEHHA has not developed its own set of toxicity values for assessing noncancer endpoints for oral or dermal exposures, the EPA hierarchy was followed to select noncancer oral and dermal toxicity values for risk characterization of the COPCs identified under Method 2.

Lead is a chemical of particular toxicological concern wherever children or other sensitive subpopulations may be exposed to lead-contaminated media. However, no accepted toxicity values are available for lead. Evaluation of lead in the HHRA is based on noncancer effects. The potential for human health effects caused by lead was estimated through blood-lead concentration modeling. DTSC's LeadSpread Version 7 model (DTSC 1998) was used to estimate blood-lead concentrations in residential adults and children, and the resulting blood-lead concentrations were compared with target blood-lead levels established by DTSC.

### 3.5.4 Risk Characterization

Risk characterization combines the exposure and toxicity assessments to produce quantitative estimates of health effects for COPCs. The health effects of a chemical are quantified in terms of cancer risk if the chemical is considered to be a carcinogen, as well as noncancer health effects (all adverse health effects other than cancer). The potential for both types of effects was evaluated because chemicals may present noncancer health effects in addition to cancer risks.

Risk characterization results are presented in Section 6.0 for all COPCs and each exposure scenario identified at IR Site 34. Emphasis is placed on the following three factors:

- Results of the reasonable maximum exposure (RME) scenario
- Exposure scenarios that exceed the acceptable risk management range
- Pathways and specific chemicals (risk drivers) that contribute most significantly to these health risk estimates

For chemicals not classified as carcinogens and for carcinogens known to cause adverse health effects other than cancer, the potential for exposure to result in adverse health effects other than cancer are evaluated by comparing the CDI with an RfD. For a single chemical, the comparison yields a ratio called the hazard quotient (HQ), which was calculated as follows:

$$HQ = \frac{CDI (mg/kg-day)}{RfD (mg/kg-day)}$$

To evaluate the potential for adverse health effects other than cancer from simultaneous exposure to multiple chemicals, the HQs for all chemicals were summed to yield a hazard index (HI) as follows:

$$HI = \sum HQs$$

Pathway-specific HIs were then summed to estimate a total HI for each receptor identified in the exposure assessment. Noncancer effects are exposure duration-dependent. Therefore, the HIs for the child were used to streamline the discussion and risk management information. The HIs for the child resident are higher because the dose and contact rates are greater relative to a smaller body weight.

Risks associated with exposure to chemicals classified as carcinogens were estimated as the incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure (EPA 1991). The estimated risk is expressed as a unitless probability. Three steps were used to estimate cancer risks for chemicals classified as carcinogens. First, the CDI was multiplied by the chemical-specific CSF to derive a cancer risk estimate for a single chemical and pathway. The calculation is based on the following relationship:

$$\text{Chemical-Specific Cancer Risk} = \text{CDI (mg/kg-day)} \times \text{CSF (mg/kg-day)}^{-1}$$

Second, the individual chemical cancer risks were assumed to be additive to estimate the cancer risk associated with exposure to multiple carcinogens for a single exposure pathway, as follows:

$$\text{Pathway-Specific Cancer Risk} = \sum \text{Chemical-Specific Cancer Risks}$$

Third, pathway-specific risks were summed to estimate the total cancer risk.

$$\text{Total Cancer Risk} = \sum \text{Pathway-Specific Cancer Risk}$$

### 3.5.5 Uncertainty Analysis

Varying degrees of uncertainty exist at each stage of the HHRA. These uncertainties arise from assumptions made in the risk assessment and limitations of the data used to calculate risk estimates. Uncertainty and variability are inherent in the exposure assessment, toxicity values, and risk characterization. EPA guidance (1991) states the following (emphasis from the original):

There are several categories of uncertainties associated with site risk assessments. One is the initial selection of substances used to characterize exposures and risk on the basis of the sampling data and available toxicity information. Other sources of uncertainty are inherent in the toxicity values for each substance used to characterize risk. Additional

uncertainties are inherent in the exposure assessment for individual substances and individual exposures. These uncertainties are usually driven by uncertainty in the chemical monitoring data and the models used to estimate exposure concentrations in the absence of monitoring data, but can also be driven by population intake parameters. Finally, additional uncertainties are incorporated in the risk assessment when exposures to several substances across multiple pathways are summed.

Sources of uncertainty in the IR Site 34 HHRA process are described in detail in Section H9.0 of Appendix H. The uncertainty analysis includes discussions related to the following:

- Uncertainty in data selection and COPC selection process
- Uncertainty in exposure assessment (exposure scenarios and pathways, EPCs, application of predictive models and the use of exposure models, and exposure variables)
- Uncertainty in toxicity values selected for use in the HHRA
- Uncertainty in risk characterization

### **3.6 METHODS AND APPROACH FOR SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT**

The purpose of the SLERA at IR Site 34 is to use conservative assumptions and available scientific literature to evaluate potential risk to ecological receptors in an approach consistent with Steps 1 and 2 of the eight-step process described in EPA guidance (EPA 1997, 1998, 1999a, 1999b, 2000b). The methods and assumptions used to complete the SLERA were selected or developed to be consistent with RI work plan (Sultech 2006), Navy policy for conducting ecological risk assessments (ERA) (Navy 1999a, 2004), which is parallel to the EPA guidelines for the eight-step ERA process for Superfund sites (EPA 1997b), and EPA guidance. The first two components of the DTSC process (scoping assessment and Phase I predictive assessment) (DTSC 1996a, 1996b) are consistent with the EPA and Navy approaches. Substantive elements of the guidance provided by all three agencies were considered in the development of this SLERA.

Navy guidance (1999) indicates that an intermediate refinement step may be conducted (Step 3a risk refinement) if the SLERA indicates unacceptable or uncertain risk. If the data evaluated in Steps 1 and 2 indicate risk to receptors at IR Site 34, then the Navy will initiate the risk refinement step (Step 3a) of the baseline ERA. Once this process is complete, a scientific management decision is made on the site's status and whether further evaluation in a baseline ERA is necessary (EPA 1997, 2001).

The SLERA includes the following components:

- Step 1 - Exposure Evaluation
  - Environmental Setting and COPECs
  - Chemical fate and transport mechanisms (operational)
  - Mechanisms of ecotoxicity (broad classes of COPECs)
  - Potentially complete exposure pathways
- Step 2 – Risk Characterization
- Step 3a – Risk Refinement

Results of the SLERA were used to evaluate if a baseline ERA (Steps 3 through 8 in the EPA ERA process) is warranted at IR Site 34. Results of the SLERA, including recommendations on completion of a baseline ERA, are summarized in Section 7.0. The complete SLERA is presented in Appendix I.

### **3.6.1 Exposure Evaluation**

The exposure evaluation identifies an ecological conceptual site model (CSM) that addresses:

- Environmental setting and COPECs
- Chemical fate and transport mechanisms
- Mechanisms of ecotoxicity (broad classes of COPECs)
- Potentially complete exposure pathways

An assessment of site characteristics and ecological habitats, representative organisms, and threatened and endangered species that exist or have to the potential to exist at IR Site 34 was conducted. COPECs were identified and the fate and transport mechanisms of the COPECs were evaluated to determine if the chemicals have the potential to reach ecological receptors. The ecotoxicity of the COPECs also was examined to understand the potential adverse effects to ecological receptors. Finally, the potential exposure pathways between COPECs and ecological receptors were evaluated.

Similar to the COPC selection process in the HHRA, a list of COPECs was developed for screening-level risk assessment purposes. COPECs are the subset of chemicals that are most likely to present a potential risk to ecological receptors. The soil and groundwater data sets used in the HHRA also form the basis for the SLERA. Soil COPECs were identified from analytical data collected from 0 to 4 feet bgs. Although groundwater will undergo dilution upon entering

the Bay, the SLERA uses the monitoring well concentration data as a conservative (protective) estimate. Groundwater COPECs were identified from analytical data collected from wells located at IR Site 34. COPECs include all chemicals detected above the detection limit at least once. Any chemical not detected above the quantitation limit was eliminated as a COPEC. Per EPA guidance (1989), essential nutrients (calcium, magnesium, potassium, and sodium) were excluded as COPECs. Although essential nutrients may be present at concentrations above naturally occurring levels, they are eliminated as COPECs because they are only toxic at levels higher than those found at the site. In accordance with Navy policy (2001b, 2004), data for IR Site 34 are not screened against background (ambient) concentrations until the COPEC refinement process in Step 3a of the baseline ERA, if Step 3a is necessary. Consistent with the RI work plan (Tetra Tech 2006) EPC for soil were based on the maximum detection of each COPEC and were assumed to represent site-wide concentrations. For the qualitative evaluation of groundwater, the EPC was the lower of the maximum concentration and the 95UCL; however, the 95UCL was calculated only for the chemicals that were associated with more than three detections.

Receptors were selected based on their ability to reside in the habitats at or within the vicinity of IR Site 34. Site 34 is within Intensively Developed area and supports little vegetation. Typical urban wildlife, such as California ground squirrels, scrub jays, and American robins, may be observed in these areas, but to a lesser extent than in the landscaped/developed areas, because less foraging habitat is available in these areas. For an exposure pathway to be considered complete, a COPEC must be able to travel from the source to ecological receptors and to be taken up by the receptors through one or more exposure routes. Potentially complete exposure pathways were evaluated for IR Site 34 based on fate and transport properties, including food chain transfer. Complete exposure pathways were identified before the quantitative evaluation of toxicity was completed so the assessment focused on only the chemicals that can reach ecological receptors. For complete exposure pathways, potential toxic effects to ecological receptors and their habitats were identified for each COPEC. The ecological receptors were identified using information on species potentially occurring at the exposure areas.

Complete exposure pathways were identified for COPECs from soil to the deer mouse, California ground squirrel, American robin, Alameda song sparrow, and the red-tailed hawk. No complete exposure pathways were identified from groundwater to terrestrial receptors. However, a complete exposure pathway was identified from groundwater to aquatic life within Oakland Inner Harbor. It is unlikely that surface water runoff from IR Site 34 would affect the potential seasonal wetland located within the southwestern corner of the site because the site topography would prevent it from reaching this potential wetland. Although surface water generally flows towards the wetland located north of the site, precipitation typically evaporates into the atmosphere, infiltrates to groundwater, or runs off into the storm drain system. In addition, the wetland provides minimal habitat to support plant and invertebrate populations and is tidally inundated at such a frequency as to not present suitable habitat for small mammals.

The selection of assessment endpoints helps to define the adverse effects of site-related contaminants on ecological receptors, including plant and animal populations and communities, habitats, and sensitive environments (EPA 1998). An assessment endpoint represents a specific

ecosystem characteristic defined using an ecological entity and selected attributes. This methodology is described in greater detail in Appendix I.

The assessment endpoint selected for the SLERA was sufficient rates of survival, growth, and reproduction to sustain wildlife populations typical to the area. The selected measurement endpoints for terrestrial species were the California ground squirrel (*Spermophilus beecheyi*), the deer mouse (*Peromyscus maniculatus*), the American robin (*Turdus migratorius*), the Alameda song sparrow (*Melospiza melodia pusillula*), and the red-tailed hawk (*Buteo jamaicensis*). These measurement endpoints were selected based on the current and planned future use of IR Site 34 (see Appendix I).

The assessment of aquatic receptors is only addressed qualitatively in this SLERA. COPECs in groundwater were assumed to have no dilution, retardation, or degradation between the location where the COPEC was detected and the Oakland Inner Harbor. This is a conservative assumption that likely overestimates the risk from chemicals in groundwater at IR Site 34.

### 3.6.2 Risk Characterization

The second part of the SLERA is the preliminary risk characterization, Step 2. Risk calculations for each terrestrial receptor were prepared, which allowed for a quantitative estimation of risk based on exposure assumptions for the individual receptor. Risk calculations for each terrestrial receptor and COPEC consist of dividing the media-specific concentration by the appropriate estimated dose for birds and mammals. The risk is evaluated using a HQ. The HQ is calculated using the formula below:

$$HQ = Dose / TRV$$

If the HQ is greater than 1, there is assumed to be significant risk. However, if the HQ is less than or equal to 1, the risk is considered to be minimal. HQs are calculated using a dose assessment and a TRV. For this SLERA, both a low TRV and a high TRV were used wherever possible. Methods for calculating the dose and TRVs are briefly summarized below, and are fully described in Appendix I.

#### **Dose Assessment**

The dose is calculated for each measurement endpoint based on a variety of species-specific input factors. These input factors, as used in this SLERA, are intended to be conservative. The following input factors were identified for this SLERA:

- **Site Use Factors (SUF).** All species considered in this SLERA were assumed to live and feed within each site at all times.
- **Bioavailability.** All ecological COPECs were assumed to be 100 percent bioavailable for all trophic levels and species.

- **Body Weight and Food Ingestion.** The average body weight indicated in the literature (EPA 1993b, 2005; DTSC 2003) was used to calculate an ingestion rate based on the formulas presented in Navy 2001.
- **Bioconcentration Factors (BCF) and Bioaccumulation Factors (BAF).** Soil-to-plant and soil-to-soil invertebrate BCFs were obtained from various sources (Baes and others 2004, Bechtel-Jacobs 1998, EPA 2005, RAIS 2007, Sample, Opresko, and Sutter 1996, Sample and others 1998a, Sample and others 1998b, Sample and others 1999, Sample and Arenal 1999, US Air Force 2003).
- **Dietary Composition.** The diet of each of the receptors was based on the percentages of dietary items, as reported in the literature (Zeiner and others 1990; California Department of Fish and Game 2005).
- **Ecological COPEC Concentration.** The EPC used in the evaluation was based on the maximum detection of each COPEC.

The following equations were used to estimate the daily doses for terrestrial and avian receptors:

Ground squirrel/ deer mouse dose (mg/kg-day) =

$$(SUF) \frac{[(C_{soil})(IR_{soil}) + (C_{invert})(IR_{invert}) + (C_{plant})(IR_{plant})]}{BW}$$

Alameda song sparrow dose (mg/kg-day) =

$$(SUF) \frac{[(C_{soil})(IR_{soil}) + (C_{invert})(IR_{invert}) + (C_{plant})(IR_{plant})]}{BW}$$

American robin dose (mg/kg-day) =

$$(SUF) \frac{[(C_{soil})(IR_{soil}) + (C_{invert})(IR_{invert}) + (C_{plant})(IR_{plant})]}{BW}$$

Red-tailed hawk dose (mg/kg-day) =

$$(SUF) \frac{[(C_{ground\ squirrel})(IR_{ground\ squirrel}) + (C_{soil})(IR_{soil})]}{BW}$$

where

- $BW$  = Body weight  
 $C_{soil}$  = EPC of chemical in soil (mg/kg)  
 $C_{invert}$  =  $(C_{soil})(BCF_{soil-to-invert})$  (mg/kg-BW) (EPA 1999a)

- $C_{plant}$  =  $(C_{soil})(BCF_{soil-to-plant})$  (0.12 mg/kg-BW) (0.12 is a default value to convert the plant concentration from dry weight to fresh weight and is presented by EPA [1999b]. This value is an average based on 80 to 95 percent water content in herbaceous plants and non-woody plant parts.)
- $C_{ground\ squirrel}$  = Concentrations in ground squirrels were estimated using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for small mammals.
- $SUF$  = Site use factor

### **Toxicity Reference Values**

TRVs were used as guidelines in the evaluation of soil COPECs (DTSC 2000, 2002). The TRVs used were originally prepared by the Navy and the EPA Region 9 Biological Technical Assistance Group (BTAG) (Navy 1998). TRVs are provided as both an upper estimate and a lower estimate of effects thresholds. The low TRV is based on no-observed-adverse-effects-level (NOAEL) data, while the high TRV is based on the approximate midpoint of the range of effects levels. Adverse effects are likely to occur at the high TRV. No adverse effects are expected to occur at the low TRV; therefore, the TRVs used in this screening-level ERA represent low TRVs unless otherwise noted.

Navy-BTAG TRVs were used whenever available. If a Navy-BTAG TRV was unavailable for a COPEC, an appropriate TRV was selected from scientific literature. Data from chronic studies also were preferentially selected. If values selected from the literature did not represent chronic NOAELs, a factor of 0.1 was used to convert to a chronic value, and a value of 0.1 was used to convert to a NOAEL, where necessary. If a TRV for birds was unavailable for a COPEC, an adjustment factor of 0.1 was applied to a mammalian TRV. Appendix I provides further information on the derivation and use of TRVs.

### **Qualitative Evaluation of Aquatic Life**

Groundwater COPECs were evaluated qualitatively, using a two-step process. First, groundwater was screened by comparing the EPCs (the lower of the maximum concentration and the 95UCL) against four sets of aquatic comparison criteria. Any COPECs where the EPC exceeded any of the comparison criteria or for which there were no comparison criteria were retained for further evaluation in Step 3a. COPECs for which the EPC was below all of the comparison criteria were determined not to be risk drivers.

Groundwater concentrations were compared with the following criteria in the first step of the qualitative screening:

1. California Toxics Rule (CTR) criterion for protection of saltwater aquatic life in enclosed bays and estuaries (criterion continuous concentration [CCC], 4-day average, and criterion maximum concentration [CMC]). EPA intended for states to use the National Ambient Water Quality Criteria (NAWQC) to develop their own numeric water quality criteria as mandated in Section 303(c)(2)(B) of the Clean Water Act. California adopted statewide water quality criteria for the protection of aquatic life, as described in the CTR (EPA 2000c).
2. EPA National Recommended Water Quality Criteria for protection of saltwater aquatic life (EPA CCC, 4-day average, and EPA CMC): NAWQCs are set forth by EPA under the Clean Water Act Section 304(a)(1) and described in the National Recommended Water Quality Criteria (EPA 2006b). NAWQCs are intended to “accurately reflect the latest scientific knowledge” on the effects of chemicals on aquatic life. These criteria provide guidance for determining acceptable conditions for both marine and freshwater aquatic life.
3. Water Board’s Bay Plan values (4-day average, 1-hour average, and 24-hour average) (Water Board 2006).
4. Water Board’s surface water screening levels for marine habitats (Water Board 2005).

See Appendix I for further information regarding the qualitative evaluation.

### **3.6.3 Risk Refinement**

Refined exposure estimates were developed in accordance with Step 3a of Navy policy (Navy 1999a, 2001b) and EPA guidance (EPA 1997b). COPECs with HQs greater than 1 and a frequency of detection of 5 percent or greater, soil COPECs without TRVs, and groundwater COPECs that exceeded the four sets of aquatic threshold criteria were retained for further evaluation and risk refinement.

Refined risk estimations were prepared for all soil COPECs yielding HQs greater than 1 and with a frequency of detection of 5 percent or greater. Refined exposure estimates were used to derive refined risk estimations for each COPEC and terrestrial receptor pair.

The EPC for each soil COPEC was estimated as the lower of the 95UCL and the maximum detected concentration. Exposure factors were modified to reflect more realistic values for each receptor. This process was completed for any COPEC that yielded an HQ greater than 1 in the SLERA. Changes in the SUF only affected the red-tailed hawk because the home ranges of all other receptors were smaller than the area of IR Site 34. All other exposure factors remained unchanged, maintaining the conservative nature of the screening-level exposure estimates.

Groundwater COPECs retained for further evaluation in Step 3a were evaluated individually based upon the maximum and 95UCL concentrations compared to the four sets of threshold

criteria; a supplemental literature search for additional criteria; the sample location and date; and the groundwater data set.

### 3.6.4 Uncertainty Analysis

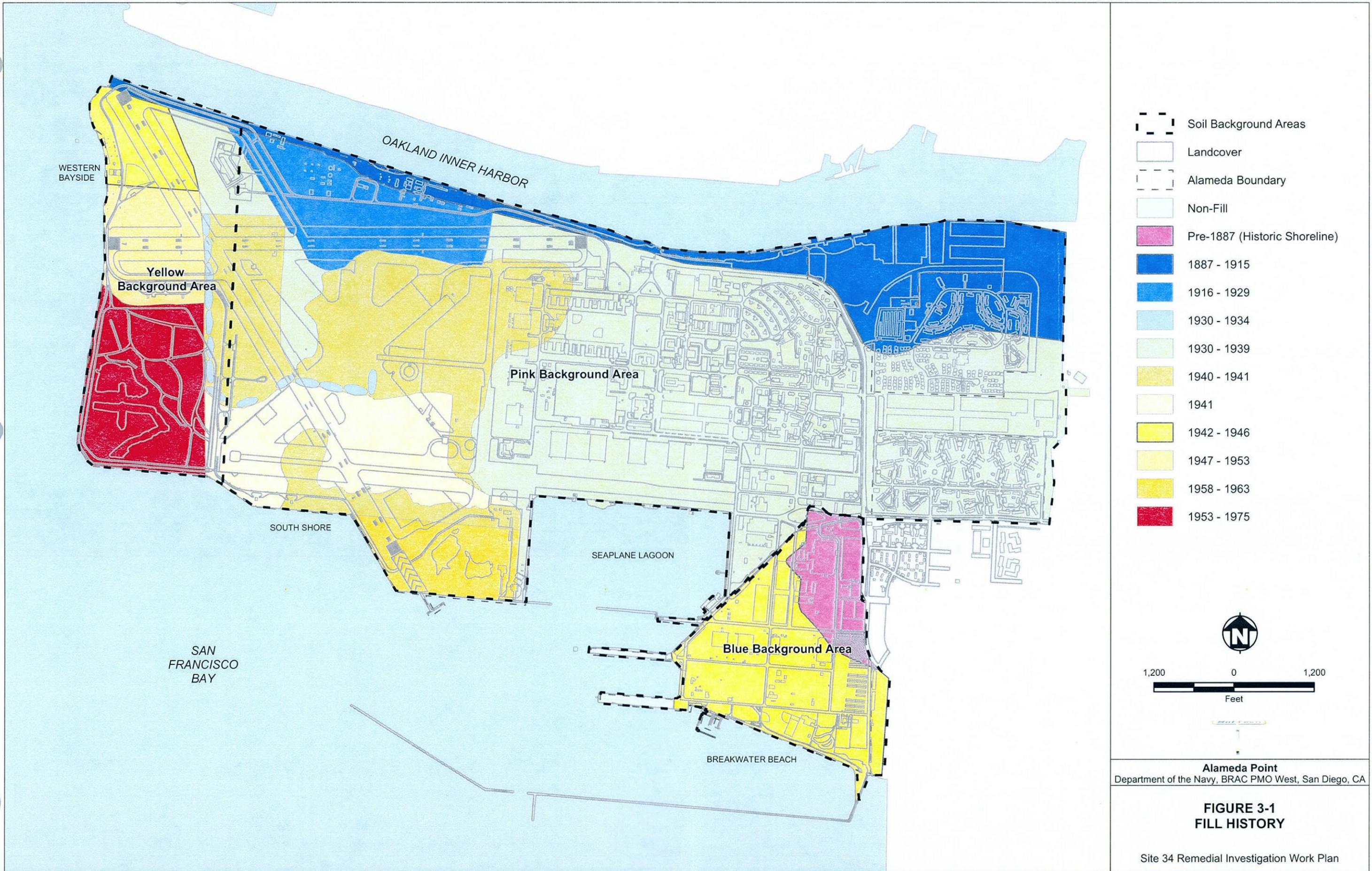
The SLERA process involves a large number of uncertainties and extrapolations to evaluate potential risk to ecological receptors. The following uncertainties are associated with the SLERA conducted for IR Site 34:

- SUFs – The risk calculations assumed that all receptors lived and fed in the area of the site at all times.
- Dietary Composition – the percent composition and type of prey ingested by various receptors was based on literature studies that were not site-specific. Additionally, the models were simplified to assume a limited diet, consistent with the literature data.
- Bioavailability – All COPECs were assumed to be 100 percent available to all receptors.
- Development of TRVs – The TRVs used in risk calculations were derived from literature studies. These studies were not conducted on the receptors used in this SLERA. TRVs were extrapolated using uncertainty factors to account for differences between the species.
- Qualitative Evaluation of Ecological COPECs – Studies were not available to develop TRVs for a number of measurement endpoints. The potential effects of these ecological COPECs were evaluated on a qualitative basis, relying heavily on professional judgment.
- BCFs – the use of the octanol/water partition coefficient ( $K_{ow}$ ) to calculate the biotransfer factor of chemicals into mammal tissue, and the BCFs for receptors can overestimate the uptake of organic chemicals into the tissues of organisms and plants

Overall, many of the assumptions in the SLERA are conservative and result in overestimates of site-specific parameters. In addition, because habitat is limited at Site 34 and future land use would not result in additional habitat, it is unlikely that ecological receptors would use the site in any significant manner. Appendix I provides a detailed discussion on uncertainty.

**FIGURE**

---



**TABLES**

---

**TABLE 3-1: SITE 34 REMEDIAL INVESTIGATION DQO PROCESS**  
Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

1	2	3	4	5	6	7
State the Problem	Identify the Decisions	Identify Inputs to the Decisions	Define Study Boundaries	Develop Decision Rules	Specify Tolerable Limits on Error	Optimize Sampling Design
<p><b>Stakeholders:</b> Navy, regulatory agencies, and restoration advisory board</p> <p><b>Site History/Conceptual Site Model:</b> IR Site 34 is located in the north-central portion of Alameda Point, adjacent to the Oakland Inner Harbor. IR Site 34 is a 4.18-acre area that is partially paved, relatively flat open space. IR Site 34 was a NARF used to maintain base equipment such as scaffolding and other apparatus. The site was used primarily for painting services, storage, wood and metal shop activities, and sandblasting activities. IR Site 34 formerly comprised several structures, including Buildings 331, 330, 343, 475, 344, 510, 474, 477, 604, 476, 479, 472, and intervening open areas; seven ASTs (330A, 330B, 344A, 344B, 344C, 344D, and 331); GAPs 78 and 79; 15 transformers; and an aviation gasoline fuel line. All buildings, ASTs, GAPs, non-PCB transformers, and fuel lines were removed between 1996 and 2000, except for concrete pads.</p> <p>Fifty-four soil and 9 groundwater samples were collected during the 1995 EBS sampling event and during fuel line and other petroleum investigations between 1994 and 1999 to assess conditions associated with site use. EBS samples were collected from stained soil and discolored soil around the buildings, and in the open space in the southwest portion of the site. Results of soil samples from potential source areas at the site indicated the following chemicals exceeded residential PRGs: arsenic, cadmium, and lead (north of Building 510), chromium and lead (east of Building 344); and arsenic south of Building 331); PCBs (north of Building 331 and in the southwest portion of the site); and benzo(a)pyrene (north of Building 331). However, data from the nine groundwater samples collected at IR Site 34 did not exhibit any chemical concentrations exceeding residential PRGs or TPH criteria.</p> <p>Data gaps were identified near former GAPs and near storm sewers that could provide preferential pathways for migration of contaminated groundwater, and a number of sampling locations lacked data for one or more chemicals. In addition, the areas where chemicals were present above PRGs were not adequately defined for the purposes of estimating potential risks to human and ecological receptors.</p>	<p>1) Are there a sufficient quantity and quality of data to support human health and ecological risk assessments?</p> <p>2) Do the estimated risks posed to future, commercial/ industrial workers, construction workers, residents, or recreational users from potential exposures to soil and groundwater at IR Site 34 warrant a FS under CERCLA?</p> <p>3) Do the estimated risks posed to ecological receptors from potential exposures to soil and groundwater at IR Site 34 warrant a FS under CERCLA?</p>	<p><b>Inputs:</b></p> <ul style="list-style-type: none"> <li>Data from previous investigations, including the EBS investigation, that identified arsenic, cadmium, chromium, lead, Aroclor-1254, Aroclor-1260, and PAHs in soil at concentrations exceeding the 1996 PRGs (and background concentrations for metals)</li> <li>Site history and physical features</li> <li>Aerial photographs</li> <li>Geologic and hydrogeologic data</li> <li>Chemical and physical data for soil and groundwater collected during the IR Site 34 RI sampling activities, including metals, VOCs, SVOCs, PAHs, pesticides, PCBs, and TPH in the purgeable and extractable ranges</li> <li>Regulatory agency considerations</li> <li>Physical and chemical properties of identified chemicals</li> <li>Chemical toxicity data</li> <li>Exposure scenarios and pathways for receptors of concern (human and ecological)</li> <li>Results of human health and ecological risk assessments</li> </ul> <p><b>Criteria for Choosing Between Alternative Actions:</b></p> <ul style="list-style-type: none"> <li>Human health and ecological risk assessment criteria</li> <li>Federal regulations</li> <li>CERCLA</li> <li>State regulations</li> <li>California Toxics Rule</li> </ul>	<p>The nominal limits of IR Site 34 will define the lateral boundary for soil samples, plus several step-out samples collected during RI sampling activities. For groundwater, the limits of any groundwater plume (if detected) will define the spatial boundaries. Grab groundwater samples will be limited to the FWBZ and the upper limits of the SWBZ (assumed maximum depth of 65 feet bgs). If wells are needed, one well will assess the vertical extent of contamination. It is anticipated that the extent of groundwater contamination will be within 65 feet of the ground surface.</p> <p><b>Temporal Boundary:</b> The temporal boundaries of the data set extend from the beginning of Navy activities to the date of the most recent collection of field data. Navy activity occurred from the 1940s to 1997. Data were collected from 1994 to 2007.</p> <p>The temporal boundaries of the risk assessment extend from the beginning of Navy activities to an undetermined future time (based on anticipated future use as a recreational site).</p> <p><b>Scale of Decision-Making:</b> <b>Characterization:</b> Consider soil data from the surface to a depth of 8 feet bgs and all of the groundwater data.</p>	<p><b>Decision Rules:</b> <b>1. Data Quality and Quantity</b> There are two parts to the decision on whether there are a sufficient quantity and quality of data to support human health and ecological risk assessments. The first part of this decision was resolved by of the BCT prior to RI fieldwork, and the second part was resolved after the data were collected. The first part of the decision was based on a review of Table 5-1 in the work plan (SulTech 2006), which presents the rationale for selecting the numbers and types of samples to be analyzed at each sampling location. This rationale incorporates the data from previous investigations into a number of professional judgment decisions for collecting additional data in areas where one or more of the following conditions exist: (1) chemical concentrations in previous samples exceeded 1996 PRGs; (2) one or more contamination sources may be present and no samples were collected previously; and (3) previous samples were not analyzed for all chemicals that could have been released. This rationale was designed to maximize the likelihood of detecting chemicals that may have been released to the environment.</p> <p>The second part of this decision will be based on the amounts and quality of usable data that result from the sampling and analyses described in Step 7, as determined by the following rules:</p> <p>1a) If the results of the validation and usability evaluations described in Section 4.0 of the SAP (SulTech 2006) indicate the data are acceptable, then there is a sufficient quality and quantity of data to complete a human health risk assessment and an ecological risk assessment.</p> <p>1b) If the data do not meet the criteria described in (1a) above, then there is not a sufficient quality and quantity of data to complete a human health risk assessment and an ecological risk assessment.</p> <p><b>2. Human Health Risks</b> 2a) If the estimated human health risk exceeds the human health risk criteria (excess cancer risk greater than <math>10^{-6}</math> or noncancer hazard index of 1), an evaluation of remedial alternatives in a FS is warranted.</p> <p>2b) If the estimated human health risk is less than the criteria (excess cancer risk less than <math>10^{-6}</math> or noncancer hazard index of 1), no further action will be recommended.</p>	<p>The baseline condition for IR Site 34 is that chemicals are present in quantities that exceed risk criteria. The alternative condition for IR Site 34 is that chemicals are not present in quantities that exceed risk criteria. Total study error is limited because the sample design includes collecting data in known source areas, which should result in biased high results. This approach will minimize the likelihood of a Type I error, which would falsely reject the baseline condition.</p> <p>Whether the site has been adequately characterized is a yes or no decision; the types and numbers of samples collected at the site should be such that there is a very low probability that the exposure point concentrations used in the risk assessments will underestimate the true concentrations at the site.</p> <p><b>Human Health Risk:</b> Whether a FS will be performed to evaluate remedial alternatives protective of human health is a yes or no decision; EPA guidance and risk assessment provide tolerable limits on error.</p> <p><b>Ecological Risk:</b> Whether a feasibility study will be performed to evaluate remedial alternatives protective of ecological health is a yes or no decision; EPA guidance and risk assessment provide tolerable limits on error.</p> <p>Tolerable errors on analytical results are specified by criteria for measurement quality objectives described in the SAP (SulTech 2006).</p>	<p><b>General Data Collection Design:</b> The sample design for Mobilization 1 will close the identified data gaps by (1) collecting samples on a modified grid and analyzing the samples for a consistent analytical suite, (2) collecting samples beneath and near the fence lines and on a portion of EBS Parcel 16 to assess for PCBs, (3) evaluating the extent of chromium and lead at fixed intervals around buildings that had sandblasting activity using dynamic work strategies associated with real-time measurement, and (4) further delineating areas where metals and PCBs exceeded PRGs during previous sampling events. The sampling results will (1) further delineate areas where previous chemical detections exceeded PRGs, (2) assess identified data gaps (the two GAP sites and the storm drain corridors), and (3) provide adequate characterization of the entire site for the full analytical suite of metals, VOCs, SVOCs, pesticides, PCBs, and TPH. The rationale for each sampling location is presented in Table 5-1 of the SAP (SulTech 2006). The grid will include 12 borings (DP-1, DP-2, DP-5 through DP-8, DP-10, DP-12, DP-13, DP-15, DP-16, and DP-19) advanced to 15 feet bgs that will aid collection of soil samples from ground surface, from 0 to 2 feet bgs, and soil samples from just above shallow groundwater (or a maximum depth of 8 feet bgs), as well as grab groundwater samples from each boring.</p> <p>Five additional borings (DP-3, DP-4, DP-9, DP-11, and DP-14) will be advanced to collect grab samples of shallow groundwater. Two additional borings will be located based on field observations and advanced to 65 feet bgs to assess the vertical extent of groundwater contamination. These two borings will aid collection of soil samples from ground surface, from 0 to 2 feet bgs, soil samples from just above shallow groundwater (or a maximum depth of 8 feet bgs), and shallow and deep grab groundwater samples from each boring. The sample size will be 37 soil samples and 20 grab groundwater samples. Surface soil samples will be analyzed for metals, PAHs, pesticides, and PCBs.</p>

**TABLE 3-1: SITE 34 REMEDIAL INVESTIGATION DQO PROCESS (CONTINUED)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

1	2	3	4	5	6	7
State the Problem	Identify the Decisions	Identify Inputs to the Decisions	Define Study Boundaries	Develop Decision Rules	Specify Tolerable Limits on Error	Optimize Sampling Design
<p>The extent of soil containing metals and PCBs concentrations exceeding PRGs is not known. Soil below the northern and western fence lines may have had PCB-containing oil applied for weed control, and the condition of the soil is not fully evaluated. The soils around each building where sandblasting occurred have only had limited evaluations for paint wastes. PCBs may be present in soil at EBS Parcel 16 that may affect Site 34.</p> <p>While there were no documented releases, the potential primary chemical release mechanisms at IR Site 34 include direct discharges to the storm sewers (prior to the early 1970s), and spills and leaks to the soil. These primary releases may have been followed by potential secondary and tertiary releases: (1) to soils by exfiltration from storm drains; (2) to storm drains by overland flow to catchments or infiltration from soil and groundwater; (3) to groundwater from soil or storm drains; and (4) to surface water and sediments from storm drains, groundwater flow, or overland flow. Migration of chemicals along fuel line or storm sewer bedding material (if present) also may occur. Chemicals sorbed to surface soils may also be transported by the wind.</p> <p>A preliminary CSM has been developed and is presented in RI Work Plan (SulTech 2006). The CSM illustrates that terrestrial ecological receptors could be exposed to soils at IR Site 34, and that marine ecological receptors in the Oakland Inner Harbor could be exposed to groundwater and storm drain discharges from the site. Therefore, it is important to evaluate the potential risks to these ecological receptors. In addition, the CSM incorporates current and future site use information, and documents the potential for exposures of future human receptors, including commercial/industrial workers, construction workers, residents, and recreational users, to on-site soils.</p> <p>IR Site 34 currently is unoccupied land that is planned for recreational reuse as a golf course. However, the Navy will be prepared for potential changes to those site use plans by evaluating potential risks to future commercial/industrial workers, construction workers, and residents, in addition to the potential risks to recreational users. The DQOs described in this table are applicable to all future reuses.</p>	(see above)	(see above)	<p><u>Human Health Risk Assessment:</u></p> <p>Soil from the surface to 2 feet bgs and from the surface to 4 feet bgs (the depth at which groundwater was encountered during RI sampling activities) will be considered for scenarios that involve commercial/industrial workers, construction workers, and residents. Recreational scenarios will involve only the first 2 feet of soil. The site will be considered one exposure area.</p> <p>Groundwater as drinking water will not be considered a complete pathway.</p> <p><u>Ecological Risk Assessment:</u></p> <p>Soil from 0 to 4 feet bgs will be evaluated for risk to terrestrial ecological receptors. Potential contribution of groundwater chemicals to marine ecological receptors in Oakland Inner Harbor also will be considered.</p>	<p>2c) If the risk is within the risk management range, a risk management decision will be made by the BCT.</p> <p><u>Action Levels:</u></p> <ul style="list-style-type: none"> <li>Target excess cancer risk level of 10<sup>-6</sup></li> <li>Hazard index of 1 (total or segregated)</li> <li>Blood-lead levels of 10 micrograms per deciliter</li> <li>Decisions about site risk will be based on the 95 percent upper confidence limit of concentrations of chemicals of interest.</li> </ul> <p><b>3. Ecological Risks</b></p> <p>3a) If chemical concentrations result in a hazard index greater than 1, or if chemical concentrations in groundwater are anticipated to exceed NAWQC at the point of exposure, remedial action will be considered in a FS.</p> <p>3b) If chemical concentrations do not result in a hazard index greater than 1, or if chemical concentrations in groundwater are not anticipated to exceed NAWQC, no remedial action for ecological exposure will be considered.</p> <p><u>Action Levels:</u></p> <ul style="list-style-type: none"> <li>Hazard index of 1 (total or segregated)</li> <li>California Toxics Rule</li> <li>San Francisco Bay Basin Plan</li> <li>NAWQC (EPA 2002a, 2002b)</li> </ul>	(see above)	<p>All other samples from these borings will be analyzed for metals, VOCs, SVOCs, PAHs, pesticides, PCBs, and TPH in the purgeable and extractable ranges.</p> <p>Additional shallow soil samples will be collected at fixed intervals below fence lines and around buildings associated with sandblasting activities, and on a portion of adjacent EBS Parcel 16 to assess the potential presence of metals and PCBs. In addition, the extent of paint waste contamination will be evaluated by using dynamic work strategies associated with real-time measurement of chromium and lead in soil. These metals were detected in soil containing metals at concentrations exceeding PRGs at IR Site 34. Sampling and analysis will be conducted using a logic progression described in Section 5.1 of the RI Work Plan (SulTech 2006).</p> <p>If appropriate, Mobilization 2 will include installation of four shallow and one deep (to a maximum depth of 65 feet bgs) groundwater monitoring wells. Ten soil samples will be collected during this effort (at 0 to 2 feet bgs and 2 to 8 feet bgs), and four quarters of groundwater sampling will be performed.</p> <p><u>Design Optimization:</u></p> <p>If grab groundwater concentrations are above the criteria for groundwater (see Section 5.1 of the RI Work Plan [SulTech 2006]), then mobilization 2 will be necessary to install monitoring wells to collect additional data for the risk assessments. Mobilization 2 will include installation of four shallow and one deep (to a maximum depth of 65 feet bgs) groundwater monitoring wells. During this effort, a total of 10 soil samples will be collected, and will include 1 sample at 0 to 2 feet bgs and 1 sample at 2 to 8 feet bgs from each well boring. In addition, four quarters of groundwater samples will be collected from each of the newly installed wells.</p>
<b>Problem Statement:</b>	(see above)	(see above)	(see above)	(see above)	(see above)	(see above)
<p>Historical activities at IR Site 34 resulted in the release of at least four metals and two organic chemicals that were detected in site soil at concentrations exceeding PRGs (and the background concentrations of the metals). These activities may have caused other chemical releases. In addition, sample results and previous activity on a portion of EBS Parcel 16 suggest a release of PCBs. Results of previous sampling were not sufficient to provide reliable estimates of the potential risks posed to human or ecological receptors.</p>						

**TABLE 3-1: SITE 34 REMEDIAL INVESTIGATION DQO PROCESS (CONTINUED)**  
Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Notes:

AST	Above ground storage tank
BCT	Base Realignment and Closure (BRAC) Cleanup Team
bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CSM	Conceptual site model
DQO	Data quality objective
EBS	Environmental baseline study
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
FWBZ	First water bearing zone
GAP	Generator accumulation point
IR	Installation Restoration
NARF	Naval Air Rework Facility
NAWQC	National ambient water quality criteria
PAH	Polynuclear aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PRG	Preliminary remediation goal
RI	Remedial Investigation
SAP	Sampling and Analysis Plan
SVOC	Semivolatile organic compound
SWBZ	Second water bearing zone
TPH	Total petroleum hydrocarbon
VOC	Volatile organic compound

Sources:

- EPA. 2002a. "National Recommended Water Quality Criteria: 2002." EPA-822-R-02-047.  
EPA. 2002b. "Revision of National Recommended Water Quality Criteria." FRL-OW-7431-3. December 27.  
SulTech. 2006. "Remedial Investigation Work Plan, Installation Restoration Site 34, Alameda Point, Alameda, California." Final. January.

**TABLE 3-2: SUMMARY OF DESCRIPTIVE STATISTICS FOR THE PINK BACKGROUND DATA SET**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyte Group	Chemical	Distribution <sup>a</sup>	SUMMARY STATISTICS													
			Sample Size		Detection Frequency (Percent)	Censored Data		Detected Data		Detected & Censored Data						
			Detected	Total		Min	Max	Min	Max	Median <sup>b</sup>	Q95 <sup>b</sup>	Mean <sup>c</sup>	SD <sup>c</sup>	CV	UCL <sub>95</sub> <sup>d</sup>	Method
Total Metals	Aluminum	Lognormal	55	55	100	N/A	N/A	1,760.00	22,600.00	5,230.00	13,960.00	5,799.87	374.73	0.06	6,569.41	(10)
	Antimony	Not Tested	18	55	33	0.46	11.00	0.70	8.60	2.60	9.50	2.77	0.66	0.24	2.07	(12)
	Arsenic	Unknown[b]	45	55	82	0.59	10.00	0.44	15.60	1.70	9.14	2.58	0.38	0.15	4.03	(13)
	Barium	Lognormal	55	55	100	N/A	N/A	6.91	156.00	32.50	93.68	41.33	3.15	0.08	56.77	(4)
	Beryllium	Unknown[a]	28	55	51	0.15	1.00	0.25	1.47	0.58	1.27	0.50	0.37	0.75	0.60	(12)
	Cadmium	Not Tested	11	55	20	0.08	1.19	0.10	3.19	0.33	1.72	0.36	0.09	0.24	0.40	(12)
	Calcium	Unknown[b]	55	55	100	N/A	N/A	816.00	66,600.00	2,400.00	16,800.00	3,805.34	419.95	0.11	9,958.00	(4)
	Chromium	Lognormal	55	55	100	N/A	N/A	15.60	66.70	29.20	54.84	30.31	1.23	0.04	32.56	(10)
	Cobalt	Unknown[b]	48	55	87	3.96	5.70	3.02	49.70	4.70	14.30	5.68	0.45	0.08	10.17	(13)
	Copper	Unknown[b]	52	55	95	8.80	10.20	3.12	49.10	6.91	39.14	8.95	0.77	0.09	15.08	(13)
	Iron	Unknown[b]	55	55	100	N/A	N/A	4,500.00	27,900.00	8,590.00	22,280.00	10,108.88	555.72	0.05	11,294.70	(2)
	Lead	Unknown[b]	51	55	93	1.90	3.00	0.47	165.00	3.20	37.66	7.05	1.20	0.17	23.50	(13)
	Magnesium	Unknown[b]	55	55	100	N/A	N/A	1,290.00	8,800.00	2,320.00	7,304.00	2,859.91	166.36	0.06	3,263.00	(2)
	Manganese	Unknown[b]	55	55	100	N/A	N/A	55.50	748.00	108.00	383.00	145.19	11.12	0.08	219.06	(4)
	Mercury	Not Tested	7	54	13	0.05	0.27	0.06	2.71	0.10	0.52	0.11	0.02	0.23	0.22	(17)
	Molybdenum	Not Tested	0	16	0	2.80	5.20	N/A	N/A	3.10	5.20	N/A	N/A	N/A	N/A	N/A
	Nickel	Unknown[b]	55	55	100	N/A	N/A	11.50	80.40	24.30	55.72	27.22	1.25	0.05	30.18	(2)
	Potassium	Lognormal	55	55	100	N/A	N/A	209.00	2,480.00	691.00	1,232.00	740.63	42.05	0.06	813.20	(10)
	Selenium	Not Tested	0	55	0	0.18	10.00	N/A	N/A	0.42	1.78	N/A	N/A	N/A	N/A	N/A
	Silver	Not Tested	11	55	20	0.18	5.20	0.32	5.64	0.54	2.22	0.53	0.12	0.22	0.74	(16)
	Sodium	Lognormal	54	55	98	520.00	520.00	62.60	1,580.00	325.00	1,230.00	411.81	40.19	0.10	601.50	(13)
	Thallium	Not Tested	0	55	0	0.11	10.00	N/A	N/A	0.30	0.50	N/A	N/A	N/A	N/A	N/A
	Titanium	Not Tested	1	1	100	N/A	N/A	518.00	518.00	518.00	518.00	N/A	N/A	N/A	N/A	N/A
	Vanadium	Unknown[b]	55	55	100	N/A	N/A	10.50	55.30	21.00	47.34	22.52	1.07	0.05	24.65	(2)
	Zinc	Unknown[b]	54	55	98	18.00	18.00	9.98	191.00	20.60	67.48	25.66	1.85	0.07	42.14	(13)

- Notes: All results are in milligrams per kilogram.  
 For samples with less than 15 percent censored data, one-half the reporting limit is substituted for each nondetect measurement in all calculations.  
 For higher frequencies of censored data, all calculations were performed using stochastic modeling, following the "bounding" approach from EPA (2002c), as described below under notes c and d.  
 No calculations of the mean, SD, CV, or UCL95 are performed for sample sizes less than three or detection frequencies of zero.
- a For all cases with at least five detected samples and a detection frequency greater than or equal to 50 percent, tested using the Shapiro-Wilk W test (alpha equal to 0.05).  
 Distributions confirmed as normal or lognormal are listed as "Normal" or "Lognormal." For cases where distribution testing was not conducted, the distribution is listed as "Not Tested."  
 For cases in which distributions could not be confirmed using the Shipiro-Wilk W test, distributions were estimated using probability plots, box plots, and frequency histograms.  
 Distributions estimated to be normal or lognormal are listed as Unknown[a] or Unknown[b], respectively.
- b Estimated for all samples using a nonparametric approach, based on rank ordering of the data (reported values used for all censored data).
- c For all samples with at least one detection, calculated using distribution-dependent formulae.  
 For confirmed or estimated normal distributions with fewer than 15 percent censored data, calculated using equations 4.3 (mean) and 4.4 (standard deviation) in Gilbert (1987).  
 For confirmed or estimated lognormal distributions with fewer than 15 percent censored data, these are the MVUEs following equations 13.3 (mean) and 13.5 (standard deviation) in Gilbert (1987).  
 All other calculations use the median values generated from 2,000 iterations of a Monte Carlo model, following the "bounding" approach described in EPA (2002c) [see conceptual model on Figure 2-6 and text in methods section for more details].
- d For metals with only detected results, methods followed EPA (2002c, 2004a). For metals with at least one censored result, methods followed recommendations in EPA (2006).

**TABLE 3-2: SUMMARY OF DESCRIPTIVE STATISTICS FOR THE PINK BACKGROUND DATA SET (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Method (Statistic) Codes for calculating the 95UCL are defined as follows

(1)	Maximum detected concentration
(2)	95 percent UCL calculated using Student's <i>t</i> distribution
(3)	95 percent UCL calculated using Land's H statistic
(4), (5), (6)	95, 97.5, or 99 percent UCL, respectively, calculated using the nonparametric Chebyshev method
(7), (8), (9)	95, 97.5, or 99 percent UCL, respectively, calculated using the MVUE Chebyshev method
(10)	95 percent UCL calculated using the approximate gamma method
(11)	95 percent UCL calculated using the adjusted gamma method
(12)	95 percent UCL calculated using the KM mean and Student's <i>t</i> cutoff for the UCL
(13), (14), (15)	95, 97.5, or 99 percent UCL, respectively, calculated using the KM mean and the nonparametric Chebyshev method to estimate the UCL
(16)	95 percent UCL calculated using the KM mean and a percentile bootstrap to estimate the UCL
(17)	95 percent UCL calculated using the KM mean and a BCa bootstrap to estimate the UCL
EPA	U.S. Environmental Protection Agency
KM	Kaplan-Meier product limit estimator
CV	Coefficient of variation (SD/mean)
Max	Maximum concentration reported
Min	Minimum concentration reported
MVUE	Minimum variance unbiased estimator
N/A	Not applicable
NE	Not estimable using the KM
Q95	95th percentile (quantile)
SD	Standard deviation
95UCL	The one-sided 95 percent upper confidence limit of the mean. Following EPA (2004a, 2006) this can be estimated using either a 95, 97.5, or 99 percent UCL.
Unknown[a]	Distribution assumed to be normal based on examination of probability plots and outlier box plots
Unknown[b]	Distribution assumed to be lognormal based on examination of probability plots and outlier box plots

**References**

- Gilbert, R.O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. John Wiley & Sons, Inc. New York, New York.
- EPA. 2002c. "Calculating Exposure Point Concentrations at Hazardous Waste Sites." OSWER 9285.6-10. Washington, D.C. December.
- EPA. 2004a. "ProUCL Version 3.0 User Guide." Prepared by Singh, A., Singh, A.K. and R.W. Maichle for the EPA Technical Support Center. Las Vegas, Nevada. April.
- EPA. 2006. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.

**TABLE 3-3: SUMMARY OF DESCRIPTIVE STATISTICS FOR THE BACKGROUND GROUNDWATER DATA SET**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyte Group	Chemical	Distribution <sup>a</sup>	SUMMARY STATISTICS												
			Sample Size		Detection Frequency (Percent)	Censored Data		Detected Data		Detected and Censored Data					
			Detected	Total		Min	Max	Min	Max	Median <sup>b</sup>	Q95 <sup>b</sup>	Mean <sup>c</sup>	SD <sup>c</sup>	CV	UCL <sub>95</sub> <sup>d</sup>
Dissolved Metals	Aluminum	Not Tested	56	194	29	8.10	286.00	3.00	4,530.00	40.75	1,070.00	193.06	661.99	3,430.00	401.76
	Antimony	Not Tested	13	194	7	0.65	44.00	1.90	47.80	6.50	37.50	8.32	9.91	1,190.00	12.34
	Arsenic	Lognormal	107	198	54	1.00	100.00	1.40	40.70	5.25	20.72	8.14	1.03	130.00	15.80
	Barium	Unknown[b]	161	194	83	4.30	340.00	2.30	1,260.00	42.50	569.50	134.74	30.42	230.00	329.77
	Beryllium	Not Tested	18	194	9	0.10	3.70	0.94	3.00	1.00	2.50	0.65	0.67	1,020.00	0.92
	Cadmium	Not Tested	22	194	11	0.15	8.00	0.18	3.40	0.56	3.90	0.86	1.04	1,210.00	1.29
	Calcium	Unknown[b]	194	198	98	898.00	1,370.00	620.00	513,000.00	21,300.00	156,950.00	57,305.90	11,186.61	200.00	76,728.10
	Chromium	Not Tested	33	194	17	0.20	32.00	0.55	82.80	2.30	12.45	3.15	7.26	2,310.00	5.61
	Chromium(VI)	Not Tested	1	7	14	10.00	100.00	4.00	4.00	10.00	100.00	17.74	26.84	1,510.00	91.71
	Cobalt	Not Tested	12	194	6	0.25	17.20	0.80	10.50	6.10	17.20	3.86	3.83	990.00	5.46
	Copper	Not Tested	60	194	31	0.35	69.70	1.80	27.30	5.85	24.23	6.00	7.01	1,170.00	8.71
	Iron	Unknown[b]	130	198	66	4.80	363.00	7.20	24,400.00	130.50	6,585.50	2,040.29	1,181.68	580.00	9,390.84
	Lead	Not Tested	17	195	9	0.50	20.00	1.20	28.40	1.30	6.70	1.32	2.71	2,050.00	2.39
	Magnesium	Unknown[b]	198	198	100	N/A	N/A	549.00	1,070,000.00	15,150.00	356,000.00	67,908.66	18,671.39	270.00	98,151.48
	Manganese	Unknown[b]	187	198	94	0.78	12.30	1.10	2,480.00	131.50	1,741.00	806.58	356.33	440.00	1,373.61
	Mercury	Not Tested	4	198	2	0.10	0.29	0.20	0.64	0.20	0.20	0.10	0.07	730.00	0.13
	Molybdenum	Not Tested	12	119	10	0.25	25.40	0.50	19.40	9.60	12.70	4.50	3.62	800.00	6.41
	Nickel	Not Tested	23	198	12	1.30	49.10	0.70	151.00	11.30	20.97	7.61	15.09	1,980.00	12.66
	Potassium	Lognormal	193	198	97	763.00	2,340.00	1,200.00	505,000.00	15,000.00	147,150.00	33,411.37	4,445.82	130.00	41,748.99
	Selenium	Not Tested	1	193	1	0.80	54.00	2.50	2.50	2.40	8.40	1.54	2.38	1,550.00	2.90
Silver	Not Tested	4	188	2	0.15	5.40	0.20	4.80	2.00	4.90	1.36	1.34	980.00	1.92	
Sodium	Unknown[b]	198	198	100	N/A	N/A	4,600.00	8,160,000.00	140,500.00	3,714,000.00	660,479.40	146,478.42	220.00	907,939.50	
Thallium	Not Tested	3	193	2	0.90	76.00	3.60	5.20	2.70	13.80	3.66	1,770.00	4.06		
Vanadium	Not Tested	72	198	36	0.25	19.50	2.00	50.80	7.00	26.27	7.31	9.17	1,250.00	10.32	
Zinc	Not Tested	65	198	33	0.50	81.80	2.80	46,800.00	7.75	36.39	246.98	3,325.26	13,460.00	1,277.40	

- Notes: All results are in micrograms per liter.
- For samples with less than 15 percent censored data, one-half the reporting limit is substituted for each nondetect measurement in all calculations.
- For higher frequencies of censored data, all calculations were performed using stochastic modeling, following the "bounding" approach from EPA (2002), as described below under notes c and d.
- No calculations of the mean, SD, CV, or UCL95 are performed for sample sizes less than three or detection frequencies of zero.
- a For all cases with at least five detected samples and a detection frequency greater than or equal to 50 percent, tested using the Shapiro-Wilk W test (alpha equal to 0.05). Distributions confirmed as normal or lognormal are listed as "Normal" or "Lognormal." For cases where distribution testing was not conducted, the distribution is listed as "Not Tested." For cases in which distributions could not be confirmed using the Shapiro-Wilk W test, distributions were estimated using probability plots, box plots, and frequency histograms. Distributions estimated to be normal or lognormal are listed as Unknown[a] or Unknown[b], respectively.
- b Estimated for all samples using a nonparametric approach, based on rank ordering of the data (reported values used for all censored data).
- c For all samples with at least one detection, calculated using distribution-dependent formulae.
- d For confirmed or estimated normal distributions with fewer than 15 percent censored data and for distributions listed as "Not Tested," calculated using equations 4.3 (mean) and 4.4 (standard deviation) in Gilbert (1987). For confirmed or estimated lognormal distributions these are the MVUEs, following equations 13.3 (mean) and 13.5 (standard deviation) in Gilbert (1987). For samples with greater than 15 percent censored data, these are the median values generated from 2,000 iterations of a Monte Carlo model, following the "bounding" approach described in EPA (2002). [see conceptual model on Figure 2-6 and text in methods section for more details].
- d For confirmed or estimated normal distributions, calculated using equation 11.6 in Gilbert (1987). For confirmed or estimated lognormal distributions with no more than 15 percent censored data, calculated using Land's method (EPA 1992; Gilbert 1987). For confirmed or estimated lognormal distributions with greater than 15 percent censored data, calculated using the MVUE Chebyshev method (EPA 2002). For samples with greater than 15 percent censored data and distributions listed as "Not Tested," calculated using the nonparametric Chebyshev method. Calculations for all cases with greater than 15 percent censored data use the 95th percentile generated from 2,000 iterations of a Monte Carlo model, following the "bounding" approach, described in EPA (2002) [see conceptual model on Figure 2-6 and text in methods section for more details].
- CV Coefficient of variation (SD/mean) MVUE Minimum variance unbiased estimator SD Standard deviation
- Min Minimum concentration reported N/A Not applicable UCL<sub>95</sub> The one-sided 95 percent upper confidence limit of the mean
- Max Maximum concentration reported Q95 95th percentile (quantile) Unknown[a] Distribution assumed to be normal based on examination of probability plots and outlier box plots
- Unknown[b] Distribution assumed to be lognormal based on examination of probability plots and outlier box plots

References:

Gilbert, R.O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. John Wiley & Sons, Inc. New York, New York.

EPA. 1992. "Supplemental Guidance to RAGS: Calculating the Concentration Term." *Intermittent Bulletin, Volume 1, Number 1*. Publication 9285.7-081.

EPA. 2002. "Calculating Exposure Point Concentrations at Hazardous Waste Sites." OSWER 9285.6-10. Washington, D.C. December.

## 4.0 NATURE AND EXTENT OF CONTAMINATION

This section summarizes the analytical data collected during environmental investigations at IR Site 34 and describes the nature and extent of contamination in soil and groundwater. For the nature and extent discussion, contamination at IR Site 34 is defined as a chemical concentration exceeding the comparison criteria listed in Section 3.3. However, a determination of whether chemicals are likely to pose risk to human health and/or the environment and require further consideration in an FS is based on the risk assessments presented in Section 6.0 and 7.0. NAS Alameda was closed in 1997 and most of the infrastructure at IR Site 34 has since been removed. Sources that may have released chemicals to soil and groundwater at IR Site 34 are no longer believed to remain on site; continued releases associated with historical operations are unlikely.

### 4.1 NATURE AND EXTENT OF SOIL CONTAMINATION

During the environmental investigations described in Section 1.3.4, 208 soil samples (including six field duplicates and one sediment sample) were collected at IR Site 34 and analyzed for the analytical groups listed in Table 1-2. Soil sampling locations are shown on Figure 1-4. Table 4-1 provides a statistical summary for analytical results of soil samples at IR Site 34. The table lists all chemicals that were detected in soil samples from IR Site 34, and identifies those chemicals that exceeded comparison criteria (and background concentrations for metals).

#### 4.1.1 Metals in Soil

Laboratory analysis of 105 soil samples from IR Site 34 for 24 metals shows that 6 metals (arsenic, cadmium, chromium, iron, lead, and vanadium) are present in one or more soil samples at concentrations above the EPA or California-modified residential PRGs (see Table 4-1). Each of these six metals is discussed below. Table 4-1 also shows beryllium is the only metal with background data that was not detected above the upper bound (95 percentile) of the background distribution; molybdenum, selenium, and thallium are not associated with Pink Fill Area background data. Further evaluations indicated the distribution of 18 metals (aluminum, antimony, arsenic, barium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, sodium, vanadium, and zinc) is different at IR Site 34 than in the Pink Fill Area, as shown in Table 4-2 and Appendix G. Statistical analysis determined that beryllium, mercury, and silver are not distributed differently at IR Site 34 than in the background area (see Table 4-2). The highest concentrations of most metals were detected near former Buildings 331, 343, 344, and in the northwest corner of IR Site 34. Concentrations of the 18 metals detected above background concentrations are generally distributed across IR Site 34, as shown for individual metals on Figures 4-1 through 4-5.

Arsenic was detected in soil samples from IR Site 34 above the background concentration (9.14 mg/kg) in 12 of 105 samples and above the California-modified residential PRG (0.062 mg/kg) and industrial PRG (0.25 mg/kg) in 98 samples. Note that the background concentration of arsenic in the Pink Fill Area is two orders of magnitude higher than the California-modified residential PRG. The 95UCL of the average arsenic concentration (13 mg/kg) in soil samples at IR Site 34 is greater than the background concentration in the Pink

Fill Area. Arsenic concentrations above the background concentration were generally located near the former railroad track and the former buildings in the northeast quadrant of IR Site 34. The three highest concentrations of arsenic (120 mg/kg at location HS1N, 62 mg/kg at location DP12, and 52.1 mg/kg at location 018-007-034) were detected in samples collected between 1.5 and 2.5 feet bgs. Lower concentrations of arsenic in surface samples collected at locations HS1N (estimated 5.3 mg/kg) and DP12 (6.9 mg/kg) suggest that the highest arsenic concentrations are not related to contamination at the ground surface. Although a source of subsurface arsenic contamination at locations HS1N and DP12 was not apparent, some of the arsenic detected may have resulted from dissolution of paint chips, paint dust, pesticides, and treated wood that were generated during historical operations at the site. However, sources related to historical operations at IR Site 34 are no longer believed to remain on site. Sampling locations where arsenic concentrations in soil exceeded comparison criteria are shown on Figure 4-1.

Cadmium was detected in soil samples from IR Site 34 above the background concentration (1.72 mg/kg) in 41 of 105 samples. Sample 018-0026 collected at location 018-006-026 exhibited cadmium at an estimated concentration of 45.8 mg/kg, which exceeds the EPA residential PRG (37 mg/kg). Sample 18-0026 was collected within 6 inches of the ground surface near the former railroad track in the northwest corner of the site. The average cadmium concentration (4.3 mg/kg) detected in soil samples from IR Site 34 and the 95UCL of the average cadmium concentration (8.9 mg/kg) are well below the residential PRG. Sampling locations where cadmium concentrations in soil exceeded comparison criteria are shown on Figure 4-22.

Chromium was analyzed for in soil samples from IR Site 34 using an XRF field screening unit and at a fixed laboratory. The XRF detection limit for chromium was above the background concentration (54.8 mg/kg). XRF screening results for 106 soil samples suggested chromium concentrations in soil exceeded the EPA residential PRG (210 mg/kg) at 36 locations across IR Site 34. Most of these exceedances were around the perimeter of former buildings, particularly Buildings 331, 343, 344, 475, 510, and 604 (see Figure 4-2). XRF results are screening-level data that have a high bias when qualitatively compared with results from fixed-laboratory analysis (see Section 3.3). For this reason, sampling locations where XRF field screening identified concentrations above the PRG are identified with purple circles on Figure 4-2, but numerical results are not shown. Numerical results for XRF field screening are presented in Appendix D.

Results of fixed-laboratory analysis indicated concentrations of chromium (total) exceeded the background concentration (54.8 mg/kg) in 37 of 105 samples, exceeded the EPA residential PRG (210 mg/kg) in 5 samples, and exceeded the EPA industrial PRG (450 mg/kg) in 1 sample. Two additional samples exhibited chromium at the same concentration as the EPA residential PRG. Twenty-four samples were analyzed at a fixed laboratory for hexavalent chromium. Concentrations in each sample were below the detection limit (0.05 to 0.06 mg/kg); the EPA residential PRG for hexavalent chromium is 30 mg/kg. Three of the samples that contained chromium (total) at or above the PRG were collected near the southeast corner of former Building 343. Two samples collected above the storm sewer near the northeast site boundary

also exhibited chromium concentrations at or above the PRG. The highest chromium concentration (550 mg/kg at location DP02) was detected in a sample collected near the southwest corner of the site. All seven samples exhibiting chromium concentrations at or above PRGs were collected within 6 inches of the ground surface. Sampling locations where chromium concentrations in soil exceeded comparison criteria are shown on Figure 4-2. The average chromium concentration (68 mg/kg) detected in soil samples from IR Site 34 and the 95UCL of the average chromium concentration (97 mg/kg) are well below the residential PRG (210 mg/kg).

Iron was detected in soil samples from IR Site 34 at concentrations exceeding the background concentration (22,280 mg/kg) and the EPA residential PRG (23,000 mg/kg) in 21 of 82 samples, and above the EPA industrial PRG (100,000 mg/kg) in 2 samples. These exceedances appeared to be clustered (1) near the former railroad track at the northwest corner of the site, (2) near the southeast corner of former Building 343 and the northeast corner of former Building 344, (3) near the former railroad tracks south of former Building 331, and (4) above the storm sewer near the northeast site boundary. The two highest concentrations of iron (180,000 mg/kg at location HS2A and 120,000 mg/kg at location HS2W) were in samples collected near the northeast corner of former Building 344. The average iron concentration (23,524 mg/kg) detected in soil samples from IR Site 34 and the 95UCL of the average iron concentration (35,358 mg/kg) exceed the residential PRG (23,000 mg/kg). However, removing the two highest concentrations from the calculation reduces the average iron concentration (20,252 mg/kg) and the 95UCL of the average concentration (22,515 mg/kg) below the residential PRG. Iron was detected at concentrations exceeding PRGs in samples from multiple depth intervals. Results of iron analysis appear to show a few localized areas of soil contamination extending as far as 7 feet bgs. Sampling locations where iron concentrations in soil exceeded comparison criteria are shown on Figure 4-3.

Lead was analyzed for in soil samples from IR Site 34 using an XRF field screening unit and at a fixed laboratory. XRF screening results for 106 soil samples suggested lead concentrations in soil exceeded the background concentration (29.7 mg/kg) in 44 samples and the California-modified residential PRG (150 mg/kg) in 17 samples. Most of these exceedances were in the northwest corner of the site, south of former Building 331, and near former Buildings 343, 344, and 475 (see Figure 4-4). XRF results are screening-level data that have a high bias when qualitatively compared with results from fixed-laboratory analysis (see Section 3.3). For this reason, sampling locations where XRF field screening identified concentrations above the PRG are identified with gray circles on Figure 4-4, but numerical results are not shown. Numerical results for XRF field screening are presented in Appendix D.

Results of fixed-laboratory analysis indicated concentrations of lead exceeded the background concentration (29.7 mg/kg) in 48 of 105 samples, the California-modified residential PRG (150 mg/kg) in 29 samples, and the EPA industrial PRG (800 mg/kg) in 7 samples. These exceedances appeared to be present in a number of clusters (1) near the former railroad track at the northwest corner of the site; (2) around former Buildings 331, 343, 344, and 475; (3) above the storm sewer near the northeast site boundary; and (4) in isolated locations at the southwest corner of the site. The two highest concentrations of lead (21,000 and 18,000 mg/kg) were in

samples from two depth intervals at DP16 at the northeast corner of former Building 331. Former Buildings 343, 475, and 510 were reportedly used for sandblasting; lead in soil is likely related to chips of lead-based paint released during historical operations. Lead concentrations exceeding PRGs generally occurred in soil within 2 feet of the ground surface. Sampling locations where lead concentrations in soil exceeded comparison criteria are shown on Figure 4-4.

Vanadium was detected in soil samples from IR Site 34 at concentrations exceeding the background concentration (47.3 mg/kg) in 8 of 105 samples and the EPA residential PRG (78 mg/kg) in 4 samples. These exceedances were found (1) near the southwest and southeast corners of former Building 343, (2) near the northeast corner of former Building 344, and (3) near the southwest corner of former Building 331. A vertical pattern of vanadium dispersal was not apparent. The four samples exhibiting vanadium concentrations above the residential PRG were collected from different depths (less than 0.5 to 7 feet bgs), and samples from overlying and underlying intervals showed lower concentrations of vanadium. The average vanadium concentration (32 mg/kg) detected in soil samples from IR Site 34 and the 95UCL of the average vanadium concentration (35 mg/kg) are less than half of the residential PRG (78 mg/kg). Sampling locations where vanadium concentrations in soil exceeded comparison criteria are shown on Figure 4-5.

Of the six metals discussed above, only arsenic, iron, and lead showed patterns of site-wide contamination. Cadmium, chromium, and vanadium were detected above PRGs in less than 5 percent of the samples, or at concentrations less than three times the PRGs. The 95UCLs of the average concentration for cadmium, chromium, and vanadium were well below their respective residential PRGs. The 95UCL of the average concentration for iron is also below the PRG when two extreme concentrations (180,000 mg/kg and 120,000 mg/kg; both in shallow soil at the northeast corner of former Building 344) are removed from the statistical calculation. Metals concentrations above PRGs are generally localized to several defined areas. The lateral and vertical extent of metals contamination in soil appears to be sufficiently characterized.

#### **4.1.2 Volatile Organic Compounds in Soil**

Analysis of soil samples shows that 17 VOCs were detected in soil at IR Site 34. However, only one VOC (1,4-dichlorobenzene [-DCB] at a concentration of 6.8 mg/kg) in only one sample (0.5 to 0.9 feet bgs at location DP02 at the southwest corner of the site) exceeded the residential PRG (3.5 mg/kg), and the magnitude of the exceedance was only two times greater than the PRG. In addition, as summarized in Table 4-1, 13 of the 17 VOCs were only detected once; 2-butanone and carbon disulfide were detected twice and methylene chloride and toluene were detected three times. Naphthalene was detected in one soil sample by VOC analysis. Naphthalene was also analyzed in the SVOC and PAH analytical suites and is discussed in Section 4.1.4. VOCs were detected at ten locations dispersed around IR Site 34, including:

- 018-003-013 at the southeast corner of former Building 474 (also the northeast corner of former Building 477)

- 018-003-014 at the northeast corner of former Building 476
- 018-003-015 at the southeast corner of former Building 476
- DP02 at the southwest corner of the site (11 detections)
- DP16 at the northeast corner of former Building 331 (1 detection)
- DP17 above the storm sewer near the northeast site boundary (1 detection)
- MW-20 south of IR Site 34 near the southwest corner of the site (2 detections)
- MW-23 west of IR Site 34 north of the former railroad tracks (1 detection)
- MW-24 at the northwest corner of the site (2 detections)
- AA-IT001-01 (sediment sample) from a storm drain catch basin near the southeast corner of former Building 330 (2 detections) (sediment has since been removed)

Based on these results, VOCs appear to be present in soil only in isolated areas and do not represent site-wide contamination. The lateral and vertical extent of VOC contamination in soil appears to be sufficiently characterized.

#### **4.1.3 Semivolatile Organic Compounds in Soil**

Analysis of soil samples shows that 28 SVOCs were detected in soil samples from IR Site 34. Sixteen of the detected SVOCs are PAHs, including all five chemicals detected at concentrations exceeding residential PRGs. As a result, these PAH findings are discussed separately in Section 4.1.4. Table 4-1 shows that 9 of the remaining 12 SVOCs were detected only once in soil samples from IR Site 34. Dibenzofuran was detected twice, di-n-Butylphthalate was detected four times, and bis(2-ethylhexyl)phthalate was detected five times. SVOCs were detected at 11 locations around IR Site 34, including:

- 004-003-008 on the south side of former Building 331 (one detection)
- 018-004-020 on the west boundary of the site (one detection)
- 018-004-021 over the storm sewer in the west-central portion of the site (one detection)
- 018-004-022 near the southwest corner of the site (one detection)
- 018-004-023 near the southwest corner of the site (four detections)
- 018-007-035 near the northeast corner of former Building 476 (three detections)
- DP10 south of former Building 475 and west of former Building 344 (one detection)

- DP16 at the northeast corner of former Building 331 (three detections)
- MW-20 south of IR Site 34 near the southwest corner of the site (one detection)
- MW-23 west of IR Site 34 north of the former railroad tracks (one detection)
- AA-IT001-01 (sediment sample) from a storm drain catch basin-near the southeast corner of former Building 330 (three detections) (sediment has since been removed)

Based on these results, SVOCs appear to be present in soil only in isolated areas and do not represent site-wide contamination. More than 50 percent of the highest concentrations of SVOCs were detected in a sample from location DP16. This sample was collected above a layer of black clayey sand with a strong diesel odor that was identified from 2.75 to 3.75 feet bgs (see the boring log in Appendix B). Similar material was not noted in other soil borings; the material does not appear to represent site-wide conditions or a large mass of contaminated media. The lateral and vertical extent of SVOC contamination in soil appears to be sufficiently characterized.

#### 4.1.4 Polycyclic Aromatic Hydrocarbons in Soil

Analysis of soil samples shows that 18 PAHs were detected in soil samples from IR Site 34, as summarized in Table 4-1. PAH contamination was evaluated relative to B(a)P-equivalents. Several samples were analyzed for PAHs by more than one analytical method. In these cases, results from the analytical method with the lowest detection limit (EPA Method 8260c-SIM) were used in the B(a)P-equivalent evaluation. Table 4-3 presents the EPA and OEHHHA B(a)P-equivalents for each of the 54 individual samples and also presents the site-wide averages. Figure 4-6 shows the locations of the 54 samples and also provides the EPA B(a)P-equivalent concentration for each of the samples. Only five of the 54 individual samples exhibited total B(a)P-equivalent concentrations above the comparison criterion of 0.62 mg/kg, and they are summarized in the table below.

**Samples with Total B(a)P-Equivalent Concentrations Exceeding Comparison Criterion**

Sample Location Number	Sample Identification Number	Sample Depth (feet bgs)	EPA B(a)P Equivalent (mg/kg)	OEHHA B(a)P Equivalent (mg/kg)
004-003-008	004-0012	5 – 6	1.3	1.4
DP06	105-S34-017	0 – 0.5	1.2	1.3
DP10	105-S34-031	1.5 – 2	2.9	3.1
DP16	105-S34-046	0 – 0.5	8.4	9.5
DP16	105-S34-047	1.5 – 2	0.99	1.1
Site-Wide Average B(a)P-Equivalent Concentration			0.47	0.52

The site-wide average EPA and OEHHHA B(a)P-equivalent concentrations (0.47 mg/kg and 0.52 mg/kg, respectively) are below the established screening level of 0.62 mg/kg. The site-wide

average concentration is influenced by an EPA B(a)P-equivalent value of 8.4 mg/kg and an OEHHA B(a)P-equivalent value of 9.5 mg/kg in a sample of anomalous soil collected above a black clayey sand with a strong diesel odor at location DP16. The site-wide average EPA and OEHHA B(a)P-equivalent concentrations without this sample are 0.23 mg/kg and 0.25 mg/kg, respectively. Elevated concentrations of PAHs were confined to individual sample locations and do not appear to represent large masses of contaminated media. The lateral and vertical extent of PAH contamination in soil appears to be sufficiently characterized.

#### **4.1.5 Pesticides in Soil**

Analysis of 95 soil samples shows that 20 pesticides were detected in soil samples from IR Site 34, as summarized in Table 4-1. Two of the 20 detected pesticide concentrations exceeded EPA PRGs, as discussed in the paragraphs below. Sampling locations where pesticide concentrations in soil exceeded comparison criteria are shown on Figure 4-7.

Dieldrin was detected in 14 of 95 samples at concentrations ranging from 0.0024 to 0.5 mg/kg. Concentrations of dieldrin in three samples exceeded the EPA residential PRG (0.03 mg/kg) and EPA industrial PRG (0.11 mg/kg). All three exceedances were in surface soil samples collected along the fence line at the western site boundary (locations FS7, FS9, and FS10).

Heptachlor epoxide was detected in 14 of 95 samples at concentrations ranging from 0.00077 to 0.11 mg/kg. Concentrations of heptachlor epoxide in three samples exceeded the EPA residential PRG (0.053 mg/kg). All three exceedances were in surface soil samples collected along the fence line at the western site boundary (locations FS9, FS10, and HS7N).

Pesticide contamination in soil at IR Site 34 appears to be limited to the top 6 inches of soil in isolated areas along the fence line at the western site boundary. The lateral and vertical extent of pesticide contamination in soil appears to be sufficiently characterized.

#### **4.1.6 Polychlorinated Biphenyls in Soil**

Analysis of 143 soil samples shows that four PCBs (Aroclor-1248, Aroclor-1254, Aroclor-1260, and Aroclor-1268) were detected in 3, 39, 78, and 26 of 143 soil samples from IR Site 34, as summarized in Table 4-1. All four Aroclors were detected at concentrations ranging from 0.0058 to 11 mg/kg. Concentrations equaled or exceeded the EPA residential PRG (0.22 mg/kg) in two samples (Aroclor-1248 and Aroclor-1268), in 16 samples (Aroclor-1254), and in 22 samples (Aroclor-1260). Concentrations exceeded the EPA industrial PRG (0.74 mg/kg) in one sample (Aroclor-1248) and four samples (Aroclor-1254 and Aroclor-1260). These exceedances were clustered along the eastern site boundary near the former TSTA, between former Buildings 343 and 344 that previously contained transformers and used lubricating oils, on the north and south sides of former Building 331 that previously contained a transformer and used oils and solvents for woodwork, and near the railroad. Isolated exceedances also were identified at former Building 604 that used petroleum oils for air compressors and in off-site step-out samples near former Building 345. Most of the PCB concentrations detected above PRGs were in

samples collected within 0.5 feet of the ground surface, which is consistent with these types of uses. There was no evidence of a release to the surface soils near the transformers during base operations or during the EBS, and many of the transformers were located on concrete slabs that would prevent any releases to subsurface soils. Therefore, specific samples were not collected at previous transformer locations for analysis of PCBs. PCB concentrations were detected above PRGs deeper than 0.5 feet bgs in the following samples: a sample from 0.5 to 0.9 feet bgs at DP02 (Aroclor-1254 and Aroclor-1260) located within the TSTA, a sample from 0.5 to 1.0 feet bgs at 004-Z03-004 (Aroclor-1260) located north of Building 331, and a sample from 2.0 to 2.5 feet bgs at HS1N (Aroclor-1260) located in the northwest corner of the site. Sampling locations where PCB concentrations in soil exceeded comparison criteria are shown on Figures 4-8 through 4-11. Based on these results, the lateral and vertical extent of PCB contamination in soil appears to be sufficiently characterized.

#### 4.1.7 Total Petroleum Hydrocarbons in Soil

Sixty-four soil samples from IR Site 34 were analyzed for total petroleum hydrocarbons as diesel, gasoline, or motor oil, as summarized in Table 4-1. Several of the 64 samples were not analyzed for all three petroleum hydrocarbon ranges, which is why different numbers of analyses are listed for each component in Table 4-1. Diesel- and motor oil-range petroleum hydrocarbons were detected at concentrations exceeding comparison criteria, as discussed in the paragraphs below. Gasoline-range petroleum hydrocarbons were not detected in soil samples from IR Site 34 at concentrations exceeding the comparison criterion.

TPH as diesel was detected in 33 of 56 samples at concentrations ranging from 0.48 to 18,000 mg/kg. Concentrations exceeded the Water Board residential ESL (100 mg/kg) in 10 samples and the Water Board industrial ESL (500 mg/kg) in 6 samples. Four of the samples with exceedances, including the two highest concentrations (18,000 mg/kg at location 004-002-003 and 8,900 mg/kg at location 018-001-007), were collected near former ASTs. The other six samples with exceedances were collected (1) at the northeast corner of former Building 331, (2) the east side of former Building 604, (3) near the northwest and southwest corners of the site, and (4) west of IR Site 34 north of the former railroad tracks. Most of the samples with exceedances were collected within 1 foot of the ground surface. However, samples from two depths at location MW-24 at the northwest corner of the site showed the diesel concentration increased from 0.63 mg/kg near the surface to 2,200 mg/kg between 3 and 4 feet bgs. Elevated concentrations of diesel at locations DP06 and DP16 were detected in samples collected between 1.5 and 2.5 feet bgs. Sampling locations where TPH as diesel concentrations in soil exceeded comparison criteria are shown on Figure 4-12.

TPH as motor oil was detected in 35 of 48 samples at concentrations ranging from 3 to 47,000 mg/kg. Concentrations exceeded the Water Board residential ESL (500 mg/kg) in 14 samples and the Water Board industrial ESL (1,000 mg/kg) in 13 samples. Six of the samples with exceedances were collected near former ASTs. The other eight samples with exceedances were collected at (1) the north side of former Building 330, (2) the southwest corner of former Building 331, (3) the east side of Building 604, and (4) three locations along the western boundary of the site. All of the samples with exceedances were collected within 1 foot of the

ground surface, except for a sample collected between 2 and 2.5 feet bgs in the northwest corner of the site (location DP06). Sampling locations where TPH as motor oil concentrations in soil exceeded comparison criteria are shown on Figure 4-13.

TPH concentrations detected above ESLs were found at several locations across IR Site 34. Thirteen of the 18 samples that contained TPH concentrations above ESLs were collected during April 1995 during the Phase 2A EBS investigation. All of the soil samples from the EBS investigation were collected from surface soils that were stained or suspected of being contaminated, including soil near five ASTs that have since been removed. The lateral extent of TPH contamination in soil appears to be sufficiently characterized. TPH contamination is generally limited to the top 1 foot of soil. However, existing data do not define the maximum depth of motor oil contamination at location DP06 and diesel contamination at locations DP06, DP16, and MW-24.

#### 4.1.8 Summary of Contamination in Soil

For the purposes of this RI, contamination is defined as a chemical detected in an environmental sample at IR Site 34 at a concentration exceeding comparison criteria. Metals, VOCs, PAHs, pesticides, PCBs, and TPH were detected at concentrations above comparison criteria in soil samples collected at IR Site 34. Only the following seven chemicals were detected above comparison criteria in more than 10 percent of the samples:

- Metals (arsenic, iron, lead)
- PCBs (Aroclor-1254, Aroclor-1260)
- TPH (as diesel, as motor oil)

Although PAHs were detected above comparison criteria in less than 10 percent of the samples and the evaluation of PAHs relative to B(a)P equivalents showed the site-wide average B(a)P equivalent concentration is below the comparison criteria of 0.62 mg/kg, the site-wide average concentration is influenced by an EPA B(a)P-equivalent value of 8.4 mg/kg and an OEHHA B(a)P-equivalent value of 9.5 mg/kg in a sample of anomalous soil collected above a black clayey sand with a strong diesel odor at location DP16 (north of Building 331).

In addition to exceeding comparison criteria in more than 10 percent of the samples, these seven chemicals, and the following additional chemicals were determined to likely pose potential risk, based on a residential exposure (see the HHRA, Section 6.0)

- PCBs (Aroclor-1248, 1268)
- Pesticides (dieldrin, heptachlor epoxide),
- SVOC (naphthalene)

- VOCs (1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and 1,4-DCB)

After taking into consideration that further evaluation in an FS is based on the risk assessments and reviewing the distribution of concentrations for those chemicals driving risk, residual soil contamination appears to be collocated and limited to six specific areas of concern at IR Site 34 (AOC). The list below (as shown on Figure 4-14) indicates which chemicals are present at each AOC at concentrations potentially posing risk and the likely historical sources of the contaminants.

- **Northwest corner of the site, near the former railroad and former Building 510:** arsenic, PCBs, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to use and subsequent fill of the historical railroad and historical sandblasting in former Building 510. Oils and solvents may have been released from sandblasting equipment.
- **North of Building 331:** arsenic, lead, PCBs, naphthalene, and TPH as diesel. Residual contamination in this area appears to be related to use of oils and solvents for woodwork at the former building and metal working at Building 330 to the west.
- **Along the former railroad and south of former Building 331:** lead, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to use and subsequent fill of the historical railroad, historical releases from former AST 331, and use of oils and solvents for woodwork at the former building.
- **Southwest corner of former Building 343 and east of former Building 475:** PCBs. Residual contamination in this area appears to be related to the transformer formerly located in Building 475 and the release of oils from sandblasting equipment.
- **Southeast corner of former Building 343 and northeast corner of former Building 344:** iron, lead, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to historical releases from former AST 344D, sandblasting of lead-based paints, and lubricants used for sheet metal fabrication. The floor of former Building 343 was rusted, which may have released metals to nearby soil.
- **Southwest corner of the site:** pesticides, PCBs, and VOCs. This area was used between 1995 and 1997 for temporary storage of PCB- and lead-contaminated soil excavated from IR Site 15 (see Section 1.3.3.1). Residual contamination in this area may be related to operation of the TSTA and application of pesticides for weed control.

## 4.2

## NATURE AND EXTENT OF GROUNDWATER CONTAMINATION

During the environmental investigations described in Section 1.3.4, 44 groundwater samples were collected at IR Site 34 and analyzed for the analytical groups listed in Table 1-2. Groundwater sampling locations are shown on Figure 1-5. Table 4-3 provides a statistical summary of analytical results for groundwater samples at IR Site 34. The table lists all chemicals that were detected in groundwater samples from IR Site 34, and identifies those chemicals that exceeded comparison criteria. For the nature and extent discussion, analytical results were compared to tap water PRGs and Water Board ESLs. Potential risk from groundwater by the vapor intrusion pathway is evaluated in the HHRA, which is summarized in Section 6.0 and presented in Appendix H. Potential risk from groundwater to aquatic receptors is evaluated in the SLERA qualitative evaluation through a comparison with aquatic comparison criteria, which is summarized in Section 7.0 and presented in Appendix I.

### 4.2.1 Metals in Groundwater

Analysis of 30 groundwater samples shows that 15 metals detected at IR Site 34 exceeded background concentrations; however, only three metals (arsenic, iron, and manganese) were present at concentrations exceeding EPA tap water PRGs and background concentrations in groundwater at the site (see Table 4-3). Nineteen grab groundwater samples were collected from 19 temporary monitoring well locations and analyzed for dissolved metals, and 11 groundwater samples were collected from a temporary monitoring well location and 5 permanent monitoring well locations and analyzed for total metals. Table 4-3 also shows that seven metals (aluminum, antimony, beryllium, chromium, mercury, silver, and zinc) were not detected above PRGs or background concentrations; selenium and thallium have no background concentrations. Further evaluation indicated that the distribution of six metals (barium, cobalt, iron, manganese, molybdenum, and selenium) was different at IR Site 34 from the background area, as shown in Table 4-4 and Appendix G. Statistical analysis determined that the remaining 13 detected metals were not distributed differently at IR Site 34 than in the background area (see Table 4-4). Concentrations of arsenic, iron, and manganese exceeded comparison criteria. Chromium had a detection frequency greater than 50 percent across the site, but it did not exceed the background concentration for Alameda Point, as discussed below.

Arsenic was detected in groundwater samples at concentrations exceeding the EPA tap water PRG (0.04 micrograms per liter [ $\mu\text{g/L}$ ]) in 19 of 19 samples analyzed for dissolved metals and in 10 of 11 samples analyzed for total metals. The concentrations of arsenic in samples analyzed for dissolved metals ranged from 2.5 to 110  $\mu\text{g/L}$ , and samples analyzed for total metals ranged from 3.4 to 15  $\mu\text{g/L}$  (see Table 4-3). Of the dissolved metals samples with exceedances of the PRG, only nine of the samples exhibited concentrations exceeding the background concentration of 7.2  $\mu\text{g/L}$ . (see Figure 4-15). In samples analyzed for dissolved metals, the two highest exceedances (110 and 15  $\mu\text{g/L}$ ) were in samples collected from temporary well locations DP15 and DP06, respectively. DP15 is located along the southern perimeter of Building 331 near the former AST and railroad track, and DP06 is located in the northwest corner of IR Site 34 along the fence line. In samples analyzed for total metals, the two highest exceedances (15 and 13  $\mu\text{g/L}$ ) were in samples collected from permanent monitoring wells MW-23 and MW-22,

respectively. Monitoring well MW-23 is located along the fence line west of IR Site 34 and monitoring well MW-22 is located in the southwestern quadrant of IR Site 34 near the former fuel pipeline. Sampling locations where concentrations of arsenic in groundwater exceeded comparison criteria are shown on Figure 4-15.

Iron was detected in groundwater samples at concentrations exceeding the EPA tap water PRG (10,900 µg/L) in 2 of 19 samples analyzed for dissolved metals. Iron was not detected above the comparison criteria in samples analyzed for total metals. The background concentration for iron in dissolved samples is 2,260 µg/L (see Table 4-3). The concentrations of iron in samples analyzed for dissolved metals ranged from 54 to 22,000 µg/L. The two exceedances (11,000 and 22,000 µg/L) were collected from temporary monitoring well locations DP05 and DP06, respectively. DP05 is located in the central portion of IR Site 34, and DP06 is located along the fence line in the northwestern quadrant of IR Site 34 (see Figure 1-5). The average detected concentrations (3,180 and 1,200 µg/L) of iron across IR Site 34 for samples analyzed for dissolved and total metals, respectively, are below the comparison criterion (see Table 4-3).

Manganese was detected in groundwater samples at concentrations exceeding the EPA tap water PRG (876 µg/L) in 4 of 19 samples analyzed for dissolved metals and in 4 of 11 samples analyzed for total metals. The concentrations of manganese in samples analyzed for dissolved metals ranged from 30 to 26,000 µg/L, and samples analyzed for total metals ranged from 48 to 3,000 µg/L (see Table 4-3). The background concentration for manganese in dissolved samples is 542 µg/L. The three highest exceedances (1,600, 26,000, and 26,000 µg/L) in samples analyzed for dissolved metals were collected from temporary well locations DP16, DP17, and DP18, respectively. DP16 and DP17 are located along the fence line in the northeastern quadrant of IR Site 34 and north of the former Building 331, and DP18 is located near GAP 78. In samples analyzed for total metals, the two highest exceedances (2,000 and 3,000 µg/L) were collected from permanent monitoring wells MW-23 and MW-24, respectively. Monitoring well MW-23 is along the fence line west of IR Site 34, and monitoring well 34 MW24 is located in the northwest corner of IR Site 34. Sampling locations where concentrations of manganese in groundwater exceeded comparison criteria are shown on Figure 4-16.

Chromium (total) was detected in 17 of 19 samples analyzed for dissolved metals and 2 of 11 samples analyzed for total metals. The concentrations of chromium in samples analyzed for dissolved metals ranged from 0.58 to 2.9 µg/L, and samples analyzed for total metals ranged from 4.5 to 8.5 µg/L (see Table 4-3). The comparison criteria used at IR Site 34 do not include a value for chromium; therefore, detected concentrations of chromium were not compared with a criterion. Chromium was detected in almost all groundwater samples collected for dissolved metals analysis. Detected concentrations of chromium in dissolved metal samples were below the background concentration of 3.19 µg/L. The three highest chromium concentrations (2.9, 2.4, and 2.1 µg/L) in samples analyzed for dissolved metals were collected from temporary well locations DP05, DP09, and DP11, respectively. DP05 is located in the central portion of IR Site 34, DP09 is located between former Buildings 344 and 474, and DP11 is located along the fence line in the northern portion of IR Site 34 (see Figure 1-5). The highest chromium concentrations (8.5 and 4.5 µg/L) detected in samples analyzed for total metals were collected from permanent monitoring wells MW-21 and MW-24, respectively. Monitoring well MW-21 is located in the

central portion of IR Site 34 and monitoring well 34 MW24 is located in the northwest corner of IR Site 34 (see Figure 1-5).

Although metals are present in groundwater across IR Site 34, only arsenic, manganese, and iron were reported at concentrations exceeding comparison criteria. Chromium, although it does not have a specific comparison criterion, had a high detection frequency across IR Site 34 in groundwater samples analyzed for dissolved metals.

#### 4.2.2 Volatile Organic Compounds in Groundwater

Groundwater samples from IR Site 34 were analyzed for VOCs by three analytical methods, as summarized in Table 4-3. Twenty eight samples were analyzed for VOCs by US EPA Method 8260B and 2 sample were analyzed US EPA Method 8020A. Analysis of groundwater samples collected from IR Site 34 shows that 29 VOCs were detected (see Table 4-3). Twenty grab groundwater samples were collected from 20 temporary monitoring wells, and 10 groundwater samples were collected from 5 permanent monitoring wells. Thirteen of the 29 detected VOCs were present only at one well location. Eight VOCs (1,1-dichloroethane [-DCA], 1,2-DCB, 1,2-DCA, bromoform, naphthalene, n-propylbenzene, sec-butylbenzene, and trans-1,2-dichloroethene [-DCE]) were detected at two well locations. m,p-Xylene and 2-hexanaone were detected in three samples collected from temporary monitoring well locations, and benzene was detected in five samples collected from temporary monitoring well locations. Six (1,2-DCA, 1,2-dichloropropane, chloroform, naphthalene, trichloroethene [TCE], and vinyl chloride) of the 28 VOCs were reported at or above EPA tap water PRGs and three (cis-1,2,-DCE, carbon disulfide, and toluene) had a 50 percent or greater detection frequency, as discussed below.

1,2,-DCA was detected in 2 of 30 samples at concentrations of 0.3 and 1.7 µg/L in samples collected at temporary monitoring well locations DP05 and DP16, respectively. These detected concentrations exceeded the EPA tap water PRG (0.12 µg/L). DP05 is located in the center of IR Site 34 and DP16 is located north of Building 331 (see Figure 1-5).

1,2-Dichloropropane was detected in 1 of 30 samples at an estimated concentration of 0.2 µg/L collected from temporary well location DP16, north of former Building 331 (see Figure 1-5). This estimated concentration is equal to the EPA tap water PRG (0.2 µg/L) (see Table 4-3).

Chloroform was detected in 1 of 30 samples at a concentration of 1.6 µg/L collected from temporary well location DP12, northeast of the former Building 330 (see Figure 1-5). This concentration exceeded the EPA tap water PRG (0.2 µg/L) (see Table 4-3).

Naphthalene was detected in 2 of 30 samples at concentrations 0.09 and 1.0 µg/L in samples collected from MW-23 and temporary well location DP16, respectively. These concentrations equal or exceeded the US tap water PRG (0.09 µg/L) (see Table 4-3). Monitoring well MW-23 is located off site to the west of the site and DP16 is located north of former Building 331 (see Figure 1-5).

TCE was detected in 8 of 30 samples at concentrations ranging from 0.2 to 0.6 µg/L. Concentrations of TCE exceeded the EPA tap water PRG (0.03 µg/L) in 5 grab groundwater samples collected from temporary monitoring wells and 3 groundwater samples collected from permanent monitoring wells. These exceedances were detected in samples from the southwest portion of IR Site 34 and off site to the west of the site (DP01, DP03, DP19, MW-20, MW-21, and MW-22) and near Building 474 (DP09) and GAP 78 (DP18). The highest detection of TCE (0.6 µg/L) was reported at two temporary monitoring well locations (DP03 and DP19). Based on detected concentrations, a TCE groundwater plume has been defined in the southwestern portion of IR Site 34 and the central portion of the site (see Figure 4-17).

Vinyl chloride was detected in 1 of 30 samples at a concentration of 0.2 µg/L collected from temporary well location DP19, off site to the west of the site (see Figure 1-5). This concentration exceeded the EPA tap water PRG (0.02 µg/L) (see Table 4-3).

cis-1,2-DCE was detected in 14 of 30 samples (10 grab groundwater samples collected from temporary monitoring wells and 4 groundwater samples collected from permanent monitoring wells). Concentrations of cis-1,2-DCE ranged from 0.1 to 1.7 µg/L, and do not exceed the comparison criteria. Cis-1,2-DCE is a degradation product of TCE, which was detected across IR Site 34 (see Figure 4-18). Based on detected concentrations and the location of the TCE groundwater plume, a cis-1,2-DCE plume can be defined across most of IR Site 34 (see Figure 4-18).

Carbon disulfide was detected in 21 of 30 samples (18 grab groundwater samples collected from temporary monitoring wells and 3 groundwater samples collected from permanent monitoring wells). Concentrations of carbon disulfide ranged from 0.08 to 1.1 µg/L, and do not exceed comparison criteria.

Toluene was detected in 16 of 30 samples; all 16 grab groundwater samples were collected from temporary monitoring wells. Concentrations of toluene ranged from 0.07 to 0.6 µg/L, and do not exceed comparison criteria.

Two groundwater plumes, TCE and cis-1,2-DCE, were identified at IR Site 34. The TCE groundwater plume is smaller and is located in the southeastern and central portion of the site (see Figure 4-17). The cis-1,2-DCE groundwater plume is larger than the TCE groundwater plume and covers most of IR Site 34 (see Figure 4-18). The lateral extent of VOC contamination at IR Site 34 appears to have been sufficiently characterized.

#### **4.2.3 Semivolatile Organic Compounds in Groundwater**

Analysis of 35 groundwater samples shows three SVOCs were detected in groundwater samples from IR Site 34 (see Table 4-3). A total of 25 grab groundwater samples were collected from 25 temporary monitoring well locations and 10 groundwater samples were collected from 5 permanent monitoring well locations. The three detections were in grab groundwater samples

collected at the five temporary monitoring well locations. SVOCs were not detected in groundwater samples collected from the five permanent groundwater monitoring well locations.

Acenaphthene was detected in samples from two locations, DP16 and DP19; bis(2-ethylhexyl)phthalate was detected in one sample from location 018-007-036; and phenol was detected in samples from three locations, DP05, DP15, and DP17. These detected SVOCs were all less than the comparison criteria.

#### 4.2.4 Polycyclic Aromatic Hydrocarbons in Groundwater

Analysis of 28 groundwater samples shows that 17 PAHs were detected in groundwater samples (see Table 4-3). Eighteen grab groundwater samples were collected from 18 temporary monitoring well locations, and 10 groundwater samples were collected from 5 permanent monitoring well locations. Three of the 17 detected PAHs were reported at concentrations exceeding EPA tap water PRGs, as discussed below.

B(a)P was detected in 1 of 28 samples at a concentration of 0.08 µg/L collected from temporary well location DP05 in the central portion of IR Site 34 (see Figure 1-5). This concentration of B(a)P exceeded the EPA tap water PRG (0.01 µg/L).

Dibenzo(a,h)anthracene was detected in 1 of 28 samples at a concentration of 0.014 µg/L collected from temporary well location DP05 in the central portion of IR Site 34 (see Figure 1-5). This concentration of dibenzo(a,h)anthracene exceeded the EPA tap water PRG (0.01 µg/L).

Naphthalene was detected in 6 of 28 samples, 4 grab groundwater samples from temporary monitoring well locations and 2 groundwater samples from permanent monitoring wells. The concentrations of naphthalene ranged from 0.02 to 0.2 µg/L. Two of the concentrations exceeded the EPA tap water PRGs (0.09 µg/L); one sample was collected from temporary monitoring well location DP01, and one sample was collected from permanent monitoring well location MW-21.

All of the samples with PAH concentrations exceeding PRGs were confined to three locations in the southwestern to central portion of IR Site 34. The groundwater sample collected at location MW-21 near the central portion of the site exhibited the highest concentration of all 17 PAHs detected in groundwater. Analysis of groundwater samples surrounding the three locations where PAHs were detected showed a limited lateral extent of PAHs in groundwater. The lateral extent of PAH contamination in groundwater appears to be sufficiently characterized.

#### 4.2.5 Pesticides in Groundwater

Analysis of 29 groundwater samples shows that 15 pesticides were detected in groundwater (see Table 4-3). At one sample location, pesticide data was rejected because of laboratory quality control (see Appendix F for a detailed discussion of this rejection). As a result of the data

rejection, some of the pesticides associated with this sample have 28 groundwater samples being analyzed for pesticides (see Table 4-3). Nineteen grab groundwater samples were collected from 19 temporary monitoring well locations, and 10 groundwater samples were collected from 5 permanent monitoring wells. The following pesticides were detected in samples collected from temporary and permanent monitoring well locations:

- Beta-benzene hexachloride (-BHC), dieldrin, endosulfan II, and gamma-chlordane (one location)
- 4,4-Dichlorodiphenyldichloroethane (DDD), endrin, heptachlor epoxide, and methoxychlor (two locations)
- 4,4-Dichlorodiphenyldichloroethene (DDE) (three locations)
- Endrin aldehyde and alpha-BHC (four locations)
- Alpha-chlordane and gamma-BHC (lindane) (five locations)
- Aldrin (eight locations)
- Endosulfan I (nine locations)

Detected concentrations of the pesticides did not exceed comparison criteria. The comparison criteria used at IR Site 34 did not have a value for endosulfan I. Endosulfan I was detected in 9 of 29 samples at concentrations ranging from 0.00012 to 0.002 µg/L.

#### **4.2.6 Polychlorinated Biphenyls in Groundwater**

PCBs were not detected in groundwater at IR Site 34 (see Table 4-3).

#### **4.2.7 Total Petroleum Hydrocarbons in Groundwater**

Thirty five groundwater samples at IR Site 34 were analyzed for gasoline-range petroleum hydrocarbons and 37 groundwater samples were analyzed for diesel- and motor oil-range petroleum hydrocarbons. Analysis of the groundwater samples shows that diesel-, gasoline-, and motor oil-range petroleum hydrocarbons were detected in groundwater (see Table 4-3). Diesel- and motor oil-range petroleum hydrocarbons had a greater than 50 percent detection frequency across IR Site 34 (see Figures 4-19 and 4-20).

TPH as diesel was detected in 26 of 37 groundwater samples from 26 well locations (22 temporary wells and 4 permanent monitoring wells). Detected concentrations ranged from 0.087 to 54 mg/L. The three highest TPH as diesel concentrations (54, 1.4, and 1.3 mg/L) were detected in samples collected from temporary monitoring well locations DP12, DP15, and 004-003-009, respectively. DP12 is located northeast of the former Building 330, downgradient from a former AST; DP15 is located along the southern perimeter of former Building 331 near a

former AST; and 004-003-009 was collected along the southern perimeter of former Building 331 adjacent to a former AST (see Figure 4-19). The remaining detections from samples collected across IR Site 34 were at concentrations less than 1.0 mg/L (see Figure 4-19).

TPH as motor oil was detected in 25 of 37 samples, all collected from temporary monitoring well locations, at concentrations ranging from 0.037 to 7.1 mg/L. The three highest TPH as motor oil concentrations (7.1, 1.4, and 1.0 mg/L) were detected in samples collected from temporary monitoring well locations DP12, DP14, and DP07, respectively. DP12 is located northeast of the former Building 330 and downgradient from a former AST, DP14 is located along the southeastern boundary of IR Site 34 near a former UST located on the adjacent parcel, and DP07 was collected southeast of the former Building 472 near GAP 78 (see Figure 4-20). The remaining detections from samples collected across IR Site 34 were at concentrations less than 1.0 mg/L (see Figure 4-20).

TPH as gasoline was detected in 7 of 35 groundwater samples collected from four temporary monitoring wells and three permanent monitoring wells at concentrations ranging from 0.028 to 1.1 mg/L. TPH as gasoline was detected in two temporary monitoring well locations north of Building 331 (DP12 and DP16). The highest detected concentration TPH as gasoline was in a sample collected from DP12 (see Figure 4-21). TPH as gasoline also was detected in two samples collected near the former fuel pipeline (030-FLI-519 and 018-007-033), and in three of the permanent monitoring wells (MW-20, MW-23, and MW-24) (see Figure 4-21).

TPH as diesel and TPH as motor oil were detected in groundwater samples collected across IR Site 34. The highest detected concentrations of TPH as diesel and TPH as motor oil were in groundwater samples that were collected near or downgradient from former ASTs and USTs, or GAPs. TPH as gasoline was detected near or downgradient from former ASTs and fuel pipelines. TPH as diesel and TPH as gasoline were also detected in the permanent monitoring wells.

#### **4.2.8 Summary of Contamination in Groundwater**

Metals, VOCs, and PAHs were detected at concentrations exceeding comparison criteria in groundwater samples collected at IR Site 34. There are no groundwater comparison criteria for petroleum hydrocarbons; however, diesel- and motor oil-range petroleum hydrocarbons had a greater than 50 percent detection frequency across IR Site 34. The most likely sources of these chemicals are from the disposal of used sandblasting and paint grit; painting activities; chemical storage; sheet metal fabrication; spills near the GAP; leaks from ASTs; and application of chemicals for weed control. Historical site activities are discussed in Section 1.3.3. However, all of these potential sources were removed after closure of NAS Alameda in 1997. Groundwater contamination at IR Site 34 appears to be confined to several specific areas. Many of the specific areas have multiple chemicals at concentrations above PRGs. EPA tap water PRGs are an overly conservative comparison criterion for groundwater at IR Site 34 given groundwater beneath the site is not considered a drinking water source, the intended future site use as a golf course, and the restriction of residential use of tidelands trust areas. The list below

indicates which chemicals were detected above the EPA tap water PRGs at each of the contamination areas and identifies likely historical sources of the contaminants.

- In the area north of former Building 331: arsenic, manganese, 1,2-DCA, 1,2-dichloropropane, and naphthalene were detected at or above PRGs. TPH as diesel and TPH as motor oil were detected at this location. Chemicals in groundwater in this area appear to be related to historical releases from former AST 331 and use of oils and solvents for woodwork at the former building.
- Former Buildings 474, 476, 477, and 604 and GAP 78 near the central portion of the site: arsenic, chromium, manganese, and TCE were detected above PRGs. TPH as diesel and TPH as motor oil also were detected at this location. Contamination in groundwater in this area appears to be related to use of oils and solvents for sheet metal fabrication at former Building 474, paint storage and use at former Buildings 476 and 477, paint removal activities at former Building 604, and accumulation of waste paints and solvents at GAP 78.
- Near the former fuel pipeline in the southwest portion of IR Site 34: arsenic and PAHs were detected above PRGs. TPH as diesel and TPH as motor oil also were detected at this location. Chemicals in groundwater in this area appear to be related to historical releases of petroleum from the former fuel pipeline.
- The open area in the western-central portion of the site: arsenic, iron, PAHs, and TCE were detected above PRGs. This area is downgradient from the former fuel pipeline. Chemicals in groundwater in this area appear to be related to historical releases of petroleum from the former fuel pipeline. Historical sources for TCE at this location are not apparent.
- Samples from former ASTs 330B, 331, 344A, 344B, and 344D: TPH as diesel and TPH as motor oil were detected.

### 4.3 NATURE AND EXTENT CONCLUSIONS

Sections 4.1 and 4.2 discussed the analytical results of soil and groundwater samples, respectively. The soil comparison criteria include EPA and California-modified residential and industrial PRGs, Water Board ESLs (for diesel, gasoline, and motor oil), background concentrations of metals (Pink Fill Area), screening level established by the Navy and agencies for PAHs as average B(a)P equivalent concentrations. The groundwater comparison criteria include EPA tap water PRGs and Water Board ESLs for evaluation of potential vapor intrusion concerns for residential land use in high-permeability vadose zone soils. Using residential PRGs and EPA tap water PRGs to evaluate the nature and extent of contamination at IR Site 34 may be an overly conservative comparison given the intended future use as a golf course and the restriction against residential use of tidelands trust areas.

The following chemicals exceeded comparison criteria for soil at IR Site 34:

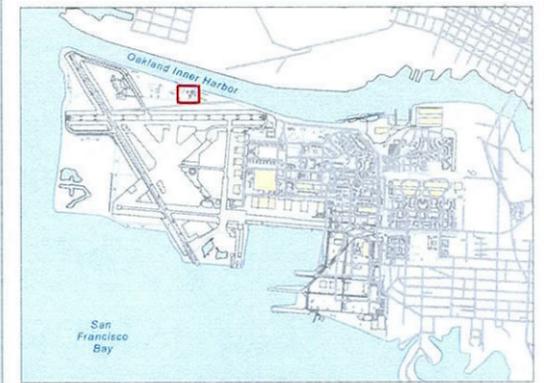
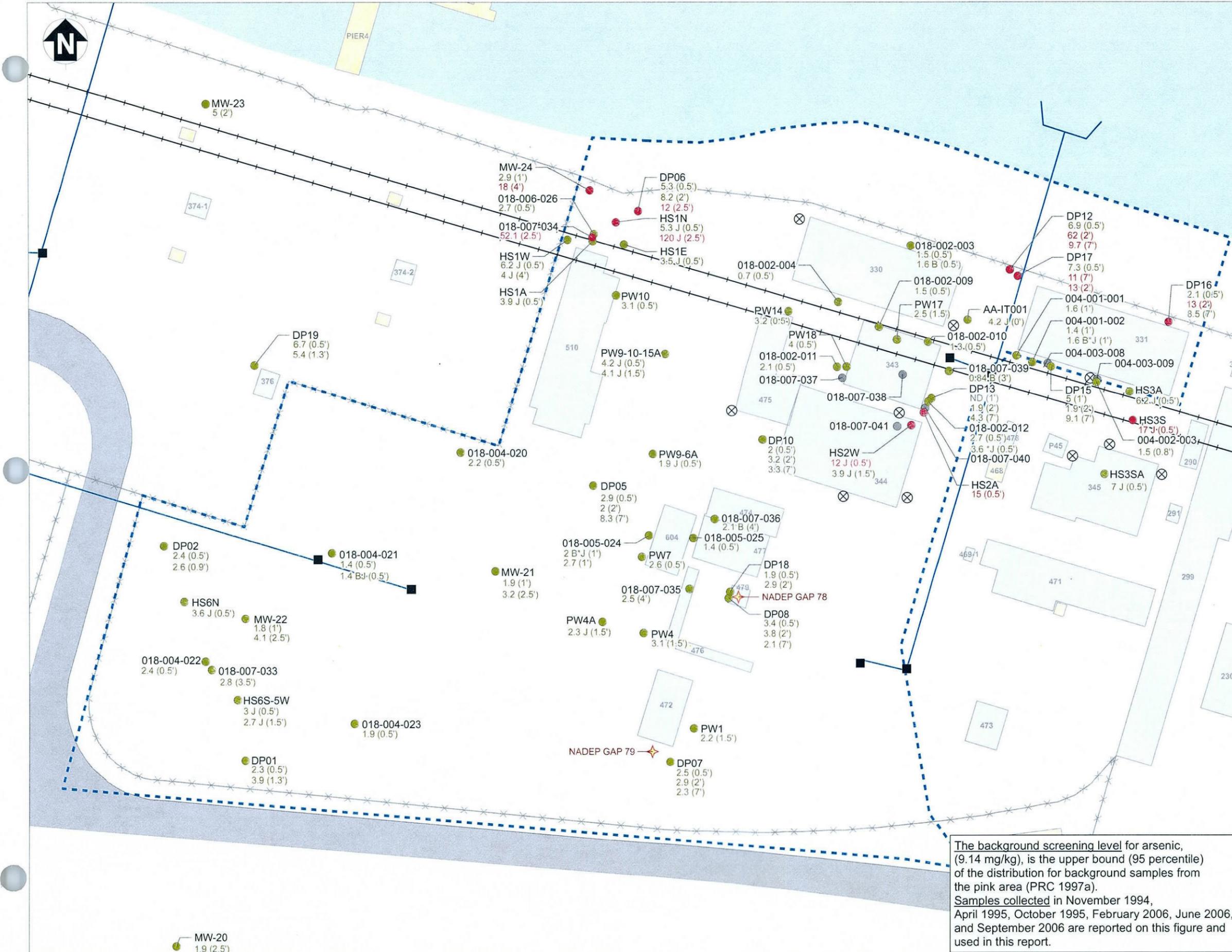
- Arsenic, cadmium, chromium, iron, lead, and vanadium
- 1,4-DCB
- Dieldrin and heptachlor epoxide
- Aroclor-1248, Aroclor-1254, Aroclor-1260, and Aroclor-1268
- TPH as diesel and motor oil

The following chemicals exceeded comparison criteria for groundwater at IR Site 34:

- Arsenic, manganese, and iron
- 1,2-DCA, 1,2-dichloropropane, chloroform, TCE, and vinyl chloride
- PAHs: B(a)P, dibenzo(a,h)anthracene, and naphthalene

**FIGURES**

---



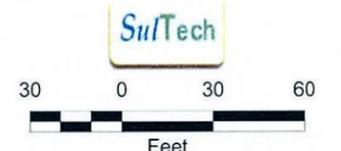
**Arsenic Results in Soil**

- Not Detected
- Detected Concentration Exceeds 0.25 mg/kg (Cal-Mod Industrial PRG) (Also exceeds 0.062 mg/kg, the Cal-Mod Residential PRG)
- Detected Concentration Equals or Exceeds 9.14 mg/kg (Background Screening Level)

**Resource Conservation and Recovery Act Unit**

- ⊗ Aboveground Storage Tank (Removed)
- ✦ Generator Accumulation Point (Removed)
- Catch Basin
- Railroad Track (Removed)
- Storm Sewer Line
- Fence
- Building (Present)
- Building (Removed)
- Road
- Unpaved Area
- Site 34 Boundary
- Water

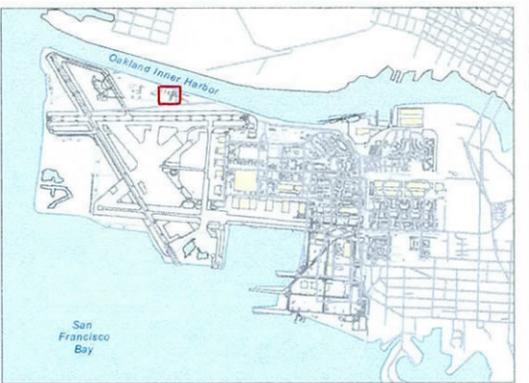
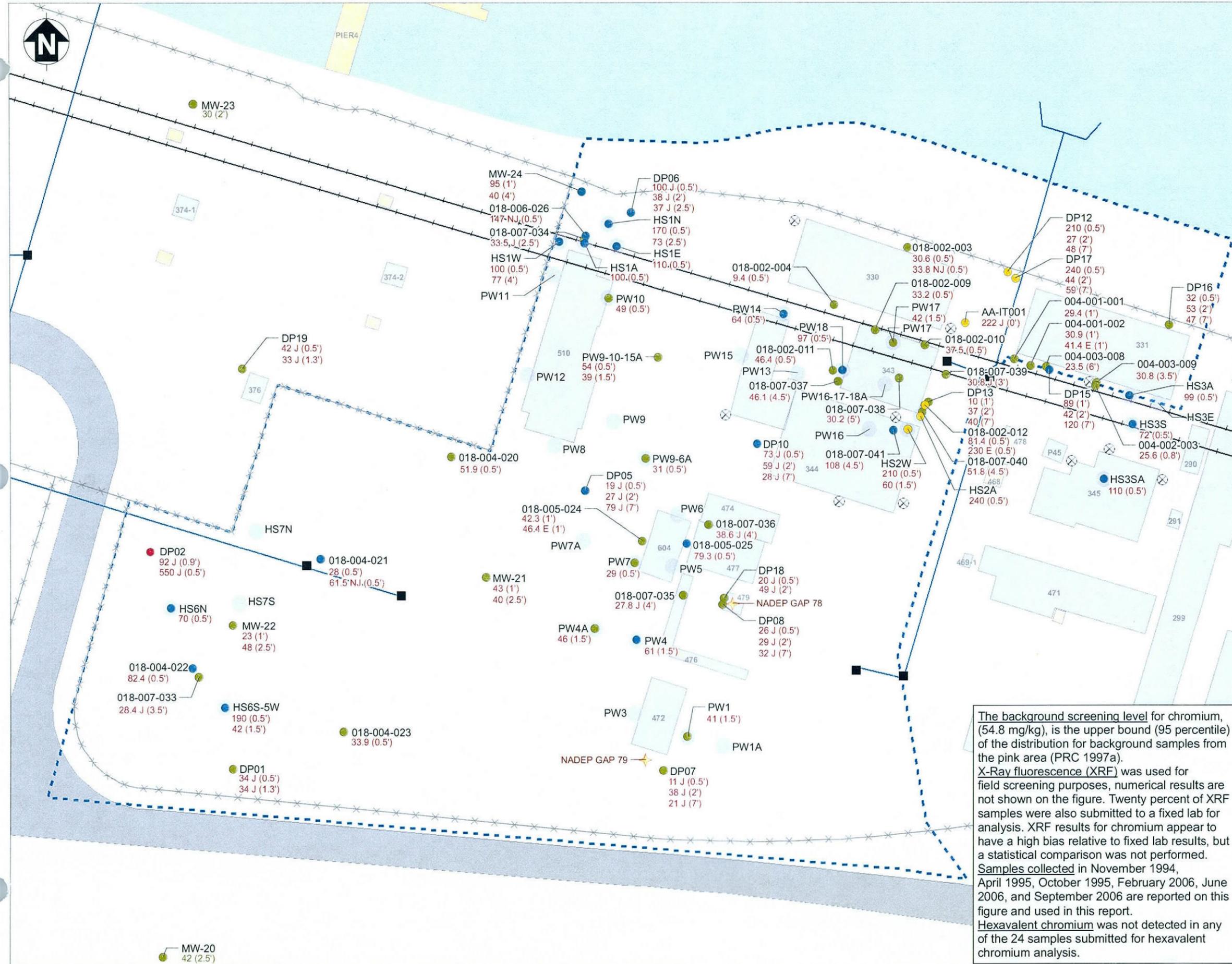
**Notes:**  
 mg/kg - milligram per kilogram  
 B - Reported value is less than the contract required detection limit, but greater than the instrument detection limit  
 J - Value is estimated  
 PRG - Preliminary remediation goal  
 HS3SA - Point Identification  
 7 J (0.5')  
 ┌ Sample depth in feet  
 └ Qualifier  
 └ Concentration in mg/kg



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

The background screening level for arsenic, (9.14 mg/kg), is the upper bound (95 percentile) of the distribution for background samples from the pink area (PRC 1997a).  
 Samples collected in November 1994, April 1995, October 1995, February 2006, June 2006, and September 2006 are reported on this figure and used in this report.

**FIGURE 4-1**  
**ANALYTICAL RESULTS FOR ARSENIC IN SOIL SAMPLES**  
 RI Report for IR Site 34



- Chromium Results in Soil**
- Detected Concentration is Below 54.8 mg/kg (Background Screening Level)
  - Detected Concentration Equals or Exceeds 54.8 mg/kg (Background Screening Level)
  - Detected Concentration Equals or Exceeds 210 mg/kg (Residential PRG)
  - Detected Concentration Equals or Exceeds 450 mg/kg (Industrial PRG)
  - Detected XRF Concentration Equals or Exceeds 210 mg/kg (Residential PRG)

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ★ Generator Accumulation Point (Removed)
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - Site 34 Boundary
  - Road
  - Unpaved Area
  - Water

**Notes:**  
 mg/kg - milligram per kilogram  
 E - Estimated because of interference  
 J - Value is estimated  
 N - Spiked sample recovery not within control limits  
 PRG - Preliminary remediation goal

DP05 - Point Identification  
 79 J (7')  
 Sample depth in feet  
 Qualifier  
 Concentration in mg/kg

**SuTech**

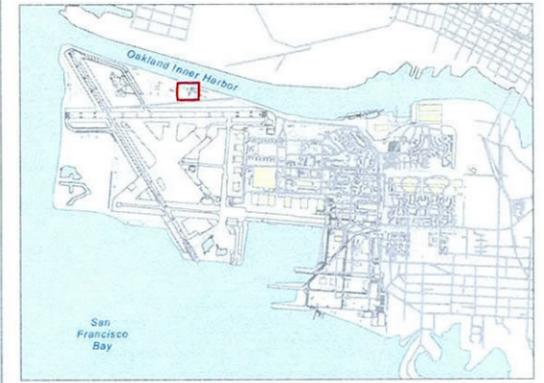
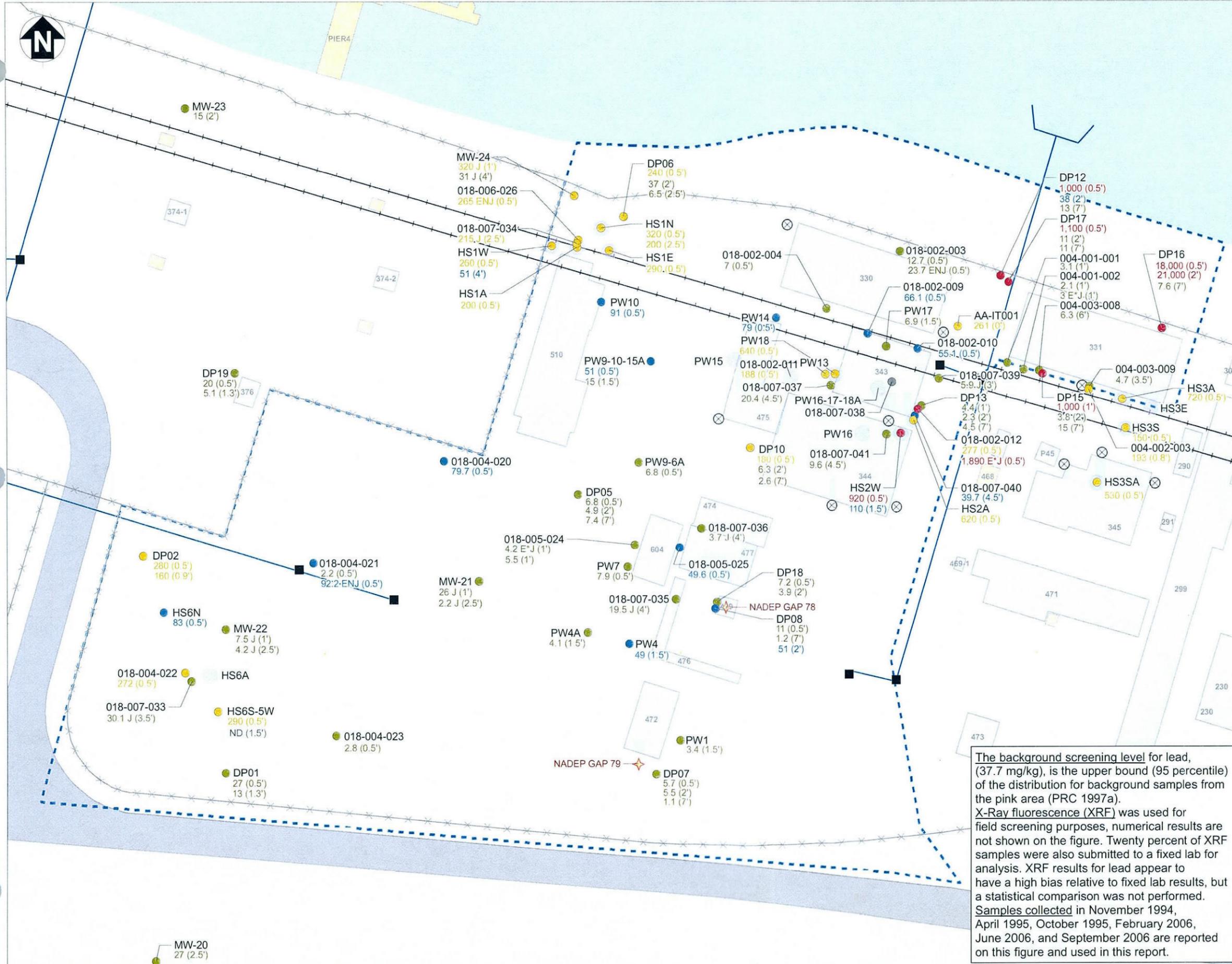
30 0 30 60  
 Feet

The background screening level for chromium, (54.8 mg/kg), is the upper bound (95 percentile) of the distribution for background samples from the pink area (PRC 1997a). X-Ray fluorescence (XRF) was used for field screening purposes, numerical results are not shown on the figure. Twenty percent of XRF samples were also submitted to a fixed lab for analysis. XRF results for chromium appear to have a high bias relative to fixed lab results, but a statistical comparison was not performed. Samples collected in November 1994, April 1995, October 1995, February 2006, June 2006, and September 2006 are reported on this figure and used in this report. Hexavalent chromium was not detected in any of the 24 samples submitted for hexavalent chromium analysis.

**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 4-2**  
**ANALYTICAL RESULTS FOR CHROMIUM IN SOIL SAMPLES**





**Lead Results in Soil**

- Detected Concentration is Below 37.7 mg/kg (Background Screening Level)
- Detected Concentration Equals or Exceeds 37.7 mg/kg (Background Screening Level)
- Detected Concentration Equals or Exceeds 150 mg/kg (Cal-Mod Residential PRG)
- Detected Concentration Equals or Exceeds 800 mg/kg (Industrial PRG)
- Detected XRF Concentration Exceeds 150 mg/kg (Residential PRG)

**Resource Conservation and Recovery Act Unit**

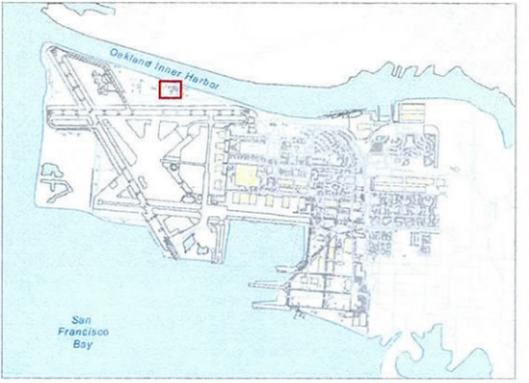
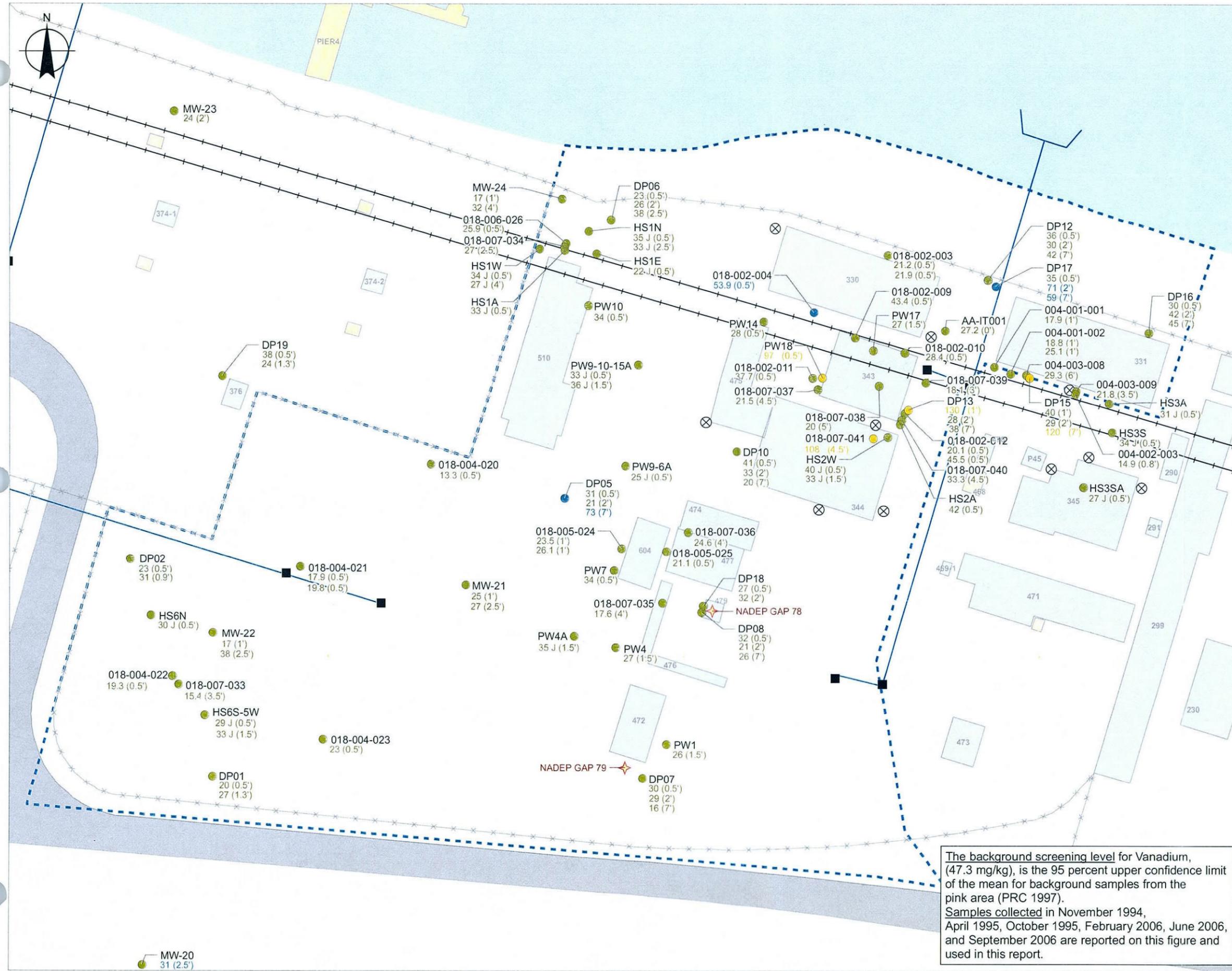
- ⊗ Aboveground Storage Tank (Removed)
- ★ Generator Accumulation Point (Removed)
- Catch Basin
- Railroad Track (Removed)
- Storm Sewer Line
- ⊗ Fence
- Building (Present)
- Building (Removed)
- Road
- Unpaved Area
- Site 34 Boundary
- Water

**Notes:**  
 mg/kg - mg/kg milligram per kilogram  
 E - Estimated because of interference  
 J - Value is estimated  
 N - Spiked sample recovery not within control limits  
 PRG - Preliminary remediation goal  
 MW-22 - Point Identification  
 7.5 J (1')  
 L - Sample depth in feet  
 Qualifier  
 Concentration in mg/kg

**Scale:**  
 30 0 30 60  
 Feet

**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 4-4**  
**ANALYTICAL RESULTS FOR LEAD IN SOIL SAMPLES**  
 RI Report for IR Site 34

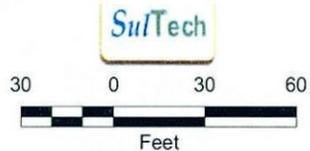


- Vanadium Results in Soil**
- Detected Concentration is Below 47.3 mg/kg (Background Screening Level)
  - Detected Concentration Equals or Exceeds 47.3 mg/kg (Background Screening Level)
  - Detected Concentration Equals or Exceeds 78 mg/kg (Residential PRG)

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ⬠ Generator Accumulation Point (Removed)
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - ⬠ Site 34 Boundary
  - Road
  - Unpaved Area
  - Water

**Notes:**  
 mg/kg - milligram per kilogram  
 J - Value is estimated  
 PRG - Preliminary remediation goal

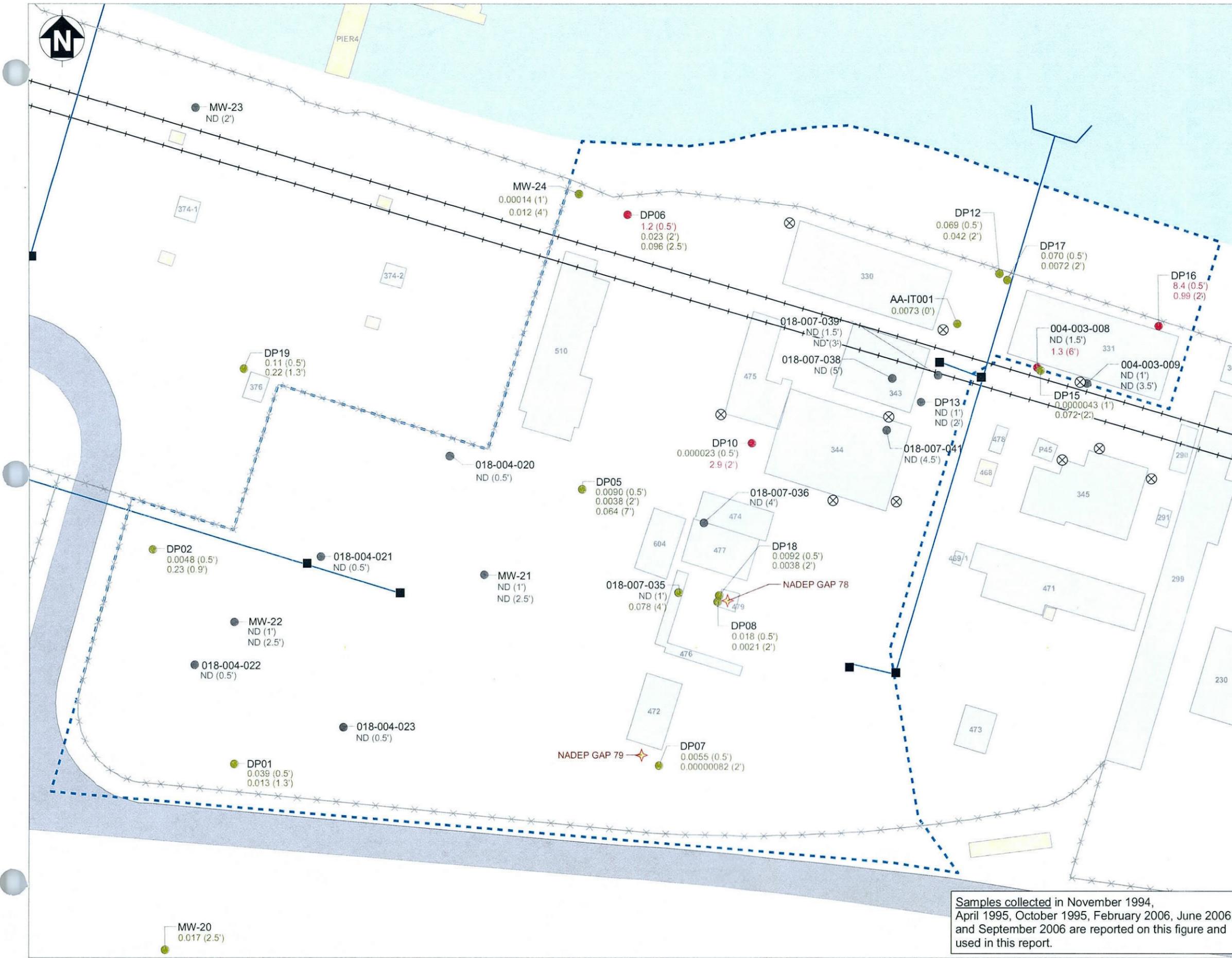
HS6N - Point Identification  
 30 J (7')  
 └ Sample depth in feet  
 └ Qualifier  
 └ Concentration in mg/kg



The background screening level for Vanadium, (47.3 mg/kg), is the 95 percent upper confidence limit of the mean for background samples from the pink area (PRC 1997).  
 Samples collected in November 1994, April 1995, October 1995, February 2006, June 2006, and September 2006 are reported on this figure and used in this report.

Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 4-5**  
**ANALYTICAL RESULTS FOR VANADIUM IN SOIL SAMPLES**



**Benzo(a)pyrene Equivalent Results in Soil**

- Not Detected
- Detected Concentration is Below 0.62 mg/kg (screening level)
- Detected Concentration Exceeds 0.62 mg/kg (screening level)

**Resource Conservation and Recovery Act Unit**

- ⊗ Aboveground Storage Tank (Removed)
- ★ Generator Accumulation Point (Removed)
- Catch Basin
- +— Railroad Track (Removed)
- Storm Sewer Line
- ⊗ Fence
- Building (Present)
- Building (Removed)
- ⋯ Site 34 Boundary
- Road
- Unpaved Area
- Water

**Notes:**  
 mg/kg - milligram per kilogram  
 ND Not detected  
 DP02- Point Identification  
 0.233 (0.9')  
 └ Sample depth in feet  
 └ Concentration in mg/kg

**Scale:**  
 0 30 60 Feet

**SutTech**

**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

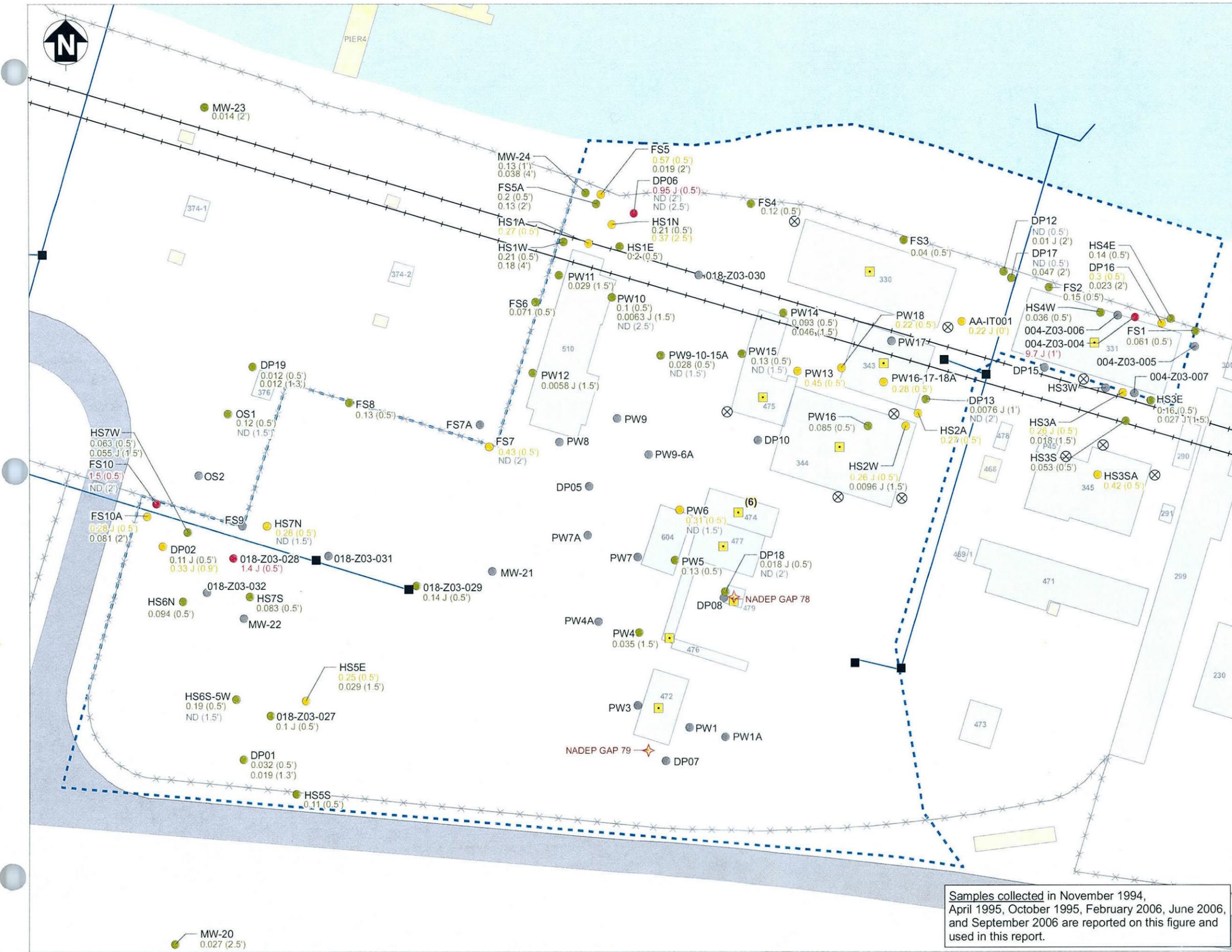
**FIGURE 4-6**  
**ANALYTICAL RESULTS FOR**  
**BENZO(A)PYRENE EQUIVALENT IN**  
**SOIL SAMPLES**  
 RI Report for IR Site 34

Samples collected in November 1994, April 1995, October 1995, February 2006, June 2006, and September 2006 are reported on this figure and used in this report.









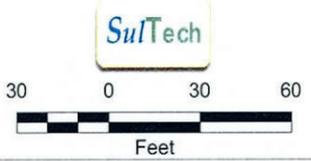
- Aroclor-1260 Results in Soil**
- Not Detected
  - Detected Concentration is Below 0.22 mg/kg (Residential PRG)
  - Detected Concentration Equals or Exceeds 0.22 mg/kg (Residential PRG)
  - Detected Concentration Equals or Exceeds 0.74 mg/kg (Industrial PRG)

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ⬠ Generator Accumulation Point (Removed)
  - Transformer (Removed)<sup>1, 2</sup>
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - Site 34 Boundary
  - Road
  - Unpaved Area
  - Water

**Notes:**  
 mg/kg - milligram per kilogram  
 J - Value is estimated  
 PRG - Preliminary remediation goal

DP18- Point Identification  
 0.018 J (0.5')  
 L Sample depth in feet  
 Qualifier  
 Concentration in mg/kg

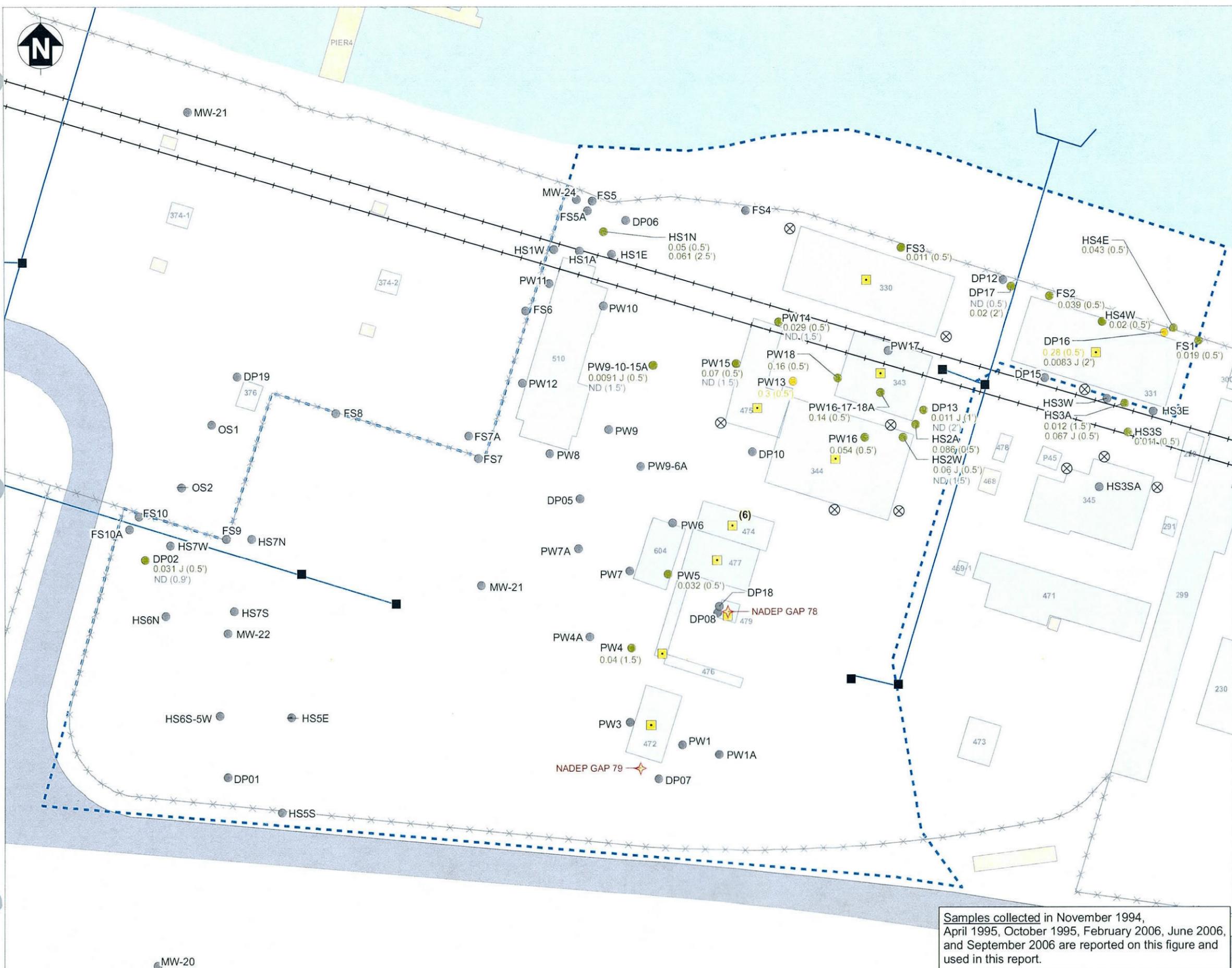
1. Former transformer locations are approximated by a point within their associated building
2. There were 15 transformers at 10 locations. The location at Building 474 contained six transformers while all others contained one.



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 4-10**  
**ANALYTICAL RESULTS FOR**  
**AROCLOR-1260 IN SOIL SAMPLES**

Samples collected in November 1994, April 1995, October 1995, February 2006, June 2006, and September 2006 are reported on this figure and used in this report.



**Aroclor-1268 Results in Soil**

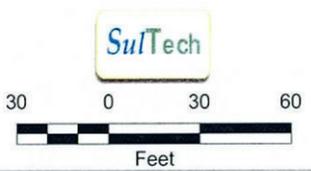
- Not Detected
- Detected Concentration is Below 0.22 mg/kg (Residential PRG)
- Detected Concentration Equals or Exceeds 0.22 mg/kg (Residential PRG)

**Resource Conservation and Recovery Act Unit**

- ⊗ Aboveground Storage Tank (Removed)
- ⚡ Generator Accumulation Point (Removed)
- Transformer (Removed)<sup>1, 2</sup>
- Catch Basin
- +— Railroad Track (Removed)
- Storm Sewer Line
- ⊗ Fence
- Building (Present)
- Building (Removed)
- Site 34 Boundary
- Road
- Unpaved Area
- Water

**Notes:**  
 mg/kg - milligram per kilogram  
 J - Value is estimated  
 PRG - Preliminary remediation goal  
 DP13 - Point Identification  
 0.011 J (1')  
 ┌ Sample depth in feet  
 └ Qualifier  
 Concentration in mg/kg

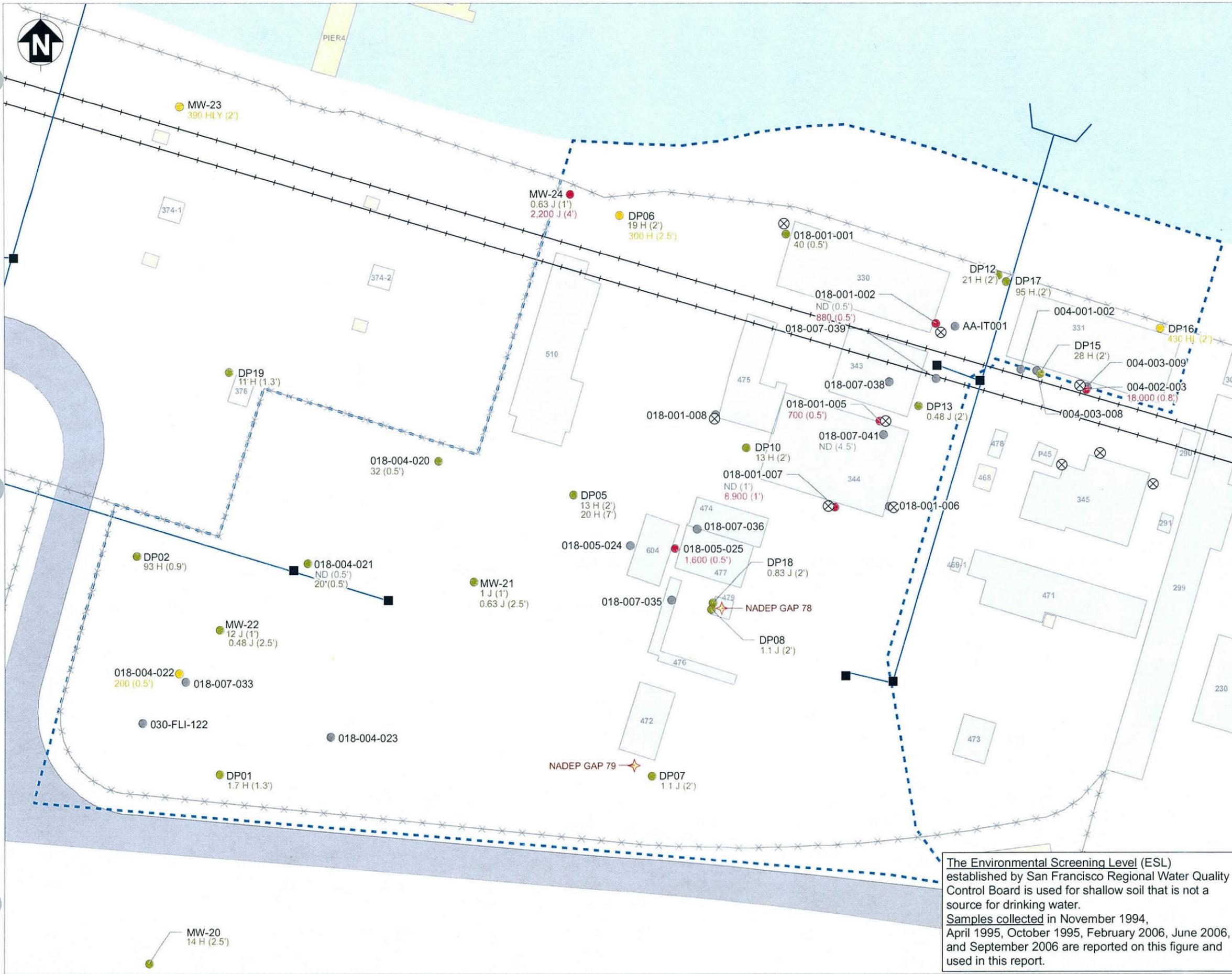
1. Former transformer locations are approximated by a point within their associated building
2. There were 15 transformers at 10 locations. The location at Building 474 contained six transformers while all others contained one.



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

Samples collected in November 1994, April 1995, October 1995, February 2006, June 2006, and September 2006 are reported on this figure and used in this report.

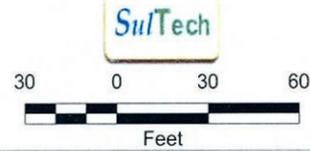
**FIGURE 4-11**  
**ANALYTICAL RESULTS FOR AROCLOR-1268 IN SOIL SAMPLES**  
 RI Report for IR Site 34



- TPH-Diesel Results in Soil**
- Not Detected
  - Detected Concentration is Below 100 mg/kg (ESL)
  - Detected Concentration Equals or Exceeds 100 mg/kg (ESL)
  - Detected Concentration Equals or Exceeds 500 mg/kg (ESL)

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ⬠ Generator Accumulation Point (Removed)
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - Site 34 Boundary
  - Road
  - Unpaved Area
  - Water

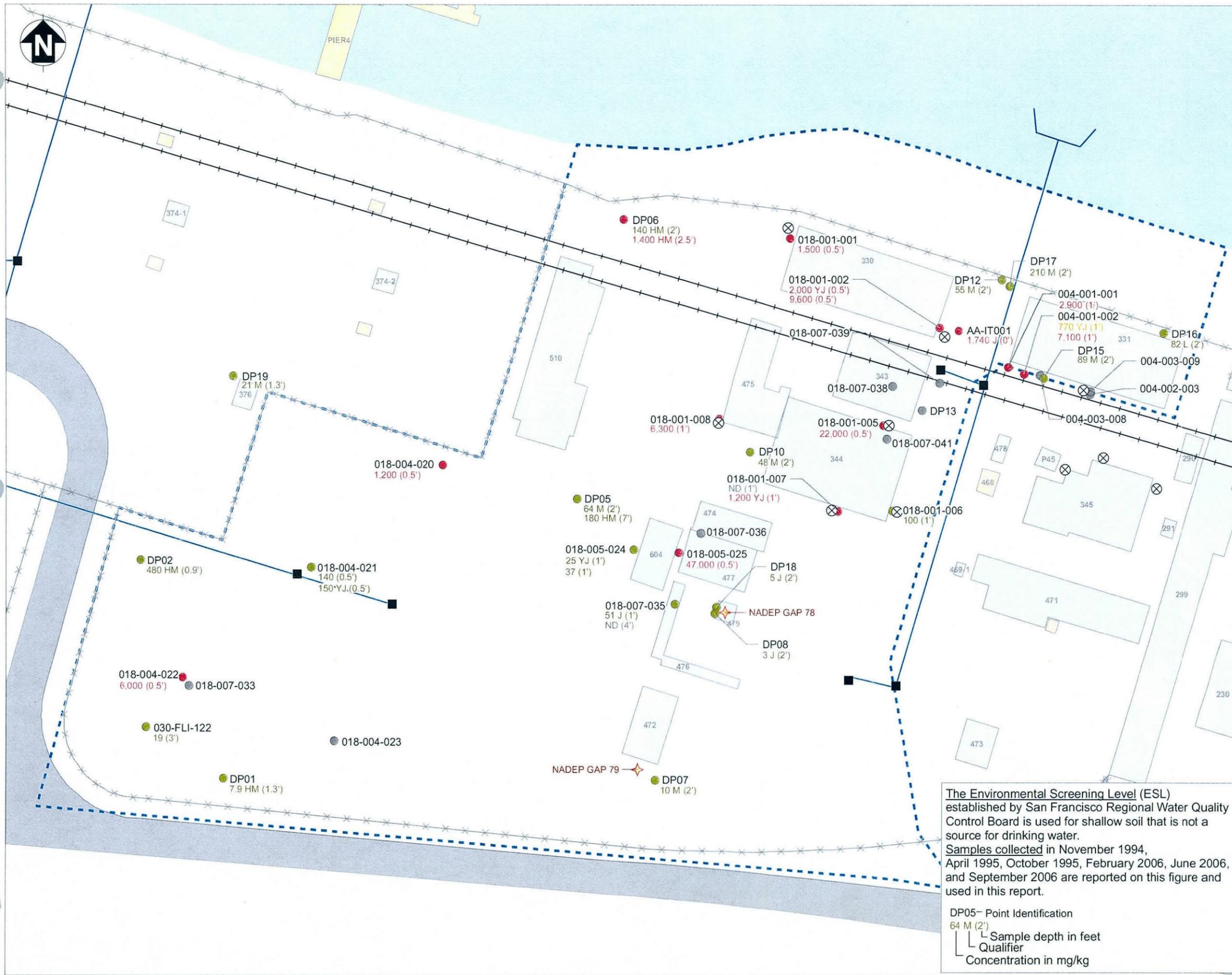
**Notes:**  
 mg/kg - milligram per kilogram  
 J - Value is estimated  
 H - Pattern is in the heavier hydrocarbon end of the analyte's range in the standard.  
 L - Pattern is in the lighter hydrocarbon end of the analyte's range in the standard.  
 Y - Chromatogram indicates the presence of petroleum fuel  
 TPH - Total Petroleum Hydrocarbons  
 DP05 - Point Identification  
 13 H (2')  
 L Sample depth in feet  
 L Qualifier  
 L Concentration in mg/kg



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

The Environmental Screening Level (ESL) established by San Francisco Regional Water Quality Control Board is used for shallow soil that is not a source for drinking water. Samples collected in November 1994, April 1995, October 1995, February 2006, June 2006, and September 2006 are reported on this figure and used in this report.

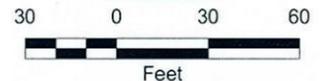
**FIGURE 4-12**  
**ANALYTICAL RESULTS FOR DIESEL RANGE PETROLEUM HYDROCARBONS IN SOIL SAMPLES**  
 RI Report for IR Site 34



- TPH-Motor Oil Results in Soil**
- Not Detected
  - Detected Concentration is Below 500 mg/kg (ESL)
  - Detected Concentration Equals or Exceeds 500 mg/kg (ESL)
  - Detected Concentration Equals or Exceeds 1,000 mg/kg (ESL)

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ★ Generator Accumulation Point (Removed)
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - Road
  - Unpaved Area
  - ⋯ Site 34 Boundary
  - Water

**Notes:**  
 mg/kg - milligram per kilogram  
 J - Value is estimated  
 H - Pattern is in the heavier hydrocarbon end of the analyte's range in the standard  
 Y - Chromatogram indicates the presence of petroleum fuel  
 L - Chromatographic pattern is in the lighter hydrocarbon end of the analyte's range in the standard  
 M - Pattern resembles motor oil  
 TPH - Total Petroleum Hydrocarbons



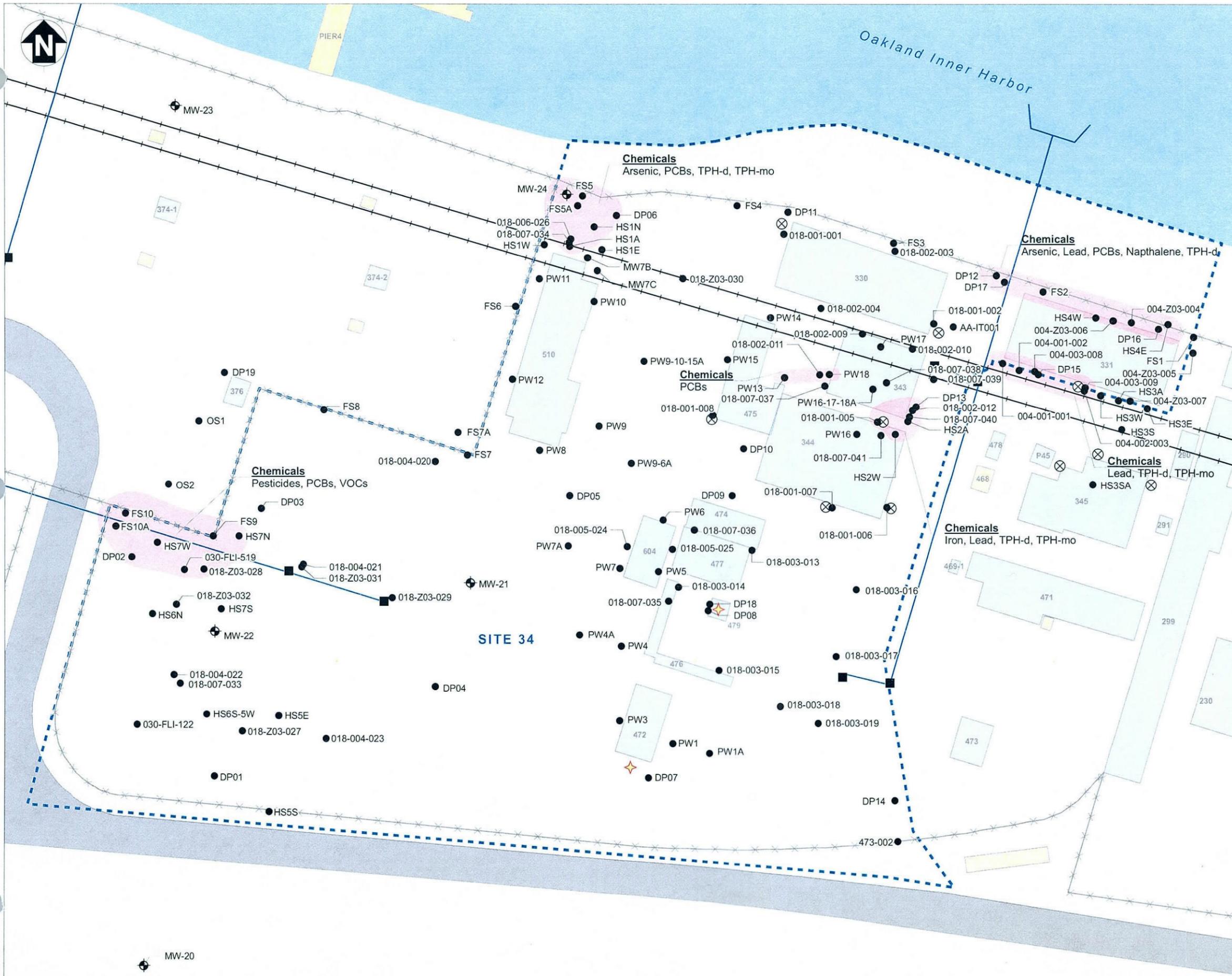
**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 4-13**  
**ANALYTICAL RESULTS FOR**  
**MOTOR OIL RANGE PETROLUUEUM**  
**HYDROCARBONS IN SOIL SAMPLES**

RI Report for IR Site 34

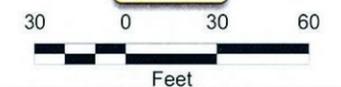
The Environmental Screening Level (ESL) established by San Francisco Regional Water Quality Control Board is used for shallow soil that is not a source for drinking water. Samples collected in November 1994, April 1995, October 1995, February 2006, June 2006, and September 2006 are reported on this figure and used in this report.

DP05- Point Identification  
 64 M (2')  
 └─ Sample depth in feet  
 └─ Qualifier  
 └─ Concentration in mg/kg



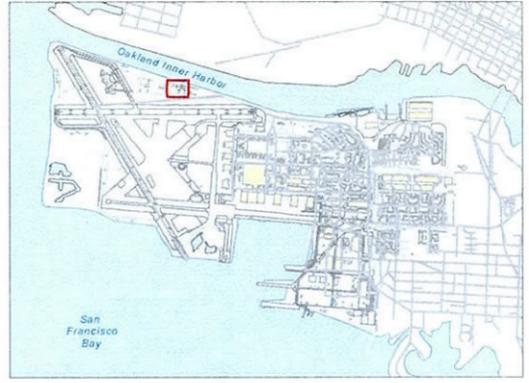
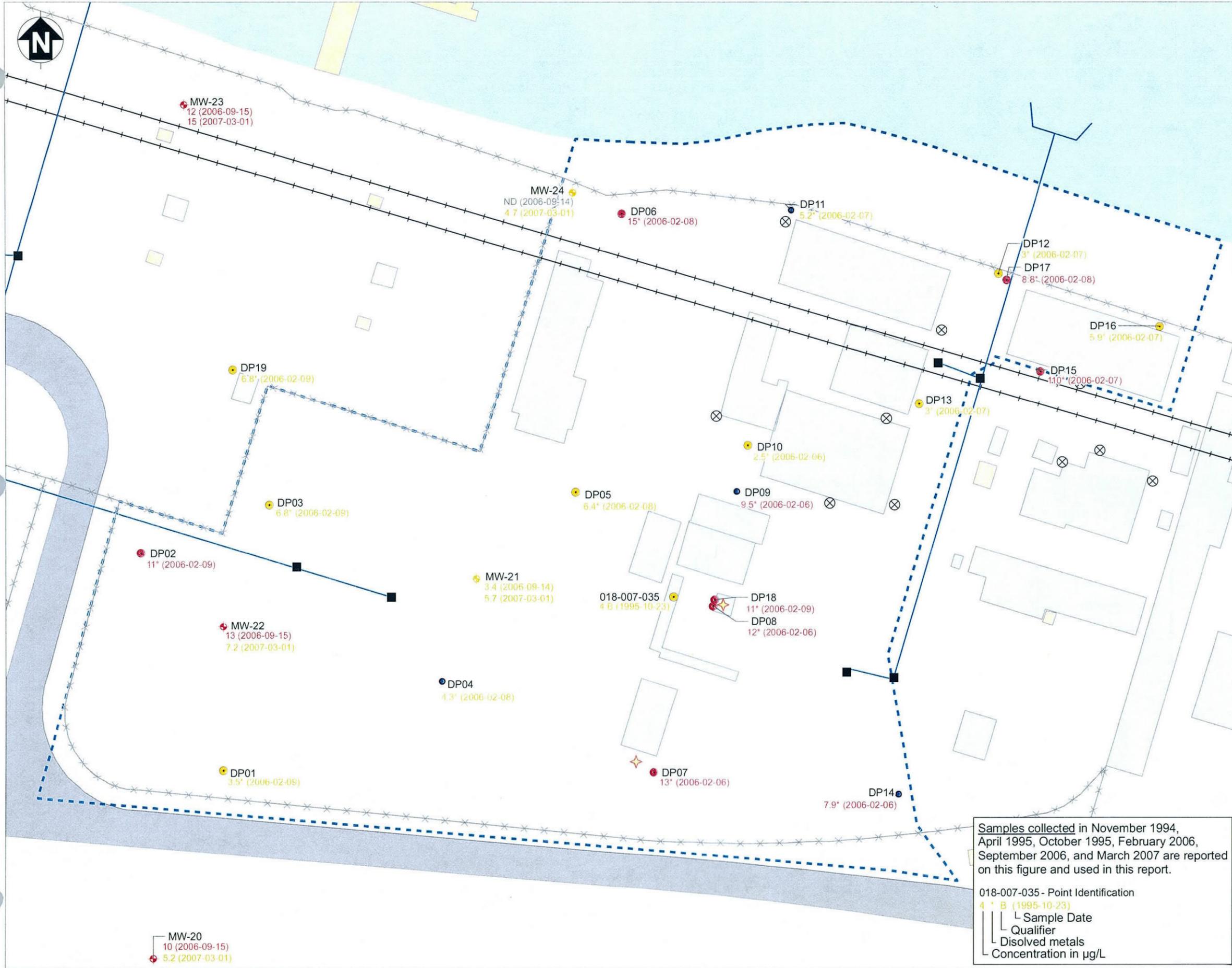
- Area of Concern
- Soil Sample Location
- Monitoring Well Location
- Catch Basin
- Resource Conservation and Recovery Act Unit**
- Aboveground Storage Tank (Removed)
- Generator Accumulation Point (Removed)
- Railroad Track (Removed)
- Storm Sewer Line
- Fence
- Site 34 Boundary
- Building (Present)
- Building (Removed)
- Road
- Unpaved Area
- Water

- Notes:**
- PAH Polycyclic aromatic hydrocarbon
  - PCB Polychlorinated biphenyl
  - TPH-d Total Petroleum Hydrocarbons as diesel range
  - TPH-mo Total Petroleum Hydrocarbons as motor oil range
  - VOC Volatile organic compound



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

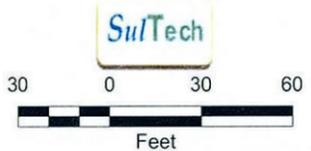
**FIGURE 4-14**  
**AREAS OF CONCERN IN SOIL**  
**BASED ON NATURE AND**  
**EXTENT EVALUATION**  
 RI Report for IR Site 34



- Arsenic Results in Groundwater**
- ⊖ Not Detected, Monitoring Well Location
  - ⊕ Detected Concentration Exceeds 0.045 µg/L (PRG for tap water), Monitoring Well Location
  - ⊙ Detected Concentration Exceeds 0.045 µg/L (PRG for tap water), Temporary Monitoring Well Location
  - ⊕+ Detected Concentration Exceeds 7.21 µg/L (background concentration), Monitoring Well Location
  - ⊕- Detected Concentration Exceeds 7.21 µg/L (background concentration), Temporary Monitoring Well Location

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ⬠ Generator Accumulation Point (Removed)
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - Road
  - Unpaved Area
  - ⊔ Site 34 Boundary
  - Water

**Notes:**  
 µg/L Microgram per liter  
 ND Not detected  
 B Reported value is less than the contract - required detection limit, but greater than the instrument detection limit  
 J Value is estimated  
 PRG Preliminary remediation goal



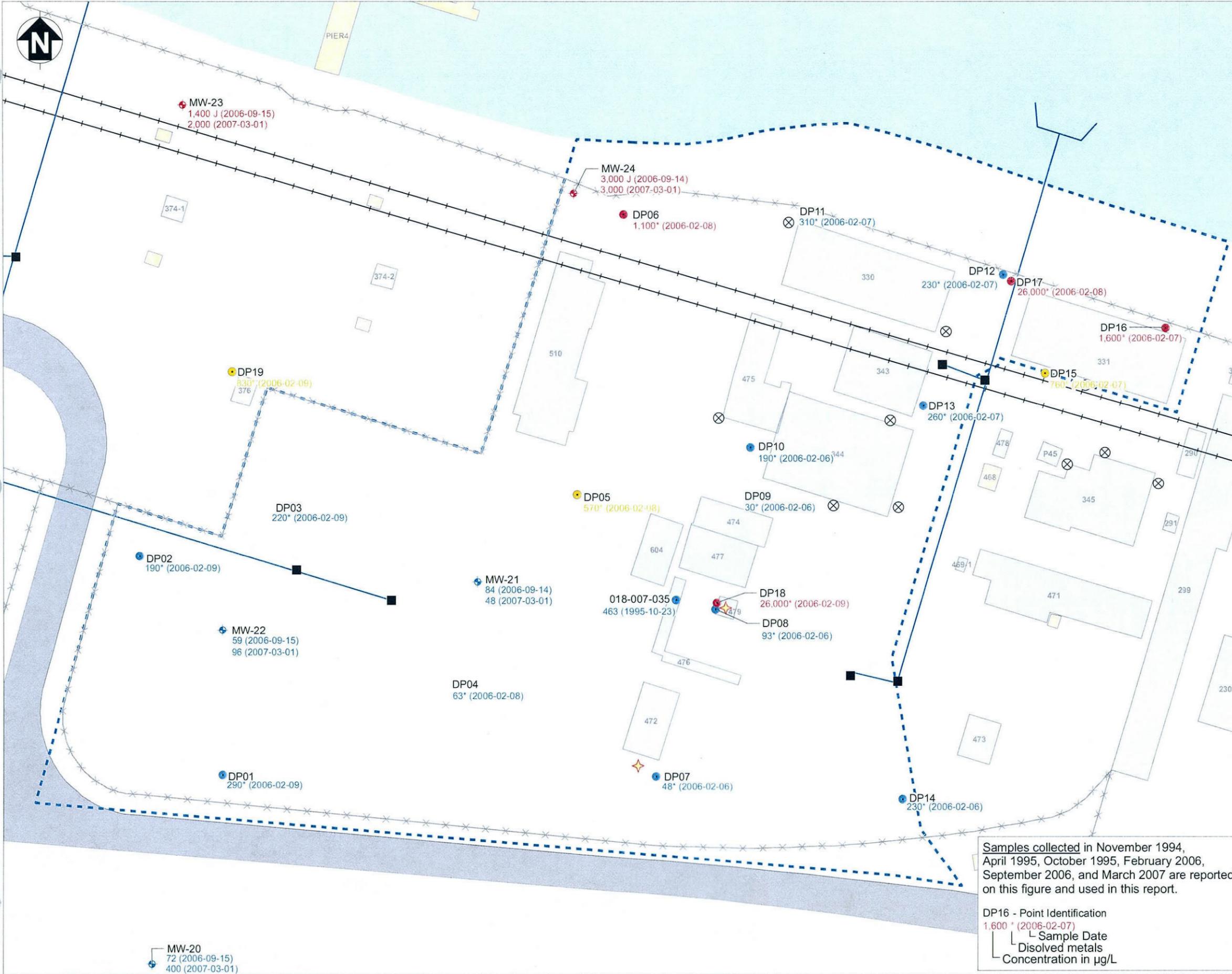
Samples collected in November 1994, April 1995, October 1995, February 2006, September 2006, and March 2007 are reported on this figure and used in this report.

018-007-035 - Point Identification  
 4 \* B (1995-10-23)  
 L Sample Date  
 Qualifier  
 Disolved metals  
 Concentration in µg/L

**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

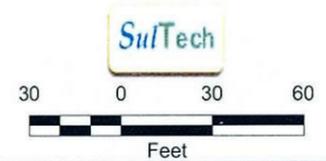
**FIGURE 4-15**  
**RESULTS FOR ARSENIC**  
**IN GROUNDWATER**

RI Report for IR Site 34



- Manganese Results in Water**
- ⊕ Detected Concentration Below 542 µg/L (background concentration), Monitoring Well Location
  - ⊙ Detected Concentration Below 542 µg/L (background concentration), Temporary Monitoring Well Location
  - ⊙ Detected Concentration Exceeds 542 µg/L (background concentration), Temporary Monitoring Well Location
  - ⊕ Detected Concentration Exceeds 876 µg/L (PRG for tap water), Monitoring Well Location
  - ⊕ Detected Concentration Exceeds 876 µg/L (PRG for tap water), Temporary Monitoring Well Location
- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ⬠ Generator Accumulation Point (Removed)
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - Road
  - Unpaved Area
  - ⊕ Site 34 Boundary
  - Water

**Notes:**  
µg/L Microgram per liter  
PRG Preliminary remediation goal

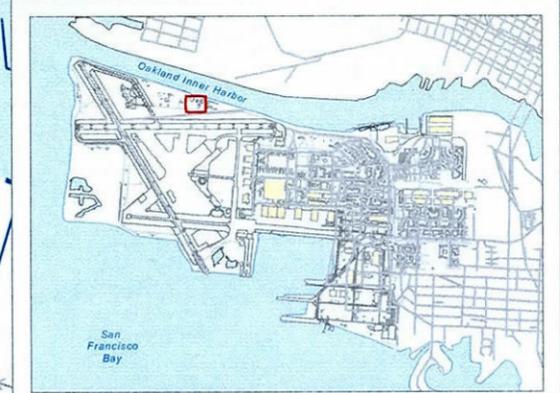
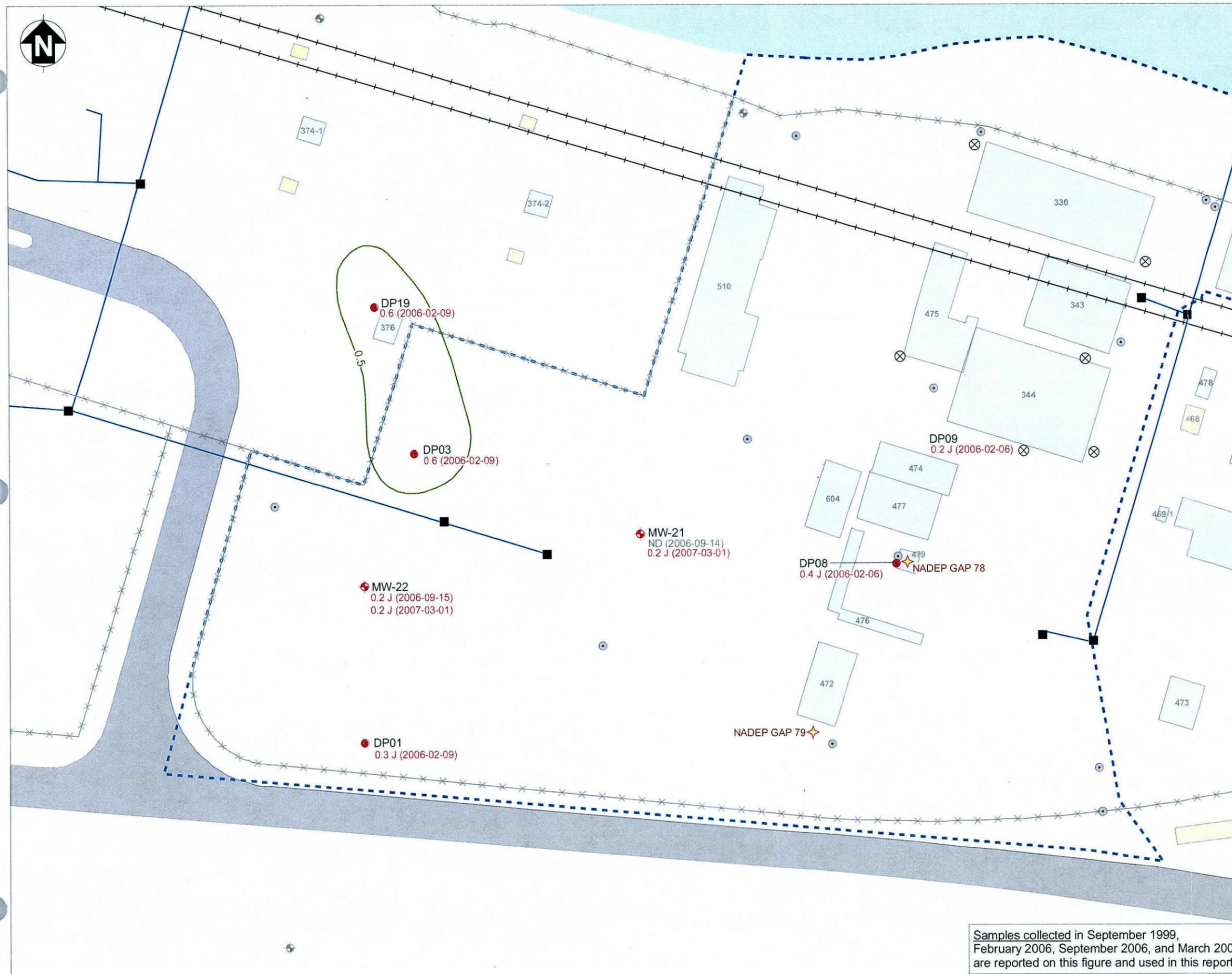


Samples collected in November 1994, April 1995, October 1995, February 2006, September 2006, and March 2007 are reported on this figure and used in this report.

DP16 - Point Identification  
1,600\* (2006-02-07)  
└ Sample Date  
└ Dissolved metals  
└ Concentration in µg/L

**Alameda Point, Alameda, CA**  
U.S. Department of the Navy, BRAC PMO West, San Diego, CA

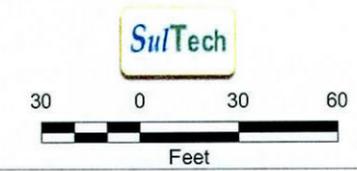
**FIGURE 4-16**  
**RESULTS FOR MANGANESE IN GROUNDWATER**  
RI Report for IR Site 34



- Trichloroethene Results in Water**
- ⊕ Not Detected, Monitoring Well Location
  - ⊙ Not Detected, Temporary Monitoring Well Location
  - ⊕ (with red dot) Detected Concentration Exceeds 0.03 µg/L (PRG for tap water), Monitoring Well Location
  - ⊙ (with red dot) Detected Concentration Exceeds 0.03 µg/L (PRG for tap water), Temporary Monitoring Well Location

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ⚡ Generator Accumulation Point (Removed)
  - Catch Basin
  - Trichloroethene in Groundwater Plume
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - x— Fence
  - Building (Present)
  - Building (Removed)
  - Site 34 Boundary
  - Road
  - Unpaved Area
  - Water

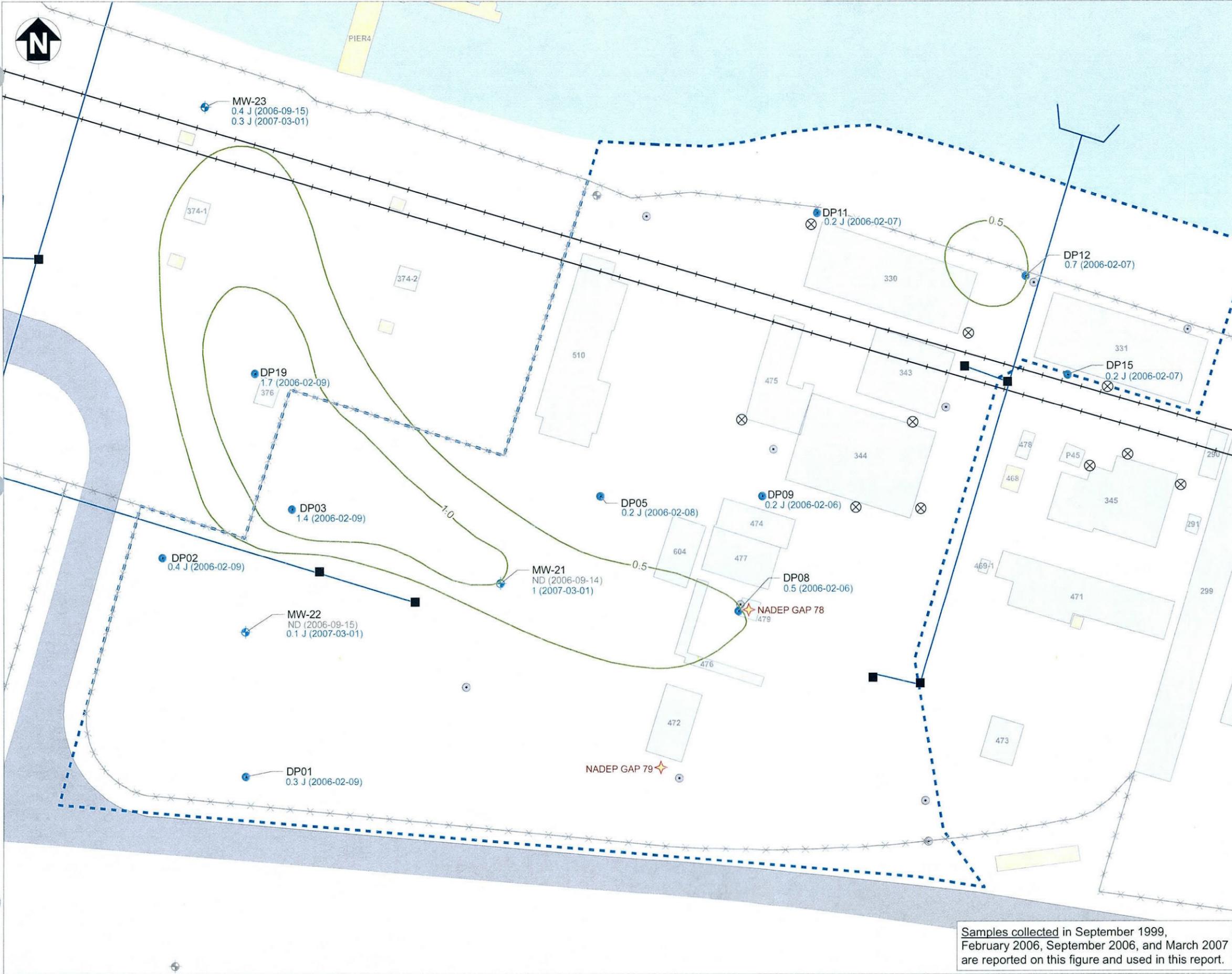
**Notes:**  
 µg/L - micrograms per liter  
 J - Value is estimated  
 PRG - Preliminary remediation goal  
 DP09 - Point Identification  
 0.2 J (2006-02-06)  
 L Sample Date  
 L Qualifier  
 L Concentration in µg/L



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

Samples collected in September 1999, February 2006, September 2006, and March 2007 are reported on this figure and used in this report.

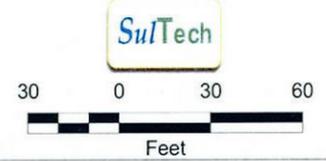
**FIGURE 4-17**  
**TRICHLOROETHENE CONCENTRATIONS IN GROUNDWATER**  
 RI Report for IR Site 34



- cis-1,2-Dichloroethene Results in Water**
- ⊙ Not Detected, Monitoring Well Location
  - ⊙ Not Detected, Temporary Monitoring Well Location
  - ⊕ Detected Concentration Below 61 µg/L (PRG for tap water), Monitoring Well Location
  - ⊕ Detected Concentration Below 61 µg/L (PRG for tap water), Temporary Monitoring Well Location

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ✦ Generator Accumulation Point (Removed)
  - Catch Basin
  - cis-1, 2-Dichloroethene in Groundwater Plume (Dashed where inferred)
  - Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - Site 34 Boundary
  - Road
  - Unpaved Area
  - Water

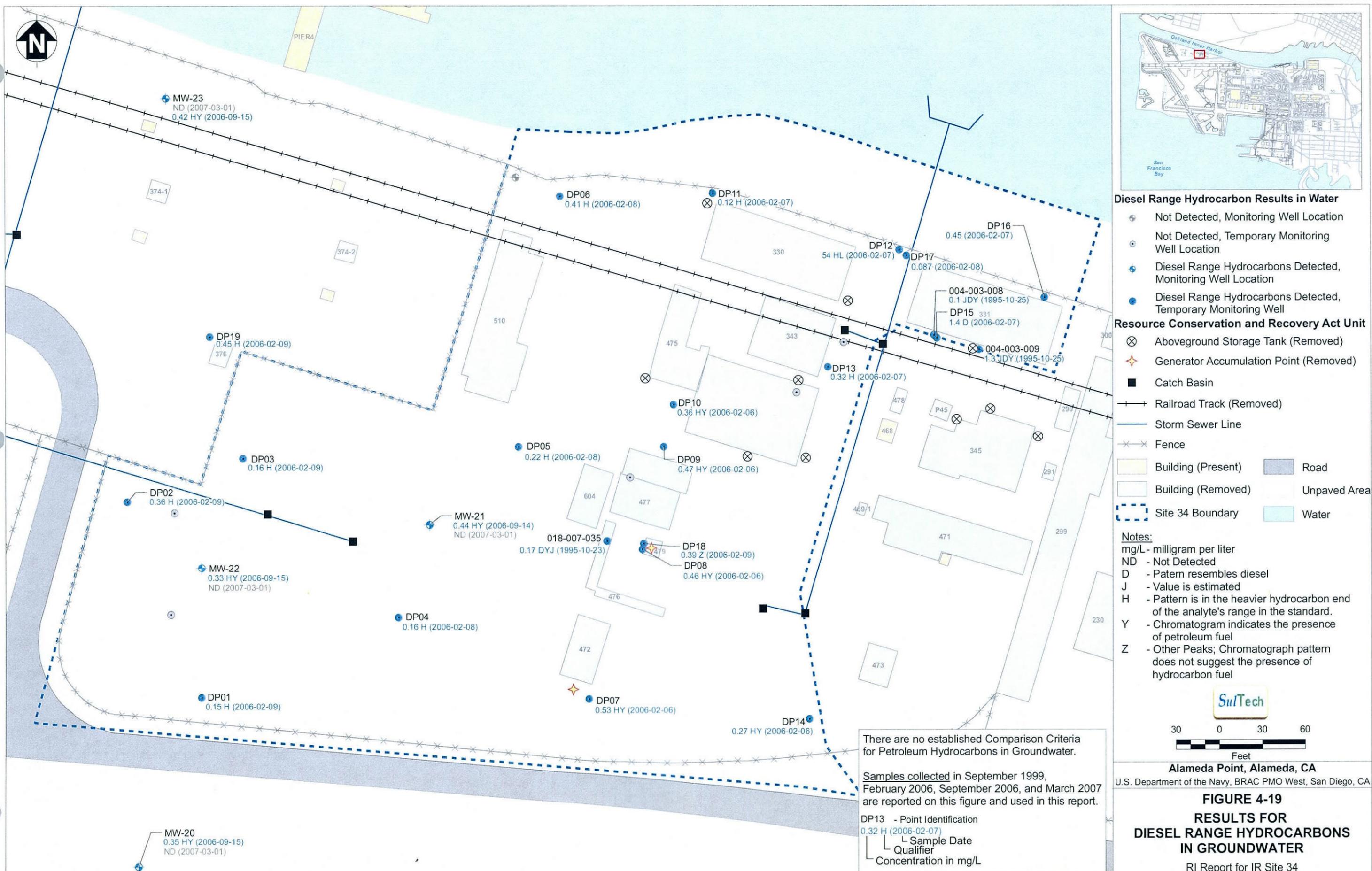
**Notes:**  
 µg/L - micrograms per liter  
 ND - Not Detected  
 J - Value is estimated  
 PRG- Preliminary remediation goal  
 DP15 - Point Identification  
 0.2 J (2006-02-07)  
 └ Sample Date  
 └ Qualifier  
 └ Concentration in µg/L



**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 4-18**  
**CIS-1,2-DICHLOROETHENE**  
**CONCENTRATIONS IN GROUNDWATER**

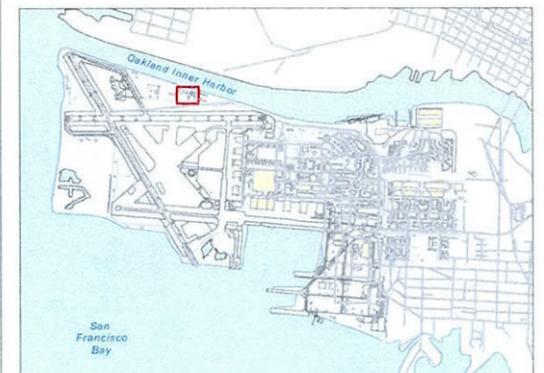
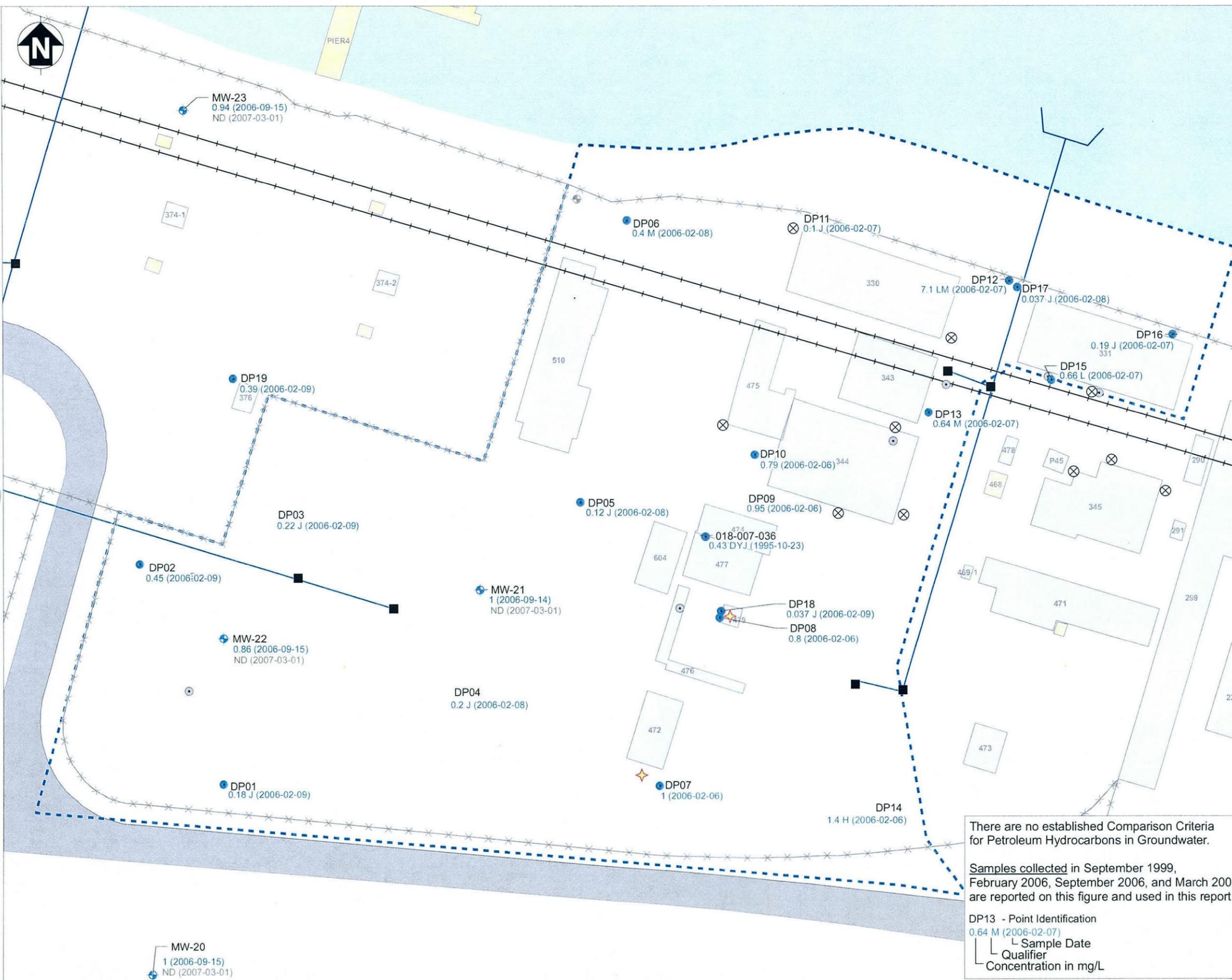
Samples collected in September 1999, February 2006, September 2006, and March 2007 are reported on this figure and used in this report.



There are no established Comparison Criteria for Petroleum Hydrocarbons in Groundwater.

Samples collected in September 1999, February 2006, September 2006, and March 2007 are reported on this figure and used in this report.

DP13 - Point Identification  
 0.32 H (2006-02-07)  
 Sample Date  
 Qualifier  
 Concentration in mg/L



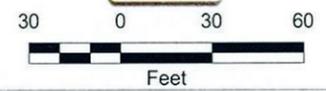
**Motor Oil Range Hydrocarbon Results in Water**

- Not Detected, Monitoring Well Location
- Not Detected, Temporary Monitoring Well Location
- ⊕ Motor Oil Range Hydrocarbons Detected, Monitoring Well Location
- ⊕ Motor Oil Range Hydrocarbons Detected, Temporary Monitoring Well Location

**Resource Conservation and Recovery Act Unit**

- ⊗ Aboveground Storage Tank (Removed)
- ★ Generator Accumulation Point (Removed)
- Catch Basin
- +— Railroad Track (Removed)
- Storm Sewer Line
- ⊗ Fence
- Building (Present)
- Building (Removed)
- Road
- Unpaved Area
- Site 34 Boundary
- Water

**Notes:**  
 mg/L - milligrams per liter  
 ND - Not Detected  
 D - Pattern resembles diesel  
 J - Value is estimated  
 H - Pattern is in the heavier hydrocarbon end of the analyte's range in the standard.  
 L - Chromatographic pattern is in the lighter hydrocarbon end of the analyte's range in the standard  
 M - Pattern Resembles Motor Oil  
 Y - Chromatogram indicates the presence of petroleum fuel



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

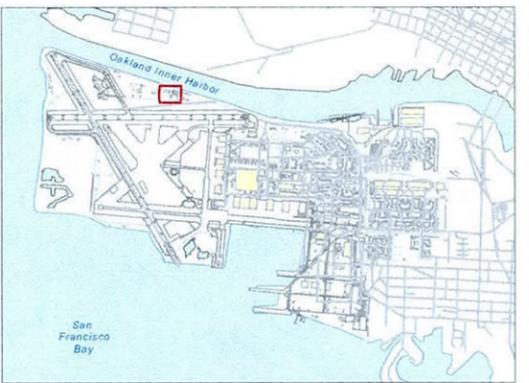
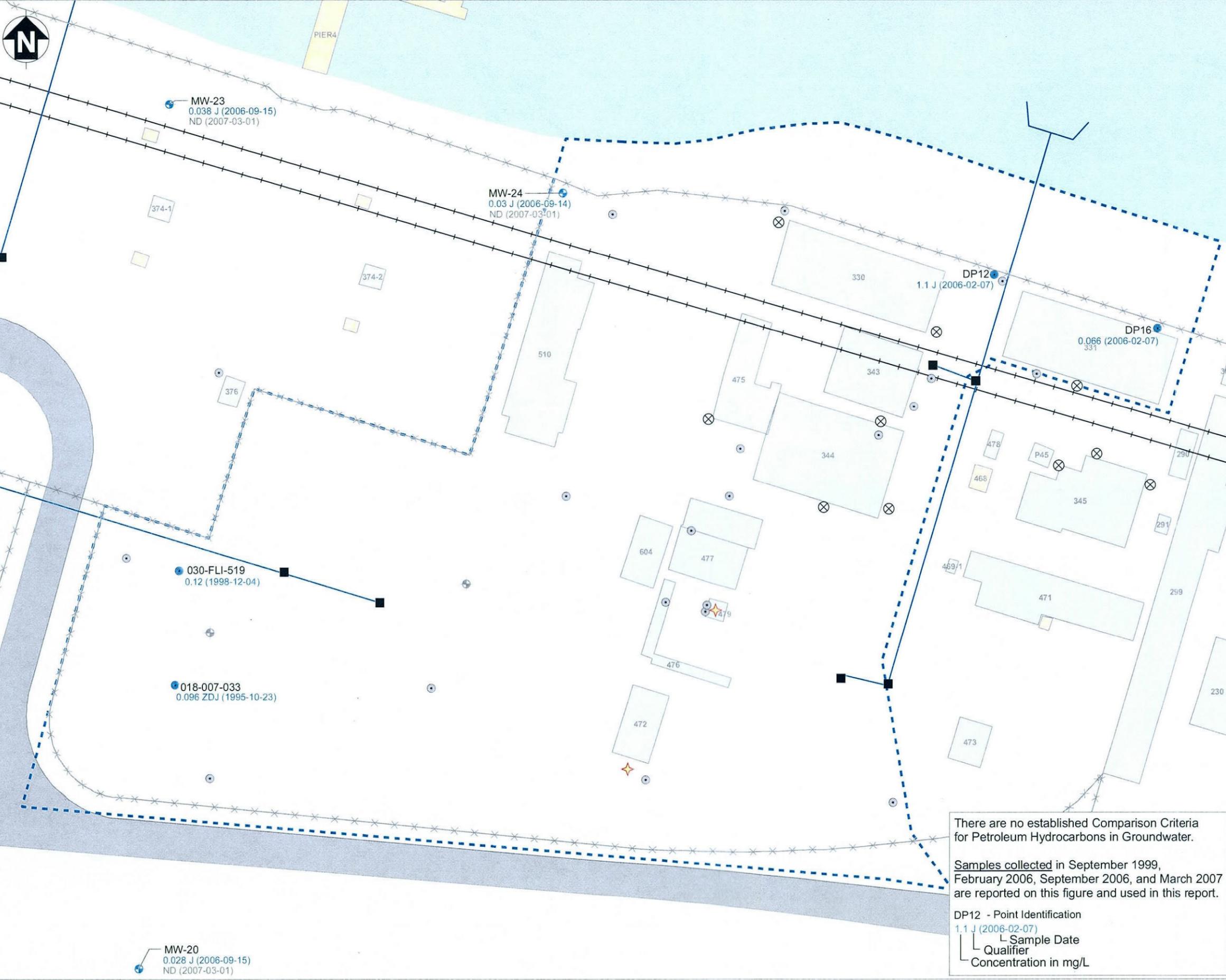
**FIGURE 4-20  
 RESULTS FOR  
 MOTOR OIL RANGE HYDROCARBONS  
 IN GROUNDWATER**

RI Report for IR Site 34

There are no established Comparison Criteria for Petroleum Hydrocarbons in Groundwater.

Samples collected in September 1999, February 2006, September 2006, and March 2007 are reported on this figure and used in this report.

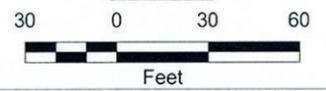
DP13 - Point Identification  
 0.64 M (2006-02-07)  
 L Sample Date  
 L Qualifier  
 L Concentration in mg/L



- Gasoline Hydrocarbons Results in Water**
- ⊕ Not Detected, Monitoring Well Location
  - ⊙ Not Detected, Temporary Monitoring Well Location
  - ⊕ Gasoline Hydrocarbons Detected, Monitoring Well Location
  - ⊕ Gasoline Hydrocarbons Detected, Temporary Monitoring Well Location

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ★ Generator Accumulation Point (Removed)
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ××× Fence
  - Building (Present)
  - Building (Removed)
  - ⋯ Site 34 Boundary
  - Road
  - Unpaved Area
  - Water

**Notes:**  
 mg/L - milligrams per liter  
 ND - Not Detected  
 D - Pattern resembles diesel  
 J - Value is estimated  
 Z - Other Peaks; Chromatograph pattern does not suggest the presence of hydrocarbon fuel



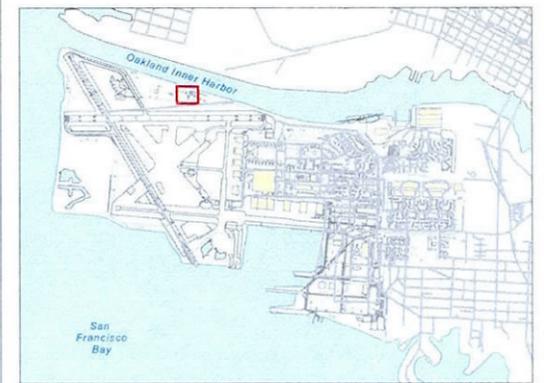
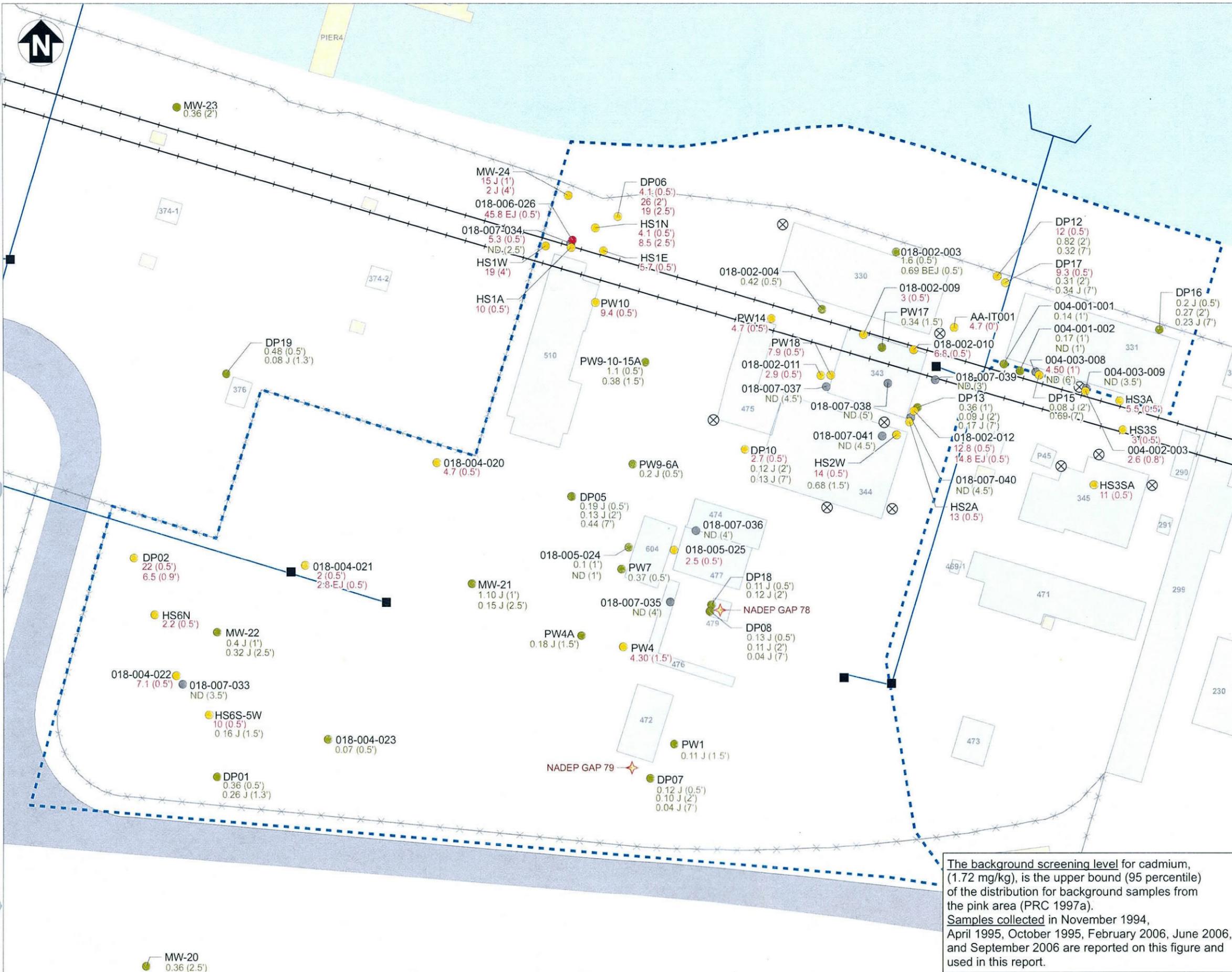
There are no established Comparison Criteria for Petroleum Hydrocarbons in Groundwater.

Samples collected in September 1999, February 2006, September 2006, and March 2007 are reported on this figure and used in this report.

DP12 - Point Identification  
 1.1 J (2006-02-07)  
 └─ Sample Date  
 └─ Qualifier  
 └─ Concentration in mg/L

**Alameda Point, Alameda, CA**  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

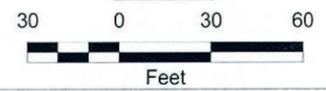
**FIGURE 4-21**  
**RESULTS FOR**  
**GASOLINE RANGE HYDROCARBONS**  
**IN GROUNDWATER**  
 RI Report for IR Site 34



- Cadmium Results in Soil**
- Not Detected
  - Detected Concentration is Below 1.72 mg/kg (Background Screening Level)
  - Detected Concentration Equals or Exceeds 1.72 mg/kg (Background Screening Level)
  - Detected Concentration Equals or Exceeds 37 mg/kg (Residential PRG)

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ⬠ Generator Accumulation Point (Removed)
  - Catch Basin
  - Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - Road
  - Unpaved Area
  - Site 34 Boundary
  - Water

**Notes:**  
 mg/kg - milligram per kilogram  
 B - Reported value is less than the contract required detection limit, but greater than the instrument detection limit  
 E - Estimated because of interference  
 J - Value is estimated  
 PRG - Preliminary remediation goal  
 DB08 - Point Identification  
 13 J (0.5')  
 ┌ Sample depth in feet  
 └ Qualifier  
 ┌ Concentration in mg/kg



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

The background screening level for cadmium, (1.72 mg/kg), is the upper bound (95 percentile) of the distribution for background samples from the pink area (PRC 1997a).  
 Samples collected in November 1994, April 1995, October 1995, February 2006, June 2006, and September 2006 are reported on this figure and used in this report.

**FIGURE 4-22**  
**ANALYTICAL RESULTS FOR CADMIUM IN SOIL SAMPLES**  
 RI Report for IR Site 34

**TABLES**

---

**TABLE 4-1: SUMMARY OF ANALYTICAL RESULTS FOR CHEMICALS DETECTED IN SOIL SAMPLES**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Number of Detections/Analyses	Range of Detected Concentrations	Range of Nondetected Concentrations	Number of Detected Concentrations Above Comparison Criteria; Above Background	Values for Comparison Criteria; Background Concentration	Average of Detected Concentrations; 95UCL of Detected Concentrations
<b>Metals (mg/kg)</b>						
Aluminum	82/82	3,300 J to 37,000	NA	0; 8	76,000; 13,960	8,750; 11,581
Antimony	59/105	0.11 J to 16 J	0.12 to 3.8	0; 4	31; 9.50	3.0; 4.9
Arsenic	98/105	0.70 to 120 J	0.22 to 21	98; 12	0.062 <sup>a</sup> ; 9.14	6.5; 13
Barium	105/105	12 to 200	NA	0; 16	5,400; 93.7	63; 69
Beryllium	91/105	0.048 J to 0.88	0.15 to 1.0	0; 0	150; 1.27	0.23; 0.26
Cadmium	92/105	0.036 J to 46 E*J	0.070 to 1.1	1; 41	37; 1.72	4.3; 8.9
Calcium	82/82	1,600 J to 20,000 J	NA	NA; 1	NA; 16,800	3,963; 4,449
Chromium	105/105	9.4 to 550 J	NA	5; 37	210; 54.8	68; 97
Cobalt	105/105	2.4 to 23	NA	0; 6	900; 14.3	7.3; 7.9
Copper	103/105	2.4 to 254 *J	6.4 to 15	0; 28	3,100; 39.1	38; 47
Iron	82/82	6,400 to 180,000	NA	21; 21	23,000; 22,280	23,524; 35,358 (20,252; 22,515) <sup>a</sup>
Lead	103/105	1.1 to 21,000	1.6 to 3.2	29; 45	150 <sup>b</sup> ; 37.7	520; 3,174
Magnesium	82/82	1,500 to 12,000	NA	NA; 28	NA; 7,304	3,858; 5,025
Manganese	82/82	63 to 1,300	NA	0; 11	1,800; 383	265; 298
Mercury	74/97	0.0091 J to 1.9	0.018 to 0.18	0; 6	23; 0.52	0.16; 0.39
Molybdenum	73/105	0.10 J to 23	0.13 to 2.2	0; 7	390; 5.2	1.9; 2.5
Nickel	105/105	4.3 to 122 J	NA	0; 13	1,600; 55.7	38; 41
Potassium	79/82	295 B to 6,420	659 to 792	NA; 20	NA; 1,232	1,129; 1,549
Selenium	18/105	0.072 J to 1.1 J	0.10 to 1.6	0; 0	390; 1.78	0.53; 0.76
Silver	12/105	0.27 to 10	0.17 to 1.7	0; 4	390; 2.22	2.9; 5.5
Sodium	74/82	69 to 5,100	85 to 280	NA; 11	NA; 1,230	613; 1,067
Thallium	51/105	0.039 J to 3.5 J	0.079 to 0.29	0; 17	5.2; 0.50	0.65; 0.91
Vanadium	105/105	13 to 130	NA	4; 8	78; 47.3	32; 35
Zinc	101/105	12 to 1,400	20 to 65	0; 51	23,000; 67.5	195; 370
<b>Volatile Organic Compounds<sup>c</sup> (mg/kg)</b>						
1,2-Dichlorobenzene	1/32	26	0.0042 to 0.016	0; NA	600; NA	NC
1,2-Dichloropropane	1/36	0.0036 J	0.0042 to 0.14	0; NA	0.34; NA	NC
1,2,3-Trichlorobenzene	1/32	1.5	0.0042 to 0.016	NA; NA	NA; NA	NC
1,2,4-Trichlorobenzene	1/32	5.1	0.0042 to 0.016	0; NA	62; NA	NC
1,2,4-Trimethylbenzene	1/32	0.50	0.0042 to 0.016	0; NA	52; NA	NC
1,3,5-Trimethylbenzene	1/32	0.16	0.0042 to 0.016	0; NA	21; NA	NC
1,3-Dichlorobenzene	1/32	1.1	0.0042 to 0.016	0; NA	530; NA	NC
1,4-Dichlorobenzene	1/32	6.8	0.0042 to 0.016	1; NA	3.5; NA	NC

**TABLE 4-1: SUMMARY OF ANALYTICAL RESULTS FOR CHEMICALS DETECTED IN SOIL SAMPLES (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Number of Detections/Analyses	Range of Detected Concentrations	Range of Nondetected Concentrations	Number of Detected Concentrations Above Comparison Criteria; Above Background	Values for Comparison Criteria; Background Concentration	Average of Detected Concentrations; 95UCL of Detected Concentrations
<b>Volatle Organic Compounds<sup>c</sup> (mg/kg) (Continued)</b>						
2-Butanone.	2/36	0.0020 J to 0.010 J	0.0084 to 0.27	0; NA	22,000; NA	0.0060; NC
Carbon disulfide	2/36	0.00024 J to 0.0020 J	0.0042 to 0.14	0; NA	360; NA	0.0011; NC
Chlorobenzene	1/36	0.11 J	0.0042 to 0.016	0; NA	150; NA	NC
cis-1,2-Dichloroethene	1/32	0.0057 J	0.0042 to 0.14	0; NA	43; NA	NC
Methylene chloride	3/36	0.0020 J to 0.0024 J	0.012 to 0.55	0; NA	9.1; NA	0.0021; NC
Naphthalene	1/32	0.62 J	0.0042 to 0.016	0; NA	1.7 <sup>a</sup> ; NA	NC
p-Isopropyltoluene	1/32	0.11 J	0.0042 to 0.016	NA; NA	NA; NA	NC
sec-Butylbenzene	1/32	0.071 J	0.0042 to 0.016	0; NA	220; NA	NC
Toluene	3/37	0.00029 J to 0.00043 J	0.0042 to 0.14	0; NA	520; NA	0.00037; NC
<b>Semivolatile Organic Compounds<sup>d</sup> (mg/kg)</b>						
2,4-Dimethylphenol	1/38	0.21 J	0.34 to 70	0; NA	1,200; NA	NC
2-Methylphenol	1/38	0.081 J	0.34 to 70	0; NA	3,100; NA	NC
2-Methylnaphthalene	2/38	0.16 to 8.5	0.074 to 14	NA; NA	NA; NA	4.3; NC
4-Methylphenol	1/38	0.27 J	0.34 to 70	0; NA	310; NA	NC
4-Nitroaniline	1/38	0.62 J	0.74 to 140	0; NA	23; NA	NC
4-Nitrophenol	1/38	0.42 J	0.74 to 140	NA; NA	NA; NA	NC
Acenaphthene	2/38	0.038 J to 22	0.074 to 14	0; NA	3,700; NA	11; NC
Acenaphthylene	2/38	0.10 J to 0.20 J	0.074 to 14	NA; NA	NA; NA	0.15; NC
Anthracene	3/38	0.080 J to 3.6	0.074 to 14	0; NA	22,000; NA	1.3; NC
Benzo(a)anthracene	5/38	0.053 J to 2.5	0.074 to 14	1; NA	0.62; NA	0.70; 5.3
B(a)P equivalent	38	0 to 1.26	31 samples	1; NA	0.62; NA	0.088; 0.29
Benzo(a)pyrene	5/38	0.068 J to 1.1	0.074 to 14	5; NA	0.062; NA	0.52; 2.4
Benzo(b)fluoranthene	5/38	0.072 J to 0.96	0.074 to 14	2; NA	0.62; NA	0.52; 2.3
Benzo(g,h,i)perylene	5/38	0.031 J to 0.40	0.074 to 14	NA; NA	NA; NA	0.14; 0.83
Benzo(k)fluoranthene	3/38	0.28 to 0.95	0.074 to 14	2; NA	0.38 <sup>b</sup> ; NA	0.64; NC
bis(2-ethylhexyl)phthalate	5/38	0.054 J to 25	0.33 to 70	0; NA	35; NA	7.9; 19
Butylbenzylphthalate	1/38	0.63	0.33 to 70	0; NA	12,000; NA	NC
Chrysene	6/38	0.057 J to 2.9	0.074 to 14	0; NA	3.8 <sup>b</sup> ; NA	0.77; 5.2
Dibenzofuran	2/38	0.13 J to 13 J	0.33 to 70	0; NA	150; NA	6.6; NC
Dimethylphthalate	1/38	0.038 J	0.33 to 70	0; NA	100,000; NA	NC
di-n-Butylphthalate	4/38	0.15 J to 2.3 B	0.33 to 70	0; NA	6,100; NA	1.3; 6.9
Fluoranthene	6/38	0.0058 J to 17	0.074 to 14	0; NA	2,300; NA	3.0; 56
Fluorene	1/38	13	0.074 to 14	0; NA	2,700; NA	NC

**TABLE 4-1: SUMMARY OF ANALYTICAL RESULTS FOR CHEMICALS DETECTED IN SOIL SAMPLES (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Number of Detections/Analyses	Range of Detected Concentrations	Range of Nondetected Concentrations	Number of Detected Concentrations Above Comparison Criteria; Above Background	Values for Comparison Criteria; Background Concentration	Average of Detected Concentrations; 95UCL of Detected Concentrations
<b>Semivolatile Organic Compounds<sup>d</sup> (mg/kg)(Continued)</b>						
Indeno(1,2,3-cd)pyrene	2/38	0.051 J to 0.30	0.074 to 14	0; NA	0.62; NA	0.18; NC
Isophorone	1/38	0.20 J	0.33 to 70	0; NA	510; NA	NC
Naphthalene	2/38	0.077 J to 13	0.074 to 14	1; NA	1.7 <sup>b</sup> ; NA	6.5; NC
Phenanthrene	6/38	0.0053 J to 47	0.074 to 14	NA; NA	NA; NA	7.9; 57
Phenol	1/38	0.58	0.34 to 70	0; NA	18,000; NA	NC
Pyrene	9/38	0.0075 J to 15	0.074 to 14	0; NA	2,300; NA	1.9; 11
<b>Polycyclic Aromatic Hydrocarbons<sup>e</sup> (mg/kg)</b>						
B(a)P equivalent	37	0 to 8.41	4 samples	4; NA	0.62; NA	0.39; 1.44 (0.17; 0.56) <sup>f</sup>
2-Methylnaphthalene	6/37	0.0019 J to 4.6	0.0054 to 1.1	NA; NA	NA; NA	0.77; 5.6
Acenaphthene	4/37	0.0017 J to 11	0.0054 to 1.1	0; NA	3,700; NA	2.8; 39
Acenaphthylene	11/37	0.0010 J to 0.31 J	0.0054 to 0.54	NA; NA	NA; NA	0.064; 0.48
Anthracene	14/37	0.00081 J to 2.7	0.0054 to 0.54	0; NA	22,000; NA	0.34; 2.7
Benzo(a)anthracene	23/37	0.0012 J to 14	0.0054 to 0.54	4; NA	0.62; NA	0.89; 7.0
B(a)P equivalent	54	0 to 8.41	17 samples	5; NA	0.62; NA	0.30; NC
Benzo(a)pyrene	24/37	0.0017 J to 4.6	0.0054 to 0.54	8; NA	0.062; NA	0.36; 1.2
Benzo(b)fluoranthene	27/37	0.0012 J to 7.6	0.0054 to 0.54	4; NA	0.62; NA	0.47; 1.3
Benzo(g,h,i)perylene	31/37	0.00087 J to 2.1	0.0054 to 0.54	NA; NA	NA; NA	0.14; 0.33
Benzo(k)fluoranthene	20/37	0.0018 J to 9.2	0.0054 to 0.54	4; NA	0.38 <sup>b</sup> ; NA	0.64; 1.9
Chrysene	31/37	0.00082 J to 16	0.0054 to 0.54	1; NA	3.8 <sup>b</sup> ; NA	0.80; 1.9
Dibenzo(a,h)anthracene	16/37	0.0019 J to 1.3	0.0054 to 0.69	3; NA	0.062; NA	0.13; 0.52
Fluoranthene	20/37	0.0023 J to 74	0.0054 to 0.54	0; NA	2,300; NA	4.6; 42
Fluorene	6/37	0.0013 J to 7.8	0.0054 to 1.1	0; NA	2,700; NA	1.3; 29
Indeno(1,2,3-cd)pyrene	20/37	0.0011 J to 2.4	0.0054 to 0.54	2; NA	0.62; NA	0.21; 0.54
Naphthalene	7/37	0.0020 J to 4.8	0.0054 to 1.1	1; NA	1.7 <sup>b</sup> ; NA	0.69; 5.0
Phenanthrene	21/37	0.0016 J to 40	0.0054 to 1.1	NA; NA	NA; NA	2.1; 21
Pyrene	26/37	0.0038 J to 68	0.0054 to 0.54	0; NA	2,300; NA	3.4; 30
<b>Pesticides (mg/kg)</b>						
4,4'-DDD	2/95	0.0012 J to 0.10	0.0034 to 1.8	0; NA	2.4; NA	0.049; NC
4,4'-DDE	5/95	0.017 J to 0.71 J	0.0034 to 1.8	0; NA	1.7; NA	0.25; 0.55
4,4'-DDT	19/95	0.0055 JP to 0.47 J	0.0034 to 1.8	0; NA	1.7; NA	0.10; 0.16
Aldrin	1/95	0.013 J	0.0018 to 0.93	0; NA	0.029; NA	NC
alpha-BHC	1/95	0.00073 J	0.0018 to 0.93	0; NA	0.090; NA	NC
alpha-Chlordane	14/95	0.0021 J to 0.048	0.0018 to 0.93	NA; NA	1.6 <sup>b</sup> ; NA	0.015; 0.025

**TABLE 4-1: SUMMARY OF ANALYTICAL RESULTS FOR CHEMICALS DETECTED IN SOIL SAMPLES (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Number of Detections/Analyses	Range of Detected Concentrations	Range of Nondetected Concentrations	Number of Detected Concentrations Above Comparison Criteria; Above Background	Values for Comparison Criteria; Background Concentration	Average of Detected Concentrations; 95UCL of Detected Concentrations
<b>Pesticides (mg/kg) (Continued)</b>						
Beta-BHC	1/95	0.0022 J	0.0018 to 0.93	0; NA	0.32; NA	NC
Delta-BHC	2/95	0.0067 to 0.0084 J	0.0018 to 0.93	NA; NA	NA; NA	0.0076; NC
Dieldrin	14/95	0.0024 J to 0.50	0.0034 to 1.8	3; NA	0.030; NA	0.082; 0.37
Endosulfan I	1/95	0.023 J	0.0018 to 0.93	0; NA	370 <sup>h</sup> ; NA	NC
Endosulfan II	4/95	0.021 J to 0.050 J	0.0034 to 1.8	0; NA	370 <sup>h</sup> ; NA	0.036; 0.052
Endosulfan Sulfate	2/95	0.0039 J to 0.043 J	0.0034 to 1.8	0; NA	370 <sup>h</sup> ; NA	0.023; NC
Endrin Ketone	2/95	0.0023 J to 0.010 J	0.0034 to 1.8	NA; NA	18 <sup>i</sup> ; NA	0.0062; NC
Endrin aldehyde	5/95	0.0081 J to 0.074	0.0034 to 1.8	NA; NA	18 <sup>i</sup> ; NA	0.041; 0.068
gamma-BHC (Lindane)	2/95	0.0025 J to 0.0026 J	0.0018 to 0.93	0; NA	0.44; NA	0.0026; NC
gamma-Chlordane	16/95	0.0016 J to 0.15 J	0.0018 to 0.93	NA; NA	1.6 <sup>g</sup> ; NA	0.032; 0.056
Heptachlor	1/95	0.0069 J	0.0018 to 0.93	0; NA	0.11; NA	NC
Heptachlor Epoxide	14/95	0.00077 J to 0.11 J	0.0018 to 0.93	3; NA	0.053; NA	0.028; 0.054
Methoxychlor	2/95	0.084 to 0.12 J	0.018 to 9.3	0; NA	310; NA	0.10; NC
Technical Chlordane	4/79	0.046 J to 0.60 J	0.033 to 1.7	0; NA	1.6; NA	0.44; 2.2
<b>Polychlorinated Biphenyls (mg/kg)</b>						
Aroclor-1248	3/143	0.56 to 1.2	0.010 to 18	2; NA	0.22 <sup>j</sup> ; NA	0.51; NC
Aroclor-1254	39/143	0.024 to 11	0.010 to 18	16; NA	0.22 <sup>j</sup> ; NA	0.78; 4.3
Aroclor-1260	78/143	0.0058 J to 10 J	0.010 to 0.21	20; NA	0.22 <sup>j</sup> ; NA	0.30; 0.37
Aroclor-1268	26/127	0.0083 J to 0.30	0.010 to 0.21	2; NA	0.22 <sup>j</sup> ; NA	0.064; 0.091
<b>Total Petroleum Hydrocarbons (mg/kg)</b>						
Diesel-Range	33/56	0.48 J to 18,000	1.0 to 110	10; NA	100 <sup>k</sup> ; NA	1,031; 7,737
Gasoline-Range	7/62	0.55 ZJ to 90 ZJ	0.16 to 1.1	0; NA	100 <sup>k</sup> ; NA	35; 62
Motor Oil-Range	35/48	3.0 J to 47,000	5.9 to 3,000	14; NA	500 <sup>k</sup> ; NA	3,218; 21,688
<b>Other Analyses (mg/kg)</b>						
Dibutyl Tin	1/1	0.020 J	NA	NA; NA	NA; NA	NC
Monbutyl Tin	1/1	0.0020 J	NA	NA; NA	NA; NA	NC
Oil & Grease	1/1	1280	NA	NA; NA	NA; NA	NC
Percent Moisture	184/184	1.0 to 44	NA	NA; NA	NA; NA	11; 14
pH	32/32	4.9 to 10	NA	NA; NA	NA; NA	7.0; 0.0039
Tributyl Tin	1/1	0.026 J	NA	NA; NA	NA; NA	NC

**TABLE 4-1: SUMMARY OF ANALYTICAL RESULTS FOR CHEMICALS DETECTED IN SOIL SAMPLES (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Number of Detections/Analyses	Range of Detected Concentrations	Range of Nondetected Concentrations	Number of Detected Concentrations Above Comparison Criteria; Above Background	Values for Comparison Criteria; Background Concentration	Average of Detected Concentrations; 95UCL of Detected Concentrations
----------	-------------------------------	----------------------------------	-------------------------------------	---	--	--

Notes:	Comparison criteria are EPA Region 9 residential PRGs unless otherwise noted
	Background concentrations are the upper bound (95 percentile) of the distribution in the pink fill area.
	All concentrations are reported in milligrams per kilogram.
a	Statistics calculated with two high outlier concentrations (180,000 mg/kg and 120,000 mg/kg) removed
b	California-modified residential PRG
c	Analyzed by EPA CLP methods, EPA Method 8260, or EPA Method AROMV
d	Analyzed by EPA CLP methods or EPA Method 8270c
e	Analyzed by EPA Method 8270c-SIM
f	Statistics calculated with one outlier concentration (8.41 mg/kg) removed
g	PRG for technical chlordane
h	PRG for endosulfan
i	PRG for endrin
j	PRG for unspecified mixture, high risk
k	San Francisco Bay Regional Water Quality Control Board environmental screening level for shallow soil that is not a source for drinking water
*	Duplicate analysis not within control limits
95UCL	95 percent upper confidence limit of the mean. Concentrations do not include X-ray fluorescence field screening data. Calculation is similar but not equal to that used in the
B	Reported value less than the contract-required detection limit, but greater than the instrument detection limit.
B(a)P equivalent	Benzo(a)pyrene-equivalent concentration. Comparison criteria are screening criteria established by the Navy and regulatory agencies (see text in Section 3.3).
BHC	Benzene hexachloride
CLP	Contract Laboratory Program
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
E	Estimated because of interference
EPA	U.S. Environmental Protection Agency
J	Estimated concentration
mg/kg	Milligram per kilogram
NA	Not available (background concentrations available for metals only)
NC	Not calculated (not statistically meaningful)
P	This flag is used for gas chromatograph analysis when there is greater than 25 percent difference for detected concentrations between the two columns. The lower of the two values is reported and flagged with a "P."
PRG	Preliminary remediation goal
Z	Pattern does not resemble total petroleum hydrocarbon pattern

Source:

EPA. 2004b. "Region 9 Preliminary Remediation Goals [PRG] and Accompanying PRGs: Background Document." December. Available Online at:

**TABLE 4-2: SOIL BACKGROUND COMPARISON**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Site 34 Soil (All Depths)		Detection Frequency	Alameda Background (Pink)		Detection Frequency	1st Tier Statistical Test <sup>a</sup>		Quantile Test Conclusion (Tier 2) <sup>c</sup>	Site > Background? (YES or NO)
	Sample Size			Sample Size			Test	Prob <sup>b</sup>		
	Detected	Total	Detected	Total						
Aluminum	82	82	100	55	55	100	WRS	<0.001	N/A	YES
Antimony	59	105	56	18	55	33	TP	0.277	Site > Background	YES
Arsenic	98	105	93	45	55	82	WRS(G)	<0.001	N/A	YES
Barium	105	105	100	55	55	100	WRS	<0.001	N/A	YES
Beryllium	91	105	87	28	55	51	TP	1.000	Site ≤ Background	NO
Cadmium	92	105	88	11	55	20	TP	<0.001	Site > Background	YES
Calcium	82	82	100	55	55	100	WRS	0.002	N/A	YES
Chromium	105	105	100	55	55	100	WRS	<0.001	N/A	YES
Cobalt	105	105	100	48	55	87	WRS(G)	<0.001	N/A	YES
Copper	103	105	98	52	55	95	WRS(G)	<0.001	N/A	YES
Iron	82	82	100	55	55	100	WRS	<0.001	N/A	YES
Lead	103	105	98	51	55	93	WRS(G)	<0.001	N/A	YES
Magnesium	82	82	100	55	55	100	WRS	0.001	N/A	YES
Manganese	82	82	100	55	55	100	WRS	<0.001	N/A	YES
Mercury	74	97	76	7	54	13	TP	0.585	Site ≤ Background	NO
Molybdenum	73	105	70	0	16	0	TP	0.415	NT	EQUIVOCAL
Nickel	105	105	100	55	55	100	WRS	<0.001	N/A	YES
Potassium	79	82	96	55	55	100	WRS(G)	<0.001	N/A	YES
Selenium	18	105	17	0	55	0	TP	1.000	NT	EQUIVOCAL
Silver	12	105	11	11	55	20	TP	0.725	Site ≤ Background	NO
Sodium	74	82	90	54	55	98	WRS(G)	0.952	Site > Background	YES
Thallium	51	105	49	0	55	0	TP	1.000	NT	EQUIVOCAL
Vanadium	105	105	100	55	55	100	WRS	<0.001	N/A	YES
Zinc	101	105	96	54	55	98	WRS(G)	<0.001	N/A	YES

Notes:

- a TP= test of proportions (implemented using the Fisher exact test)  
 WRS= Wilcoxon rank sum test  
 WRS(G)= Gehan-Wilcoxon test  
 H<sub>0</sub> is that site ≤ background. Note that for TP, the test is comparing the frequency of detected measurements that exceed the maximum censored datum in the background data set.
- b Calculated significance level for individual statistical tests. Reject H<sub>0</sub> if Prob ≤ 0.05.
- c Conducted in cases where the WRS or WRS(G) test cannot be performed, or when H<sub>0</sub> is not rejected by these tests
- > Greater than H<sub>0</sub> Null hypothesis
- < Less than N/A Not applicable, H<sub>0</sub> was rejected based on either the WRS or WRS(G) test, or no test was performed.
- ≤ Less than or equal to NT Not tested, metal was not detected in the background data set. Conclusion is listed as EQUIVOCAL.

**TABLE 4-3: BENZO(A)PYRENE EQUIVALENTS IN SOIL**

Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Depth (ft)	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	EPA B(a)P Equivalent (mg/kg)	OEHHA B(a)P Equivalent (mg/kg)
EPA TEF <sup>a</sup>			0.1	1.0	0.1	0.01	0.001	1.0	0.1		
OEHHA TEF <sup>b</sup>			0.1	1.0	0.1	0.1	0.01	1.1	0.1		
004-003-008	004-0011	1 - 1.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	--	--
004-003-008	004-0012	5 - 6	0.6	1.1	0.89	0.95	0.93	0.39 U	0.39 U	1.3	1.4
004-003-009	004-0014	0.5 - 1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	--	--
004-003-009	004-0015	2.5 - 3.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	--	--
018-004-020	018-0020	0 - 0.5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	--
018-004-021	018-0021	0 - 0.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	--	--
018-004-022	018-0022	0 - 0.5	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	--	--
018-004-023	018-0023	0 - 0.5	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	--	--
018-007-035	018-0041	0.5 - 1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	--	--
018-007-035	018-0042	3 - 4	0.053 J	0.068 J	0.37 U	0.37 U	0.057 J	0.37 U	0.051 J	0.078	0.079
018-007-036	018-0044	3 - 4	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	--	--
018-007-038	018-0047	4 - 5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	--	--
018-007-039	018-0048	0.5 - 1.5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	--	--
018-007-039	018-0049	2 - 3	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	--	--
018-007-041	018-0052	3.5 - 4.5	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	--	--
AA-IT001	AA-IT001-01++	NA	0.39 U	0.39 U	0.072 J	0.39 U	0.091 J	0.39 U	0.39 U	0.0073	0.0081
DP01	105-S34-001	0 - 0.5	0.018	0.024	0.029	0.021	0.026	0.0078 J	0.019	0.039	0.042
DP01	105-S34-002	0.85 - 1.3	0.01 J	0.011 J	0.013 J	0.063 U	0.019 J	0.063 U	0.063 U	0.013	0.013
DP02	105-S34-005	0 - 0.5	0.11 U	0.11 UJ	0.027 J	0.11 UJ	0.029 J	0.11 UJ	0.021 J	0.0048	0.0051
DP02	105-S34-006	0.5 - 0.9	0.16	0.15 J	0.21 J	0.17 J	0.2	0.037 J	0.071 J	0.23	0.25
DP05	105-S34-013	0 - 0.5	0.42 U	0.42 UJ	0.088 J	0.42 UJ	0.15 J	0.42 UJ	0.42 UJ	0.0090	0.010
DP05	105-S34-014	1.5 - 2	0.0016 J	0.0028 J	0.0052 J	0.011 U	0.0061 J	0.011 U	0.003 J	0.0038	0.0038
DP05	105-S34-015	7	0.015	0.051	0.028	0.02	0.021	0.0061 J	0.027	0.064	0.067
DP06	105-S34-017	0 - 0.5	0.8	0.76 J	0.91 J	0.78 J	0.93	0.18 J	0.36 J	1.2	1.3
DP06	105-S34-018	1.5 - 2	0.008 J	0.015 J	0.012 J	0.0092 J	0.018 J	0.0048 J	0.0081 J	0.023	0.024
DP06	105-S34-019	2 - 2.5	0.023	0.063 J	0.044 J	0.032 J	0.06	0.023 J	0.034 J	0.096	0.10
DP07	105-S34-021	0 - 0.5	0.003 J	0.0033 J	0.017	0.014	0.031	0.011 U	0.011 U	0.0055	0.0070
DP07	105-S34-022	1.5 - 2	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.00082 J	0.0054 U	0.0054 U	0.0000082	0.0000082

**TABLE 4-3: BENZO(A)PYRENE EQUIVALENTS IN SOIL**

Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Depth (ft)	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	EPA B(a)P Equivalent (mg/kg)	OEHHA B(a)P Equivalent (mg/kg)
		EPA TEF <sup>a</sup>	0.1	1.0	0.1	0.01	0.001	1.0	0.1		
		OEHHA TEF <sup>b</sup>	0.1	1.0	0.1	0.1	0.01	1.1	0.1		
DP08	105-S34-025	0 - 0.5	0.0092 J	0.009 J	0.012 J	0.02 J	0.045	0.0067 J	0.028 U	0.018	0.021
DP08	105-S34-026	1.5 - 2	0.0012 J	0.0017 J	0.0012 J	0.0058 U	0.0025 J	0.0058 U	0.0011 J	0.0021	0.0021
DP10	105-S34-030	0 - 0.5	0.11 U	0.11 U	0.11 U	0.11 U	0.023 J	0.11 U	0.11 U	0.000023	0.00023
DP10	105-S34-031	1.5 - 2	2.5	2.1	1	1.2	3.5	0.37	0.82	2.9	3.1
DP12	105-S34-035	0 - 0.5	0.26 U	0.26 U	0.19 J	0.15 J	0.23 J	0.048 J	0.26 U	0.069	0.089
DP12	105-S34-036	1.5 - 2	0.01 J	0.018	0.028	0.021	0.024	0.016	0.037	0.042	0.045
DP13	105-S34-037	0 - 1	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	--	--
DP13	105-S34-038	1.5 - 2	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	--	--
DP15	105-S34-042	0 - 1	0.028 U	0.028 U	0.028 U	0.028 U	0.0043 J	0.028 U	0.028 U	0.0000043	0.000043
DP15	105-S34-043	1.5 - 2	0.023	0.05	0.032	0.029	0.046	0.013	0.032	0.072	0.076
DP16	105-S34-046	0 - 0.5	14	4.6	7.6	9.2	16	1.3	2.4	8.4	9.5
DP16	105-S34-047	1.5 - 2	2.5	0.59 J	1.2	0.67 J	2.7	0.69 U	0.2 J	0.99	1.1
DP17	105-S34-050	0 - 0.5	0.21 U	0.036 J	0.31	0.23	0.29	0.21 U	0.21 U	0.070	0.093
DP17	105-S34-051	1.5 - 2	0.0047 J	0.0038 J	0.0055 J	0.0041 J	0.012	0.0019 J	0.0042 J	0.0072	0.0079
DP18	105-S34-055	0 - 0.5	0.0029 J	0.005 J	0.012 J	0.014 J	0.02 J	0.0025 J	0.016 U	0.0092	0.011
DP18	105-S34-056	1.5 - 2	0.0021 J	0.0031 J	0.0026 J	0.0018 J	0.0043 J	0.0058 U	0.0025 J	0.0038	0.0040
DP19	105-S34-060	0 - 0.5	0.076	0.071 J	0.093 J	0.066 J	0.13	0.014 J	0.033 J	0.11	0.11
DP19	105-S34-061	0.8 - 1.3	0.14 J	0.16	0.15	0.071 J	0.15	0.022 J	0.083 J	0.22	0.23
MW-20	105-S34-156	2 - 2.5	0.039 J	0.011 J	0.014 J	0.053 U	0.017 J	0.053 U	0.0095 J	0.017	0.017
MW-21	105-S34-158	0 - 1	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	--	--
MW-21	105-S34-159	2 - 2.5	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	--	--
MW-22	105-S34-160	0 - 1	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	--	--
MW-22	105-S34-162	2 - 2.5	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	--	--
MW-23	105-S34-171	0.5 - 2	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	--	--
MW-24	105-S34-165	3 - 4	0.023 J	0.0084 J	0.005 J	0.031 U	0.0085 J	0.031 U	0.007 J	0.012	0.012
MW-24	105-S34-168	0 - 1	0.52 U	0.52 U	0.52 U	0.52 U	0.14 J	0.52 U	0.52 U	0.00014	0.0014
<b>Site-Wide Average B(a)P Equivalent Concentration</b>										<b>0.47</b>	<b>0.52</b>

**TABLE 4-3: BENZO(A)PYRENE EQUIVALENTS IN SOIL**

Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Depth (ft)	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	EPA B(a)P Equivalent (mg/kg)	OEHHA B(a)P Equivalent (mg/kg)
		EPA TEF <sup>a</sup>	0.1	1.0	0.1	0.01	0.001	1.0	0.1		
		OEHHA TEF <sup>b</sup>	0.1	1.0	0.1	0.1	0.01	1.1	0.1		

Notes: Chemicals shown are PAHs that are considered probable human carcinogens; TEFs are used to determine their relative toxicity to B(a)P.

a TEFs taken from EPA (1993a).

b TEFs taken from OEHHA (2001).

++ Sediment sample

-- Not calculated; no PAHs having TEFs were detected in this sample

Shading indicates that the sample-specific B(a)P equivalent exceeds the established screening level of 0.62 mg/kg.

B(a)P Benzo(a)pyrene

EPA U.S. Environmental Protection Agency

ft Foot below ground surface

J Estimated concentration

mg/kg Milligram per kilogram

NA Not applicable; sample was collected from sediment

OEHHA Office of Environmental Health Hazard Assessment

PAH Polycyclic aromatic hydrocarbons

TEF Toxicity equivalency factor

U Not detected

Source:

EPA. 1993a. Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. July.

OEHHA. 2001. "Final Prioritization of Toxic Air Contaminants - Children's Environmental Health Protection Act." Department of Toxic Substances Control (DTSC). October 19. Available

On-line at: [http://www.oehha.org/air/toxic\\_contaminants/SB25finalreport.html](http://www.oehha.org/air/toxic_contaminants/SB25finalreport.html)

**TABLE 4-4: SUMMARY OF ANALYTICAL RESULTS FOR CHEMICALS DETECTED IN GROUNDWATER SAMPLES**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Number of Detections/Analyses	Range of Detected Concentrations	Range of Nondetected Concentrations	EPA Tap Water PRGs <sup>a</sup> ; Number of Detections Above PRGs <sup>a</sup>	Water Board ESL <sup>b</sup> ; Number of Detections Above ESL <sup>b</sup>	Average of Detected Values <sup>c</sup> ; 95UCL of Detected Values <sup>d</sup>	Background Concentrations; No. Detections Above Background
<b>Metals (dissolved)<sup>e</sup> (µg/L)</b>							
Aluminum	17/19	5.2 J to 74	12 to 14	36,498; 0	NA; NA	17; 24	392; 0
Antimony	18/19	0.17 J to 2	0.38	15; 0	NA; NA	0.65; 0.92	4.60; 0
Arsenic	19/19	2.5 to 110		0.045; 19	NA; NA	13; 37	7.21; 9
Barium	19/19	26 to 240	NA	2,555; 0	NA; NA	111; 184	183; 3
Beryllium	5/19	0.071 J to 0.091	1	73; 0	NA; NA	0.08; 0.09	1.04; 0
Cadmium	3/19	0.5 J to 1.5	1	18; 0	NA; NA	0.87; NA	0.35; 3
Calcium	19/19	8,100 to 1,100,000	NA	NA; NA	NA; NA	181,032; 416,767	69,000; 6
Chromium	17/19	0.58 J to 2.9	1.1 to 2.3	NA; NA	NA; NA	1.4; 1.7	3.19; 0
Cobalt	19/19	0.15 J to 45	NA	730; 0	NA; NA	5.0; 33	1.55; 5
Copper	13/19	0.61 J to 12	0.41 to 1.7	1,460; 0	NA; NA	3.3; 7	6.06; 2
Iron	19/19	54 to 22,000	NA	10,950; 2	NA; NA	3,184; 16,001	2,260; 7
Lead	9/19	0.25 J to 4.1	1	NA; NA	NA; NA	1.50; 4	1.75; 3
Magnesium	19/19	5,400 to 2,200,000	NA	NA; NA	NA; NA	335,242; 1,912,997	97,800; 4
Manganese	19/19	30 to 26,000	NA	876; 4	NA; NA	3,106; 21,545	542; 7
Mercury	1/19	0.17 J	0.2	NA; NA	NA; NA	NA; NA	0.21; 0
Molybdenum	19/19	1.5 to 47	NA	182; 0	NA; NA	8.2; 11	2.53; 17
Nickel	18/19	1.2 to 46	1	730; 0	NA; NA	7.3; 40	6.09; 2
Potassium	19/19	4,000 to 230,000	NA	NA; NA	NA; NA	46,632; 94,506	51,300; 4
Selenium	6/19	3.3 to 34	0.4 to 2.8	182; 0	NA; NA	14.6; 35	NA; NA
Silver	8/19	0.047 J to 0.098 J	1	182; 0	NA; NA	0.07; 0.08	0.34; 0
Sodium	19/19	22,000 to 15,000,000	NA	NA; NA	NA; NA	2,669,158; 14,534,502	1,280,000; 4
Thallium	10/19	0.076 J to 0.94 J	1	2; 0	NA; NA	0.28; 0.71	NA; NA
Vanadium	19/19	0.66 J to 14	NA	37; 0	NA; NA	2.7; 3.7	8.14; 1
Zinc	18/19	4 to 600	3.1	10,950; 0	NA; NA	57; 384	721; 0
<b>Metals (total)<sup>e</sup> (µg/L)</b>							
Aluminum	5/11	130 J to 1,300 J	11 to 190	36,499; 0	NA; NA	513; 1,399	NA; NA
Arsenic	10/11	3.4 to 15	1	0; 10	NA; NA	8; 10	NA; NA
Barium	11/11	18 to 210	NA	2,555; 0	NA; NA	96; 133	NA; NA
Calcium	11/11	8,000 to 1,200,000	NA	NA; NA	NA; NA	258,545; 1,759,438	NA; NA
Chromium	2/11	4.5 to 8.5	0.68 to 3.9	NA; NA	NA; NA	7; NA	NA; NA
Cobalt	7/11	0.18 J to 1.2	0.26 to 6.5	730; 0	NA; NA	0.6; 1	NA; NA
Copper	5/11	1.5 J to 7.3	0.97 to 7.5	1,460; 0	NA; NA	5; 9	NA; NA
Iron	8/11	53 to 3,600	44 to 3,400	10,950; 0	NA; NA	1,214; 4,267	NA; NA
Lead	4/11	0.088 J to 1.1	0.2 to 1.3	NA; NA	NA; NA	0.6; 3	NA; NA
Magnesium	11/11	9,600 to 2,000,000	NA	NA; NA	NA; NA	397,900; 2,709,181	NA; NA
Manganese	11/11	48 to 3,000	NA	876; 4	NA; NA	966; 6,866	NA; NA
Molybdenum	6/11	3.3 to 11	0.11 to 9	182; 0	NA; NA	6; 8	NA; NA
Nickel	7/11	2.2 to 17	0.86 to 3	730; 0	NA; NA	7; 15	NA; NA

**TABLE 4-4: SUMMARY OF ANALYTICAL RESULTS FOR CHEMICALS DETECTED IN GROUNDWATER SAMPLES**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Number of Detections/ Analyses	Range of Detected Concentrations	Range of Nondetected Concentrations	EPA Tap Water PRGs <sup>a</sup> ; Number of Detections Above PRGs <sup>a</sup>	Water Board ESL <sup>b</sup> ; Number of Detections Above ESL <sup>b</sup>	Average of Detected Values <sup>c</sup> ; 95UCL of Detected Values <sup>d</sup>	Background Concentrations; No. Detections Above Background
<b>Metals (total)<sup>e</sup>(µg/L)(Continued)</b>							
Potassium	11/11	17,000 to 150,000	NA	NA; NA	NA; NA	54,273; 102,234	NA; NA
Selenium	5/11	0.71 J to 2.7	0.28 to 1.1	182; 0	NA; NA	1; 3	NA; NA
Sodium	9/9	330,000 to 11,000,000	NA	NA; NA	NA; NA	1,760,444; 13,319,518	NA; NA
Thallium	3/11	0.04 J to 0.08 J	1 to 1.3	2; 0	NA; NA	0.1; NA	NA; NA
Vanadium	5/11	2.2 to 12	1.3 to 8.1	37; 0	NA; NA	5; 13	NA; NA
Zinc	6/11	2.3 J to 21	4.6 to 23	10,950; 0	NA; NA	7; 20	NA; NA
<b>Volatile Organic Compounds<sup>f</sup> (µg/L)</b>							
1,1-Dichloroethane	2/30	0.1 J to 0.3 J	0.5 to 5	2; 0	1017; 0	0.2; NA	NA; NA
1,2,4-Trimethylbenzene	1/30	0.1 J	0.5 to 5	12; 0	NA; NA	NA; NA	NA; NA
1,2-Dichlorobenzene	2/30	0.2 J to 1.3	0.5 to 5	370; 0	77,131; 0	0.75; NA	NA; NA
1,2-Dichloroethane	2/30	0.3 J to 1.7	0.5 to 5	0.1; 2	204; 0	1; NA	NA; NA
1,2-Dichloropropane	1/30	0.2 J	0.5 to 5	0.2; 1	278; 0	NA; NA	NA; NA
1,3,5-Trimethylbenzene	1/30	0.06 J	0.5 to 5	12; 0	NA; NA	NA; NA	NA; NA
1,4-Dichlorobenzene	1/30	0.3 J	0.5 to 5	0.5; 0	337; 0	NA; NA	NA; NA
2-Hexanone	3/29	0.2 J to 0.5 J	10	NA; NA	NA; NA	0.33; NA	NA; NA
4-Methyl-2-pentanone	1/30	0.1 J	10 to 50	1,993; 0	3,009,128; 0	NA; NA	NA; NA
Benzene	5/31	0.06 J to 0.2	0.5 to 5	0.4; 0	541; 0	0.11; 0.16	NA; NA
Bromoform	2/30	0.1 J to 0.2 J	1 to 5	9; 0	NA; NA	0.15; NA	NA; NA
Carbon disulfide	21/30	0.08 J to 1.1	0.5 to 5	1,043; 0	NA; NA	0.38; 0.5	NA; NA
Chloroform	1/30	1.6	0.5 to 5	0.2; 1	332; 0	NA; NA	NA; NA
Chloromethane	1/30	0.2 J	1 to 5	158; 0	41; 0	NA; NA	NA; NA
Ethylbenzene	3/31	0.07 J to 1.2	0.5 to 5	1,340; 0	169,000; 0	0.46; NA	NA; NA
Isopropylbenzene	1/30	0.07 J to 1.2	0.5 to 5	658; 0	NA; NA	NA; NA	NA; NA
Naphthalene	2/30	0.09 J to 1.0	2 to 5	0.09; 0	3,205; 0	0.55; NA	NA; NA
Tert-Butylbenzene	1/30	0.4 J	0.5 to 5	243; 0	NA; NA	NA; NA	NA; NA
Toluene	17/31	0.07 J to 0.6	0.5 to 5	723; 0	376,977; 0	0.18; 0.2	NA; NA
Trichloroethene	8/30	0.2 J to 0.6	0.5 to 5	0.03; 8	533; 0	0.34; 0.5	NA; NA
Vinyl chloride	1/30	0.2 J	0.5 to 5	0.02; 1	4; 0	NA; NA	NA; NA
Xylene (Total)	1/2	4.5 J	5	206; 0	161,000; 0	NA; NA	NA; NA
cis-1,2-Dichloroethene	14/30	0.1 J to 1.7	0.5 to 5	61; 0	6,163; 0	0.54; 0.8	NA; NA
m,p-Xylene	3/29	0.2 J to 0.4J	0.5 to 5	NA; NA	NA; NA	0.3; NA	NA; NA
n-Butylbenzene	1/30	0.1 J	0.5 to 5	243; 0	NA; NA	NA; NA	NA; NA
n-Propylbenzene	2/30	0.04 J to 0.06 J	0.5 to 5	243; 0	NA; NA	0.05; NA	NA; NA
p-Isopropyltoluene	1/30	0.07 J	0.5 to 5	NA; NA	NA; NA	NA; NA	NA; NA
sec-Butylbenzene	2/30	0.05 J to 0.3 J	0.5 to 5	243; 0	NA; NA	0.18; NA	NA; NA
trans-1,2-Dichloroethene	2/30	0.4J	0.5 to 5	122; 0	6,700; 0	0.40; NA	NA; NA
<b>Semivolatile Organic Compounds<sup>g</sup> (µg/L)</b>							
Acenaphthene	2/30	1.4J to 2.4 J	9.4 to 49	365; 0	4,240; 0	2; NA	NA; NA
Phenol	3/35	0.62 J to 31	9.4 to 49	10,950; 0	NA; NA	11; NA	NA; NA

**TABLE 4-4: SUMMARY OF ANALYTICAL RESULTS FOR CHEMICALS DETECTED IN GROUNDWATER SAMPLES**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Number of Detections/Analyses	Range of Detected Concentrations	Range of Nondetected Concentrations	EPA Tap Water PRGs <sup>a</sup> ; Number of Detections Above PRGs <sup>a</sup>	Water Board ESL <sup>b</sup> ; Number of Detections Above ESL <sup>b</sup>	Average of Detected Values <sup>c</sup> ; 95UCL of Detected Values <sup>d</sup>	Background Concentrations; No. Detections Above Background
<b>Semivolatile Organic Compounds<sup>9</sup> (µg/L) (Continued)</b>							
bis(2-ethylhexyl)phthalate	1/35	3 J	9.4 to 49	5; 0	NA; NA	NA; NA	NA; NA
2-Methylnaphthalene	2/28	0.008J to 0.01 J	0.09 to 0.1	NA; NA	26,000; 0	0.009; NA	NA; NA
Acenaphthene	5/28	0.01 J to 0.89	0.09 to 0.1	365; 0	4,240; 0	0.23; 2	NA; NA
Acenaphthylene	5/28	0.005 J to 0.096 J	0.094 to 0.1	NA; NA	NA; NA	0.040; 0.2	NA; NA
Anthracene	5/28	0.01 J to 0.12	0.09 to 0.1	1,825; 0	43; 0	0.042; 0.1	NA; NA
Benzo(a)anthracene	1/28	0.077 J	0.09 to 0.1	0.09; 0	NA; NA	NA; NA	NA; NA
Benzo(a)pyrene	1/28	0.08 J to 1.1	0.09 to 0.1	0.001; 1	NA; NA	NA; NA	NA; NA
Benzo(b)fluoranthene	1/28	0.04 J	0.09 to 0.1	0.09; 0	NA; NA	NA; NA	NA; NA
Benzo(g,h,i)perylene	1/28	0.058 J	0.09 to 0.1	NA; NA	NA; NA	NA; NA	NA; NA
Benzo(k)fluoranthene	1/28	0.042 J	0.09 to 0.1	0.06; 0	NA; NA	NA; NA	NA; NA
Chrysene	1/28	0.11 J	0.09 to 0.1	0.56; 0	NA; NA	NA; NA	NA; NA
Dibenzo(a,h)anthracene	1/28	0.014 J	0.09 to 0.1	0.01; 1	NA; NA	NA; NA	NA; NA
Fluoranthene	6/28	0.007 J to 0.24	0.094 to 0.1	1,460; 0	NA; NA	0.05; 0.4	NA; NA
Fluorene	5/28	0.024 J to 0.24	0.09 to 0.1	243; 0	1,900; 0	0.09; 0.3	NA; NA
<b>Polycyclic Aromatic Hydrocarbons<sup>9</sup> (µg/L)</b>							
Indeno(1,2,3-cd)pyrene	1/28	0.038 J	0.09 to 0.1	0.09; 0	NA; NA	NA; NA	NA; NA
Naphthalene	6/28	0.023 J to 0.2 J	0.09 to 0.1	0.09; 2	3,205; 0	0.07; 0.2	NA; NA
Phenanthrene	9/28	0.008 J to 0.77	0.094 to 0.1	NA; NA	NA; NA	0.10; 0.9	NA; NA
Pyrene	15/28	0.008 J to 0.43	0.014 to 0.1	183; 0	135; 0	0.05; 0.3	NA; NA
<b>Pesticides<sup>1</sup> (µg/L)</b>							
4,4'-DDD	2/28	0.00038 J	0.00016 to 0.006	0.3; 0	NA; NA	0.00038; NA	NA; NA
4,4'-DDE	3/28	0.00049 J to 0.00085 J	0.00016 to 0.00058	0.2; 0	NA; NA	0.0006; NA	NA; NA
Aldrin	8/29	0.00011 J to 0.0011 J	0.000054 to 0.0011	0.004; 0	NA; NA	0.0005; 0.00075	NA; NA
Beta-BHC	1/28	0.0005	0.00038 to 0.0014	0.037; 0	NA; NA	NA; NA	NA; NA
Dieldrin	1/28	0.00046 J	0.0004 to 0.0005	0.004; 0	NA; NA	NA; NA	NA; NA
Endosulfan I	9/29	0.00012 J to 0.002 J	0.000067 to 0.0023	NA; NA	NA; NA	0.00086; 0.0012	NA; NA
Endosulfan II	1/28	0.00023 J	0.000087 to 0.0034	NA; NA	NA; NA	NA; NA	NA; NA
Endrin	2/28	0.00011 J to 0.00026 J	0.000083 to 0.0027	11; 0	NA; NA	0.0002; NA	NA; NA
Endrin aldehyde	4/28	0.0002 J to 0.0032	0.00013 to 0.00096	NA; NA	NA; NA	0.0012; 0.008	NA; NA
Heptachlor Epoxide	2/28	0.00026 J to 0.0019 J	0.00005 to 0.0054	0.01; 0	NA; NA	0.0010; NA	NA; NA
Methoxychlor	2/28	0.00091 J to 0.0013	0.00017 to 0.0012	182; 0	NA; NA	0.0011; NA	NA; NA
alpha-BHC	4/28	0.0001 J to 0.0023	0.00006 to 0.0005	0.01; 0	NA; NA	0.0007; 0.006	NA; NA
alpha-Chlordane	5/28	0.00023 J to 0.0048J	0.000072 to 0.0016	NA; NA	NA; NA	0.0014; 0.01	NA; NA
gamma-BHC (Lindane)	5/29	0.00019 J to 0.0017 J	0.000092 to 0.00065	0.05; 0	NA; NA	0.0006; 0.0018	NA; NA
gamma-Chlordane	1/28	0.00041 J	0.00015 to 0.00095	NA; NA	NA; NA	NA; NA	NA; NA
<b>Total Petroleum Hydrocarbons<sup>1</sup> (mg/L)</b>							
Diesel-Range	26/37	0.087 to 54	0.05 to 1.1	NA; NA	NA; NA	2; 23	NA; NA
Gasoline-Range	7/35	0.028 J to 1.1	0.016 to 0.05	NA; NA	NA; NA	0.21; 2	NA; NA
Motor Oil-Range	25/37	0.037 J to 7.1	0.2 to 0.5	NA; NA	NA; NA	1; 2	NA; NA

**TABLE 4-4: SUMMARY OF ANALYTICAL RESULTS FOR CHEMICALS DETECTED IN GROUNDWATER SAMPLES**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Number of Detections/Analyses	Range of Detected Concentrations	Range of Nondetected Concentrations	EPA Tap Water PRGs <sup>a</sup> ; Number of Detections Above PRGs <sup>a</sup>	Water Board ESL <sup>b</sup> ; Number of Detections Above ESL <sup>b</sup>	Average of Detected Values <sup>c</sup> ; 95UCL of Detected Values <sup>d</sup>	Background Concentrations; No. Detections Above Background
----------	-------------------------------	----------------------------------	-------------------------------------	--	--	---	--

Notes:

- a EPA Region 9 2004 Tap Water PRGs
- b Water Board 2005 ESLs for evaluation of potential vapor intrusion concerns
- c Arithmetic mean, calculated for all chemical with at least two detections.
- d Calculated for all chemicals with at least four detections.
- e Analyzed by EPA Method 6020, 7470A, or 7471A
- f Analyzed by EPA Method 5035, 8260B, or 8020A
- g Analyzed by EPA Method 8270c
- h Analyzed by EPA Method 8270c-SIM
- i Analyzed by EPA Method 8081A
- j For TPH as gasoline by the State of California LUFT Field Manual (and by SW846 Methods 5035 and 8015A, and for TPH as diesel and motor oil the State of California LUFT Field Manual and by SW-846 EPA Method 8015A)
- 95UCL One-sided 95 percent upper confidence limit on the arithmetic mean
- µg/L Micrograms per liter
- BHC Benzene hexachloride
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethene
- EPA U.S. Environmental Protection Agency
- ESL Environmental screening level
- J Estimated concentration
- LUFT Leaking Underground Fuel Tank
- mg/L milligrams per liter
- NA Not analyzed
- PRG Preliminary remediation goal
- TPH Total petroleum hydrocarbons
- Water Board San Francisco Bay Regional Water Quality Control Board

Source:

EPA. 1996. "Test Methods for Evaluating Solid Waste. Third Edition SW-846, as updated by Updates I, II, IIA, IIB, and III." December. Available Online at: <http://www.epa.gov/sw-846/main.htm>

EPA. 2004e. "Region 9 Preliminary Remediation Goals [PRG] and Accompanying PRGs: Background Document." December. Available Online at: <http://www.epa.gov/region09/waste/sfund/pfg/files/background.pdf>.

State of California. 1989. "Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure." Prepared by the Leaking Underground Fuel Tank Task Force. October.

Water Board. 2005. "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater." February.

**TABLE 4-5: BACKGROUND SCREEN FOR METALS IN GROUNDWATER**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Metal	Site 34, Groundwater				Alameda Background Groundwater				1st Tier		Quantile Test Conclusion (Tier 2) <sup>e</sup>	Site > Background? (YES or NO)
	Sample Size <sup>a</sup>		Detection Frequency	Censored Results <sup>b</sup>	Sample Size <sup>a</sup>		Detection Frequency	Censored Results <sup>b</sup>	Statistical Test <sup>c</sup>			
	Detected	Total			Detected	Total			Test	Prob <sup>d</sup>		
Aluminum	21	29	72	0	56	194	29	0	TP	0.534	Site ≤ Background	NO
Antimony	18	29	62	0	13	194	7	0	TP	1.000	(1)	NO (2)
Arsenic	28	29	97	0	107	198	54	1	TP	0.623	Site ≤ Background	NO
Barium	29	29	100	0	161	194	83	0	WRS(G)	0.002	N/A	YES
Beryllium	5	29	17	24	18	194	9	2	TP	1.000	(1)	NO (2)
Cadmium	3	29	10	0	22	194	11	41	TP	1.000	(1)	NO (2)
Chromium	19	29	66	0	33	194	17	0	TP	1.000	(1)	NO (2)
Cobalt	26	29	90	0	12	194	6	41	TP	0.180	(1)	YES (2) (3)
Copper	18	29	62	0	60	194	31	2	TP	1.000	Site ≤ Background	NO
Iron	26	29	90	0	130	198	66	0	WRS(G)	0.004	N/A	YES
Lead	14	29	48	0	17	195	9	0	TP	1.000	(1)	NO (2)
Manganese	29	29	100	0	187	198	94	0	WRS(G)	0.003	N/A	YES
Mercury	1	29	3	28	4	198	2	0	No Test	N/A	N/A	N/A
Molybdenum	25	29	86	0	12	119	10	1	TP	0.357	(1)	YES (2) (3)
Nickel	24	29	83	0	23	198	12	0	TP	1.000	Site ≤ Background	NO
Selenium	10	29	34	0	1	193	1	73	TP	<0.001	Site > Background	YES
Silver	8	29	28	21	4	188	2	34	TP	1.000	(1)	NO (2)
Thallium	13	29	45	16	3	193	2	18	TP	1.000	(1)	NO (2)
Vanadium	24	29	83	0	72	198	36	0	TP	1.000	Site ≤ Background	NO
Zinc	23	29	79	0	65	198	33	0	TP	0.373	Site ≤ Background	NO

Notes:

- a Sample size includes high censored results
- b Number of censored results that exceed the maximum detected concentration. These results were excluded from the statistical comparison tests.
- c TP= test of proportions (implemented using the Fisher exact test)  
WRS(G)= Gehan-Wilcoxon test  
H<sub>0</sub> is that site ≤ background. Note that for TP, the test is comparing the frequency of detected measurements that exceed the maximum censored datum in the background data set.
- d Calculated significance level for individual statistical tests. Reject H<sub>0</sub> if Prob ≤ 0.05.
- e Conducted in cases where the WRS(G) test cannot be performed, or when H<sub>0</sub> is not rejected by this test
- > Greater than H<sub>0</sub> Null hypothesis
- < Less than N/A Not applicable, H<sub>0</sub> was rejected by the WRS(G) test, or no test was performed.
- ≤ Less than or equal to
- (1) Quantile test could not be conducted because one or more censored results was present in the right-hand tail of the combined site and background data set
- (2) Conclusions from the statistical tests are considered equivocal when the result for the test of proportions is nonsignificant and the quantile test cannot be conducted because of (1). In these cases, conclusions are based on qualitative evaluation of outlier box-plots and quantile probability plots, with an emphasis on comparing the range of detected results.
- (3) Conclusion is based on comparison of the detection frequencies and the maximum detected results in the site and background data sets

## 5.0 FATE AND TRANSPORT OF CHEMICALS IN SOIL AND GROUNDWATER AT IR SITE 34

This section describes the fate and transport mechanisms for the chemicals of interest (COI) in soil and groundwater at IR Site 34. Fate and transport modeling for chemicals in groundwater was not conducted; therefore, the discussion of chemical fate and transport is based on qualitative assessments. Fate and transport of chemicals in environmental media is controlled by the physical properties of the media in which the chemicals reside, such as lithologic characteristics and geochemical conditions, and physical properties of the chemicals, such as affinity for organic carbon, and tendency to volatilize. This evaluation assesses whether the chemicals identified in the nature and extent evaluation as exceeding comparison criteria have migrated or degraded, are being released from a continuing source of contamination, or are likely to be distributed by groundwater or other potential pathways.

This section includes (1) a summary of COIs at the site (this section), (2) a discussion of the primary transport processes that may mobilize these chemicals in soil and groundwater (see Section 5.1); (3) identification of the physical characteristics and primary fate processes that affect the COIs (see Section 5.2); (3) development of a conceptual model of fate and transport processes that are expected to affect the COIs at IR Site 34 (see Section 5.3); and (4) a qualitative summary of the fate and transport of the COIs (see Section 5.4).

The discussion is focused on chemicals reported in soil and groundwater samples at concentrations exceeding comparison criteria, as presented in Sections 4.1 and 4.2. Based on the analysis presented in these sections, a number of contaminants are present at IR Site 34 at levels of potential concern. These include:

The following COIs were identified for soil (see Section 4.1):

- Six metals (arsenic, cadmium, chromium, iron, lead, and vanadium)
- One VOC (1,4-DCB)
- PAHs
- Two pesticides (dieldrin and heptachlor epoxide)
- Four PCBs (Aroclors-1248, -1254, -1260, and -1268)
- Petroleum hydrocarbons (including diesel-range and motor oil-range hydrocarbons)

The following COIs were identified for groundwater (see Section 4.2):

- Three metals (arsenic, iron, and manganese)
- Five VOCs (1,2-DCA, 1,2-chloropropane, chloroform, TCE, and vinyl chloride)

- Three PAHs [B(a)P, dibenzo(a,h)anthracene, and naphthalene]
- Petroleum hydrocarbons (including diesel-range and motor oil-range hydrocarbons)

## **5.1 POTENTIAL MIGRATION PATHWAYS**

Chemicals may migrate from affected areas at IR Site 34 through several potential routes or pathways. These potential migration pathways are summarized below.

- Chemicals in soil can migrate from unpaved surfaces to different locations by particulate dispersion via airborne dust and surface water runoff.
- VOCs in soil and groundwater can volatilize into air.
- Chemicals in soil can migrate to groundwater by infiltration of surface water and by groundwater table fluctuations caused by storm events, seasonal variations, and tidal influence.
- Chemicals in groundwater can migrate to the Oakland Inner Harbor or to deeper aquifers by groundwater flow.
- Chemicals in groundwater can migrate through preferential flow pathways such as stormwater drains to the Oakland Inner Harbor.

The following subsections discuss the significance of the transport mechanisms that drive each of these potential migration pathways at IR Site 34.

### **5.1.1 Particulate Dispersion**

Particulate dispersion is the process by which solids (either adsorbed to soil particles or as residual product) are transported as airborne or waterborne particulates by mechanical processes or through human or biological agents. The amount of contaminated material transported by wind or water or biological agents depends on the extent and magnitude of contamination, and proximity of chemicals to the surface. Because the surface cover at IR Site 34 is minimal, soil erosion (as wind drift, sediment transport and surface runoff) is a likely current transport mechanism. However, the planned reuse of the site as a golf course is expected to reduce the significance of this dispersal mechanism.

### **5.1.2 Volatilization to Ambient Air**

Volatilization is the process by which liquids and solids vaporize and escape to the atmosphere. VOCs dissolved in groundwater or present in soil can volatilize and migrate into the vadose zone (soil gas) and into the atmosphere. Results of the RI sampling activities confirmed minimal concentrations of VOCs in the soil vadose zone and in groundwater. Because concentrations of

VOCs in soil and groundwater at IR Site 34 are relatively low, volatilization from soil and groundwater is considered a minor transport pathway.

### **5.1.3 Infiltrating Precipitation or Fluctuating Groundwater Table**

Another possible transport pathway at IR Site 34 is leaching from vadose zone soil into groundwater caused by infiltration of rainwater. Transport from soil to groundwater can also occur when fluctuations of the groundwater table result in groundwater coming in contact with contaminated soil, allowing chemicals to dissolve into groundwater. Tidally induced fluctuations of the water table are known to occur at IR Site 34, and may extend inland as far as 300 feet from the shoreline of the Inner Harbor.

The potential for chemicals to leach from soil to groundwater depends on the concentration and solubility of the chemicals present in soil, the soil texture, the net volume and rate of precipitation infiltration, and the frequency and duration of tidal inundation and seasonal variations. Because most of IR Site 34 is unpaved, the migration of chemicals caused by infiltrating precipitation is considered a likely transport pathway. However, most of the chemicals identified in soil at Site 34 were detected infrequently, at relatively low concentrations, and generally have low solubilities. Therefore, the leaching potential for these chemicals is low as further confirmed by the lack of their detections in groundwater. Leaching of residual chemicals from soil to groundwater as a result of fluctuation of groundwater elevations is also considered a likely transport mechanism at IR Site 34. Both seasonal and tidal fluctuations of groundwater elevation may transport chemicals from the soil to the groundwater, and tidal fluctuations have been observed at nearby IR sites with similar lithology. However, the nature and extent of soil contamination discussed in Section 4.1 indicates that most of the soil contamination present at IR Site 34 is in shallow soils outside the range of tidal fluctuations of groundwater elevation; therefore, reducing the significance of seasonal and tidal groundwater elevation fluctuations as a chemical transport mechanism.

### **5.1.4 Groundwater Migration**

Vertical or horizontal migration of chemicals dissolved in groundwater is controlled by flow velocity, dispersion, diffusion, retardation, and natural attenuation mechanisms. Groundwater of the FWBZ is present at IR Site 34 under unconfined conditions at depths ranging from approximately 2.4 to 4 feet bgs. Vertical migration of groundwater to deeper aquifers is not considered a significant transport pathway at IR Site 34 because a thick clay aquitard layer underlies the surficial fill layer at the site. Lithologic information from the deep borings at the site (wells MW7C and MW-24, 60 feet deep) indicates that up to a 15-foot-thick clay layer separates the shallow and deep aquifers at IR Site 34. At the locations of deep borings DP17 and DP-18 (see Appendix B), the aquitard layer was not encountered at 44 feet bgs (geoprobe refusal), but is likely present deeper as indicated by the boring logs for wells MW7C and MW-24. However, horizontal migration of chemicals with groundwater (with some vertical flow component due to tides) is considered a likely transport pathway for the site.

## 5.1.5 Subsurface Conduits

Pipes and pipe bedding can act as conduits that aid migration of dissolved chemicals through the subsurface. Within the saturated zone, areas with greater hydraulic conductivity will allow more rapid groundwater flow, thus they may represent a preferential pathway.

Potential preferential flow pathways at IR Site 34 include a storm sewer line west of former Buildings 331, 345, and 471 and associated outfall, a storm sewer catch basin, and a portion of a storm sewer line in the undeveloped western portion of the site that continues and outfalls beyond IR Site 34. Migration of chemicals due to groundwater flow through subsurface conduits is considered a possible transport pathway for the site. Groundwater samples were collected from DP12 and DP17 (see Figure 1-5) to evaluate the potential for the storm sewer line to act as a preferential flow pathway. Detected chemicals were either below EPA tap water PRGs or below Alameda Point background concentrations for metals. Based on the data collected from these two points and the chemical distribution at the site, it does not appear that chemicals are migrating along this pathway.

## 5.2 PHYSICAL CHARACTERISTICS AND PRIMARY FATE PROCESSES THAT AFFECT CHEMICALS OF INTEREST

Chemical fate is the tendency of a chemical to undergo transformation or degradation. Mobility is the tendency of a chemical to move along a pathway in response to a driving force. The tendency toward immobility and persistence is a function of site-specific characteristics and the physical and chemical properties of the chemicals. These properties include aqueous solubility, tendency to transform or degrade (usually described as half-life or an environmental half-life in a given medium), and chemical affinity for adsorption to solids or organic matter (usually described by a partitioning coefficient). The following chemical classes are of interest at IR Site 34 because these chemical classes were detected in soils and groundwater at IR Site 34 at concentrations above residential soil PRGs (EPA 2004e), tap water PRGs (EPA 2004e), or Water Board ESLs (Water Board 2005):

- Metals in soils and groundwater
- VOCs in soil and groundwater
- PAHs in soil and groundwater
- Pesticides in soil
- PCBs in soil
- Petroleum hydrocarbons in soils and groundwater

The persistence and mobility of organic chemicals is governed by their physicochemical properties and by transformation mechanisms that act on them. The following subsections

present the specific physicochemical properties for the COIs. As described below, the compounds in each chemical group have similar physicochemical properties that influence their mobility or persistence in the environment.

## **5.2.1 Metals**

Metals are not subject to many of the degradation reactions that affect organic chemicals because they are chemical elements rather than chemical compounds, making them naturally persistent in the environment. However, metals are strongly affected by chemical reduction and oxidation (redox) reactions that can change their ionic charge and species. Redox conditions strongly influence the transport behavior of each metal species in the environment because redox conditions control the ionic species of metals, and different ionic species have differing aqueous solubilities and determine whether the metal will be present as an immobile phase in soil or as a mobile phase dissolved in groundwater.

Metals detected in soils and groundwater at IR Site 34 include arsenic, cadmium, chromium, iron, lead, manganese, and vanadium. 95UCL concentrations of cadmium, chromium, and vanadium did not exceed either the Alameda site background concentration or their respective comparison criterion, and these metals are not discussed further. Chemical properties of arsenic, iron, lead, and manganese are discussed below.

### **5.2.1.1 Arsenic**

Arsenic occurs naturally over a wide range of concentrations and is ubiquitous in soils and groundwater in California (Shacklette and Boerngen 1984). Arsenic concentrations at IR Site 34 exceed comparison criteria in both soils and groundwater. In addition to occurring naturally in soils and groundwater in California, arsenic in soil may be attributed to dissolution of arsenic in paint chips and dust, pesticide use, and wood treatment, which may have been present in a soluble form.

Redox conditions greatly affect the transport of arsenic, because redox conditions control the ionic species of metals and different ionic species of arsenic have differing aqueous solubilities. In oxidizing conditions, the relatively insoluble arsenate species of arsenic predominates and arsenic mobility is low. In reducing conditions, the more soluble arsenite species predominates and is more likely to dissolve into the groundwater and mobilize arsenic (Van Deuren others 2002).

In soils, redox conditions are strongly controlled by microbial activity. Reducing conditions are brought about by the absence of oxygen, which may be caused when oxygen is consumed by microbial activity. Microbial biodegradation of organic chemicals such as petroleum hydrocarbons can consume the available oxygen in soil and cause the oxidation state of arsenic to change from the relatively insoluble arsenate species to the more soluble arsenite species. As a result, arsenic is likely to be mobilized in areas where the biodegradation of petroleum hydrocarbons creates reducing conditions. Arsenite, the mobile ionic species of arsenic, may

revert to the more immobile arsenate species when more oxidizing conditions are encountered outside the immediate zone where petroleum hydrocarbons are actively biodegrading.

#### **5.2.1.2 Iron**

Iron is a major constituent of soils with iron contents ranging between 0.5 percent and 5 percent (Kraemer, Kretzchmar, and Reichard 2004). Insoluble iron minerals exist as oxides, hydroxides, and oxyhydroxides and are ubiquitous in many natural soil systems. Not only is iron common, but it is also reactive and readily reflects changes in surrounding redox potential and pH conditions.

Generally, iron is relatively immobile in the environment. Sorption behavior is primarily related to pH (within the typical range of 5.0 to 8.0), and each ion has its own optimum pH range for adsorption. In groundwater systems, iron typically occurs in one of two oxidation states: reduced soluble divalent ferrous iron ( $\text{Fe}^{+2}$ ) or oxidized insoluble trivalent ferric iron ( $\text{Fe}^{+3}$ ) (Vance 2002). However,  $\text{Fe}^{+3}$  will be in solution only under very low pH (less than 3.0), while  $\text{Fe}^{+2}$  would predominate in groundwater under reducing conditions and typical pH range (Dragun 1998).

The pH measured in soil at Site 34 is predominantly neutral to basic. The pH measured in groundwater samples from wells is neutral or slightly greater than 7.0. Taking into account the pH measured in groundwater at Site 34 and likely presence of reducing conditions resulting from the microbial degradation of organic chemicals such as petroleum hydrocarbons,  $\text{Fe}^{+2}$  is expected to be prevalent in groundwater at Site 34. However, once conditions in groundwater become more oxidizing,  $\text{Fe}^{+2}$  is expected to precipitate out of solution as less soluble oxides and hydroxides of  $\text{Fe}^{+3}$ .

#### **5.2.1.3 Lead**

Lead is a naturally occurring element in soils, typically ranging from 10 to 150 mg/kg (Pierzynski, Sims, and Vance 1994). Lead is also found in many products, including fuels, paints, and batteries.

Lead has a high sorption coefficient and typically is sorbed strongly to soils, particularly fine-grained material that contains clay. Lead sorption is pH-dependant; at very low or very high pHs, lead can desorb and become mobile in groundwater. However, in most environmental conditions, lead becomes strongly sorbed to soils, where it is immobilized.

Considering predominantly neutral to basic pH measured in soil and groundwater at Site 34, lead is not expected to be mobile in soil and groundwater at Site 34.

#### **5.2.1.4 Manganese**

Manganese is a common naturally occurring element found in soils that has been detected at concentrations exceeding comparison criteria in groundwater at IR Site 34. Manganese is essential to iron and steel production, and may be found in certain aluminum alloys (United States Geological Survey [USGS] 2004). Manganese in aerobic soils is not considered very mobile. Precipitation of manganese oxides, adsorption, and ion exchange will effectively bind manganese in soils.

The chemistry of manganese in the environment is complex; manganese has several possible oxidation states in a soil-water environment (McComish and Ong 1988). Like arsenic, manganese solubility is controlled by the redox potential and the pH of the soil. Low pH or reducing conditions favor the presence of the more soluble manganese ( $Mn^{2+}$ ) state. Thus manganese is likely to be mobilized in areas where the biodegradation of petroleum hydrocarbons creates reducing conditions.

#### **5.2.2 Volatile Organic Compounds**

VOCs were detected in both soils and groundwater at IR Site 34, including the chlorinated solvents 1,4-DCB in soil and 1,2-DCA, 1,2-dichloropropane, chloroform, TCE, and vinyl chloride in groundwater. 1,2-DCE was detected in groundwater across IR Site 34, however, all detections were below PRGs, 1,2-DCE is not a COI. TCE, 1,2-DCE, and vinyl chloride are closely related degradation products, and the presence of 1,2-DCE and vinyl chloride suggest that natural microbial degradation of TCE is occurring at IR Site 34.

The physicochemical parameters that govern fate and transport of VOCs released to the environment include aqueous solubility, vapor pressure, organic-carbon-normalized partition coefficient ( $K_{oc}$ ), and Henry's law constant (Montgomery and Welkom 1989).

As discussed above, Henry's law constant represents the tendency of a dissolved gas to transfer from a dissolved phase to the atmosphere; higher Henry's law constants signify a greater tendency for compounds to transfer from an aqueous phase to a gaseous phase (Montgomery and Welkom 1989). VOCs present at IR Site 34 have relatively high Henry's Law constants, indicating that they would have a tendency to volatilize from aqueous solutions exposed to the atmosphere.

Vapor pressure is a measure of the tendency of a substance to evaporate. Higher vapor pressure indicates greater tendency to volatilize. VOCs, including those detected at IR Site 34, are a group of compounds with high vapor pressure and a high tendency to volatilize if exposed to air. Thus, if spilled on the ground surface or present in soils near the ground surface, the bulk of VOCs are expected to volatilize to the atmosphere.

The aqueous solubility of a chemical is a critical chemical property because transport is often by water. Highly soluble substances can be readily leached from soil and are generally mobile in

groundwater. Compounds detected at IR Site 34 are all relatively soluble and thus are likely to be mobilized from soil to groundwater, for example by infiltration of rainwater or tidal inundation.

The  $K_{oc}$  is a parameter that reflects the propensity of a compound to adsorb to organic matter (Montgomery and Welkom 1989). Higher  $K_{oc}$  values indicate greater sorption potential and less mobility in the saturated zone. Most soils at IR Site 34 are fine-grained sands deposited in an estuarine environment, and are expected to contain naturally occurring organic carbon, which should offer ample opportunity for adsorption. All of the compounds detected at concentrations exceeding comparison criteria at IR Site 34 have relatively high  $K_{oc}$  values, indicating that most VOCs would be expected to be slowed as they travel as a dissolved phase through the shallow aquifer. Relative to other compounds detected at concentrations exceeding comparison criteria, vinyl chloride has a lower  $K_{oc}$  value and is expected to be the most mobile.

In summary, the VOCs present at concentrations exceeding comparison criteria at IR Site 34 have properties that affect their fate and transport. Most of the compounds have relatively high vapor pressures, indicating that if spilled on the ground surface or present in soils near the ground surface, they would tend to rapidly volatilize. The relatively high aqueous solubilities of most compounds at the site indicate that the compounds are likely to dissolve into infiltrating precipitation and percolate to the groundwater table where they may be transported by advective flow of groundwater. The relatively high Henry's Law constants indicate that advectively transported compounds would tend to adsorb onto available organic carbon in the aquifer and move substantially more slowly than groundwater. Finally, the relatively high Henry's law constants of these compounds indicate that the compounds would tend to transfer from the aqueous phase to the gaseous phase if exposed to the atmosphere or to air in soil pore space.

### 5.2.3 Polycyclic Aromatic Hydrocarbons

PAHs are a group of organic chemicals containing two or more aromatic (benzene) rings that are produced during incomplete combustion of organic materials. PAHs are also present in asphalt used in road construction, crude oil, refined petroleum products, creosote, and roofing tar (Research Triangle Institute 1995). There are more than 100 PAHs. Those detected at IR Site 34 include benzo(a)anthracene, B(a)P, benzo(b)fluoranthene, chrysene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, and naphthalene in soil; and B(a)P, dibenzo(a,h)anthracene, and naphthalene in groundwater. Of these, four are classified as probable human carcinogens, one is classified as a possible human carcinogen, and three are not classified.

The simplest PAH (naphthalene) contains two benzene rings, B(a)P contains four benzene rings, and other PAH compounds contain five or more benzene rings. In general, PAHs are hydrophobic compounds with low water solubility and high affinity for sorption to organic particles. Water solubility and Henry's Law values decrease with the increasing number of aromatic rings. Conversely,  $K_{oc}$  values for PAHs increase with the increasing number of aromatic rings (Morgan and others 1967). These general chemical characteristics of PAHs affect the environmental behavior of PAHs: naphthalene is the most mobile PAH and is most likely to

dissolve and be transported advectively with groundwater, while PAHs with more aromatic rings have a stronger tendency to sorb to soil and appear to persist longer in the environment (Morgan and Others 1990).

The biodegradation of PAHs is thought to become more difficult with increasing number of aromatic rings; high-molecular-weight, multiringed PAHs groups [such as B(a)P] are the most resistant to biodegradation and generally remain in soil longer than lower-molecular-weight PAHs with fewer aromatic rings (such as naphthalene) (Research Triangle Institute 1995).

Naphthalene consists of two benzene rings and the relatively high mobility of naphthalene results from its small size compared with other PAHs. Naphthalene is a constituent of diesel fuel and fuel oils and has been shown to biodegrade in soils. Naphthalene is the most volatile of the PAHs, and naphthalene has slight tendency to sorb to organic carbon in soils. Naphthalene also is the most water soluble of the PAHs.

Other PAHs are less soluble and more likely to sorb to organic carbon in soils. The four-, five-, and six-ring PAHs will likely accumulate in soils and sediment as a result of their tendency to strongly sorb to organic carbon (Kanaly and Harayama 2000). PAHs in soil can enter groundwater, although their low solubility in water and high affinity for sorption to soil greatly retard this process (Research Triangle Institute 1995). Although the low aqueous solubilities suggest that the four-, five-, and six-member ring PAHs will have low mobility in aqueous or soil environments, these larger PAHs may be transported in free-phase product such as diesel fuel or fuel oil.

In summary, PAHs in general have low aqueous solubility and high affinity for sorption to soils. The PAHs generally biodegrade very slowly. These properties make PAH compounds relatively persistent and immobile in the environment. Although classified as a PAH, naphthalene is the most soluble, most volatile, and least persistent of the PAHs.

#### **5.2.4 Pesticides**

Pesticides detected at IR Site 34 at concentrations exceeding comparison criteria include dieldrin and heptachlor epoxide, which were generally detected along fence lines or former fence lines at the site and may have historically been applied to control growth of weeds.

These chemicals are strong insecticides that generally persist in the environment. Their persistence, toxicity, and tendency to bioaccumulate led to the eventual banning of these insecticides for agricultural use. Low vapor pressures and Henry's Law values for these pesticides suggest that residues will not volatilize rapidly, and low aqueous solubilities indicate that the chemicals will not readily dissolve and be transported with groundwater (Howard 1991). The solubility of these insecticides may be enhanced by dissolved organic matter or mixtures of contaminants (co-solvent effect).

The  $K_{oc}$  for dieldrin and heptachlor epoxide data suggest these pesticides will sorb strongly to soil organic matter. Dieldrin has shown limited microbial degradation (Matsumura and Boush 1967). However, heptachlor epoxide is a metabolite of heptachlor, and the presence of heptachlor epoxide indicates that some biological degradation of heptachlor has occurred.

In summary, dieldrin and heptachlor epoxide are relatively stable compounds that are expected to be immobile and persistent in soils at IR Site 34.

### **5.2.5 Polychlorinated Biphenyls**

PCBs were detected at concentrations exceeding comparison criteria in soils at a number of locations at IR Site 34, including the western site boundary, between former Buildings 343 and 344, and around former Building 331. Isolated exceedances also were identified at former Building 604 and in off-site step-out samples near former Building 345. PCBs have excellent insulating properties, are nonflammable, and have been used widely in the past as coolants and lubricants, especially in electrical transformers. PCBs are among the most persistent manmade compounds in the environment, and can resist degradation for years (Agency for Toxic Substance and Disease Registry 2001). The manufacture of PCBs was halted in 1977 as a result of their bioaccumulation in the environment.

PCBs degrade slowly in soil in natural systems. PCBs have large molecular structures and typically bind to soil based on their size and physical characteristics. Anaerobic systems degrade PCBs more rapidly than aerobic systems. PCBs will likely persist at PCB-contaminated sites unless native microbial communities are augmented with specific microbes found to be effective in PCB degradation, or until native communities are enhanced through soil amendments.

The low mobility exhibited by these hydrophobic compounds slows their migration to groundwater, unless a mobilizing agent is introduced. At IR Site 34, PCBs are not expected to migrate to groundwater.

### **5.2.6 Petroleum Hydrocarbons**

Petroleum hydrocarbons are complex mixtures of straight-chain, branched, cyclic, and aromatic hydrocarbons that are typically analytically quantified as TPH in the diesel-, motor oil-, or gasoline-range. Petroleum hydrocarbons are normally used as fuels, solvents, or chemical intermediaries. At U.S. military bases, petroleum products are primarily used as fuels, and in limited cases, solvents.

In general, petroleum fuels are prepared by distillation that separates the hydrocarbon mixture into molecular weight fractions based on boiling point. Gasoline consists primarily of the lower-molecular-weight fractions, generally from C4 (four carbon alkane, butane) to C10 (decane), while diesel fuel and motor oil contain proportionally more higher-molecular-weight fractions that fall in the C10 to C20 range. Differences in chemical properties between the low-molecular-weight and high-molecular-weight fractions cause differences in behavior of TPH as diesel, as

motor oil, and as gasoline released to the surface or subsurface. The main chemical properties that affect the fate and transport of petroleum hydrocarbons are Henry's law constant, aqueous solubility, and sorption coefficient.

Henry's law constant is based on the equilibrium relationship between the solubility of a gas in water and the partial pressure of the gas in the atmosphere above the water. Henry's law constant represents the tendency of a dissolved gas to transfer from a dissolved phase to the atmosphere (Montgomery and Welkom 1989). Compounds present in petroleum hydrocarbons have variable Henry's Law constants. Lighter fractions of petroleum distillates—such as benzene, ethylbenzene, toluene, and xylene—tend to have high Henry's law constants, indicating the compounds would have a tendency to volatilize from aqueous solutions exposed to the atmosphere. Heavier-molecular-weight petroleum distillates such as PAHs tend to have lower Henry's Law constants and have a lesser tendency to volatilize from solution when exposed to the atmosphere.

Aqueous solubilities of petroleum hydrocarbons are variable with the low-molecular-weight hydrocarbons being somewhat soluble, while the higher-weight-hydrocarbons are less soluble (Williams and Others 2005). Because of the large differences in solubility, the lighter aromatic fraction of TPH (benzene, ethylbenzene, toluene, and xylenes) may dissolve and travel with groundwater as a dissolved phase, while the heavier-molecular-weight hydrocarbons may remain in the subsurface as a separate nonaqueous phase.

Sorption of petroleum hydrocarbons is an important fate and transport process.  $K_{oc}$  for the higher-molecular-weight hydrocarbon compounds are quite high, indicating that these compounds tend to adsorb to soils. Thus, heavier diesel-range compounds and motor oil-range compounds are expected to have a stronger tendency to adsorb to the surface of soils.

Many microorganisms in aerobic environments can use petroleum hydrocarbons as an energy source. As a result, biodegradation is probably the primary hydrocarbon removal mechanism in many aerobic soil and groundwater environments. In general, the biodegradation of petroleum products appears to be a successive process, with microorganisms first using the simple low-molecular-weight hydrocarbons, followed by higher-molecular-weight hydrocarbons. The larger four- and five-ring aromatic hydrocarbons such as PAHs appear to be biodegraded to a much lesser extent.

In summary, TPH as gasoline is expected to be the least persistent and most mobile of the three TPH fractions, and is likely to be present as a dissolved phase in groundwater. It is unlikely that TPH as gasoline will persist in soils for long periods. In contrast, TPH as motor oil is expected to be least likely to dissolve and most likely to adsorb to organic materials in soil, and thus is least likely to be present as a dissolved phase and most likely to remain adsorbed to soils. TPH as diesel is an intermediate hydrocarbon mixture that is expected to exhibit intermediate properties.

### 5.3 CONCEPTUAL SITE MODEL

This subsection summarizes the fate and transport of COIs at IR Site 34 as a CSM. The CSM is used to identify and prioritize pathways that pose the greatest potential effects to the environment. These pathways are considered further in the HHRA and SLERA presented in Sections 6.0 and 7.0.

IR Site 34 is currently unoccupied land and is considered part of the Northwest Territories. The Northwest Territories are designated as Public Open Space and Parks, and the planned reuse of this area is recreational (City of Alameda 2003). The future designated use of much of IR Site 34 is as part of a golf course (Alameda Reuse and Development Authority 2006).

Although the residential scenario was evaluated in the risk assessment to provide information to decision-makers, this scenario is unlikely for the site since the site is located in the tideland trust area where residential use is restricted. Chemicals present in soil and groundwater at IR Site 34 were summarized in Sections 4.1 and 4.2. The COIs include metals in soil and groundwater (primarily arsenic and manganese); VOCs in soil and groundwater (primarily TCE and its degradation products); PAHs in soil and groundwater; pesticides and PCBs in soil; and petroleum hydrocarbons in soil and groundwater (primarily diesel-range and motor oil-range hydrocarbons). As discussed above in Section 5.2, physicochemical properties of metals such as lead, PAHs, pesticides, and PCBs create a high probability that these contaminants will sorb to soils and become immobile.

Previous investigations indicated the most probable sources for most of the chemicals detected at IR Site 34 are sandblasting grit, waste paint material, transformers, ASTs, and chemical storage. Chemical concentrations in site soils do not indicate a likely spill area or a likely potential ongoing source of contamination. Chemicals released by these mechanisms may become dispersed from the initial site of the release by leaching from soils to groundwater by infiltrating rainwater, wind transport, entrainment with overland flow of surface water, and exfiltration from storm drains. Preferential groundwater flow pathways along utility lines also may be present. Based on the data collected from these two points and the chemical distribution at the site, it does not appear that chemicals are migrating along this pathway.

As discussed in Section 5.2 above, the primary transport pathways for contaminated soils are leaching to groundwater or direct transport of soils through wind erosion or overland flow of surface water and to a much lesser extent direct volatilization. The future reuse of the site as a golf course and park will reduce wind transport and entrainment with overland flow as chemical transport mechanisms from those portions of IR Site 34. Consequently, transport of contaminated soils by wind and water is expected to be reduced in the future, and leaching to groundwater is the pathway of most significance for contaminated soils.

Groundwater is affected by most of the chemicals present in site soils. As discussed in Section 4.2, concentrations of some chemicals in site groundwater exceeded comparison criteria, but are relatively low and do not indicate the presence of a continuing source of contamination or the presence of source material that should be addressed by a response action. Groundwater

contamination, where present, is characterized by diffuse and variable concentrations that do not indicate a primary area of release (see for example Figures 4-17 and 4-21).

In areas where natural TPH degradation in the groundwater is occurring, some metals in soil may become more soluble resulting in localized increases in their groundwater concentrations. At IR Site 34, TPH and several metals, including arsenic, iron, and manganese, were detected in groundwater at concentrations exceeding comparison criteria. However, these localized elevated concentrations are expected to return to background levels after the TPH has been completely degraded. The metals arsenic and manganese were detected in groundwater at the same general locations where TPH concentrations in soil are elevated (see for example the south and west sides of Building 331), suggesting microbial degradation of the petroleum hydrocarbons has consumed available oxygen in the subsurface and created local reducing conditions at these locations, which may have mobilized arsenic and manganese from soil to groundwater. Outside the zone where TPH is actively degrading microbially, oxidizing conditions will likely be encountered, which will transform the ionic species of arsenic and manganese to less soluble states, and reprecipitation of arsenic and manganese will likely occur.

In addition, TCE and its degradation products were detected in a diffuse groundwater plume covering the western half of the site. Observed concentrations in the TCE plume do not suggest that a continuing source area exists that should be addressed by a response action (see Figure 4-17). The presence of degradation products such as 1,2-DCE and vinyl chloride indicates that biodegradation is occurring within the TCE plume. Use of the site as a golf course is expected to reduce the potential for vapor migration by providing a greater thickness of soil between VOC-contaminated groundwater and the lower floor of new buildings or outdoor air.

As discussed in Section 2.4.2, groundwater at the IR Site 34 and surrounding sites generally flows from the center of the Alameda Point toward the shorelines of Seaplane Lagoon, San Francisco Bay, and Oakland Inner Harbor. At IR Site 34, limited available groundwater measurements from the five permanent monitoring wells at the site indicated that the site has a low hydraulic gradient and that groundwater flows from the center of the site toward the Oakland Inner Harbor with a northwestern component to the flow (see Figure 2-5). The shallow unconfined aquifer is composed primarily of fine, artificially deposited, estuarine sand fill with hydraulic conductivity characteristic of silty sands. The low hydraulic gradient and moderate hydraulic conductivity create relatively slow groundwater flow velocities. The estuarine nature of the fill material used to build Alameda Point suggests that organic carbon is likely present in the surficial aquifer, which will offer many sites for adsorption and further slow transport of chemicals through flowing groundwater. Slowly flowing groundwater with low concentrations of chemicals will ultimately discharge to Oakland Inner Harbor through subsurface recharge of surface water. The low-flow velocities of groundwater, low concentrations of chemicals in groundwater, high potential for retardation along the groundwater flow path, and tidal action and surface water flow that create a mixing zone at the interface with the Oakland Inner Harbor suggest that chemicals will not discharge to the Inner Harbor at concentrations of concern. The presence of utility corridors may create preferential flow pathways that allow more rapid flow of groundwater toward the Inner Harbor at a few locations.

The general CSM for IR Site 34 is that soils and groundwater are affected by a number of chemicals; however, the contaminants are not expected to migrate in a manner that could cause significant exposures to humans or the environment based on future use as a golf course and park. The primary chemical transport pathway would be leaching from infiltrating precipitation and transport via groundwater flow. Direct volatilization of chemicals is unlikely to represent a significant exposure pathway because VOC concentrations in groundwater are relatively low and residential use of the site is restricted because the site is located in the tideland trust area. Direct contact and entrainment of chemicals with surface runoff is expected to be mostly eliminated by the future reuse of the site as a golf course and park. Leaching and horizontal migration of chemicals in groundwater is considered a primary transport pathway for the site. The potential for chemicals to discharge to the Oakland Inner Harbor at concentrations of concern is mitigated by low concentrations of contaminants in groundwater, low flow velocities of groundwater, and high potential for retardation along the groundwater flow path.

#### 5.4 FATE AND TRANSPORT SUMMARY

A summary of the possible transport mechanisms considered for IR Site 34 is presented below.

- Particulate dispersion is the process by which chemicals are transported as airborne or waterborne particulates by wind erosion and surface runoff. Due to minimal surface cover at IR Site 34, soil erosion (as wind drift, sediment transport, and surface runoff) is a likely current transport mechanism. However, the significance of this transport mechanism is expected to be largely eliminated based on the reuse of the site as a golf course.
- Volatilization of organic chemicals from soil and groundwater is possible but probably not significant because of the relatively low levels detected in soil. Future reuse of the site as a golf course and park minimizes the possibility that direct volatilization of chemicals may represent a significant exposure pathway.
- Migration of chemicals in the subsurface caused by leaching from vadose zone soils into groundwater with infiltrating precipitation is considered a primary transport mechanism at the site. Because most of IR Site 34 is unpaved, the migration of chemicals caused by infiltrating precipitation is considered a likely transport pathway. Transport from soil to groundwater can also occur when seasonal or tidal fluctuations of groundwater elevation bring groundwater in contact with contaminated soil, allowing chemicals to dissolve into groundwater. However, the nature and extent of soil contamination discussed in Section 4.1 indicates that most of the soil contamination present at IR Site 34 is in shallow soils and outside the range of tidal fluctuations or seasonal variations in groundwater elevation, reducing the significance of water table fluctuations as a chemical transport mechanism.

- Groundwater in the surficial aquifer at IR Site 34 is present in unconfined conditions at depths ranging from approximately 2.4 to 4 feet bgs. Groundwater in the surficial aquifer is affected by most of the chemicals present in site soils, and horizontal migration of chemicals because of groundwater flow and tidal fluctuation is considered a primary transport pathway for the site. Groundwater at IR Site 34 and surrounding sites generally flows from the center of the Alameda Point toward the shoreline. The low-flow velocities of groundwater, low concentrations of chemicals in groundwater, high potential for retardation along the groundwater flow path, and tidal action and surface water flow that create a mixing zone at the interface with the Oakland Inner Harbor suggest that chemicals will not discharge to the Inner Harbor at concentrations of concern.
- Potential preferential flow pathways at IR Site 34 include a storm sewer line west of former Buildings 331, 345, and 471 and associated outfall; a storm sewer catch basin; and portion of a storm sewer line in the undeveloped western portion of the site that continues and empties through an outfall beyond IR Site 34 boundary. Migration of chemicals because of groundwater flow through subsurface conduits is considered a possible transport pathway for the site. However, based on the data collected from two borings next to the storm drain line (DP12 and DP17) and the chemical distribution at the site, it does not appear that chemicals are migrating along this pathway.
- Migration of groundwater to deeper aquifers is not considered a significant transport pathway at IR Site 34 because a thick clay aquitard layer underlies the surficial fill layer at the site. The only monitoring well screened in the deeper aquifer at IR Site 34 (MW-24) does not exhibit contamination by VOCs, although other regional chemicals such as pesticides and hydrocarbons have been detected at low concentrations in groundwater samples from this well.

## 6.0 BASELINE HUMAN HEALTH RISK ASSESSMENT

This section summarizes the risks estimated for future commercial/industrial workers, construction workers, residents, and recreational users at IR Site 34. Appendix H provides a detailed discussion of the risks in the HHRA, including the supporting calculations and the estimated risks for each COPC evaluated. Section 3.5 summarized the methodology used to estimate risks. The HHRA used a dual-tracking approach to consider both EPA and DTSC toxicity values. To satisfy federal (Navy and EPA) and state (DTSC) requirements, the HHRA prepared a set of risk assessment results using EPA toxicity values, and a separate set of risk assessment results using DTSC toxicity values. The HHRA estimated risks using EPA and DTSC toxicity values assuming both a RME scenario and a central tendency exposure (CTE) scenario. RME is intended to represent the upper end of exposure, whereas CTE represents an average exposure.

In the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), EPA defined general remedial action goals for sites in the National Priorities List (Title 40 of the *Code of Federal Regulations* Part 300.430). The goals included a range for residual cancer risk, which is "an excess upper bound life-time cancer risk to an individual of between  $10^{-4}$  and  $10^{-6}$ ," or 1 in 10,000 to 1 in 1,000,000. For that reason, the range between  $10^{-4}$  and  $10^{-6}$  is often referred to as the "risk management range". The NCP states "the  $10^{-6}$  risk level shall be used as the point of departure for determining remediation goals." Using this criteria as a general guide, the HHRA called a COPC a "risk driver" when the COPC-specific cancer risk exceeds  $1 \times 10^{-6}$  or the COPC-specific HQ exceeds 1. The RI Report evaluated each risk driver to determine whether it should be considered in an FS.

This HHRA calculated total risks, which include risks from background concentrations of metals, and incremental risks, which exclude risks from background concentrations of metals. The following section compares total risks with incremental risks. Sections 6.2 and 6.3 summarize the total risks (including background concentrations) to future workers, recreational users, and residents at IR Site 34. Section 6.4 evaluates the risk drivers identified in the HHRA as well as chemicals exceeding comparison criteria to determine whether they should be considered in an FS. Section 6.5 summarizes the analysis of uncertainties, and Section 6.6 presents the conclusions of the HHRA and the risk driver evaluations.

### 6.1 TOTAL AND INCREMENTAL RISKS

Two-population statistical tests were used to compare metals concentrations in IR Site 34 soil samples with background concentrations determined for Alameda Point. Appendix G describes the background comparison methods. Statistical tests determined that beryllium, mercury, and silver are less than background concentrations, and that all other detected metals are greater than background concentrations. To evaluate the contribution of background risks to the total risk estimates, the HHRA estimated incremental risks by calculating the risks from background concentrations of all metals detected in soil and subtracting the risks from background concentrations from the total risk estimates. Table 6-1 presents the total risks, the risks from background concentrations, and the incremental risks using EPA toxicity values. Table 6-2

presents the total risks, the risks from background concentrations, and the incremental risks using DTSC-preferred toxicity values. As shown in Table 6-1, except for the future construction worker, the incremental risks were similar to the total risks. Subtracting the contribution of background concentrations of chromium and manganese reduced the risks for the construction worker. However, the incremental cancer risk was still within the risk management range of  $10^{-4}$  and  $10^{-6}$ , and the noncancer HI estimate was still greater than the threshold HI of 1 for noncarcinogens. The following sections present the total risks, which include risks from background concentrations of metals, for future workers (commercial/industrial and construction), recreational users, and residents.

## 6.2 FUTURE WORKERS AND RECREATIONAL USERS

IR Site 34 is currently unoccupied land. Thus, no receptors are currently present at the site. The planned reuse of this area is recreational and includes the development of a golf course and park (City of Alameda 2003). Table 6-3 presents the RME and CTE risks using both EPA and DTSC toxicity values. Table 6-3 shows that RME and CTE cancer risks for future commercial/industrial and construction workers are within the risk management range of  $10^{-4}$  and  $10^{-6}$  using EPA toxicity values. Noncancer HI estimates under both the RME and CTE scenarios are greater than the threshold HI of 1 for noncarcinogens for future commercial/industrial workers. While the RME HI estimates are greater than 1 for future construction workers, the CTE HI estimates are less than 1 for future construction workers. Potential cancer risks under both the RME and CTE scenarios for recreational users were within the risk management range of  $10^{-4}$  and  $10^{-6}$  and the HI is equal to 1.

Table 6-4 presents the RME risks for each exposure pathway using EPA and DTSC toxicity values. Table 6-5 presents the CTE risks for each exposure pathway using EPA and DTSC toxicity values. These tables show that most of the potential risks to workers are associated with soil exposure pathways. Potential CTE and RME risks from groundwater exposure pathways for future workers and recreational users were less than  $1 \times 10^{-6}$  and noncancer HI estimates were less than 1. Section 6.4 discusses the risk drivers identified in soil for future workers and recreational users.

The potential for human health effects caused by lead is typically estimated on the basis of blood-lead concentrations. Although LeadSpread was designed to estimate blood-lead levels for occupational exposures, DTSC is not currently recommending the use of this model for assessment of exposure to lead under an occupational setting (DTSC 2005b). The lead EPCs for surface soil (0 to 2 feet bgs) and subsurface soil (0 to 4 feet bgs) were compared with the industrial PRG of 800 mg/kg for soil. Lead concentrations exceeded the EPA industrial PRG of 800 mg/kg in 7 soil samples, and lead concentrations were greater than the background concentration of 37.7 mg/kg in 45 samples (see Table 4-1).

### 6.3 FUTURE RESIDENTS

The HHRA evaluated potential risks for future residents. Residential development of IR Site 34 is unlikely because the planned future reuse of the area is a golf course and park. In addition, IR Site 34 has been identified as a tideland trust area that is subject to the limitations expressed in the Coastal Zone Management Act, including a restriction on residential use. Although future development of the site for residential use is hypothetical and unlikely, evaluation of this scenario provides alternative risk estimates for unrestricted reuse of the site and supports risk management decisions for the site. Table 6-3 presents the RME and CTE risks using both EPA and DTSC toxicity values. Table 6-3 shows that RME cancer risks to future residents are greater than  $10^{-4}$ . CTE cancer risks to future residents are greater than  $10^{-4}$  using DTSC toxicity values and within the risk management range of  $10^{-4}$  to  $10^{-6}$  using EPA toxicity values. The CTE and RME noncancer HI estimates are greater than the threshold HI of 1 using both EPA and DTSC toxicity values. These risk estimates, however, represent risk estimates for a hypothetical residential scenario that is unlikely. In addition, many conservative assumptions were used that may have overestimated the risks. For example, many of the VOCs accounting for most of the risks for the residential scenario are based on the maximum detected concentrations in only one soil sample (see Section 6.4.1.2).

Table 6-4 presents the RME risks for each exposure pathway using EPA and DTSC toxicity values. Table 6-5 presents the CTE risks for each exposure pathway using EPA and DTSC toxicity values. Using EPA toxicity values, Table 6-4 shows inhalation of indoor air from soil vapor intrusion accounts for 50 percent of the total cancer risk to future residents, and soil ingestion accounts for 22 percent of the total cancer risk. Inhalation of indoor air from soil vapor intrusion accounts for 74 of the total HI of 82. Using EPA toxicity values, the potential RME cancer risk and the noncancer HI from groundwater exposure pathways for future residents is  $5 \times 10^{-6}$  and 0.07, respectively. Using EPA toxicity values, the potential CTE cancer risk and the noncancer HI from groundwater exposure pathways for future residents is  $1 \times 10^{-6}$  and 0.05, respectively. Section 6.4 discusses the risk drivers identified in soil and groundwater for future residents.

The potential for human health effects caused by lead is typically estimated on the basis of blood-lead concentrations. The table below presents the estimated blood-lead concentrations.

Exposure Area	Lead EPC (mg/kg)	Predicted 99th Percentile Blood-Lead Concentration (µg/dL)	
		Adult Resident	Child Resident
Surface Soil (0 to 2 feet bgs)	2,900	111	29.5
Subsurface Soil (0 to 4 feet bgs)	2,390	92	24.5

Notes:

- 1 Soil assumed to be unprotected by pavement for this assessment
- µg/dL Microgram per deciliter
- bgs Below ground surface
- EPC Exposure point concentration
- mg/kg Milligram per kilogram

Blood-lead modeling resulted in 99th percentile concentrations greater than 10 µg/dL for the adult and child residents. Because blood lead modeling results exceeded 10 µg/dL, there is a potential for unacceptable harmful effects from exposure to lead. Lead was detected in 103 of 105 soil samples at IR Site 34. Lead concentrations ranged from 1.1 mg/kg to 21,000 mg/kg and the average was 520 mg/kg (see Table 4-1).

## **6.4 RISK DRIVERS**

The following sections discuss the risk drivers identified in soil and groundwater using EPA toxicity values. As described previously, when discussing risks in the HHRA, a COPC is termed a "risk driver" when the COPC-specific cancer risk exceeds  $1 \times 10^{-6}$  or the COPC-specific HQ exceeds 1. This section also compares the risk drivers identified in the HHRA with the chemicals exceeding comparison criteria as discussed in the nature and extent evaluation (see Section 4.0). This comparison was used to determine which chemicals should be considered in an FS. For example, this section examines the risk drivers that did not exceed EPA Region 9 residential PRGs as well as the chemicals that exceeded PRGs but were not identified as risk drivers.

### **6.4.1 Risk Drivers in Soil**

Risk drivers identified in soil include metals, VOCs, PAHs, SVOCs, pesticides, and PCBs. Table 6-6 identifies the risk drivers in soil for each receptor using EPA toxicity values. The following sections discuss the risk drivers identified in soil using EPA toxicity values.

#### **6.4.1.1 Metals**

The HHRA identified the following metals as risk drivers in soil: aluminum, arsenic, iron, lead, and manganese. These metals were detected in more than 90 percent of the soil samples, and two-population statistical tests determined these metals are greater than background concentrations (see Table 4-2).

Arsenic, iron, and lead were risk drivers that also exceeded PRGs. This RI Report recommends consideration of arsenic, iron, and lead in an FS. However, iron is only a risk driver under the residential scenario. As discussed previously, residential development of IR Site 34 is unlikely. Although iron is an essential nutrient, it has been shown to be toxic at high doses. EPA derived a provisional RfD toxicity value for iron based on a specific metabolic disorder (EPA 2004e). Incorporation of this RfD resulted in a chemical-specific HQ exceeding 1. The significance of this result is dubious because ongoing debate over this provisional RfD has not resulted in its incorporation into IRIS (EPA 2006).

Aluminum and manganese are risk drivers that did not exceed residential or industrial PRGs in soil. This is because these two metals were only risk drivers for the future construction worker, and the EPA Region 9 PRGs are not available for the construction worker scenario. Inhalation

of fugitive dust by a future hypothetical construction worker accounted for more than 95 percent of the total HI of these two metals. The estimated exposure from the inhalation of fugitive dust pathway is generally higher for construction workers than industrial workers. This is mostly because of the particulate emission factors (PEF), which relate chemical concentrations in soil to chemical concentrations in air that may be inhaled on site. The HHRA, for example, used a PEF of  $1 \times 10^6$  cubic meters per kilogram ( $m^3/kg$ ) for construction workers and  $1.32 \times 10^9 m^3/kg$  for commercial/industrial workers. The HHRA calculated concentrations in outdoor air by dividing soil concentrations by the PEF. Aluminum was detected above a background concentration of 13,960 mg/kg in 8 of 82 soil samples (see Table 4-1). Three of these samples exceeding background concentrations were collected at 7 feet bgs, which is below the depth to groundwater. Manganese was detected above a background concentration of 383 mg/kg in 11 of 82 soil samples (see Table 4-1). Historical activities and the distribution of aluminum and manganese concentrations exceeding background do not indicate aluminum and manganese are related to Navy activities at IR Site 34. Thus, the RI report does not recommend consideration of aluminum and manganese in an FS.

The maximum cadmium and vanadium concentrations exceeded residential PRGs. However, the HHRA used the 95UCL of the mean concentration to estimate potential risks, not the maximum detected concentrations. Based on the 95UCL, cadmium and vanadium are not risk drivers using EPA toxicity values. Cadmium only exceeded the residential PRG at 1 of the 105 sampling locations and vanadium at 4 of the 105 sampling locations. The RI Report does not recommend consideration of cadmium and vanadium in an FS.

#### **6.4.1.2 Volatile Organic Compounds**

The HHRA identified the following VOCs as risk drivers in soil: 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and 1,4-DCB. All five of these VOCs were only detected once and at the same location (DP2). More than 90 percent of the estimated risks for these VOCs are from the vapor intrusion pathway. As shown in Table 4-1, except for 1,4-DCB, these VOCs did not exceed PRGs in soil. This is because EPA Region 9 does not incorporate the vapor intrusion pathway when calculating PRGs for residential soil, and the vapor intrusion pathway accounts for most of the risks for these VOCs.

As described above, all five of these VOCs were only detected once and at the same location (DP2). Thus, the estimated risks for these VOCs are not representative of site-wide conditions, but rather represent the potential risks at only one soil sampling location (DP2). In addition, many of the exposure assumptions used to estimate indoor air concentrations are highly conservative and may have overestimated risks. For example, risks estimated for the vapor intrusion pathway are based on the conservative assumption that future residential and industrial buildings will be constructed at the sampling locations with the highest VOC concentrations. As discussed previously, the planned future use at IR Site 34 is a golf course and park. Residential development of IR Site 34 is unlikely. Although the estimated risks for the five VOC risk drivers is overestimated, the RI Report recommends consideration of these risk drivers in an FS because they are collocated with PCBs that are also recommended for consideration in an FS.

Although consideration of these VOCs in an FS is recommended, the risk estimates are overestimated and are for a hypothetical residential scenario that is unlikely.

#### **6.4.1.3 Semivolatile Organic Compounds**

The only SVOC identified as a risk driver in soil was bis(2-ethylhexyl)phthalate. Bis(2-ethylhexyl)phthalate was identified as a risk driver but did not exceed PRGs. Most of the risk for bis(2-ethylhexyl)phthalate is estimated from the ingestion of homegrown produce pathway, which is not a pathway that EPA considers when calculating PRGs. Ingestion of homegrown produce is a very unlikely exposure pathway since residential development at IR Site 34 is not planned. In addition, the HHRA used a conservative model to estimate plant uptake of bis(2-ethylhexyl)phthalate from soil. Bis(2-ethylhexyl)phthalate was detected in 5 of 38 soil samples collected at IR Site 34. The highest detected concentration of bis(2-ethylhexyl)phthalate (25 mg/kg) was detected in a sediment sample from AA-IT001, which is located in the northeast portion of the site. The next highest detected concentration of bis(2-ethylhexyl)phthalate was 14 mg/kg in a surface soil sample collected at location 018-004-020, which is located in the southwest portion of the site. This location is not collocated with other chemicals exceeding comparison criteria. The remaining detected concentrations of bis(2-ethylhexyl)phthalate ranged from 0.031 to 0.078 mg/kg from samples collected in the southwest corner of the site. The potential risk from bis(2-ethylhexyl)phthalate is likely overestimated. The RI Report does not recommend consideration of bis(2-ethylhexyl)phthalate in an FS.

#### **6.4.1.4 Polycyclic Aromatic Hydrocarbons**

The HHRA identified the following PAHs as risk drivers: benzo(a)anthracene, B(a)P, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and naphthalene. These PAHs were all detected in more than 35 percent of the soil samples and exceeded residential PRGs. Except for naphthalene, these risk drivers were identified as risk drivers based on the estimated cancer risk using EPA toxicity values. When evaluating carcinogenic PAHs, this RI Report used a screening level of 0.62 mg/kg for an average B(a)P-equivalent concentration. This criterion is based on previous agreements between the Navy and regulatory agencies (Navy 2001b). The average EPA B(a)P-equivalent concentration (0.47 mg/kg) and OEHHA B(a)P-equivalent concentration (0.52 mg/kg) are below the established screening level of 0.62 mg/kg. The site-wide average concentration is influenced by an EPA B(a)P-equivalent value of 8.4 mg/kg and an OEHHA B(a)P-equivalent value of 9.5 mg/kg in a sample of anomalous soil collected above a black clayey sand with a strong diesel odor at location DP16. The site-wide average EPA and OEHHA B(a)P-equivalent concentrations without this sample are 0.023 and 0.25 mg/kg. The wide range of concentrations for the B(a)P equivalent (and for individual PAHs) is indicative of fill at the facility rather than a release at IR Site 34. Elevated concentrations of PAHs were confined to individual sample locations and do not appear to represent large masses of contaminated media. Thus, the RI Report does not recommend further consideration of PAHs in an FS.

Naphthalene exceeded the California-modified residential PRG and was identified as a risk driver. The risk from naphthalene is based on the maximum detected concentration in one sampling location (DP16). Thus, estimated risks for naphthalene is not representative of site-wide conditions, but rather represent the potential risks at only one soil sampling location. The sample collected from this location was analyzed by three different analytical methods. The naphthalene concentration in this sample was 4.8 mg/kg using EPA analytical method 8270C-SIM, 13 mg/kg using EPA analytical method 8270C, and it was not detected using EPA analytical method 8260 with a detection limit of 0.0047 mg/kg. The difference in concentrations is probably related to the heterogeneity of the soil sample. Although the risk from naphthalene is overstated, naphthalene is recommended for consideration in an FS because it is collocated with PCBs that are also recommended for further consideration in an FS.

Benzo(k)fluoranthene and chrysene exceeded PRGs but were not identified as risk drivers using EPA toxicity values. While the maximum detected concentrations of benzo(k)fluoranthene exceeded the residential PRG, the 95UCL did not. The HHRA used EPCs based on the 95UCL to estimate risks. Chrysene exceeded the Cal/EPA-modified residential PRG, but not the EPA residential PRG. Chrysene would be a risk driver using DTSC toxicity factors.

#### **6.4.1.5 Pesticides**

Using EPA toxicity values, the HHRA identified dieldrin, and heptachlor epoxide as risk drivers. Dieldrin and heptachlor epoxide exceeded residential PRGs and were both detected in 14 of 95 soil samples. Dieldrin and heptachlor epoxide were only risk drivers for the residential scenario. As discussed previously, residential development of IR Site 34 is unlikely. Although consideration of dieldrin and heptachlor epoxide in an FS is recommended, the risk estimates for these two pesticides are for a hypothetical residential scenario that is unlikely.

#### **6.4.1.6 Polychlorinated Biphenyls**

Using EPA toxicity values, the HHRA identified Aroclor-1248, Aroclor-1254, and Aroclor-1260 as risk drivers. While Aroclor-1254 and Aroclor-1260 were detected in more than 20 percent of the samples, Aroclor-1248 was detected in only 3 of 143 soil samples. These three PCBs exceeded residential PRGs. The maximum detected concentrations of another PCB, Aroclor-1268, also exceeded residential PRGs, but was not identified as a risk driver because the HHRA used an EPC based on the 95UCL, not the maximum detected concentration. Because maximum detected concentrations of Aroclor-1248, Aroclor-1254, Aroclor-1260, and Aroclor-1268 are collocated, the RI Report recommends consideration of these four PCBs in an FS.

### **6.4.2 Risk Drivers in Groundwater**

The only risk driver identified in groundwater using EPA toxicity values is TCE. Potential risks from TCE are within the risk management range of  $10^{-4}$  to  $10^{-6}$ . TCE was only a risk driver for future residents. As discussed previously, residential development of IR Site 34 is unlikely. Many of the exposure assumptions used to estimate risks for VOCs were conservative and may

have overestimated risks. The vapor intrusion pathway, for example, accounted for 98 percent of the estimated cancer risk for TCE and the vapor intrusion model (EPA 2004b) used to estimate indoor air concentrations produces highly conservative results (see Section 6.5). In addition, the HHRA used conservative assumptions to estimate the groundwater EPCs, which were used in the vapor intrusion modeling. Grab groundwater samples were used to estimate EPCs in groundwater. TCE was detected in 8 of 30 groundwater samples. The two highest TCE concentrations (0.6 µg/L) were detected in grab groundwater samples collected using direct-push technologies. The highest TCE concentration detected in a monitoring well was an estimated value (J-qualified) of 0.2J µg/L, which was less than the reported detection limits. The HHRA used an EPA oral and inhalation SF of 0.4 (mg/kg-day)<sup>-1</sup>, which is a provisional value from the National Center for Environmental Assessment as presented in the EPA Region 9 PRG table (EPA 2004e). Section 6.5 further discusses uncertainties associated with toxicity values. Thus, no further evaluation of groundwater is required and no action is recommended.

As summarized in Section 4.2, many other chemicals besides TCE exceeded comparison criteria for groundwater such as EPA tap water PRGs. EPA Region 9 based tap water PRGs on the inhalation and ingestion of domestic water. However, as discussed in Section 2.5, groundwater at IR Site 34 is not reasonably anticipated to serve as a public drinking water supply. Accordingly, the HHRA did not quantitatively evaluate domestic use of groundwater because it considers it to be an incomplete pathway. Groundwater exposure pathways considered in the HHRA included inhalation of indoor air from groundwater vapor intrusion and inhalation of outdoor air from chemicals volatilizing from groundwater to outdoor air.

## 6.5 UNCERTAINTY ANALYSIS

Varying degrees of uncertainty at each stage of the HHRA arise from assumptions made in the risk assessment and the limitations of the data used to calculate risks. Uncertainty and variability also are inherent in the exposure assessment, toxicity values, and risk characterization. The uncertainties fall into two categories: uncertainties associated with the general risk assessment methods, and site-specific uncertainties associated with the HHRA. This section discusses some of the site-specific uncertainties associated with the HHRA. Section H9.0 of Appendix H provides additional detail on uncertainties associated with the risk assessment.

**EPCs.** For many sampling locations, the collection of samples was biased toward areas with known or suspected contamination, rather than collecting samples at equidistant intervals throughout the site. EPCs based on these biased soil and groundwater samples are likely to overestimate the concentrations at the exposure point. In addition, the maximum detected concentrations were used as EPCs for data sets with fewer than four detected measurements. This may overestimate the risks because the HHRA assumes a potential receptor will be exposed to all of these localized hot spots even though the maximum detected concentrations are not all collocated.

**Vapor Intrusion.** The HHRA used EPA's advanced vapor intrusion models for soil and groundwater to estimate indoor air concentrations from concentrations of volatile COPCs in soil and groundwater. Exposure assumptions used in the vapor intrusion model are conservative and

may overestimate risks. For example, the HHRA used the maximum detected concentrations for many VOCs as EPCs, and assumed that a future building would be constructed at the location where the maximum concentrations of volatile COPCs in soil and groundwater were detected and that exposure to all volatile COPCs from vapor intrusion occurs concurrently, even when maximum concentrations are not collocated. In addition, the vapor intrusion models assumed steady-state concentrations of volatile COPCs in the subsurface for the entire duration of exposure (25 years for future hypothetical commercial/industrial workers and 30 years for future hypothetical residents). The assumption of steady-state concentrations for extended durations is conservative because, over time, chemicals may migrate from one medium to another or from one location to another within a particular medium. In addition, the assumption of steady-state concentrations for the entire duration of exposure assumes that reductions in concentrations that would likely occur through transformation or degradation processes—such as hydrolysis, photolysis, and biodegradation—do not occur. Evans and Bedient (1995) concluded that the use of steady-state methods may over predict risk by as much as two orders of magnitude.

**TCE.** The HHRA used an EPA oral and inhalation SF of  $0.4 \text{ (mg/kg-day)}^{-1}$ , which is a provisional value from the National Center for Environmental Assessment as presented in the EPA Region 9 PRG table (EPA 2004e). EPA withdrew its previously published toxicity values from EPA's IRIS database in 1988 and has not published finalized toxicity values for TCE since the original values were withdrawn because of uncertainties relating to the science of TCE toxicity. In 2001, EPA's Office of Research and Development completed a preliminary draft reassessment of health risks posed by TCE (EPA 2001c). This preliminary draft reassessment proposes toxicity values that are much more conservative than the values withdrawn by EPA, and these suggested toxicity values are now the subject of much debate. As such, the scientific community is divided on whether to use the withdrawn values, the new suggested values, or some other values for calculating risks. EPA's National Center for Environmental Assessment has recommended several SFs for TCE, with most between  $2 \times 10^{-2}$  and  $4 \times 10^{-1}$  per mg/kg-day. The range of SFs has not been reduced to a single number, but EPA's National Center for Environmental Assessment recommends that risk assessors use the upper-end of the SF range (that is,  $4 \times 10^{-1}$  per mg/kg-day) to emphasize the possibility that different risks may exist under different circumstances. The use of the upper end of the range of SFs is conservative and may result in an overestimation of risks.

## 6.6 CONCLUSIONS

For future hypothetical workers and recreational users, potential cancer risks from groundwater exposure pathways were less than  $1 \times 10^{-6}$  and noncancer HI estimates were less than 1. Total cancer risks under the RME scenario from soil exposure pathways were greater than  $10^{-4}$  for commercial/industrial workers and were within the risk management range of  $10^{-4}$  to  $10^{-6}$  for construction workers. The total HI estimates under the RME scenario from soil exposure pathways were greater than 1 for future hypothetical workers and recreational users. For future residents, potential cancer risks from groundwater exposure pathways were within the  $10^{-6}$  to  $10^{-4}$  range for carcinogens and the HI estimates were less than 1. Total cancer risks under the RME scenario from soil exposure pathways exceeded the risk management range of  $10^{-4}$  to  $10^{-6}$  for carcinogens, and the total HI estimates were greater than 1 for future residents. As discussed

previously, the planned future use at IR Site 34 is a golf course and park. Residential development of IR Site 34 is unlikely.

The table below presents the chemicals recommended for further consideration in an FS based on the evaluation of the risk drivers presented in Section 6.4.

Chemicals in Soil Recommended for Further Consideration in an FS			
1,2,3-Trichlorobenzene	1,4-DCB	Aroclor-1260	Iron
1,2,4-Trichlorobenzene	Aroclor-1268	Arsenic	Lead
1,2,4-Trimethylbenzene	Aroclor-1248	Dieldrin	Naphthalene
1,2-DCB	Aroclor-1254	Heptachlor epoxide	

Although the RI report recommends the chemicals listed above to be considered in an FS, potential risks from these chemicals are based on very conservative assumptions that may have overestimated risks and are for hypothetical residential scenarios that are unlikely. For example, 1,2,3-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and iron were only risk drivers under the residential scenario. As discussed previously, residential development of IR Site 34 is unlikely. In addition, potential risks estimated for many of the chemicals listed above may have been overstated. For example, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and 1,4-DCB risk drivers were only detected once. Thus the estimated risks for these chemicals are not representative of site-wide conditions, but rather represent the potential risks at only one soil sampling location.

**TABLES**

---

**Table 6-1: Total, Incremental, and Background Risks by Pathway, Reasonable Maximum Exposure, Using EPA Toxicity Sources**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Exposure Pathway	Total EPA Cancer Risk	Cancer Risk from Background Concentrations	Incremental Cancer Risk (total - background)	Total EPA Hazard Index	Hazard Index from Background Concentrations	Incremental Hazard Index (total - background)
<b>Residential Child + Adult (0-2 ft bgs)<sup>a</sup></b>						
Ingestion of soil	6E-05	9E-06	5E-05	5	1	4
Dermal contact with soil	2E-05	9E-07	2E-05	0.6	0.02	0.6
Ingestion of homegrown produce	6E-05	3E-06	6E-05	2.1	0.3	1.8
Inhalation of particulates	6E-06	2E-08	6E-06	1.0	0.01	1.0
Inhalation of indoor air from soil	1E-04	--	1E-04	74	--	74
Inhalation of outdoor air from groundwater	1E-07	--	1E-07	0.002	--	0.002
Inhalation of indoor air from groundwater	5E-06	--	5E-06	0.1	--	0.06
<b>TOTAL</b>	<b>3E-04</b>	<b>1E-05</b>	<b>3E-04</b>	<b>82</b>	<b>2</b>	<b>81</b>
<b>Residential Child + Adult (0-4 ft bgs)<sup>a</sup></b>						
Ingestion of soil	6E-05	9E-06	5E-05	5	1	3
Dermal contact with soil	2E-05	9E-07	2E-05	0.6	0.02	0.6
Ingestion of homegrown produce	6E-05	3E-06	5E-05	1.9	0.3	1.6
Inhalation of particulates	6E-06	2E-08	6E-06	1.0	0.01	0.9
Inhalation of indoor air from soil	1E-04	--	1E-04	74	--	74
Inhalation of outdoor air from groundwater	1E-07	--	1E-07	0.002	--	0.002
Inhalation of indoor air from groundwater	5E-06	--	5E-06	0.1	--	0.1
<b>TOTAL</b>	<b>3E-04</b>	<b>1E-05</b>	<b>3E-04</b>	<b>82</b>	<b>2</b>	<b>80</b>
<b>Commercial/Industrial (0-2 ft bgs)</b>						
Ingestion of soil	1E-05	2E-06	1E-05	0.4	0.10	0.3
Dermal contact with soil	1E-05	7E-07	1E-05	0.2	0.01	0.2
Inhalation of particulates	2E-06	6E-09	2E-06	0.20	0.002	0.20
Inhalation of indoor air from soil	2E-05	--	2E-05	7	--	7
Inhalation of outdoor air from groundwater	4E-08	--	4E-08	0.0003	--	0.0003
Inhalation of indoor air from groundwater	8E-07	--	8E-07	0.01	--	0.01
<b>TOTAL</b>	<b>5E-05</b>	<b>3E-06</b>	<b>5E-05</b>	<b>7</b>	<b>0.1</b>	<b>7</b>
<b>Commercial/Industrial (0-4 ft bgs)</b>						
Ingestion of soil	1E-05	2E-06	1E-05	0.4	0.1	0.3
Dermal contact with soil	1E-05	7E-07	1E-05	0.2	0.01	0.2
Inhalation of particulates	2E-06	6E-09	2E-06	0.20	0.01	0.20
Inhalation of indoor air from soil	2E-05	--	2E-05	7	--	7
Inhalation of outdoor air from groundwater	4E-08	--	4E-08	0.0003	--	0.0003
Inhalation of indoor air from groundwater	8E-07	--	8E-07	0.01	--	0.01
<b>TOTAL</b>	<b>5E-05</b>	<b>3E-06</b>	<b>5E-05</b>	<b>7</b>	<b>0.1</b>	<b>7</b>
<b>Construction (0-2 ft bgs)</b>						
Ingestion of soil	2E-06	3E-07	1E-06	1	0.3	1
Dermal contact with soil	2E-06	1E-07	2E-06	0.8	0.02	0.7
Inhalation of particulates	8E-07	5E-07	3E-07	6	4	2
Inhalation of outdoor air from groundwater	2E-09	--	2E-09	0.0005	--	0.0005
<b>TOTAL</b>	<b>5E-06</b>	<b>9E-07</b>	<b>4E-06</b>	<b>8</b>	<b>5</b>	<b>4</b>
<b>Construction (0-4 ft bgs)</b>						
Ingestion of soil	2E-06	3E-07	1E-06	1	0.3	1
Dermal contact with soil	2E-06	1E-07	2E-06	0.8	0.02	0.7
Inhalation of particulates	9E-07	5E-07	5E-07	6	4	2
Inhalation of outdoor air from groundwater	2E-09	--	2E-09	0.0005	--	0.0005
<b>TOTAL</b>	<b>5E-06</b>	<b>9E-07</b>	<b>4E-06</b>	<b>8</b>	<b>5</b>	<b>3</b>
<b>Recreational Child + Adult (0-2 ft bgs)<sup>a</sup></b>						
Ingestion of soil	1E-05	2E-06	1E-05	1.1	0.28	0.8
Dermal contact with soil	2E-05	9E-07	2E-05	0.6	0.02	0.6
Inhalation of particulates	7E-07	2E-09	7E-07	0.04	0.0005	0.04
Inhalation of outdoor air from groundwater	1E-08	--	1E-08	0.0001	--	0.0001
<b>TOTAL</b>	<b>3E-05</b>	<b>3E-06</b>	<b>3E-05</b>	<b>2</b>	<b>0.3</b>	<b>1</b>

**Notes:**

a The total cancer risks for the resident and the recreational user presented are the combined cancer risk of the child and the adult. The total hazard index presented are for the resident and recreational user are the total hazard index for the child only.

EPA U.S. Environmental Protection Agency  
 ft bgs Feet below ground surface

**Table 6-2: Total, Incremental, and Background Risks by Pathway, Reasonable Maximum Exposure, Using DTSC-Preferred Toxicity Sources**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Exposure Pathway	Total DTSC Cancer Risk	Cancer Risk from Background Concentrations	Incremental Cancer Risk (total - background)	Total DTSC Hazard Index	Hazard Index from Background Concentrations	Incremental Hazard Index (total - background)
<b>Residential Child + Adult (0-2 ft bgs) <sup>a</sup></b>						
Ingestion of soil	2E-04	9E-06	2E-04	5	1	4
Dermal contact with soil	4E-05	9E-07	4E-05	0.6	0.02	0.6
Ingestion of homegrown produce	1E-04	3E-06	1E-04	2.1	0.3	1.8
Inhalation of particulates	2E-05	2E-08	2E-05	1.0	0.01	1.0
Inhalation of indoor air from soil	1E-03	--	1E-03	74	--	74
Inhalation of outdoor air from groundwater	1E-07	--	1E-07	0.001	--	0.001
Inhalation of indoor air from groundwater	6E-06	--	6E-06	0.1	--	0.06
<b>TOTAL</b>	<b>2E-03</b>	<b>1E-05</b>	<b>2E-03</b>	<b>82</b>	<b>2</b>	<b>81</b>
<b>Residential Child + Adult (0-4 ft bgs) <sup>a</sup></b>						
Ingestion of soil	2E-04	9E-06	2E-04	5	1	3
Dermal contact with soil	4E-05	9E-07	4E-05	0.6	0.02	0.6
Ingestion of homegrown produce	1E-04	3E-06	1E-04	1.9	0.3	1.6
Inhalation of particulates	2E-05	2E-08	2E-05	1.0	0.01	1.0
Inhalation of indoor air from soil	1E-03	--	1E-03	74	--	74
Inhalation of outdoor air from groundwater	1E-07	--	1E-07	0.001	--	0.001
Inhalation of indoor air from groundwater	6E-06	--	6E-06	0.1	--	0.1
<b>TOTAL</b>	<b>2E-03</b>	<b>1E-05</b>	<b>2E-03</b>	<b>82</b>	<b>2</b>	<b>80</b>
<b>Commercial/Industrial (0-2 ft bgs)</b>						
Ingestion of soil	4E-05	2E-06	3E-05	0.4	0.10	0.3
Dermal contact with soil	3E-05	7E-07	3E-05	0.2	0.01	0.2
Inhalation of particulates	7E-06	6E-09	7E-06	0.20	0.002	0.20
Inhalation of indoor air from soil	2E-04	--	2E-04	7	--	7
Inhalation of outdoor air from groundwater	4E-08	--	4E-08	0.0003	--	0.0003
Inhalation of indoor air from groundwater	8E-07	--	8E-07	0.01	--	0.01
<b>TOTAL</b>	<b>3E-04</b>	<b>3E-06</b>	<b>3E-04</b>	<b>7</b>	<b>0.1</b>	<b>7</b>
<b>Commercial/Industrial (0-4 ft bgs)</b>						
Ingestion of soil	5E-05	2E-06	4E-05	0.4	0.1	0.3
Dermal contact with soil	3E-05	7E-07	3E-05	0.2	0.01	0.2
Inhalation of particulates	7E-06	6E-09	7E-06	0.20	0.01	0.20
Inhalation of indoor air from soil	2E-04	--	2E-04	7	--	7
Inhalation of outdoor air from groundwater	4E-08	--	4E-08	0.0003	--	0.0003
Inhalation of indoor air from groundwater	8E-07	--	8E-07	0.01	--	0.01
<b>TOTAL</b>	<b>3E-04</b>	<b>3E-06</b>	<b>3E-04</b>	<b>7</b>	<b>0.1</b>	<b>7</b>
<b>Construction (0-2 ft bgs)</b>						
Ingestion of soil	5E-06	3E-07	5E-06	1	0.3	1
Dermal contact with soil	5E-06	1E-07	4E-06	0.8	0.02	0.7
Inhalation of particulates	1E-06	5E-07	9E-07	7	4	3
Inhalation of outdoor air from groundwater	2E-09	--	2E-09	0.0004	--	0.0004
<b>TOTAL</b>	<b>1E-05</b>	<b>9E-07</b>	<b>1E-05</b>	<b>9</b>	<b>5</b>	<b>5</b>
<b>Construction (0-4 ft bgs)</b>						
Ingestion of soil	6E-06	3E-07	6E-06	1	0.3	1
Dermal contact with soil	5E-06	1E-07	5E-06	0.8	0.02	0.7
Inhalation of particulates	1E-06	5E-07	1E-06	7	4	3
Inhalation of outdoor air from groundwater	2E-09	--	2E-09	0.0004	--	0.0004
<b>TOTAL</b>	<b>1E-05</b>	<b>9E-07</b>	<b>1E-05</b>	<b>9</b>	<b>5</b>	<b>4</b>
<b>Recreational Child + Adult (0-2 ft bgs) <sup>a</sup></b>						
Ingestion of soil	4E-05	2E-06	3E-05	1.0	0.28	0.8
Dermal contact with soil	4E-05	9E-07	4E-05	0.6	0.02	0.6
Inhalation of particulates	3E-06	2E-09	3E-06	0.04	0.0005	0.04
Inhalation of outdoor air from groundwater	1E-08	--	1E-08	0.0001	--	0.0001
<b>TOTAL</b>	<b>7E-05</b>	<b>3E-06</b>	<b>7E-05</b>	<b>2</b>	<b>0.3</b>	<b>1</b>

**Notes:**

a The total cancer risks for the resident and the recreational user presented are the combined cancer risk of the child and the adult. The total hazard index presented are for the resident and recreational user are the total hazard index for the child only.

DTSC Department of Toxic Substances Control

ft bgs Feet below ground surface

**TABLE 6-3: TOTAL HUMAN HEALTH RISKS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Exposure Scenario		Total Cancer Risks <sup>b</sup>		Total Hazard Index <sup>b</sup>	
		EPA	DTSC	EPA	DTSC
<b>Residential (Child + Adult)<sup>a</sup></b>					
0-2 ft bgs	RME	2.8E-04	1.7E-03	82.2	82.2
	CTE	6.7E-05	4.0E-04	63.5	63.5
0-4 ft bgs	RME	2.8E-04	1.8E-03	81.9	81.8
	CTE	6.6E-05	4.1E-04	63.2	63.2
<b>Commercial/Industrial</b>					
0-2 ft bgs	RME	5.0E-05	2.6E-04	7.4	7.4
	CTE	3.8E-06	2.6E-05	4.6	4.6
0-4 ft bgs	RME	4.9E-05	2.7E-04	7.4	7.4
	CTE	3.8E-06	2.7E-05	4.6	4.6
<b>Construction</b>					
0-2 ft bgs	RME	4.8E-06	1.1E-05	8.4	9.4
	CTE	2.7E-07	7.2E-07	0.2	0.2
0-4 ft bgs	RME	4.8E-06	1.2E-05	8.0	9.1
	CTE	2.7E-07	8.6E-07	0.2	0.2
<b>Recreational User (Child + Adult)<sup>a</sup></b>					
0-2 ft bgs	RME	3.2E-05	7.4E-05	1.7	1.7
	CTE	7.9E-06	2.2E-05	1.8	1.8

## Notes:

- a The cancer risks for the resident and the recreational user presented are the combined cancer risk of the child and adult. The hazard index presented for the resident and recreational user are the hazard index for the child only.
- b The total cancer risk and hazard index include values from background concentrations of metals.

ft bgs Feet below ground surface  
 CTE Central tendency exposure  
 DTSC Department of Toxic Substances Control  
 EPA U.S. Environmental Protection Agency  
 RME Reasonable maximum exposure

**TABLE 6-4: TOTAL RISKS BY PATHWAY, REASONABLE MAXIMUM EXPOSURE**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Exposure Pathway	Total EPA Cancer Risks <sup>a</sup>	Total DTSC Cancer Risks <sup>a</sup>	Total EPA Hazard Index <sup>a</sup>	Total DTSC Hazard Index <sup>a</sup>
<b>Residential Child + Adult (0-2 ft bgs)</b>				
Ingestion of soil	6E-05	2E-04	5	5
Dermal contact with soil	2E-05	4E-05	0.6	0.6
Ingestion of homegrown produce	6E-05	1E-04	2.1	2.1
Inhalation of particulates	6E-06	2E-05	1.0	1.0
Inhalation of indoor air from soil	1E-04	1E-03	74	74
Inhalation of outdoor air from groundwater	1E-07	1E-07	0.002	0.001
Inhalation of indoor air from groundwater	5E-06	6E-06	0.06	0.06
<b>TOTAL</b>	<b>3E-04</b>	<b>2E-03</b>	<b>82</b>	<b>82</b>
<b>Residential Child + Adult (0-4 ft bgs)</b>				
Ingestion of soil	6E-05	2E-04	5	5
Dermal contact with soil	2E-05	4E-05	0.6	0.6
Ingestion of homegrown produce	6E-05	1E-04	1.9	1.9
Inhalation of particulates	6E-06	2E-05	1.0	1.0
Inhalation of indoor air from soil	1E-04	1E-03	74	74
Inhalation of outdoor air from groundwater	1E-07	1E-07	0.002	0.001
Inhalation of indoor air from groundwater	5E-06	6E-06	0.06	0.1
<b>TOTAL</b>	<b>3E-04</b>	<b>2E-03</b>	<b>82</b>	<b>82</b>
<b>Commercial/Industrial (0-2 ft bgs)</b>				
Ingestion of soil	1E-05	4E-05	0.4	0.4
Dermal contact with soil	1E-05	3E-05	0.2	0.2
Inhalation of particulates	2E-06	7E-06	0.20	0.20
Inhalation of indoor air from soil	2E-05	2E-04	7	7
Inhalation of outdoor air from groundwater	4E-08	4E-08	0.0003	0.0003
Inhalation of indoor air from groundwater	8E-07	8E-07	0.01	0.01
<b>TOTAL</b>	<b>5E-05</b>	<b>3E-04</b>	<b>7</b>	<b>7</b>
<b>Commercial/Industrial (0-4 ft bgs)</b>				
Ingestion of soil	1E-05	5E-05	0.4	0.4
Dermal contact with soil	1E-05	3E-05	0.2	0.2
Inhalation of particulates	2E-06	7E-06	0.20	0.20
Inhalation of indoor air from soil	2E-05	2E-04	7	7
Inhalation of outdoor air from groundwater	4E-08	4E-08	0.0003	0.0003
Inhalation of indoor air from groundwater	8E-07	8E-07	0.01	0.01
<b>TOTAL</b>	<b>5E-05</b>	<b>3E-04</b>	<b>7</b>	<b>7</b>
<b>Construction (0-2 ft bgs)</b>				
Ingestion of soil	2E-06	5E-06	1	1
Dermal contact with soil	2E-06	5E-06	0.8	0.8
Inhalation of particulates	8E-07	1E-06	6	7
Inhalation of outdoor air from groundwater	2E-09	2E-09	0.0005	0.0004
<b>TOTAL</b>	<b>5E-06</b>	<b>1E-05</b>	<b>8</b>	<b>9</b>
<b>Construction (0-4 ft bgs)</b>				
Ingestion of soil	2E-06	6E-06	1	1
Dermal contact with soil	2E-06	5E-06	0.8	0.8
Inhalation of particulates	9E-07	1E-06	6	7
Inhalation of outdoor air from groundwater	2E-09	2E-09	0.0005	0.0004
<b>TOTAL</b>	<b>5E-06</b>	<b>1E-05</b>	<b>8</b>	<b>9</b>
<b>Recreational Child + Adult (0-2 ft bgs)</b>				
Ingestion of soil	1E-05	4E-05	1.1	1.0
Dermal contact with soil	2E-05	4E-05	0.6	0.6
Inhalation of particulates	7E-07	3E-06	0.04	0.04
Inhalation of outdoor air from groundwater	1E-08	1E-08	0.0001	0.0001
<b>TOTAL</b>	<b>3E-05</b>	<b>7E-05</b>	<b>2</b>	<b>2</b>

Notes:

a The total cancer risk and hazard index include values from background concentrations of metals.

ft bgs Feet below ground surface  
 DTSC Department of Toxic Substances Control  
 EPA U.S. Environmental Protection Agency

**TABLE 6-5: TOTAL RISKS BY PATHWAY, CENTRAL TENDENCY EXPOSURE**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Exposure Pathway	Total EPA Cancer Risks <sup>a</sup>	Total DTSC Cancer Risks <sup>a</sup>	Total EPA Hazard Index <sup>a</sup>	Total DTSC Hazard Index <sup>a</sup>
<b>Residential Child + Adult (0-2 ft bgs)</b>				
Ingestion of soil	9E-06	3E-05	2	2
Dermal contact with soil	1E-06	2E-06	0.1	0.1
Ingestion of homegrown produce	2E-05	5E-05	2.3	2.3
Inhalation of particulates	1E-06	5E-06	0.8	0.8
Inhalation of indoor air from soil	3E-05	3E-04	58	58
Inhalation of outdoor air from groundwater	3E-08	3E-08	0.001	0.001
Inhalation of indoor air from groundwater	1E-06	1E-06	0.1	0.05
<b>TOTAL</b>	<b>7E-05</b>	<b>4E-04</b>	<b>63</b>	<b>63</b>
<b>Residential Child + Adult (0-4 ft bgs)</b>				
Ingestion of soil	1E-05	3E-05	2	2
Dermal contact with soil	1E-06	2E-06	0.1	0.1
Ingestion of homegrown produce	2E-05	5E-05	2.1	2.1
Inhalation of particulates	1E-06	5E-06	0.8	0.8
Inhalation of indoor air from soil	3E-05	3E-04	58	58
Inhalation of outdoor air from groundwater	3E-08	3E-08	0.001	0.001
Inhalation of indoor air from groundwater	1E-06	1E-06	0.1	0.0
<b>TOTAL</b>	<b>7E-05</b>	<b>4E-04</b>	<b>63</b>	<b>63</b>
<b>Commercial/Industrial (0-2 ft bgs)</b>				
Ingestion of soil	1E-06	3E-06	0.2	0.2
Dermal contact with soil	1E-07	3E-07	0.01	0.01
Inhalation of particulates	2E-07	9E-07	0.1	0.1
Inhalation of indoor air from soil	2E-06	2E-05	4	4
Inhalation of outdoor air from groundwater	5E-09	5E-09	0.0002	0.0002
Inhalation of indoor air from groundwater	9E-08	1E-07	0.004	0.004
<b>TOTAL</b>	<b>4E-06</b>	<b>3E-05</b>	<b>5</b>	<b>5</b>
<b>Commercial/Industrial (0-4 ft bgs)</b>				
Ingestion of soil	1E-06	4E-06	0.2	0.2
Dermal contact with soil	1E-07	3E-07	0.01	0.01
Inhalation of particulates	2E-07	9E-07	0.13	0.13
Inhalation of indoor air from soil	2E-06	2E-05	4	4
Inhalation of outdoor air from groundwater	5E-09	5E-09	0.0002	0.0002
Inhalation of indoor air from groundwater	9E-08	1E-07	0.004	0.004
<b>TOTAL</b>	<b>4E-06</b>	<b>3E-05</b>	<b>5</b>	<b>5</b>
<b>Construction (0-2 ft bgs)</b>				
Ingestion of soil	2E-07	5E-07	0.1	0.1
Dermal contact with soil	6E-08	1E-07	0.02	0.02
Inhalation of particulates	2E-08	8E-08	0.1	0.1
Inhalation of outdoor air from groundwater	4E-10	4E-10	0.0001	0.0001
<b>TOTAL</b>	<b>3E-07</b>	<b>7E-07</b>	<b>0.2</b>	<b>0.2</b>
<b>Construction (0-4 ft bgs)</b>				
Ingestion of soil	2E-07	7E-07	0.1	0.1
Dermal contact with soil	6E-08	1E-07	0.02	0.02
Inhalation of particulates	2E-08	8E-08	0.1	0.1
Inhalation of outdoor air from groundwater	4E-10	4E-10	0.0001	0.0001
<b>TOTAL</b>	<b>3E-07</b>	<b>9E-07</b>	<b>0.2</b>	<b>0.2</b>
<b>Recreational Child + Adult (0-2 ft bgs)</b>				
Ingestion of soil	6E-06	2E-05	1.6	1.6
Dermal contact with soil	1E-06	2E-06	0.1	0.1
Inhalation of particulates	7E-07	3E-06	0.1	0.1
Inhalation of outdoor air from groundwater	1E-08	1E-08	0.0002	0.0002
<b>TOTAL</b>	<b>8E-06</b>	<b>2E-05</b>	<b>2</b>	<b>2</b>

Notes:

<sup>a</sup> The total cancer risk and hazard index include values from background concentrations of metals.

ft bgs Feet below ground surface  
 DTSC Department of Toxic Substances Control  
 EPA U.S. Environmental Protection Agency

**TABLE 6-6: TOTAL HUMAN HEALTH RISK DRIVERS USING EPA TOXICITY VALUES, REASONABLE MAXIMUM EXPOSURE**  
Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Exposure Medium	Future Industrial Worker (0-2 ft bgs)	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	Future Industrial Worker (0-4 ft bgs)	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	Future Construction Worker (0-2 ft bgs)	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	Future Construction Worker (0-4 ft bgs)	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>
Risk Drivers in Soil <sup>a</sup>	1,2,4-Trichlorobenzene	--	1.7	1,2,4-Trichlorobenzene	--	1.7	Aluminum	--	1.2	Aluminum	--	1.3
	1,4-Dichlorobenzene	2.1E-05	0.012	1,4-Dichlorobenzene	2.1E-05	0.012	Benzo(a)pyrene	1.6E-06	--	Arsenic	1.3E-06	0.15
	Aroclor-1248	2.2E-06	0.15	Aroclor-1248	2.2E-06	0.15	Manganese	--	4.6	Benzo(a)pyrene	1.4E-06	--
	Arsenic	4.3E-06	0.027	Arsenic	6.7E-06	0.042				Manganese	--	4.2
	Benzo(a)anthracene	3.2E-06	--	Benzo(a)anthracene	2.7E-06	--						
	Benzo(a)pyrene	1.1E-05	--	Benzo(a)pyrene	8.9E-06	--						
	Benzo(b)fluoranthene	1.8E-06	--	Benzo(b)fluoranthene	1.6E-06	--						
	Dibenzo(a,h)anthracene	2.0E-06	--	Dibenzo(a,h)anthracene	1.7E-06	--						
	Naphthalene	--	4.2	Naphthalene	--	4.2						
	<b>Total</b>		<b>4.9E-05</b>	<b>7.4</b>		<b>4.8E-05</b>	<b>7.4</b>		<b>4.8E-06</b>	<b>8.4</b>		<b>4.8E-06</b>
Risk Drivers in Groundwater												
<b>Total</b>		<b>8.2E-07</b>	<b>0.0071</b>		<b>8.2E-07</b>	<b>0.0071</b>		<b>2.3E-09</b>	<b>0.00047</b>		<b>2.3E-09</b>	<b>0.00047</b>

Exposure Medium	Future Resident (Adult + Child) (0-2 ft bgs) <sup>b</sup>	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	Future Resident (Adult + Child) (0-4 ft bgs) <sup>b</sup>	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	Future Recreational User (Adult + Child) (0-2 ft bgs) <sup>b</sup>	Total Cancer Risk <sup>c</sup>	Total Hazard Index <sup>c</sup>	
Risk Drivers in Soil <sup>a</sup>	1,2,3-Trichlorobenzene	--	5.2	1,2,3-Trichlorobenzene	--	5.2	Aroclor-1248	2.5E-06	0.48	
	1,2,4-Trichlorobenzene	--	18	1,2,4-Trichlorobenzene	--	18	Aroclor-1260	1.1E-06	0.21	
	1,2,4-Trimethylbenzene	--	1.1	1,2,4-Trimethylbenzene	--	1.1	Arsenic	4.5E-06	0.079	
	1,2-Dichlorobenzene	--	1.8	1,2-Dichlorobenzene	--	1.8	Benzo(a)anthracene	3.6E-06	--	
	1,4-Dichlorobenzene	1.4E-04	0.12	1,4-Dichlorobenzene	1.4E-04	0.12	Benzo(a)pyrene	1.2E-05	--	
	4-Nitroaniline	1.4E-06	0.056	4-Nitroaniline	1.4E-06	0.056	Benzo(b)fluoranthene	2.0E-06	--	
	Aroclor-1248	5.7E-06	1.1	Aroclor-1248	5.7E-06	1.1	Dibenzo(a,h)anthracene	2.3E-06	--	
	Aroclor-1254	3.3E-06	0.48	Aroclor-1254	3.3E-06	0.47				
	Aroclor-1260	2.5E-06	0.49	Aroclor-1260	2.3E-06	0.44				
	Arsenic	2.0E-05	--	Arsenic	3.2E-05	0.48				
	Benzo(a)anthracene	8.2E-06	--	Benzo(a)anthracene	6.9E-06	--				
	Benzo(a)pyrene	2.7E-05	--	Benzo(a)pyrene	2.3E-05	--				
	Benzo(b)fluoranthene	5.2E-06	--	Benzo(b)fluoranthene	4.6E-06	--				
	bis(2-ethylhexyl)phthalate	3.3E-06	--	bis(2-ethylhexyl)phthalate	2.2E-06	0.021				
	Dibenzo(a,h)anthracene	5.3E-06	--	Dibenzo(a,h)anthracene	4.6E-06	--				
	Dieldrin	4.2E-05	0.14	Dieldrin	3.7E-05	0.12				
	Heptachlor Epoxide	9.9E-06	0.20	Heptachlor Epoxide	8.7E-06	0.18				
	Indeno(1,2,3-cd)pyrene	1.5E-06	--	Iron	--	1.6				
	Iron	--	1.8	Naphthalene	--	48				
	Naphthalene	--	48							
	<b>Total</b>		<b>2.8E-04</b>	<b>82</b>		<b>2.7E-04</b>	<b>82</b>		<b>3.2E-05</b>	<b>1.72</b>
	Risk Drivers in Groundwater	Trichloroethene	3.5E-06	0.0037	Trichloroethene	3.5E-06	0.0037			
<b>Total</b>		<b>5.2E-06</b>	<b>0.065</b>		<b>5.2E-06</b>	<b>0.065</b>		<b>1.5E-08</b>	<b>0.00064</b>	

Notes:  
 -- Not applicable; chemical either does not have a cancer risk or a hazard index.  
 a Risk drivers are those chemicals for which the total chemical-specific cancer risk for a given exposure medium (for example, groundwater) exceeds 1.0E-06 or the chemical-specific noncancer hazard index exceeds 1.0.  
 b The total cancer risks for the resident and the recreational user are the combined cancer risk of the child and the adult. The total hazard indices presented for the resident and recreational user are the total hazard index for the child only.  
 c The total cancer risk and hazard index estimates include background concentrations of metals.  
 ft bgs Feet below ground surface

## 7.0 SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT

A SLERA was conducted as part of this RI Report to assess potential risk posed to ecological receptors from chemicals in soil and groundwater at IR Site 34. The SLERA followed Tier 1 of the Navy policy for conducting ERAs (Navy 1999a, 2001b), which is similar to Steps 1 and 2 of the ERA Guidance for Superfund sites (EPA 1997b). This approach used data collected during previous investigations at IR Site 34 (see Section 1.3.4) and conservative assumptions on chemical exposure to evaluate whether detected chemicals pose a potential risk to ecological receptors. In Step 1, Exposure Evaluation, potentially complete exposure pathways are examined to determine if links between site chemicals and ecological receptors exist at IR Site 34. Step 2, Risk Characterization, estimates risk based on the hazard quotient (HQ) approach. If the data evaluated in Steps 1 and 2 indicate risk to receptors at IR Site 34, then the Navy initiated the risk refinement step (Step 3a) of the baseline ERA.

The methodology used to conduct the SLERA for IR Site 34 is summarized in Section 3.6 and described in detail in Appendix I. The following subsections summarize the results and conclusions of the SLERA.

### 7.1 EXPOSURE EVALUATION

Exposure evaluation is Step 1 of the eight-step ERA process described in Section 3.6. The goal of the exposure evaluation is to develop an ecological CSM that addresses:

- Environmental setting and COPECs
- Chemical fate and transport mechanisms
- Mechanisms of eco-toxicity (broad classes of COPECs)
- Potentially complete exposure pathways

The ERA process begins with an assessment of site characteristics and ecological habitats, representative organisms, and threatened and endangered species that exist or have the potential to exist at the site. IR Site 34 is 4.18 acres of open space located on the northwestern portion of Alameda Point and is bordered to the north by the Oakland Inner Harbor. The primary land use is industrial. All of the site buildings have been demolished and most of the site is paved. IR Site 34 consists of intensively developed area, which has little vegetation and less foraging habitat than is available in surrounding areas, and two potential wetland areas. Appendix I has a more detailed discussion of the potential wetlands. Land use within a 1 mile radius of the site is mostly urban, with open space, wetlands, and the Oakland Inner Harbor comprising the remaining areas. The planned future use of the site is a golf course. For the purposes of the problem formulation it was assumed that future habitat would take the form of urban vegetation (grass and ornamental trees and shrubs).

Although wetland habitat is present within a 1 mile radius of the site, the areas do not meet the habitat requirements of special-status wildlife. Also, based on a review of the California Natural Diversity Database (2007), special-status plant and animal species are not expected to occur at IR Site 34.

The analytical data gathered during previous site investigations were used to select COPECs. The previous investigations at IR Site 34 indicated metals, PAHs, pesticides, PCBs, and TPH are present in soil, and metals, VOCs, PAHs, and TPH are present in groundwater (see Section 1.3.4). Tables 7-1 and 7-2 present the soil and groundwater COPECs.

As part of the fate and transport evaluation, the physical and chemical properties of the COPECs were evaluated. Based on these properties, all of the COPECs, except for VOCs, could bind preferentially to the soil and are relatively insoluble in water. The major movement of COPECs would be through erosion processes (such as wind and surface water runoff); infiltration to subsurface soil and groundwater; and groundwater discharge to surface water. In addition to the physical transport mechanisms, metals, PAHs, pesticides, and PCBs can bioaccumulate in terrestrial food chains.

No soil pathways for VOCs were quantitatively evaluated in this SLERA for several reasons. Toxicity reference values (TRV) are not typically available to evaluate the risk of dietary ingestion, so assessing risk related to VOCs is difficult. Since VOCs volatilize rapidly and do not bioaccumulate, risk from VOCs in soil is generally insignificant. Although inhalation modeling may be used to evaluate inhalation risk; VOCs were not considered to pose a significant threat since the detection frequency of these chemicals is low.

The following complete soil exposure pathways were identified for the COPECs at IR Site 34:

- Direct exposure to soil
- Food chain exposure

The following complete groundwater exposure pathway was identified for the COPECs at Site 34:

- Indirect exposure of aquatic life to groundwater through groundwater migration to the Oakland Inner Harbor

Groundwater at IR Site 34 and surrounding sites generally flows from the center of the Alameda Point toward the shoreline. The low-flow velocities of groundwater, low concentrations of chemicals in groundwater, high potential for retardation along the groundwater flow path, and tidal action and surface water flow that create a mixing zone at the interface with the Oakland Inner Harbor suggest that chemicals will not discharge to the Inner Harbor at concentrations of concern. Even though chemicals are not expected to discharge into the Oakland Inner Harbor, groundwater COPECs were qualitatively evaluated to generate conservative estimates of the

potential effects on aquatic life. See Appendix I for further discussion on selection of complete pathways for Site 34.

Unlike HHRAs, which evaluate only one species, the ERA involves multiple species with different degrees of exposure and toxicological responses. Ecological resources may be considered to be valuable when (1) their absence would significantly impair the function of the ecosystem; (2) they provide critical resources, such as habitat or fisheries; or (3) they are perceived as being valuable such as endangered species. Useful assessment endpoints define both the valuable ecological entities at the site and a characteristic of the entity to protect such as reproductive success or reproduction per unit area. An assessment endpoint is defined by EPA as an "explicit expression of an environmental value to be protected" (EPA 1997b).

Assessment endpoints are usually not amenable to direct measurement. Instead, endpoints that are measurable and related to assessment endpoints must be developed. Since there is relatively little information about adverse effects on specific ecological receptors, a generic assessment endpoint was formulated for the SLERA: sufficient rates of survival, growth, and reproduction to sustain wildlife populations typical to the area.

Although assessment endpoints are useful for the identification of general population goals, they do not provide a means for direct measurement or quantification of effects. Therefore, measurement endpoints were developed for IR Site 34. Measurement endpoints are defined as measurable ecological characteristics that are related to the characteristic chosen as the assessment endpoint and that are measures of biological effects (such as mortality, reproduction, growth) (EPA 1997b). These endpoints measured the biological effects to reproduction and physiology for the following ecological receptors at IR Site 34:

- California ground squirrel
- Deer mouse
- Alameda song sparrow
- American robin
- Red-tailed hawk
- Aquatic receptors

Additional information on problem formulation is provided in Appendix I.

## **7.2 RISK CHARACTERIZATION**

The second part of the SLERA is the preliminary risk characterization, Step 2.

## ***Terrestrial Wildlife***

Risk calculations for each terrestrial receptor were prepared, which allowed for a quantitative estimation of risk based on exposure assumptions for the individual receptor. For each measurement endpoint and COPEC, a conservative estimate of the dose to an organism was developed using soil EPCs and either site-specific or literature-derived exposure parameters. Using risk calculations, doses were then compared with TRVs to evaluate potential risk to each ecological receptor, and a HQ (a ratio that is indicative of potential risks to ecological receptors) was derived.

For this SLERA, both a low TRV and a high TRV were used wherever possible. Using the high and low TRVs to evaluate ecological receptors provides a bounding estimate of risk to each receptor. The high TRV represents an upper bounding limit, which is the lowest concentration at which adverse effects are known to occur. The low TRV represents the lower bounding limit, which is the highest concentration a receptor can be exposed to which adverse effects are known not to occur. If the hazard quotient is greater than 1, there is assumed to be significant risk. However, if the hazard quotient is less than or equal to 1, the risk is considered to be minimal. The entire exposure estimate and risk calculations are presented in Appendix I.

The results of the SLERA (Step 2) indicated that metals, some SVOCs and PAHs, pesticides, and PCBs in soil yielded HQs greater than 1, indicating the potential for unacceptable ecological risk (see Table 7-3). No TRVs were available for iron and 9 SVOCs (see Table 7-3). The soil COPECs with the highest HQ values were lead (61,000), Aroclor-1254 (4,780), Aroclor-1248 (1,200), and Aroclor-1260 (853). Most of the COPECs only exceeded the low TRV. Seven metals, 2 SVOCs, 4 pesticides, and 4 PCBs exceeded both the low and high TRVs, but the exceedances of the high TRV were never more than 2 orders of magnitude. The only two chemicals to greatly exceed both the low and high TRVs were lead and Aroclor-1248.

## ***Aquatic Life***

For the qualitative evaluation of aquatic life, groundwater COPECs were compared to four sets of primary aquatic comparison criteria potentially applicable to the site. Based on the results of the qualitative evaluation for groundwater, the following COPECs, which either exceeded the aquatic comparison criteria or no criteria were available, were retained for further evaluation (see Table I-23 in Appendix I):

- Metals: aluminum, arsenic, cobalt, copper, manganese, mercury, nickel, and zinc
- VOCs: 2-hexanone, 4-methyl-2-pentanone, carbon disulfide, trans-1,2-DCE, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, tert-butylbenzene, n-butylbenzene, n-propylbenzene, p-isopropyltoluene, and sec-butylbenzene
- PAHs: benzo(a)anthracene, B(a)P, benzo(b)fluoranthene, chrysene, and indeno(1,2,3-c,d)pyrene

- Pesticides: 4,4'-DDE, aldrin, beta-BHC, endrin aldehyde, heptachlor epoxide, alpha-BHC, and alpha-chlordane

No aquatic comparison criteria were available for aluminum, magnesium, manganese, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2-hexanone, 4-methyl-2-pentanone, carbon disulfide, isopropylbenzene, tert-butylbenzene, n-butylbenzene, n-propylbenzene, p-isopropyltoluene, sec-butylbenzene, trans-1,2-dichloroethene, alpha-BHC, and Beta-BHC.

### **7.3 STEP 3A RISK REFINEMENT**

In order to generate a slightly more realistic estimate of risk, while maintaining the conservative nature of the SLERA a Step 3a risk refinement was conducted. To further evaluate the COPECs that yielded HQs greater than 1 and a frequency of detection of 5 percent or greater, COPECs without TRVs, and groundwater COPECs that exceeded the four sets of aquatic threshold criteria, refined exposure estimates were developed.

#### **7.3.1 Risk Refinement for Terrestrial Wildlife**

Refined risk estimations were prepared for all soil COPECs yielding HQs greater than 1 and with a frequency of detection of 5 percent or greater. Refined risk estimates were not prepared for the following chemicals with HQs greater than 1 because their frequency of detection is less than 5 percent: pesticides (4,4'-DDD, aldrin, delta-BHC, dieldrin, endosulfan II, endosulfan sulfate, endrin aldehyde, endrin ketone, and technical chlordane) and PCBs (Aroclor-1248). HQs were also not prepared for the following chemicals because there were no TRVs: metals (iron); SVOCs (2,4-dimethylphenol, 4-methylphenol, 4-nitrophenol, 4-nitroaniline, dibenzofuran, di-n-butylphthalate, isophorone, and phenol); and pesticides (methoxychlor). Of those chemicals without TRVs, all but dibenzofuran, di-n-butylphthalate, isophorone, and phenol had a frequency of detection of less than 5 percent. Those chemicals in soil without TRVs were qualitatively evaluated.

The refined exposure estimates (Step 3a) only affected the red-tailed hawk, as the home ranges of all other receptors were smaller than the area of IR Site 34. All other exposure factors remained unchanged, maintaining the conservative nature of the screening-level exposure estimates. Several chemicals yielded refined HQs less than 1 (4 metals, 4 PAHs), indicating that ecological risk for these chemicals is minimal (see Table 7-4). Several chemicals yielded refined HQs greater than 1 (11 metals, 2 SVOCs, 2 PAHs, 2 pesticides, and 3 PCBs); therefore, these chemicals may pose an unacceptable risk to ecological receptors at IR Site 34. The COPECs with the highest refined HQ values are cadmium (140), lead (8,590), di-n-butylphthalate (103), and Aroclor-1254 (174).

Appendix I presents the detailed review of the HQs and the nature and extent of the remaining COPECs. Based on the results of further evaluation of the remaining COPECs, the following soil ecological risk driver was identified at IR Site 34:

- Lead

As discussed in Section 4.1, lead-contaminated soil appears to be present in several clusters near the former railroad track at the northwest corner of the site, around former Buildings 331, 343, 344, and 475, above the storm sewer, and isolated locations in the southwest corner of the site.

### 7.3.2 Risk Refinement for Aquatic Life

Qualitative evaluations were conducted chemical-by-chemical for those chemicals in groundwater retained from the initial screening. The evaluations included a comparison of the 95UCL and maximum concentrations of the retained COPECs to the threshold criteria, a supplemental literature search for additional criteria, consideration of sampling locations (for example, FWBZ versus SWBZ, at locations with other elevated metals), consideration of sampling dates, consideration of sample collection methods (for example, monitoring well versus direct push), and the groundwater data set (for example, EPC driven by outlier). Additional details of this qualitative evaluation are discussed in Section I6.1.2 of Appendix I, and a summary of these evaluations is presented in Table I-24 in Appendix I. No risk drivers were identified for groundwater at IR Site 34.

## 7.4 UNCERTAINTY

The SLERA process involves a large number of uncertainties and extrapolations to evaluate potential risk to ecological receptors. Many of the assumptions in the SLERA process are conservative and result in overestimates of site-specific parameters. Uncertainties associated with the SLERA conducted at IR Site 34 are identified below.

- **SUFs** – Risk calculations assumed that all of the receptors' home ranges were no larger than the site. The refined risk calculations assumed that only the small mammals and passerine ranges were no larger than the site.
- **Dietary Composition** – Receptor food composition and ingestion rates were based on literature studies and were not site-specific.
- **Bioavailability** – All COPECs were assumed to be 100 percent bioavailable to all receptors.
- **Development of TRVs** – TRVs used in risk calculations were derived from literature studies. These studies were not conducted on the receptors used in this assessment. TRVs were extrapolated using uncertainty factors to account for difference between species.
- **Qualitative Evaluations of COPECs** – Studies were not available to develop TRVs for a number of ecological receptors. Groundwater COPECs were only qualitatively evaluated.

- **Surrogate TRVs** – Surrogate TRV values were used for some chemicals, such as the use of a chlordane TRV for heptachlor and heptachlor epoxide because they are breakdown products of chlordane.

## 7.5 CONCLUSIONS

The SLERA intentionally incorporates conservative assumptions to identify any potential risk from site-related chemicals to ecological receptors. As a result, this assessment likely overestimates the risk associated with the COECs at IR Site 34. The refined risk estimation also likely overestimated risk, as many of the assumptions used in the initial risk estimation remained unchanged in the refined risk estimation.

Based on the results of the Step 3a risk refinement, the following chemical was identified as a risk driver in soil at IR Site 34.

- Lead

No risk drivers were identified in groundwater at Site 34.

Although lead may contribute to ecological risk at IR Site 34, based on the SLERA, a baseline ERA is not recommended because the SLERA likely overestimated risk, there is a lack of current suitable habitat, and future land use would not generate much ideal habitat for wildlife. IR Site 34 currently consists of predominantly Intensively Developed area and two potential wetland areas. Intensively Developed areas have little vegetation and typical urban wildlife, such as California ground squirrel, scrub jays, and American robins, may be observed in these areas but to a lesser extent than in the landscaped/developed areas, because less foraging habitat is available in these areas. The potential wetland areas provide minimal habitat to support plant and invertebrate populations and do not provide suitable habitat for small mammals. In addition, because of high marine vessel activity in the Oakland Inner Harbor it is unlikely that this area will be used by nesting birds.

Site-related chemicals in soil and groundwater at IR Site 34 are not expected to affect the potential wetland areas or the Oakland Inner Harbor for the following reasons. It is unlikely that groundwater or surface water runoff from IR Site 34 would affect the potential seasonal wetland located within the southwest corner of the site because the site topography would prevent it from reaching this potential wetland. Although surface water generally flows towards the wetland located to the north of the site, precipitation typically evaporates into the atmosphere, infiltrates to groundwater, or runs off into the storm drain system. The potential wetland is also not likely to be affected by site-related chemicals in groundwater because it lies between a series of parallel rock riprap walls that together form a terrace of land that is the shoreline and is tidally inundated at such a frequency as to not present suitable habitat for small mammals, dilution would occur as groundwater mixes with surface water (Oakland Inner Harbor), and groundwater COPECs were identified based on the assumption that no dilution, retardation, or degradation will occur between the location where the groundwater risk drivers were detected and the Oakland Inner Harbor/wetland. In addition, the low-flow velocities of groundwater, low concentrations of

VOCs in groundwater, high potential for retardation along the groundwater flow path, and tidal action and surface water flow that create a mixing zone at the interface with the Oakland Inner Harbor suggest that chemicals will not discharge to the Oakland Inner Harbor at concentrations of concern.

Following further evaluation of the COPECs, this assessment was determined to likely overestimate risk to terrestrial and aquatic receptors (including the wetland); therefore, further investigation or assessment of ecological risk from soils and groundwater at IR Site 34 is not recommended.

**TABLES**

---

**TABLE 7-1: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL AT IR SITE 34 (CONTINUED)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Detection Frequency (Percent)	Maximum Detected Concentrations	Mean	Comparison to Background	95UCL of Detected Values
<b>Metals</b>					
Aluminum	100	37,000	8,750	>bkgd	9,050
Antimony	56	16	3.04	>bkgd	2.61
Arsenic	93	120	6.5	>bkgd	8.82
Barium	100	200	63.4	>bkgd	69.4
Beryllium	87	0.88	0.234	<bkgd	0.236
Cadmium	88	45.8	4.26	>bkgd	8.65
Chromium	100	550	67.6	>bkgd	100
Cobalt	100	23	7.27	>bkgd	7.44
Copper	98	254	37.6	>bkgd	60.1
Iron	100	180,000	23,500	>bkgd	36,800
Lead	98	21,000	520	>bkgd	2,390
Manganese	100	1,300	265	>bkgd	304
Mercury	77	1.9	0.16	<bkgd	0.265
Molybdenum	69	13.7	1.9	NA	2.18
Nickel	100	122	38.1	>bkgd	38.9
Selenium	17	1.1	0.529	NA	0.223
Silver	11	9.5	2.87	<bkgd	0.86
Thallium	48	3.5	0.648	NA	0.459
Vanadium	100	130	32.3	>bkgd	33.7
Zinc	96	1,400	195	>bkgd	332
<b>Volatile Organic Compounds</b>					
1,2-Dichlorobenzene	2	26	NA	NA	26
1,2-Dichloropropane	3	0.0036	NA	NA	0.0036
1,2,3-Trichlorobenzene	3	1.5	NA	NA	1.5
1,2,4-Trichlorobenzene	2	5.1	NA	NA	5.1
1,2,4-Trimethylbenzene	3	0.5	NA	NA	0.5
1,3,5-Trimethylbenzene	3	0.16	NA	NA	0.16
1,3-Dichlorobenzene	2	1.1	NA	NA	1.1
1,4-Dichlorobenzene	2	6.8	NA	NA	6.8
2-Butanone	3	0.01	NA	NA	NA
Carbon disulfide	3	0.00024	0.00112	NA	0.00024
Chlorobenzene	3	0.11	NA	NA	0.11
cis-1,2-Dichloroethene	3	0.0057	NA	NA	NA
Methylene chloride	3	0.0024	NA	NA	0.0024
p-Isopropyltoluene	3	0.11	NA	NA	0.11
sec-Butylbenzene	3	0.071	NA	NA	0.071
Toluene	9	0.00029	0.000367	NA	0.00043
<b>Semivolatile Organic Compounds</b>					
2,4-Dimethylphenol	3	0.21	NA	NA	0.21
2-Methylphenol	3	0.081	NA	NA	0.081
4-Methylphenol	3	0.27	NA	NA	0.27
4-Nitroaniline	3	0.62	NA	NA	0.62
4-Nitrophenol	3	0.42	NA	NA	0.42
bis(2-ethylhexyl)phthalate	14	14	6.59	NA	5.3
Butylbenzylphthalate	3	0.63	NA	NA	NA
Dibenzofuran	5	13	6.57	NA	13
Dimethylphthalate	3	0.038	NA	NA	0.038
di-n-Butylphthalate	8	2.3	1.29	NA	2.3
Isophorone	3	0.2	NA	NA	0.2
Phenol	3	0.58	NA	NA	0.58

**TABLE 7-1: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL AT IR SITE 34 (CONTINUED)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Detection Frequency (Percent)	Maximum Detected Concentrations	Mean	Comparison to Background	95UCL of Detected Values
<b>Polycyclic Aromatic Hydrocarbons</b>					
2-Methylnaphthalene	18	8.5	1.24	NA	2.67
Acenaphthene	13	22	4.42	NA	6.94
Acenaphthylene	31	0.31	0.0826	NA	0.0475
Anthracene	38	3.6	0.395	NA	0.338
Benzo(a)anthracene	63	14	0.853	NA	4.32
Benzo(a)pyrene	65	4.6	0.409	NA	1.58
Benzo(b)fluoranthene	74	7.6	0.468	NA	2.42
Benzo(g,h,i)perylene	83	2.1	0.15	NA	0.728
Benzo(k)fluoranthene	54	9.2	0.664	NA	2.87
Chrysene	83	16	0.784	NA	4.97
Dibenzo(a,h)anthracene	42	1.3	0.128	NA	0.294
Fluoranthene	55	74	4.2	NA	22.5
Fluorene	13	13	2.21	NA	4.14
Indeno(1,2,3-cd)pyrene	54	2.4	0.214	NA	0.793
Naphthalene	20	13	1.52	NA	4.06
Phenanthrene	58	47	2.26	NA	13.8
Pyrene	73	68	3.1	NA	20.6
<b>Pesticides</b>					
4,4'-DDD	1	0.0012	0.0486	NA	0.0012
4,4'-DDE	5	0.71	0.251	NA	0.132
4,4'-DDT	19	0.47	0.0965	NA	0.0396
Aldrin	1	0.013	NA	NA	0.013
alpha-BHC	1	0.00073	NA	NA	0.00073
alpha-Chlordane	15	0.048	0.0152	NA	0.00711
Beta-BHC	1	0.0022	NA	NA	0.0022
Delta-BHC	2	0.0084	0.00755	NA	0.0084
Dieldrin	15	0.5	0.0817	NA	0.0489
Endosulfan I	1	0.023	NA	NA	0.023
Endosulfan II	4	0.05	0.0358	NA	0.0234
Endosulfan Sulfate	2	0.043	0.0235	NA	0.043
Endrin Ketone	2	0.01	0.00615	NA	0.01
Endrin aldehyde	5	0.074	0.0408	NA	0.0423
gamma-BHC (Lindane)	2	0.0026	0.00255	NA	0.0026
gamma-Chlordane	17	0.15	0.0319	NA	0.0119
Heptachlor	1	0.0069	NA	NA	0.0069
Heptachlor Epoxide	15	0.11	0.028	NA	0.00986
Methoxychlor	2	0.12	0.102	NA	0.12
Technical Chlordane	4	0.6	0.437	NA	0.542
<b>Polychlorinated Biphenyls</b>					
Aroclor-1248	2	1.2	0.512	NA	1.2
Aroclor-1254	27	11	0.783	NA	0.401
Aroclor-1260	54	9.7	0.304	NA	0.488
Aroclor-1268	20	0.3	0.064	NA	0.0269
<b>Total Petroleum Hydrocarbons</b>					
Diesel-Range	60	18,000	1,030	NA	NA
Gasoline-Range	11	90	34.7	NA	NA
Motor Oil-Range	72	47,000	3,220	NA	NA
Oil & Grease	100	1,280	NA	NA	NA

Notes:

All concentrations are reported in milligrams per kilogram

BHC  
 DDD  
 DDE  
 DDT

Benzene hexachloride EPC Exposure point concentration  
 Dichlorodiphenyldichloroeth NA Not available  
 Dichlorodiphenyldichloroeth NC Not calculated  
 Dichlorodiphenyltrichloroethane

**TABLE 7-2: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN GROUNDWATER AT IR SITE 34**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Detection Frequency (Percent)	Maximum Detected Concentrations	Mean	95UCL of Detected Values
<b>Metals</b>				
Aluminum	89	1,300	130	747
Antimony	95	2	0.65	0.92
Arsenic	100	110	11	27
Barium	100	240	106	133
Beryllium	26	0.09	0.08	0.09
Cadmium	16	1.5	0.87	NA
Chromium	89	8.5	1.9	2.60
Cobalt	100	45	3.8	24
Copper	68	12	3.7	5.55
Iron	100	22,000	2,509	7,571
Lead	47	4.1	1.22	2.17
Manganese	100	26,000	2,321	4,185
Mercury	5	0.17	NA	NA
Molybdenum	100	47	7.8	15.22
Nickel	95	46	7.1	17.60
Selenium	32	34	9	18.44
Silver	42	0.1	0.07	0.08
Thallium	53	0.94	0.23	0.44
Vanadium	100	14	3	4.26
Zinc	95	600	45	292
<b>Volatile Organic Compounds</b>				
1,1-Dichloroethane	7	0.3 J	0.2	NA
1,2,4-Trimethylbenzene	3	0.1 J	NA	NA
1,2-Dichlorobenzene	7	1.3	0.75	NA
1,2-Dichloroethane	7	1.7	1	NA
1,2-Dichloropropane	3	0.2 J	NA	NA
1,3,5-Trimethylbenzene	3	0.06 J	NA	NA
1,4-Dichlorobenzene	3	0.3 J	NA	NA
2-Hexanone	10	0.5 J	0.33	NA
4-Methyl-2-pentanone	3	0.1 J	NA	NA
Benzene	16	0.2	0.106	0.16
Bromoform	7	0.2 J	0.150	NA
Carbon disulfide	70	1.1	0.375	0.50
Chloroform	3	1.6	NA	NA
Chloromethane	3	0.2 J	NA	NA
Ethylbenzene	10	1.2	0.457	NA
Isopropylbenzene	3	1.2	NA	NA
Naphthalene	7	1	0.545	NA
Tert-Butylbenzene	3	0.4 J	NA	NA
Toluene	55	0.6	0.184	0.24
Trichloroethene	27	0.6	0.338	0.46
Vinyl chloride	3	0.2 J	NA	NA
Xylene (Total)	50	4.5 J	NA	NA
cis-1,2-Dichloroethene	47	1.7	0.543	0.83
m,p-Xylene	10	0.4 J	0.300	NA
n-Butylbenzene	3	0.1 J	NA	NA
n-Propylbenzene	7	0.06 J	0.050	NA
p-Isopropyltoluene	3	0.07 J	NA	NA
sec-Butylbenzene	7	0.3 J	0.175	NA
trans-1,2-Dichloroethene	7	0.4 J	0.400	NA
<b>Semivolatile Organic Compounds</b>				
Acenaphthene	6	2.4 J	2	NA
Phenol	9	31	11	NA
bis(2-ethylhexyl)phthalate	3	3 J	NA	NA

**TABLE 7-2: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN GROUNDWATER AT IR SITE 34**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Detection Frequency (Percent)	Maximum Detected Concentrations	Mean	95UCL of Detected Values
<b>Polycyclic Aromatic Hydrocarbons</b>				
2-Methylnaphthalene	7	0.01 J	0.009	NA
Acenaphthene	18	0.89	0.227	1.90
Acenaphthylene	18	0.096 J	0.040	0.24
Anthracene	18	0.12	0.042	0.13
Benzo(a)anthracene	4	0.077 J	NA	NA
Benzo(a)pyrene	4	1.1	NA	NA
Benzo(b)fluoranthene	4	0.04 J	NA	NA
Benzo(g,h,i)perylene	4	0.058 J	NA	NA
Benzo(k)fluoranthene	4	0.042 J	NA	NA
Chrysene	4	0.11 J	NA	NA
Dibenzo(a,h)anthracene	4	0.014 J	NA	NA
Fluoranthene	21	0.24	0.0503	0.43
Fluorene	18	0.24	0.0946	0.26
Indeno(1,2,3-cd)pyrene	4	0.038 J	NA	NA
Naphthalene	21	0.2 J	0.0720	0.20
Phenanthrene	32	0.77	0.0982	0.93
Pyrene	54	0.43	0.0542	0.33
<b>Pesticides</b>				
4,4'-DDD	7	0.00038 J	0.00038	NA
4,4'-DDE	11	0.00085 J	0.0052	NA
Aldrin	28	0.0011 J	0.0005	0.43
Beta-BHC	4	0.0005	NA	NA
Dieldrin	4	0.00046 J	NA	NA
Endosulfan I	31	0.002 J	0.00086	0.26
Endosulfan II	4	0.00023 J	NA	NA
Endrin	7	0.00026 J	0.0002	NA
Endrin aldehyde	14	0.0032	0.0012	2.97
Heptachlor Epoxide	7	0.0019 J	0.0010	NA
Methoxychlor	7	0.0013	0.0011	NA
alpha-BHC	14	0.0023	0.0007	1.16
alpha-Chlordane	18	0.0048 J	0.0014	2.13
gamma-BHC (Lindane)	17	0.0017 J	0.0006	0.00
gamma-Chlordane	4	0.00041 J	NA	NA
<b>Total Petroleum Hydrocarbons</b>				
Diesel-Range	70	54	2	23
Gasoline-Range	20	1.1	0.21	2
Motor Oil-Range	68	7.1	1	1

Notes:

All concentrations are reported in micrograms per liter, except Total Petroleum Hydrocarbons, which are reported in milligrams per liter.

- |     |                                |
|-----|--------------------------------|
| BHC | Benzene hexachloride           |
| DDD | Dichlorodiphenyldichloroethane |
| DDE | Dichlorodiphenyldichloroethene |
| EPC | Exposure point concentration   |
| J   | Estimated value                |
| NA  | Not available                  |
| NC  | Not calculated                 |

**TABLE 7-3: BIRD AND MAMMAL HAZARD QUOTIENTS (STEP 2) (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Alameda Song Sparrow	American Robin	Red-tailed Hawk	California Ground Squirrel	Deer Mouse
<b>ALUMINUM</b>					
Dose/High TRV	18.14	2.36	4.49	0.82	0.05
Dose/Low TRV	181	23.60	44.92	8.18	0.47
<b>ANTIMONY</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.02	1.52
Dose/Low TRV	No TRV	No TRV	No TRV	0.21	15.15
<b>ARSENIC</b>					
Dose/High TRV	0.34	0.23	0.005	0.06	0.46
Dose/Low TRV	1.37	0.92	0.02	1.09	8.39
<b>BARIUM</b>					
Dose/High TRV	0.30	0.17	0.002	0.12	0.43
Dose/Low TRV	0.61	0.35	0.005	0.48	1.75
<b>BERYLLIUM</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.005	0.009
Dose/Low TRV	No TRV	No TRV	No TRV	0.05	0.09
<b>CADMIUM</b>					
Dose/High TRV	2.57	2.10	0.01	0.09	7.60
Dose/Low TRV	526.36	429.63	2.08	3.95	336.00
<b>CHROMIUM</b>					
Dose/High TRV	13.85	10.35	0.49	0.0001	0.001
Dose/Low TRV	69.24	51.77	2.45	0.0006	0.01
<b>COBALT</b>					
Dose/High TRV	0.02	0.01	0.0007	0.0007	0.03
Dose/Low TRV	0.15	0.11	0.01	0.01	0.52
<b>COPPER</b>					
Dose/High TRV	0.72	0.54	0.03	0.001	0.03
Dose/Low TRV	17.82	13.46	0.64	0.30	6.37
<b>IRON</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>LEAD</b>					
Dose/High TRV	153.23	115.05	2.18	0.02	1.42
Dose/Low TRV	61,019.09	45,813.14	866.76	7.43	551.68
<b>MANGANESE</b>					
Dose/High TRV	0.08	0.05	0.003	0.03	0.13
Dose/Low TRV	0.82	0.49	0.03	0.36	1.50
<b>MERCURY</b>					
Dose/High TRV	6.31	4.29	0.05	0.02	0.20
Dose/Low TRV	29.11	19.82	0.25	0.33	2.66
<b>MOLYBDENUM</b>					
Dose/High TRV	0.13	0.05	0.04	0.24	0.51
Dose/Low TRV	1.32	0.52	0.36	2.42	5.05
<b>NICKEL</b>					
Dose/High TRV	0.59	0.47	0.01	0.01	0.74
Dose/Low TRV	23.82	19.16	0.46	2.19	174.85
<b>SELENIUM</b>					
Dose/High TRV	0.45	0.29	0.06	0.02	0.13
Dose/Low TRV	1.83	1.17	0.26	0.75	4.55

**TABLE 7-3: BIRD AND MAMMAL HAZARD QUOTIENTS (STEP 2) (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Alameda Song Sparrow	American Robin	Red-tailed Hawk	California Ground Squirrel	Deer Mouse
<b>SILVER</b>					
Dose/High TRV	0.23	0.19	0.0004	0.0004	0.11
Dose/Low TRV	2.28	1.88	0.004	0.004	1.15
<b>THALLIUM</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.13	0.54
Dose/Low TRV	No TRV	No TRV	No TRV	0.39	1.62
<b>VANADIUM</b>					
Dose/High TRV	0.06	0.04	0.01	0.03	0.91
Dose/Low TRV	0.58	0.41	0.14	0.29	9.06
<b>ZINC</b>					
Dose/High TRV	1.93	1.37	0.07	0.04	0.45
Dose/Low TRV	19.31	13.70	0.69	1.25	12.98
<b>2,4-DIMETHYLPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>2-METHYLPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.00001	0.0002
Dose/Low TRV	No TRV	No TRV	No TRV	0.0001	0.002
<b>4-METHYLPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>4-NITROANILINE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>4-NITROPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>					
Dose/High TRV	5.28	4.41	0.07	0.0002	0.22
Dose/Low TRV	52.81	44.08	0.75	0.002	2.15
<b>BUTYLBENZYLPHTHALATE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DIBENZOFURAN</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DIMETHYLPHTHALATE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DI-N-BUTYLPHTHALATE</b>					
Dose/High TRV	10.31	8.61	0.12	0.000003	0.004
Dose/Low TRV	103.11	86.11	1.23	0.00001	0.01
<b>ISOPHORONE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>PHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV

**TABLE 7-3: BIRD AND MAMMAL HAZARD QUOTIENTS (STEP 2) (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Alameda Song Sparrow	American Robin	Red-tailed Hawk	California Ground Squirrel	Deer Mouse
<b>2-METHYLNAPHTHALENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.0005	0.16
Dose/Low TRV	No TRV	No TRV	No TRV	0.001	0.47
<b>ACENAPHTHENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.00001	0.02
Dose/Low TRV	No TRV	No TRV	No TRV	0.00003	0.06
<b>ACENAPHTHYLENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.004	0.01
Dose/Low TRV	No TRV	No TRV	No TRV	0.01	0.04
<b>ANTHRACENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.0004	0.01
Dose/Low TRV	No TRV	No TRV	No TRV	0.001	0.02
<b>BENZO(a)ANTHRACENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.0005	0.08
Dose/Low TRV	No TRV	No TRV	No TRV	0.01	1.97
<b>BENZO(a)PYRENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.0008	0.02
Dose/Low TRV	No TRV	No TRV	No TRV	0.02	0.57
<b>BENZO(b)FLUORANTHENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.003	0.07
Dose/Low TRV	No TRV	No TRV	No TRV	0.08	1.85
<b>BENZO(g,h,i)PERYLENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.001	0.02
Dose/Low TRV	No TRV	No TRV	No TRV	0.03	0.59
<b>BENZO(k)FLUORANTHENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.001	0.08
Dose/Low TRV	No TRV	No TRV	No TRV	0.03	2.12
<b>CHRYSENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.001	0.13
Dose/Low TRV	No TRV	No TRV	No TRV	0.01	3.20
<b>DIBENZO(a,h)ANTHRACENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.000	0.01
Dose/Low TRV	No TRV	No TRV	No TRV	0.01	0.27
<b>FLUORANTHENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.05	0.86
Dose/Low TRV	No TRV	No TRV	No TRV	1.30	21.56
<b>FLUORENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.00001	0.09
Dose/Low TRV	No TRV	No TRV	No TRV	0.00002	0.26
<b>INDENO(1,2,3-cd)PYRENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.0004	0.02
Dose/Low TRV	No TRV	No TRV	No TRV	0.01	0.61
<b>NAPHTHALENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.00003	0.0001
Dose/Low TRV	No TRV	No TRV	No TRV	0.0001	0.0002
<b>PHENANTHRENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.004	0.09
Dose/Low TRV	No TRV	No TRV	No TRV	0.01	0.26

**TABLE 7-3: BIRD AND MAMMAL HAZARD QUOTIENTS (STEP 2) (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Alameda Song Sparrow	American Robin	Red-tailed Hawk	California Ground Squirrel	Deer Mouse
<b>PYRENE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.01	0.42
Dose/Low TRV	No TRV	No TRV	No TRV	0.14	10.60
<b>4,4'-DDD</b>					
Dose/High TRV	0.005	0.004	0.01	0.000002	0.0003
Dose/Low TRV	1.02	0.84	1.52	0.00005	0.01
<b>4,4'-DDE</b>					
Dose/High TRV	3.56	2.96	1.23	0.0003	0.10
Dose/Low TRV	304.50	253.10	105.36	0.01	1.99
<b>4,4'-DDT</b>					
Dose/High TRV	0.71	0.59	0.11	0.0002	0.05
Dose/Low TRV	151.33	125.41	22.78	0.004	0.98
<b>ALDRIN</b>					
Dose/High TRV	0.11	0.09	0.001	0.0005	0.06
Dose/Low TRV	1.14	0.94	0.01	0.05	5.56
<b>ALPHA-BHC</b>					
Dose/High TRV	0.002	0.001	0.00002	0.0001	0.03
Dose/Low TRV	0.01	0.01	0.0001	0.001	0.35
<b>ALPHA-CHLORDANE</b>					
Dose/High TRV	0.02	0.02	0.0002	0.00001	0.02
Dose/Low TRV	0.10	0.08	0.001	0.00001	0.04
<b>BETA-BHC</b>					
Dose/High TRV	0.005	0.004	0.00006	0.00001	0.01
Dose/Low TRV	0.02	0.02	0.0002	0.00007	0.03
<b>DELTA-BHC</b>					
Dose/High TRV	0.02	0.02	0.0002	0.005	0.41
Dose/Low TRV	0.07	0.06	0.0009	0.05	4.07
<b>DIELDRIN</b>					
Dose/High TRV	1.48	1.21	0.44	0.08	4.98
Dose/Low TRV	14.80	12.05	4.40	0.77	49.75
<b>ENDOSULFAN I</b>					
Dose/High TRV	0.001	0.001	0.00002	0.0004	0.08
Dose/Low TRV	0.01	0.01	0.0002	0.004	0.82
<b>ENDOSULFAN II</b>					
Dose/High TRV	0.003	0.002	0.00004	0.001	0.18
Dose/Low TRV	0.03	0.02	0.0004	0.01	1.78
<b>ENDOSULFAN SULFATE</b>					
Dose/High TRV	0.003	0.002	0.00003	0.0007	0.15
Dose/Low TRV	0.03	0.02	0.0003	0.01	1.53
<b>ENDRIN KETONE</b>					
Dose/High TRV	3.87	0.44	0.01	0.00004	0.04
Dose/Low TRV	38.71	4.37	0.06	0.0004	0.37
<b>ENDRIN ALDEHYDE</b>					
Dose/High TRV	0.52	3.23	0.04	0.0003	0.28
Dose/Low TRV	5.23	32.31	0.45	0.003	2.77
<b>GAMMA-BHC (LINDANE)</b>					
Dose/High TRV	0.0009	0.0008	0.00001	0.00001	0.002
Dose/Low TRV	0.01	0.01	0.0001	0.001	0.25

**TABLE 7-3: BIRD AND MAMMAL HAZARD QUOTIENTS (STEP 2) (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Alameda Song Sparrow	American Robin	Red-tailed Hawk	California Ground Squirrel	Deer Mouse
<b>GAMMA-CHLORDANE</b>					
Dose/High TRV	0.06	0.05	0.0007	0.00002	0.06
Dose/Low TRV	0.31	0.26	0.003	0.00004	0.12
<b>HEPTACHLOR</b>					
Dose/High TRV	0.003	0.002	0.00003	0.00001	0.01
Dose/Low TRV	0.01	0.01	0.0002	0.0004	0.24
<b>HEPTACHLOR EPOXIDE</b>					
Dose/High TRV	0.04	0.04	0.0005	0.00003	0.08
Dose/Low TRV	0.22	0.18	0.003	0.001	3.67
<b>METHOXYCHLOR</b>					
Dose/High TRV	No TRV	No TRV	No TRV	0.00002	0.01
Dose/Low TRV	No TRV	No TRV	No TRV	0.0004	0.27
<b>TECHNICAL CHLORDANE</b>					
Dose/High TRV	0.25	0.21	0.003	0.0004	0.23
Dose/Low TRV	1.24	1.04	0.01	0.0008	0.47
<b>AROCLOR-1248</b>					
Dose/High TRV	8.09	6.76	0.09	0.03	119.89
Dose/Low TRV	97.95	81.87	1.09	0.27	1,198.95
<b>AROCLOR-1254</b>					
Dose/High TRV	47.77	39.93	0.52	0.01	50.76
Dose/Low TRV	4,776.77	3,993.05	52.16	0.09	507.63
<b>AROCLOR-1260</b>					
Dose/High TRV	70.43	58.89	0.73	0.002	27.79
Dose/Low TRV	853.23	713.42	8.80	0.01	96.78
<b>AROCLOR-1268</b>					
Dose/High TRV	2.18	1.82	0.02	0.00005	0.86
Dose/Low TRV	26.39	22.06	0.27	0.0002	2.99

Notes:

Bold values indicate hazard quotient greater than 1.

BHC	Benzene hexachloride
COPEC	Chemical of potential ecological concern
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
TRV	Toxicity reference value

**TABLE 7-4: BIRD AND MAMMAL HAZARD QUOTIENTS (STEP 3A) (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>ALUMINUM</b>					
Dose/High TRV	4.44	0.58	0.28	0.20	NA
Dose/Low TRV	44.37	5.77	2.78	2.00	NA
<b>ANTIMONY</b>					
Dose/High TRV	0.26	NA	No TRV	No TRV	No TRV
Dose/Low TRV	2.59	NA	No TRV	No TRV	No TRV
<b>ARSENIC</b>					
Dose/High TRV	0.06	0.005	0.03	NA	NA
Dose/Low TRV	1.02	0.09	0.14	NA	NA
<b>BARIUM</b>					
Dose/High TRV	0.15	NA	NA	NA	NA
Dose/Low TRV	0.61	NA	NA	NA	NA
<b>CADMIUM</b>					
Dose/High TRV	2.03	0.04	0.69	0.56	0.00001
Dose/Low TRV	89.88	1.58	140.22	113.60	0.003
<b>CHROMIUM</b>					
Dose/High TRV	NA	NA	2.52	1.88	0.0004
Dose/Low TRV	NA	NA	12.59	9.41	0.002
<b>COPPER</b>					
Dose/High TRV	0.01	NA	0.19	0.13	NA
Dose/Low TRV	1.66	NA	4.75	3.34	NA
<b>IRON</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>LEAD</b>					
Dose/High TRV	0.23	0.004	21.58	16.37	0.001
Dose/Low TRV	88.27	1.71	8593.06	6519.68	0.59
<b>MANGANESE</b>					
Dose/High TRV	0.04	NA	NA	NA	NA
Dose/Low TRV	0.42	NA	NA	NA	NA
<b>MOLYBDENUM</b>					
Dose/High TRV	0.12	0.04	0.03	NA	NA
Dose/Low TRV	1.19	0.38	0.28	NA	NA
<b>NICKEL</b>					
Dose/High TRV	0.24	0.004	0.19	0.15	NA
Dose/Low TRV	56.11	0.92	7.66	6.13	NA
<b>SELENIUM</b>					
Dose/High TRV	0.04	NA	0.14	0.10	NA
Dose/Low TRV	1.49	NA	0.57	0.40	NA
<b>THALLIUM</b>					
Dose/High TRV	0.07	NA	No TRV	No TRV	No TRV
Dose/Low TRV	0.22	NA	No TRV	No TRV	No TRV
<b>VANADIUM</b>					
Dose/High TRV	0.23	NA	NA	NA	NA
Dose/Low TRV	2.35	NA	NA	NA	NA
<b>ZINC</b>					
Dose/High TRV	0.26	0.02	1.02	0.75	NA
Dose/Low TRV	7.50	0.56	10.23	7.54	NA
<b>2,4-DIMETHYLPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV

**TABLE 7-4: BIRD AND MAMMAL HAZARD QUOTIENTS (STEP 3A) (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>2-METHYLPHENOL</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>4-METHYLPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>4-NITROANILINE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>4-NITROPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>BIS(2-</b>					
Dose/High TRV	0.08	NA	2.00	1.67	NA
Dose/Low TRV	0.81	NA	19.99	16.69	NA
<b>BUTYLBENZYLPHTHALATE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DIBENZOFURAN</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DIMETHYLPHTHALATE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DI-N-BUTYLPHTHALATE</b>					
Dose/High TRV	NA	NA	10.31	8.61	0.0004
Dose/Low TRV	NA	NA	103.11	86.11	0.004
<b>ISOPHORONE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>PHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>2-METHYLNAPHTHALENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>ACENAPHTHENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>ACENAPHTHYLENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>ANTHRACENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>BENZO(a)ANTHRACENE</b>					
Dose/High TRV	0.02	NA	No TRV	No TRV	No TRV
Dose/Low TRV	0.60	NA	No TRV	No TRV	No TRV

**TABLE 7-4: BIRD AND MAMMAL HAZARD QUOTIENTS (STEP 3A) (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>BENZO(a)PYRENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>BENZO(b)FLUORANTHENE</b>					
Dose/High TRV	0.02	NA	No TRV	No TRV	No TRV
Dose/Low TRV	0.58	NA	No TRV	No TRV	No TRV
<b>BENZO(g,h,i)PERYLENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>BENZO(k)FLUORANTHENE</b>					
Dose/High TRV	0.03	NA	No TRV	No TRV	No TRV
Dose/Low TRV	0.65	NA	No TRV	No TRV	No TRV
<b>CHRYSENE</b>					
Dose/High TRV	0.04	NA	No TRV	No TRV	No TRV
Dose/Low TRV	0.96	NA	No TRV	No TRV	No TRV
<b>DIBENZO(a,h)ANTHRACEN</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>FLUORANTHENE</b>					
Dose/High TRV	0.26	0.02	No TRV	No TRV	No TRV
Dose/Low TRV	6.48	0.39	No TRV	No TRV	No TRV
<b>FLUORENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>INDENO(1,2,3-cd)PYRENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>NAPHTHALENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>PHENANTHRENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>PYRENE</b>					
Dose/High TRV	0.13	NA	No TRV	No TRV	No TRV
Dose/Low TRV	3.17	NA	No TRV	No TRV	No TRV
<b>4,4'-DDE</b>					
Dose/High TRV	0.02	NA	0.81	0.67	0.001
Dose/Low TRV	0.45	NA	69.19	57.46	0.11
<b>4,4'-DDT</b>					
Dose/High TRV	NA	NA	0.08	0.07	0.0001
Dose/Low TRV	NA	NA	17.61	14.57	0.01

**TABLE 7-4: BIRD AND MAMMAL HAZARD QUOTIENTS (STEP 3A) (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>METHOXYCHLOR</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>AROCLOR-1254</b>					
Dose/High TRV	<b>1.85</b>	NA	<b>1.74</b>	<b>1.46</b>	0.0001
Dose/Low TRV	<b>18.51</b>	NA	<b>174.13</b>	<b>145.56</b>	0.01
<b>AROCLOR-1260</b>					
Dose/High TRV	<b>1.40</b>	NA	<b>3.54</b>	<b>2.96</b>	0.0001
Dose/Low TRV	<b>4.87</b>	NA	<b>42.93</b>	<b>35.89</b>	0.001
<b>AROCLOR-1268</b>					
Dose/High TRV	0.08	NA	0.20	0.16	NA
Dose/Low TRV	0.27	NA	2.37	1.98	NA

Notes: **Bold values indicate hazard quotient greater than 1.**

- BHC Benzene hexachloride
- COPEC Chemical of potential ecological concern
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethylene
- DDT Dichlorodiphenyltrichloroethane
- NA Not Applicable
- TRV Toxicity reference value

## **8.0 CONCLUSIONS AND RECOMMENDATIONS**

This RI Report was prepared to (1) collect data to eliminate previously identified data gaps, (2) evaluate the nature and extent of soil and groundwater contamination, (3) evaluate the fate and transport, and (4) assess the risk to human health and the environment at IR Site 34. The following sections present conclusions and recommendations for IR Site 34 based on the evaluation results of the RI.

### **8.1 CONCLUSIONS**

Data collected at IR Site 34 during previous investigations and the RI were found to be sufficient to eliminate previously identified data gaps, describe the nature and extent of soil and groundwater contamination at IR Site 34, and conduct a baseline HHRA and SLERA. The following sections present the conclusions drawn from the evaluations that were conducted during the RI at IR Site 34; those evaluations included the nature and extent of contamination, fate and transport of chemicals, HHRA, and SLERA and risk refinement.

#### **8.1.1 Nature and Extent Conclusions**

The nature and extent evaluation used the physical features of IR Site 34, along with specific details on the hazardous waste generated and past disposal and storage practices associated with these wastes, to identify potential sources of CERCLA chemicals. The following physical features of IR Site 34 were evaluated:

- Former Buildings 330, 331, 343, 344, 472, 474, 475, 476, 477, 479, 510, and 604
- Former ASTs 330A, 330B, 344A, 344B, 344C, 344D, and 331
- Former GAPs 78 and 79
- Former petroleum fuel lines
- Former transformers
- Open space
- Storm sewers AA and BB

Environmental investigations were conducted in these areas (see Section 1.3.4) to identify and assess the extent of CERCLA chemicals in soil and groundwater, and the analytical results were evaluated (see Section 4.0). The results of these investigations are presented separately for soil and groundwater.

### 8.1.1.1 Nature and Extent Soil Results

For the purposes of this RI, contamination is defined as a chemical detected in an environmental sample at IR Site 34 at a concentration exceeding comparison criteria. Metals, VOCs, PAHs, pesticides, PCBs, and TPH were detected at concentrations above comparison criteria in soil samples collected at IR Site 34. Only the following seven chemicals were detected above comparison criteria in more than 10 percent of the samples:

- Metals (arsenic, iron, lead)
- PCBs (Aroclor-1254, Aroclor-1260)
- TPH (as diesel, as motor oil)

Although PAHs were detected above comparison criteria in less than 10 percent of the samples and the evaluation of PAHs relative to B(a)P equivalents showed the site-wide average B(a)P equivalent concentration is below the comparison criteria of 0.62 mg/kg, the site-wide average concentration is influenced by an EPA B(a)P-equivalent value of 8.4 mg/kg and an OEHHA B(a)P-equivalent value of 9.5 mg/kg in a sample of anomalous soil collected above a black clayey sand with a strong diesel odor at location DP16 (north of Building 331).

In addition to exceeding comparison criteria in more than 10 percent of the samples, these seven chemicals, and the following additional chemicals were determined to likely pose potential risk, based on a residential exposure (see the HHRA, Section 6.0)

- PCBs (Aroclor-1248, 1268)
- Pesticides (dieldrin, heptachlor epoxide),
- SVOC (naphthalene)
- VOCs (1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and 1,4-DCB)

After taking into consideration that further evaluation in an FS is based on the risk assessments and reviewing the distribution of concentrations for those chemicals driving risk, residual soil contamination appears to be collocated and limited to six specific areas of concern at IR Site 34 (AOC). The list below (as shown on Figure 4-14) indicates which chemicals are present at each AOC at concentrations potentially posing risk and the likely historical sources of the contaminants.

- **Northwest corner of the site, near the former railroad and former Building 510:** arsenic, PCBs, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to site use and historical sandblasting in former Building 510. Oils and solvents may have been released from sandblasting equipment.

- **North of Building 331:** arsenic, lead, PCBs, naphthalene, and TPH as diesel. Residual contamination in this area appears to be related to use of oils and solvents for woodwork at the former building and metal working at Building 330 to the west.
- **Along the former railroad and south of former Building 331:** lead, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to site use, historical releases from former AST 331, and use of oils and solvents for woodwork at the former building.
- **Southwest corner of former Building 343 and east of former Building 475:** PCBs. Residual contamination in this area appears to be related to the transformer formerly located in Building 475 and the release of oils from sandblasting equipment.
- **Southeast corner of former Building 343 and northeast corner of former Building 344:** iron, lead, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to historical releases from former AST 344D, sandblasting of lead-based paints, and lubricants used for sheet metal fabrication. The floor of former Building 343 was rusted, which may have released metals to nearby soil.
- **Southwest corner of the site:** pesticides, PCBs, and VOCs. This area was used between 1995 and 1997 for temporary storage of PCB- and lead-contaminated soil excavated from IR Site 15 (see Section 1.3.3.1). Residual contamination in this area may be related to operation of the TSTA and application of pesticides for weed control.

#### **8.1.1.2 Nature and Extent Groundwater Results**

Arsenic, manganese, iron, 1,2-DCA, 1,2-dichloropropane, chloroform, naphthalene, TCE, vinyl chloride, and PAHs were detected in groundwater samples at concentrations exceeding EPA tap water PRGs. No detected concentrations exceeded ESLs. Diesel- and motor oil-range petroleum hydrocarbons had a greater than 50 percent detection frequency across IR Site 34. The most likely sources of these chemicals are from the disposal of used sandblasting and paint grit; painting activities; chemical storage; sheet metal fabrication; spills near the GAP; leaks from ASTs; and application of chemicals for weed control. However, all of these potential sources were removed after closure of NAS Alameda in 1997. Groundwater contamination at IR Site 34 appears to be confined to several specific areas, as listed below.

- Near the open area in the western-central portion of the site
- Near former Buildings 331, 474, 476, and 604; former GAP 78; the former petroleum fuel pipeline in the southwest corner of the site; and former ASTs 330B, 331, 344A, 344B, and 344D.

These areas have been defined using EPA tap water PRGs, which is unlikely since groundwater beneath IR Site 34 is not a potential drinking water source.

### **8.1.2 Chemical Fate and Transport Conclusions**

The fate and transport evaluation identified the following potential transport mechanisms that may allow the migration of chemicals in soil and groundwater at IR Site 34: direct volatilization, direct transport of soils through erosion by wind and water, and leaching from soils and contaminant migration with flowing groundwater. At IR Site 34 soils and groundwater are affected by a number of chemicals; however, the contaminants are not expected to migrate in a manner that could cause significant exposures to humans or the environment based on future use as a golf course and park.

At IR Site 34, groundwater is affected by most of the chemicals present in site soils, but concentrations are relatively low and do not indicate the presence of a primary source of contamination or the presence of source material. Groundwater contamination, where present, is characterized by diffuse and variable concentrations that do not indicate a primary area of release. Groundwater at IR Site 34 and surrounding sites generally flows from the middle of the Alameda Point peninsula toward the shoreline. Low hydraulic gradients and moderate hydraulic conductivity create relatively slow groundwater flow velocities at IR Site 34. The low-flow velocities of groundwater, low concentrations of chemicals in groundwater, high potential for retardation along the groundwater flow path, and tidal action and surface water flow—which create a mixing zone at the interface with the Oakland Inner Harbor—suggest that chemicals will not discharge to the Oakland Inner Harbor at concentrations of concern.

In addition, IR Site 34 soils are affected by a number of chemicals, most of which exhibit chemical properties that will tend to immobilize them in scattered locations across the site. Primary chemicals that affect groundwater at IR Site 34 include arsenic, manganese, TCE and its degradation products, and TPH. The shallow aquifer at IR Site 34 consists of fine estuarine sand fill, and the low hydraulic gradient and likely (although undocumented) presence of organic carbon in the aquifer are expected to slow migration of these chemicals and inhibit the rate of discharge to the Oakland Inner Harbor. The presence of utility corridors such as the storm sewer west of Building 331 may offer preferential flow pathways that allow more rapid transport of chemicals to the Oakland Inner Harbor.

### **8.1.3 Human Health Risk Assessment Conclusions**

IR Site 34 is currently unoccupied land and so current receptors are not present at the site. The planned reuse of this area is recreational and includes the development of a golf course. IR Site 34 has been identified as a tidelands trust area that is subject to the limitations expressed in the Coastal Zone Management Act, which includes a restriction on residential use. Although planned reuse of IR Site 34 is recreational and future development of the site for residential use is unlikely, the HHRA evaluated a residential scenario to provide alternative risk estimates for unrestricted reuse of the site and to support risk management decisions for the site. The HHRA calculated risks using EPA and DTSC toxicity values assuming both a RME and CTE exposure

scenario. The HHRA also calculated total risks, which include risks from background concentrations of metals, and incremental risks, which exclude risks from background concentrations of metals. The following paragraph summarizes the total risks estimated using EPA toxicity values under a RME scenario.

For future workers and recreational users, cancer risks from groundwater exposure pathways were less than  $1 \times 10^{-6}$  and noncancer HI estimates were less than 1. Potential cancer risks from soil exposure pathways were within the risk management range of  $10^{-4}$  to  $10^{-6}$  for commercial/industrial workers, construction workers, and recreational users. The total HI estimates from soil exposure pathways were greater than 1 for future hypothetical workers and equal to 1 for recreational users. For future residents, potential cancer risks from groundwater exposure pathways were within the risk management range of  $10^{-4}$  to  $10^{-6}$  range for carcinogens and the HI estimates were less than 1. Potential cancer risks from soil exposure pathways exceeded the risk management range of  $10^{-4}$  to  $10^{-6}$  for carcinogens, and the total HI estimates were greater than 1 for future residents.

Many of these risk estimates, however, include risk estimates for a hypothetical residential scenario that is unlikely. In addition, many conservative assumptions were used that may have overestimated the risks. For example, many of the VOCs accounting for most of the risks are based on the maximum detected concentrations in only one soil sample.

#### 8.1.4 Risk Driver Evaluation

The HHRA called a COPC a “risk driver” when the COPC-specific cancer risk exceeded  $1 \times 10^{-6}$  or the COPC-specific HQ exceeded 1. The RI report evaluated each risk driver to determine whether a risk driver should be considered in an FS. As described in Section 6.4, factors considered when including or excluding chemicals for further considerations in FS included background concentrations, frequency of detection, exposure pathways, the B(a)P-equivalent screening level, and sampling methodology (grab samples). The table below lists the risk drivers not recommended for further consideration in an FS.

Risk Drivers not Recommended for Further Consideration in an FS			
	Soil		Groundwater
4-Nitroaniline	B(a)P	Dibenzo(a,h)anthracene	TCE
Aluminum	Benzo(b)fluoranthene	Indeno(1,2,3-cd)pyrene	
Benzo(a)anthracene	Bis(2-ethylhexyl)phthalate	Manganese	

These risk drivers were not recommended for further consideration in an FS for the following reasons (see Appendix H for further details):

- The detection frequency for 4-nitroaniline in soil is low (1 sample out of 35).

- Historical activities and the distribution of aluminum and manganese concentrations exceeding background do not indicate aluminum and manganese are related to Navy activities at IR Site 34.
- The average EPA B(a)P-equivalent concentration (0.47 mg/kg) and OEHHA B(a)P-equivalent concentration (0.52 mg/kg) are below the established screening level of 0.62 mg/kg.
- The potential risk from bis(2-ethylhexyl)phthalate is likely overestimated.
- TCE was only a risk driver for future residents, and, as discussed previously, residential development of IR Site 34 is unlikely. As many of the exposure assumptions used to estimate risks for VOCs were conservative and likely overestimated risks, TCE in groundwater was not recommended for further evaluation.

The table below lists the risk drivers recommended for further consideration in an FS.

<b>Risk Drivers in Soil Recommended for Further Consideration in an FS</b>			
1,2,3-Trichlorobenzene	1,4-DCB	Aroclor-1260	Iron
1,2,4-Trichlorobenzene	Aroclor-1268	Arsenic	Lead
1,2,4-Trimethylbenzene	Aroclor-1248	Dieldrin	Naphthalene
1,2-DCB	Aroclor-1254	Heptachlor epoxide	

Figure 8-1 presents the locations where risk drivers under the residential scenario were detected above risk-based concentrations, and Figure 8-2 presents the locations where risk drivers under the recreational use scenario were detected above risk-based concentrations. Although the RI recommended consideration in an FS for the chemicals listed above, potential risks for these chemicals are based on very conservative assumptions that may have overestimated risks and include risk drivers for hypothetical residential scenarios that are unlikely. For example, 1,2,3-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and iron were only risk drivers under the residential scenario. As discussed previously, residential development of IR Site 34 is unlikely. In addition, potential risks estimated for many of the chemicals listed above may have been overstated. For example, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and 1,4-DCB risk drivers were only detected once and so the estimated risks for these chemicals are not representative of site-wide conditions, but rather represent the potential risks at only one soil sampling location.

### **8.1.5 Screening-Level Ecological Risk Assessment and Risk Refinement Conclusions**

Based on the results of the Step 3a risk refinement, the following chemical was identified as a risk driver in soil at IR Site 34.

- Lead

No risk drivers were identified in groundwater at Site 34.

Although lead may contribute to ecological risk at IR Site 34, based on the SLERA, a baseline ERA is not recommended because the SLERA likely overestimated risk, there is a lack of current suitable habitat, and future land use would not generate much ideal habitat for wildlife. IR Site 34 currently consists of predominantly Intensively Developed area and two potential wetland areas. Intensively Developed areas have little vegetation and typical urban wildlife, such as California ground squirrel, scrub jays, and American robins, may be observed in these areas but to a lesser extent than in the landscaped/developed areas, because less foraging habitat is available in these areas. The potential wetland areas provide minimal habitat to support plant and invertebrate populations and do not provide suitable habitat for small mammals. In addition, because of high marine vessel activity in the Oakland Inner Harbor it is unlikely that this area will be used by nesting birds.

Site-related chemicals in soil and groundwater at IR Site 34 are not expected to affect the potential wetland areas or the Oakland Inner Harbor for the following reasons. It is unlikely that groundwater or surface water runoff from IR Site 34 would affect the potential seasonal wetland located within the southwest corner of the site because the site topography would prevent it from reaching this potential wetland. Although surface water generally flows towards the wetland located to the north of the site, precipitation typically evaporates into the atmosphere, infiltrates to groundwater, or runs off into the storm drain system. The potential wetland is also not likely to be affected by site-related chemicals in groundwater because it lies between a series of parallel rock riprap walls that together form a terrace of land that is the shoreline and is tidally inundated at such a frequency as to not present suitable habitat for small mammals, dilution would occur as groundwater mixes with surface water (Oakland Inner Harbor), and groundwater COPECs were identified based on the assumption that no dilution, retardation, or degradation will occur between the location where the groundwater risk drivers were detected and the Oakland Inner Harbor/wetland. In addition, the low-flow velocities of groundwater, low concentrations of VOCs in groundwater, high potential for retardation along the groundwater flow path, and tidal action and surface water flow that create a mixing zone at the interface with the Oakland Inner Harbor suggest that chemicals will not discharge to the Oakland Inner Harbor at concentrations of concern.

Following further evaluation of the COPECs, this assessment was determined to likely overestimate risk to terrestrial and aquatic receptors (including the wetland); therefore, further investigation or assessment of ecological risk from soils and groundwater at IR Site 34 is not recommended.

## **8.2 RECOMMENDATIONS**

Based on the conclusions of the evaluations discussed above, additional site characterization of soil or groundwater is unnecessary at IR Site 34 to complete the RI. The nature and extent of

soil and groundwater contamination has been adequately characterized and the data were found to be sufficient to conduct an HHRA and SLERA.

The Navy recommends the chemicals listed below and the five AOCs where contamination appears to be limited to be further considered in an FS (see Figure 8-3). No action is recommended for groundwater or the AOC located in the southwest corner of former Building 343 and east of former Building 475. Although PCBs were detected in samples collected within this area at concentrations greater than the residential PRGs, this area is not specifically identified for further evaluation in an FS because of the relatively low risk of PCBs based on the HHRA.

- **Northwest corner of the site, near the former railroad and former Building 510:** arsenic, PCBs, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to site use and historical sandblasting in former Building 510. Oils and solvents may have been released from sandblasting equipment.
- **North of Building 331:** arsenic, lead, PCBs, and naphthalene. Residual contamination in this area appears to be related to use of oils and solvents for woodwork at the former building.
- **Along the former railroad and south of former Building 331:** lead, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to site use, historical releases from former AST 331, and use of oils and solvents for woodwork at the former building.
- **Southeast corner of former Building 343 and northeast corner of former Building 344:** iron, lead, and TPH as diesel and motor oil. Residual contamination in this area appears to be related to historical releases from former AST 344D, sandblasting of lead-based paints, and lubricants used for sheet metal fabrication. The floor of former Building 343 was rusted, which may have released metals to nearby soil.
- **Southwest corner of the site:** pesticides, PCBs, and VOCs (1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-DCB, and 1,4-DCB). This area was used between 1995 and 1997 for temporary storage of PCB- and lead-contaminated soil excavated from IR Site 15 (see Section 1.3.3.1). Residual contamination in this area may be related to operation of the TSTA and application of pesticides for weed control.

The Navy recommends an FS be prepared to evaluate options to address contamination at IR Site 34 potentially posing a risk to human health. The FS should consider the future land use in evaluating these options. In addition, the Navy recommends the following additional sampling for inclusion in the FS:

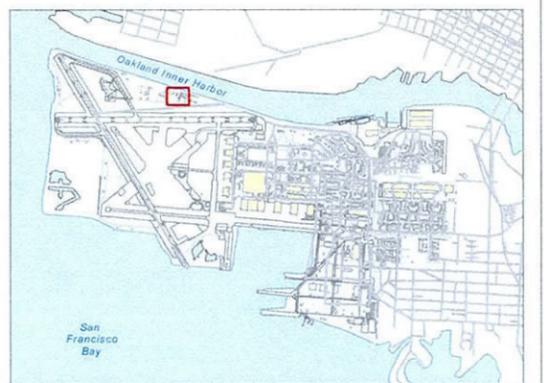
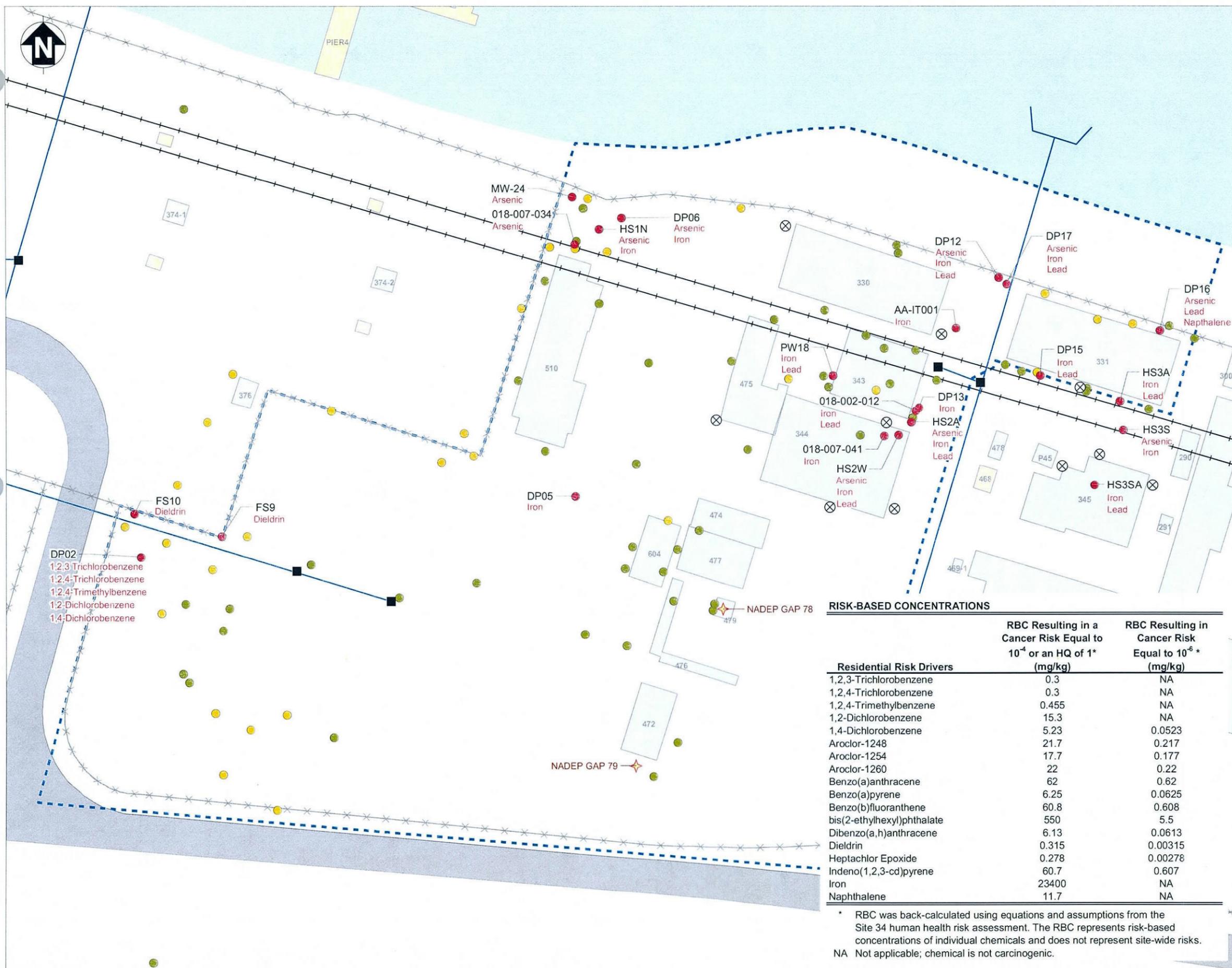
- Sampling within the vicinity of DP02 to verify previous VOC results

- Sampling of soil and groundwater for fuel-related contamination north of Building 331 and near sampling location DP16, where a layer of black sand with a strong diesel odor was identified

Additionally, concentrations of TPH were detected above the comparison criteria, and low-level concentrations of TPH were detected across IR Site 34. Although TPH is not a contaminant under CERCLA it was addressed in the nature and extent evaluation because fuels and lubricants were used at various locations across the site and an objective of this RI was to meet TPH closure requirements. At Site 34, TPH-affected soil (mostly diesel and motor oil) appears to be located at isolated locations near former ASTs and buildings where lubricants were used. Based on the current data, TPH in soil is collocated with CERCLA chemicals in soil and will be addressed with the CERCLA chemicals identified above in the FS. Further consideration of TPH-affected soil in the TPH program is not recommended.

**FIGURES**

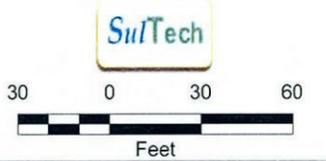
---



- Detected Concentrations Do Not Exceed Any Risk-Based Concentrations Shown in the Table Box Below
- Detected Concentrations Exceed Risk-Based Concentrations That Represent A Cancer Risk of  $10^{-6}$  (Shown in the Right Column of the Table Box Below)
- Detected Concentrations Exceed Risk-Based Concentrations That Represent Either:
  - A Cancer Risk of  $10^{-4}$  or a Non-Cancer Hazard Quotient of 1 (Shown in the Center Column of Table Box Below)
  - An Arsenic Background Concentration of 9.14 mg/kg
  - A Lead Concentration of 400 mg/kg

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ✦ Generator Accumulation Point (Removed)
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - ⊡ Site 34 Boundary
  - Unpaved Area
  - Road
  - Water

Notes:  
 HQ Hazard quotient  
 mg/kg Milligram per kilogram  
 RBC Risk-based concentration



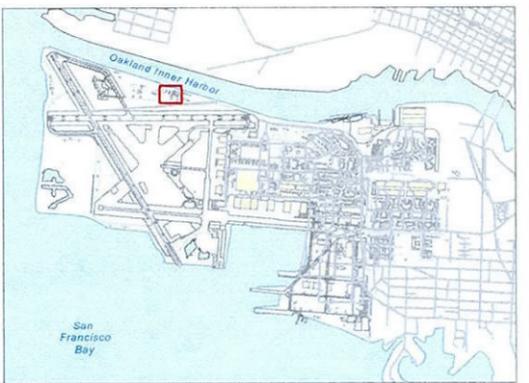
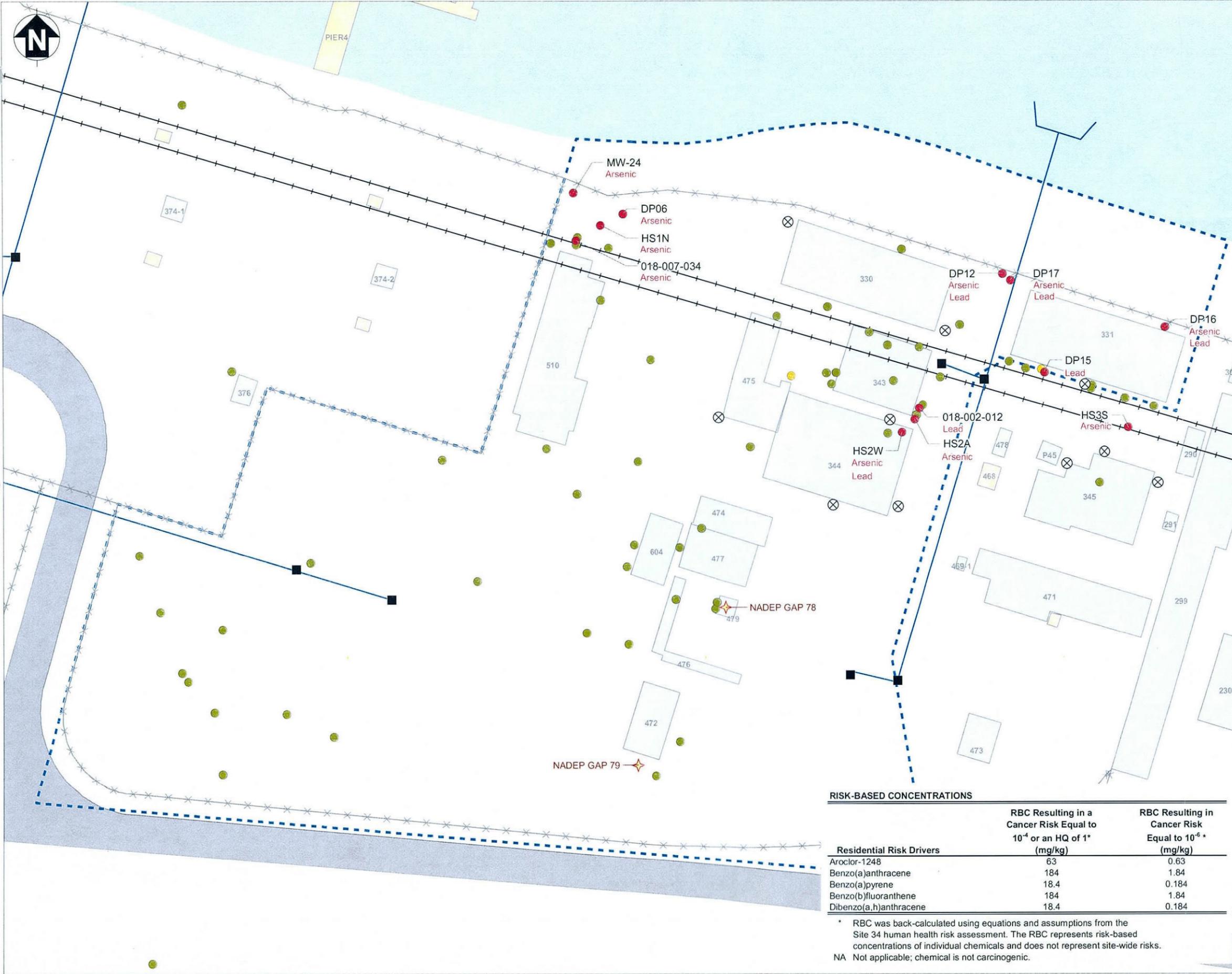
Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 8-1**  
**LOCATIONS WHERE HUMAN HEALTH RISK DRIVERS WERE DETECTED ABOVE RISK-BASED CONCENTRATIONS IN SOIL UNDER A RESIDENTIAL USE SCENARIO**  
 RI Report for IR Site 34

**RISK-BASED CONCENTRATIONS**

Residential Risk Drivers	RBC Resulting in a Cancer Risk Equal to $10^{-4}$ or an HQ of 1*	RBC Resulting in Cancer Risk Equal to $10^{-6}$ *
	(mg/kg)	(mg/kg)
1,2,3-Trichlorobenzene	0.3	NA
1,2,4-Trichlorobenzene	0.3	NA
1,2,4-Trimethylbenzene	0.455	NA
1,2-Dichlorobenzene	15.3	NA
1,4-Dichlorobenzene	5.23	0.0523
Aroclor-1248	21.7	0.217
Aroclor-1254	17.7	0.177
Aroclor-1260	22	0.22
Benzo(a)anthracene	62	0.62
Benzo(a)pyrene	6.25	0.0625
Benzo(b)fluoranthene	60.8	0.608
bis(2-ethylhexyl)phthalate	550	5.5
Dibenzo(a,h)anthracene	6.13	0.0613
Dieldrin	0.315	0.00315
Heptachlor Epoxide	0.278	0.00278
Indeno(1,2,3-cd)pyrene	60.7	0.607
Iron	23400	NA
Naphthalene	11.7	NA

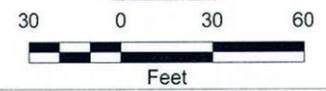
\* RBC was back-calculated using equations and assumptions from the Site 34 human health risk assessment. The RBC represents risk-based concentrations of individual chemicals and does not represent site-wide risks.  
 NA Not applicable; chemical is not carcinogenic.



- Detected Concentration Less Than RBC
- Detected Concentration Exceed RBC for Cancer Risk Between  $10^{-6}$  And  $10^{-4}$
- Detected Concentration Exceeds Either:
  - RBC for Cancer Risk Between  $10^{-6}$  And  $10^{-4}$  or an HQ Greater than 1
  - Arsenic Background Concentration of 9.14 mg/kg
  - Lead Concentration of 800 mg/kg

- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ★ Generator Accumulation Point (Removed)
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ⊗ Fence
  - Building (Present)
  - Building (Removed)
  - ⊔ Site 34 Boundary
  - Unpaved Area
  - Road
  - Water

Notes:  
 HQ Hazard quotient  
 mg/kg Milligram per kilogram  
 RBC Risk-based concentration



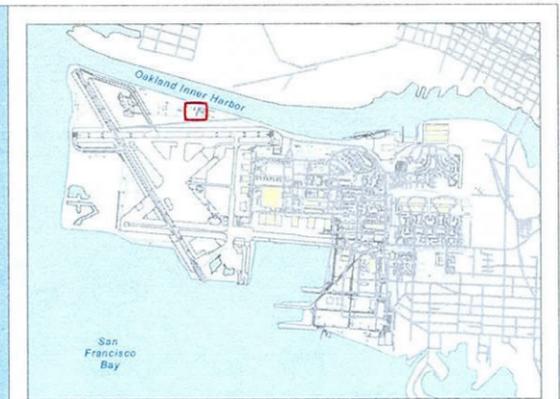
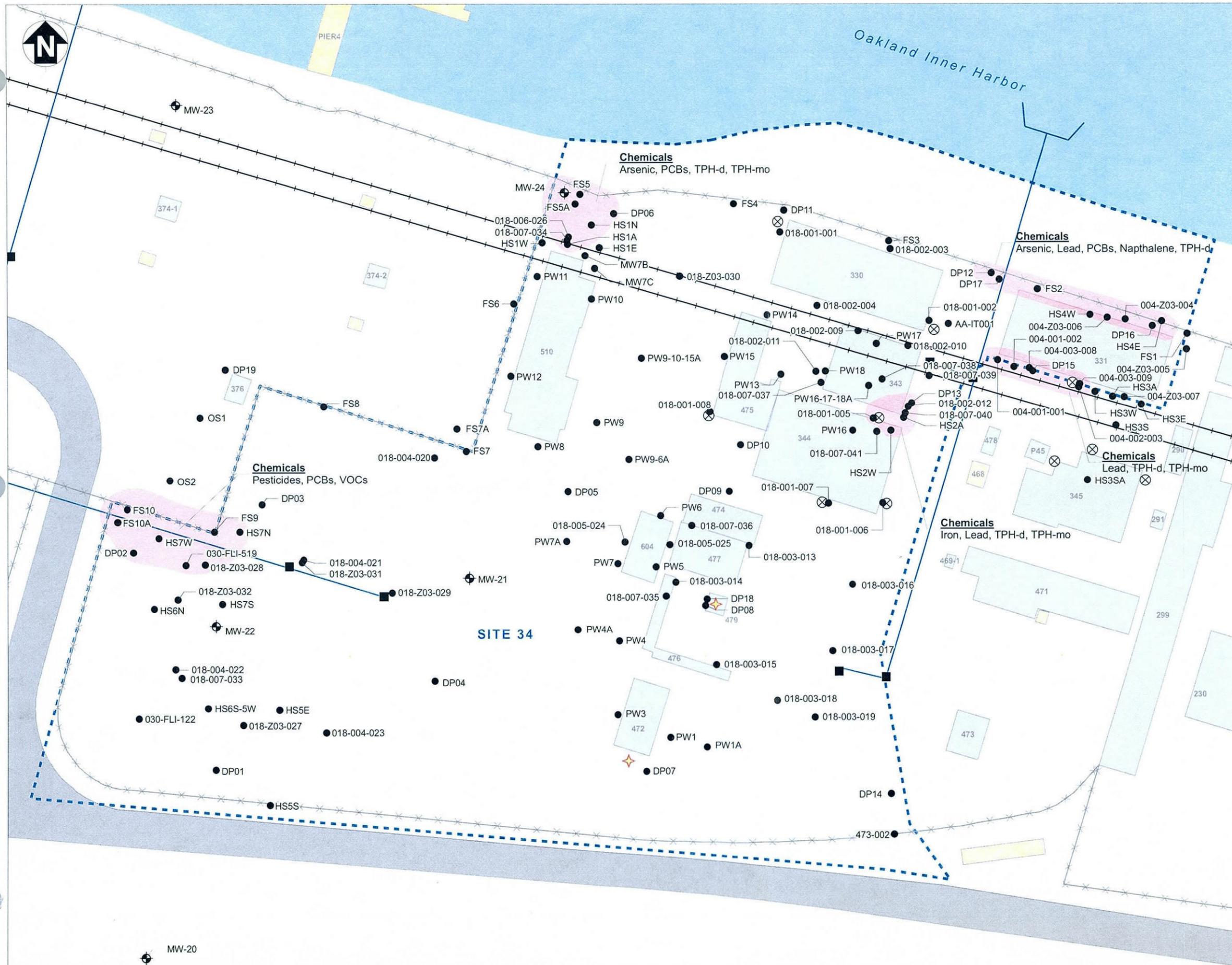
Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**RISK-BASED CONCENTRATIONS**

Residential Risk Drivers	RBC Resulting in a Cancer Risk Equal to $10^{-4}$ or an HQ of 1* (mg/kg)	RBC Resulting in Cancer Risk Equal to $10^{-6}$ * (mg/kg)
Aroclor-1248	63	0.63
Benzo(a)anthracene	184	1.84
Benzo(a)pyrene	18.4	0.184
Benzo(b)fluoranthene	184	1.84
Dibenzo(a,h)anthracene	18.4	0.184

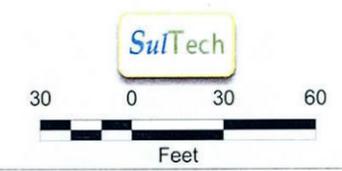
\* RBC was back-calculated using equations and assumptions from the Site 34 human health risk assessment. The RBC represents risk-based concentrations of individual chemicals and does not represent site-wide risks.  
 NA Not applicable; chemical is not carcinogenic.

**FIGURE 8-2**  
**HUMAN HEALTH RISK DRIVERS IN SOIL, RECREATIONAL USE SCENARIO**



- Area of Concern
- Soil Sample Location
- Monitoring Well Location
- Catch Basin
- Resource Conservation and Recovery Act Unit**
- Aboveground Storage Tank (Removed)
- Generator Accumulation Point (Removed)
- Railroad Track (Removed)
- Storm Sewer Line
- Fence
- Site 34 Boundary
- Building (Present)
- Building (Removed)
- Road
- Unpaved Area
- Water

**Notes:**  
 PAH Polycyclic aromatic hydrocarbon  
 PCB Polychlorinated biphenyl  
 TPH-d Total Petroleum Hydrocarbons as diesel range  
 TPH-mo Total Petroleum Hydrocarbons as motor oil range  
 VOC Volatile organic compound



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE 8-3**  
**AREAS OF CONCERN IN SOIL**  
**PROPOSED FOR FURTHER EVALUATION**  
**IN THE FEASIBILITY STUDY**  
 RI Report for IR Site 34

## 9.0 REFERENCES

- Air Traffic Control, Naval Air Station Alameda. 1992. "International Station Meteorological Climate Summary – 1950 to 1985. Year/Month Total Precipitation (Inches) from Daily Observations, Division OPS, Building 19, NAS Alameda, California."
- Alameda Reuse and Development Authority. 2006. Alameda Point Preliminary Development Concept. February 1.
- Atwater, B.F., C.W. Hedel, and E.J. Helley. 1977. "Late Quaternary Depositional History, Holocene Sea Level Changes, and Vertical Crustal Movement, South San Francisco Bay, California." *U.S. Geological Survey Professional Paper 1014*. 15 Pages, Plates.
- Atwater, B.F. 1979. "Ancient Processes at the Site of Southern San Francisco Bay. Movement of Crust and Changes in Sea Level of San Francisco Bay." T.J. Conomos (ed.). *American Association Advancement of Science: Pacific Division*. Pages 31 through 45.
- Baes, C.F., III, R.D. Sharp, A.L. Sjoreen, and R.W. Shor. 1984. A Review and Analysis of Parameters for Assessing Transport of Environmentally Released Radionuclides through Agriculture, ORNL-5786, Health and Safety Research Division, Oak Ridge National Laboratory, Oak Ridge, TN. 150pp.
- Bechtel-Jacobs. 1998. Empirical Models for the Uptake of Inorganic Chemicals from Soil by Plants. Bechtel Jacobs Company LLC, Oak Ridge, TN. BJC/OR-133
- Bechtel Environmental, Inc. 2003. "Draft Site Inspection Report Transfer Parcels PBC-1A and EDC-3, Alameda Point, Alameda, California." March.
- Bouwer, H., and R.C. Rice. 1976. "A Slug Test Method for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells." *Water Resources Research*. Volume 12, No. 3. Pages. 423-428.
- City of Alameda. 2003. "Alameda Point General Plan Amendment, Environmental Impact Report." Public Review Draft. December 10.
- California Department of Fish and Game (CDFG), California Interagency Wildlife Task Group. 2005. California Wildlife Habitat Relationships Version 8.1, personal computer program. Sacramento, CA.
- California Natural Diversity Database (CNDDDB). Biogeographic Data Branch. Department of Fish and Game. February 2007.
- Department of Toxic Substances Control (DTSC). 1992. "Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities." Office of the Science Advisor. July.

- DTSC. 1996a. Guidance for Ecological Risk Assessment at Hazardous Waste Sites and Permitted Facilities, Part A: Overview. State of California, California Environmental Protection Agency, Department of Toxic Substances Control. July 4.
- DTSC. 1996b. Guidance for Ecological Risk Assessment at Hazardous Waste Sites and Permitted Facilities, Part B: Scoping Assessment. State of California, California Environmental Protection Agency, Department of Toxic Substances Control. July 4.
- DTSC. 1998. LeadSpread Model Version 7.0. On-line Address:  
<http://www.dtsc.ca.gov/ScienceTechnology/ledspred.html>
- DTSC. 1999. "Preliminary Endangerment Assessment Guidance Manual." Sacramento, California.
- DTSC. 2000. HERD ERA Note Number 4: Use of Navy/U.S. Environmental Protection Agency Region 9 Biological Technical Assistance Group (BTAG) Toxicity Reference Values for Ecological Risk Assessment. State of California, California Environmental Protection Agency, Department of Toxic Substances Control, Human and Ecological Risk Division. December 8.
- DTSC. 2002. HERD ERA Note Number 5: Revised U.S. Environmental Protection Agency Region 9 Biological Technical Assistance Group (BTAG) Mammalian Toxicity Reference Value for Lead: Justification and Rationale. State of California, California Environmental Protection Agency, Department of Toxic Substances Control, Human and Ecological Risk Division. November 21.
- DTSC. 2003. California Wildlife Exposure Factor and Toxicity Database. Office of Environmental Health and Hazard Assessment. Ecotoxicology Unit. Sacramento, California. [www.oehha.org/cal\\_ecotox/default.htm](http://www.oehha.org/cal_ecotox/default.htm)
- DTSC. 2005a. "Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air." December 15. Interim Final. Revised February 2. Available Online at: [http://www.dtsc.ca.gov/ScienceTechnology/JE\\_Models.html](http://www.dtsc.ca.gov/ScienceTechnology/JE_Models.html). January 20.
- DTSC. 2005b. E-mail Message Regarding Use of LeadSpread. From Brian Davis, DTSC. To Todd Bernhardt, Tetra Tech. February 1.
- Environmental Resource Management -West, Inc. 1994. "Final Environmental Baseline Survey/Community Environmental Response Facilitation Act Report for NAS/NADEP Alameda." October 31.
- Evans, K.L. and Bedient, P.B. 1995. "A Transient Methodology for Assessing Risk: Development and Comparison with the Conventional Approach." *The Proceedings of the 1995 Petroleum Hydrocarbons and Organic Chemicals in Groundwater: Prevention, Detection, and Remediation, Conference and Exposition*. Houston, Texas. Pages 111 through 125.

- Figuers, S. 1998. "Groundwater Study and Water Supply History of the East Bay Plain, Alameda and Contra Costa Counties, California." June 15.
- Gilbert, R.O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. John Wiley & Sons, Inc. New York, New York.
- Helley, E.J., K.R. Lajoie, W.E. Spangle, and M.L. Blair. 1979. "Flatland Deposits of the San Francisco Bay Region, California – Their Geological and Engineering Properties, and Their Importance to Comprehensive Planning." *U.S. Geological Survey Professional Paper 943*.
- Information Technology Corporation (IT Corp.). 1999. "As-Built Report, Removal of Fuel Lines and Underground Storage Tanks, Alameda Point, Alameda, California." Draft. December.
- IT Corp. 2001. "Final Environmental Baseline Survey Data Evaluation Summaries. Alameda Point, Alameda, California." Final. January.
- Innovative Technical Solutions, Inc. 2007. "Spring 2006 Alameda Point Basewide Annual Groundwater Monitoring Report." Draft Final. January.
- Kraemer, S.M., R. Kretzschmar, and P. Reichard. 2004. "Effects of Bacterial and Plant Siderophore Ligands on the Dissolution of Iron Oxides." *Research*.
- Maslonkowski, D.P., 1988. "Hydrogeology of the San Leandro and San Lorenzo alluvial cones of the bay plain groundwater basin." Alameda County, California, Master of Science Thesis: San Jose State University, 143 p.
- Matsumura, F., and G.M. Boush. 1967. "Dieldrin: Degradation by Soil Microorganisms." *Science*. Volume 156. Pages 959 through 961.
- Morgan, J.J. 1967. "Application and Limitations of Chemical Thermodynamics in Water systems." *Equilibrium Concepts in Natural Water Systems, Advances in Chemistry Series No. 67*. American Chemical Society, Washington, D.C.
- Nagy, K.A. 2001. "Food Requirements of Wild Animals: Predictive Equations for Free-Living Mammals, Reptiles, and Birds." *Nutrition Abstracts and Reviews, Series B*. Volume 71. Pages 21R-31R
- Office of Environmental Health Hazard Assessment (OEHHA). 2001. "Final Prioritization of Toxic Air Contaminants - Children's Environmental Health Protection Act." DTSC. October 19. Available On-line at:  
[http://www.oehha.org/air/toxic\\_contaminants/SB25finalreport.html](http://www.oehha.org/air/toxic_contaminants/SB25finalreport.html)
- OEHHA. 2005. "Chronic Reference Exposure Levels." February. Available Online at:  
[http://www.oehha.ca.gov/air/chronic\\_rels/AllChrels.html](http://www.oehha.ca.gov/air/chronic_rels/AllChrels.html)

- OEHHA. 2007. "Toxicity Criteria Database." February. Available Online at:  
<http://www.oehha.ca.gov/risk/ChemicalDB/index.asp>. Accessed March 31.
- Pierzynski, G.M., J.T. Sims, and G.F. Vance. 1994. *Soils and Environmental Quality*. Lewis Publishers. Boca Raton, Florida.
- PRC Environmental Management, Inc. (PRC). 1997a. Final Statistical Methodology for Background Comparisons. Naval Air Station Alameda, Alameda, California. March 14.
- PRC 1997b. "Tidal Influence Study Letter Report, Naval Air Station Alameda, California." Prepared for U.S. Department of the Navy, Naval Facilities Engineering Command, Engineering Field Activity West, San Bruno, California. June 23.
- Radbruch, D.H. 1957. "Areal and Engineering Geology of the Oakland West Quadrangle, California." Miscellaneous Geologic Investigations MAP I-239. U.S. Geological Survey.
- Radbruch, D.H. 1969. "Areal and Engineering Geology of the Oakland West Quadrangle, California." Miscellaneous Geological Investigations MAP-GQ768." U.S. Geological Survey.
- RAIS. 2007. U.S. Department of Energy, Office of Environmental Management, Oak Ridge Operations Office. On-line at <http://risk.lsd.ornl.gov/>. May.
- Research Triangle Institute. 1995. "Toxicological Profile for Polycyclic Aromatic Hydrocarbons." Prepared for U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, under Contract 205-93-0606.
- Rogers J.D., and S.H. Figuers. 1991. "Engineering Geologic Site Characterization of the Greater Oakland-Alameda Area, Alameda and San Francisco Counties, California." December 30.
- Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.
- Sample, B.E., J.J. Beauchamp, R.A. Efrogmson, G.W. Suter, II, and T.L. Ashwood. 1998. Development and Validation of Bioaccumulation Models for Earthworms. Oak Ridge National Laboratory, Oak Ridge TN. 93 pp, ES/ER/TM-220
- Sample, B.E., J.J. Beauchamp, R.A. Efrogmson, G W. Suter II, and T.L. Ashwood. 1998. Development and Validation of Bioaccumulation Models for Small Mammals, Oak Ridge National Laboratory, Oak Ridge, TN, ES/ER/TM-219.
- Sample, B.E., J.J. Beauchamp, R.A. Efrogmson, and G.W. Suter, II. 1999. Literature-derived bioaccumulation models for earthworms: development and validation. *Environ. Toxicol. Chem.* 18:2110-2120.

- Sample BE and Arenal CA. 1999. Allometric models for interspecies extrapolation of wildlife toxicity data. *Bulletin of Environmental and Contamination Toxicology* 62: 653-663.
- San Francisco Regional Water Quality Control Board (Water Board). 1995. "Water Quality Control Plan."
- Water Board. 1999. "East Bay Plain Groundwater Basin Beneficial Use Evaluation Report." June.
- Water Board. 2003. Letter to Navy Concurring That Groundwater Meets the Exemption Criteria in the State Water Resources Control Board Source of Drinking Water Policy Resolution 88-63, and San Francisco Bay Regional Water Quality Control Board Resolution 89-39 for Groundwater West of Saratoga Street at Alameda Point, City of Alameda, Alameda County. July 21.
- Water Board. 2005. "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater." February.
- Water Board. 2006. Water Quality Control Plan for the San Francisco Basin. December 22. Available online at <http://www/swrcb.ca.gov/rwqcb2/basinplan.html>.
- Subsurface Consultants, Inc. (SCI). 1998. "Draft Appendix D: Geotechnical Investigation Oakland Harbor Navigation Improvement (-050) Project, Port of Oakland, Oakland and Alameda, California." Prepared for the Port of Oakland. January 21.
- SCI and Todd Engineers. 1998. "Draft Appendix E: Hydrologic Investigation Oakland Harbor Navigation Improvement (-50) Foot Project Port of Oakland, Oakland and Alameda, California, Volume I." Prepared for the Port of Oakland. January 21.
- Sloan, D. 1990. "The Yerba Buena Mud: Record of the Last Interglacial Predecessor of the San Francisco Bay, California." University of California, Berkeley. Museum of Paleontology. Contribution No. 1532
- Sloan, D. 1992. "The Yerba Buena Mud: Record of the Last Interpreted Predecessor of San Francisco Bay." *Geological Society of America*. Volume 104, No 6. Pages 716 through 727.
- State of California. 1989. "Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure." Prepared by the Leaking Underground Fuel Tank Task Force. October.
- SWRCB. 1988. "Sources of Drinking Water." Resolution No. 88-63.
- SulTech. 2006. "Final Remedial Investigation Work Plan, Installation Restoration Site 34, Alameda Point, Alameda, California." January.
- Tetra Tech EM Inc. (Tetra Tech). 1998a. "Technical Memorandum for Estimation of Ambient Metal Concentrations in Shallow Groundwater." August.

- Tetra Tech. 1998b. "Site 15 Removal Action Close-Out Report, Alameda Point, Alameda, California." September.
- Tetra Tech. 2000a. "Determination of the Beneficial Uses of Groundwater, Alameda Point, Alameda, California." July 13.
- Tetra Tech. 2000b. "Draft Final Storm Sewer Study Report Alameda Point, Alameda, California." December 4.
- Tetra Tech. 2003. "Final Remedial Investigation for Sites 14 and 15, Alameda Point, Alameda, California." Volumes 1 and 2. June.
- Tetra Tech 2004. "Corrective Action Area 14 Aboveground Storage Tank 331, No Further Action Report and Request for No Further Action." January 16.
- Trask, P.D., and J.W. Ralston. 1951. "Engineering Geology of San Francisco Bay, California." *Geological Society of America Bulletin*. Volume 62, No. 9. Pages 1,079 through 1,110.
- Treasher, R.C. 1963. "Geology of the Sedimentary Deposits in the San Francisco Bay, California." *U.S. Geological Survey: Open File Report 60-151*.
- U.S. Air Force. 2003. Toxicity Profiles for the Ecological Risk Assessments at Vandenberg Air Force Base, California. Prepared by: Tetra Tech, Inc. Lafayette, CA.
- U.S. Department of the Navy (Navy). 1998. "Development of Toxicity Reference Values for Conducting Ecological Risk Assessments at Naval Facilities in California, Interim Final." Prepared by Naval Facilities Engineering Command, Engineering Field Activity West. San Bruno, California.
- Navy. 1999a. Memorandum regarding Navy Policy for Conducting Ecological Risk Assessments. From Chief of Naval Operations. To Commander, Naval Facilities Engineering Command. April 5. Available Online at: [https://portal.navfac.navy.mil/pls/portal/docs/page/navfac/navfac\\_ww\\_pp/navfac\\_nfesc\\_pp/environmental/erb/gpr/cno-era-policy.pdf](https://portal.navfac.navy.mil/pls/portal/docs/page/navfac/navfac_ww_pp/navfac_nfesc_pp/environmental/erb/gpr/cno-era-policy.pdf)
- Navy. 1999b. *Handbook for Statistical Analysis of Environmental Background Data*. Department of the Navy, Naval Facilities Engineering Command, Southwest Division. San Diego, California. July.
- Navy. 2001a. Memorandum Regarding Conducting Human Health Risk Assessments Under the Environmental Restoration Program. From William G. Mattheis, Deputy Director, Environmental Protection, Safety and Occupational Health Division. To Commander, Naval Facilities Engineering Command. February 12.
- Navy. 2001b. Alameda Point PAH Technical Meeting After Action Report. May 31.
- Navy. 2004. "Navy Guidance for Conducting Ecological Risk Assessments." Last updated on May 4. Available Online at: <http://web.ead.anl.gov/ecorisk/index.cfm>

- U.S. Environmental Protection Agency (EPA). 1983. "Methods for Chemical Analysis of Water and Wastes." March. Available Online at:  
<http://yosemite.epa.gov/water/owrcatalog.nsf/1ffc8769fdecb48085256ad3006f39fa/f995d73aff86600085256b0600724015!OpenDocument>
- EPA. 1988a. "Guidelines for Groundwater Classification under the EPA Groundwater Protection Strategy." June. Available Online at:  
<http://yosemite.epa.gov/water/owrcatalog.nsf/9da204a4b4406ef885256ae0007a79c7/0dbbdba62fbe44c885256d25006aff87!OpenDocument>
- EPA. 1988b. "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA." Interim Final. Office of Emergency and Remedial Response. October. Available Online at: <http://www.epa.gov/superfund/resources/remedy/pdf/540g-89004-s.pdf>
- EPA. 1991. "Risk Assessment Guidance for Superfund. Volume I. Human Health Evaluation Manual, Part A." Office of Solid Waste and Environmental Response. December.
- EPA. 1992. "Supplemental Guidance to RAGS: Calculating the Concentration Term." Publication 9285.7-081. May. Available Online at:  
<http://www.deq.state.or.us/lq/pubs/forms/tanks/UCLsEPASupGuidance.pdf>
- EPA. 1993a. Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. July.
- EPA. 1993b. "Wildlife Exposure Factors Handbook." Volumes I and II. EPA/600/R-93/187a and 187b. December. Available Online at:  
<http://rais.ornl.gov/homepage/WEFHV1.PDF>
- EPA. 1994. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review." Document Number EPA-540/R-94-013. February. Available Online at: <http://www.epa.gov/Region10/offices/oca/fginorg.pdf>
- EPA. 1996. "Test Methods for Evaluating Solid Waste. Third Edition SW-846, as updated by Updates I, II, IIA, IIB, and III." December. Available Online at:  
<http://www.epa.gov/sw-846/main.htm>
- EPA. 1997a. "Health Effects Assessment Summary Tables (HEAST), FY 1997 Update." Office of Solid Waste and Emergency Response (OSWER). EPA/540/R-97/036. July. Available Online at: <http://www.epa.gov/radiation/theast/index.html>
- EPA. 1997b. "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final." Environmental Response Team. Edison, New Jersey. Available Online at:  
<http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.htm>
- EPA. 1998. "Guidelines for Ecological Risk Assessment". Final. EPA 630-R-95-002F. April.

- EPA. 1999. "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review." EPA 540/R-99-008 (PB99-963506). October. Available Online at: <http://www.epa.gov/superfund/programs/clp/download/fgorg.pdf>
- EPA. 1999a. "Screening Level Ecological Risk Assessment Protocol." Region 6, Office of Solid Waste, Center for Combustion Science and Engineering. August.
- EPA. 1999b. "Issuance of Final Guidance: Ecological Risk Assessment and Risk Management Principles for Superfund Sites." Directive 9285.7-28 P. Office of Solid Waste and Emergency Response. Washington, D.C. October.
- EPA. 2000a. Letter Regarding the Revised Draft Determination of the Beneficial Uses of Groundwater at Alameda Point, Alameda. From Anna-Marie Cook, EPA. To Patricia McFadden, Department of the Navy. January 3.
- EPA. 2000b. Data Quality Objectives Process for Hazardous Waste Site Investigations. Ref APA QA/G-4HW. January
- EPA. 2000c. "Water Quality Standards: Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule." *40 Code of Federal Regulations Part 131*. [FRL-6587-9] RIN 2040 AC44. May 18.
- EPA. 2001a. "The Role of Screening-level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments." ECO Update. EPA Publication 9345.0-14. Office of Solid Waste and Emergency Response. EPA 540/F-01/014. June.
- EPA. 2001b. "EPA Guidance for Quality Assurance Project Plans." EPA QA/G-5. March. Available Online: <http://www.epa.gov/quality/qs-docs/r5-final.pdf>
- EPA. 2001c. "Trichloroethylene Health Risk Assessment: Synthesis and Characterization." External Review Draft. August. Available Online at: <http://oaspub.epa.gov/eims/eimsapi.dispdetail?deid=23249>
- EPA. 2001d. "RAGS: Volume 1 Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments)." Final. Office of Emergency and Remedial Response (OERR). Washington, DC. 9285.7-47. December. Available on the internet at <http://www.epa.gov/superfund/programs/risk/ragsd/tara.htm>.
- EPA. 2002a. "National Recommended Water Quality Criteria: 2002." EPA-822-R-02-047. November. Available Online at: <http://epa.gov/waterscience/criteria/wqcriteria.html>
- EPA. 2002b. "Revision of National Recommended Water Quality Criteria." FRL-OW-7431-3. December 27.
- EPA. 2002c. "Calculating Exposure Point Concentrations at Hazardous Waste Sites." OSWER 9285.6-10. Washington, D.C. December.

- EPA. 2003. "Guidance for Developing Ecological Soil Screening Levels, Attachment 4-1: Exposure Factors and Bioaccumulation Models for Derivation of Wildlife EcoSSLs." OSWER Directive 92857-55. November.
- EPA. 2004a. EPA Vapor Intrusion Model for Soil, based on Johnson and Ettinger (1991). Version 3.0. March 14.
- EPA. 2004b. EPA Vapor Intrusion Model for Groundwater, based on Johnson and Ettinger (1991). Version 3.0. March 14.
- EPA. 2004c. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review." Document Number EPA-540-R-04-004. October. Available Online at: <http://www.epa.gov/superfund/programs/clp/download/inorgfg10-08-04.pdf>
- EPA. 2004d. "ProUCL Version 3.0 User Guide." Prepared by Singh, A., Singh, A.K. and R.W. Maichle for the EPA Technical Support Center. Las Vegas, Nevada. April.
- EPA. 2004e. "Region 9 Preliminary Remediation Goals [PRG] and Accompanying PRGs: Background Document." December. Available Online at: <http://www.epa.gov/region09/waste/sfund/prg/files/background.pdf>
- EPA. 2004f. "Provisional Peer Reviewed Toxicity Values (PPRTVs) for Superfund. Office of Superfund Remediation and Technology Innovation.
- EPA. 2005a. "Integrated Risk Information System (IRIS)." Office of Health and Environmental Assessment and Office of Research and Development. Washington, DC. Available Online at: <http://www.epa.gov/iris/>.
- EPA. 2005b. "Guidance for Developing Ecological Soil Screening Levels (EcoSSL)." OSWER Directive 92857-55. November. Available Online at: <http://www.epa.gov/ecotox/ecossl/>
- EPA. 2006a. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.
- EPA. 2006b. National Recommended Water Quality Criteria. Available online at <http://www.epa.gov/waterscience/criteria/wqcriteria.html>
- Vance, D.B. 2002. *Iron: The Environmental Impact of a Universal Element*.
- Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. "California's Wildlife: Volume III, Mammals." CWHR System. State of California, the Resource Agency, CDFG. Sacramento, California.

**APPENDIX A**  
**INVESTIGATION PROCEDURES AND FIELD METHODOLOGY**

---

## **TABLE OF CONTENTS**

---

ACRONYMS AND ABBREVIATIONS.....	A-iii
A1.0 INTRODUCTION .....	A-1
A2.0 FIELD METHODOLOGY .....	A-1
A2.1 UNDERGROUND UTILITY LOCATION AND CLEARANCE .....	A-1
A2.2 INSTALLATION OF SOIL BORINGS AND COLLECTION OF SOIL SAMPLES .....	A-1
A2.2.1 Hollow-Stem Auger .....	A-1
A2.2.2 Direct-Push Drilling.....	A-2
A2.2.3 Shallow Soil and Sediment Sampling.....	A-2
A2.2.4 X-Ray Fluorescence Sampling .....	A-3
A2.3 INSTALLATION OF MONITORING WELLS AND COLLECTION OF GROUNDWATER SAMPLES.....	A-4
A2.3.1 Permanent Monitoring Well Installation .....	A-4
A2.3.2 Temporary Monitoring Well Installation.....	A-4
A2.3.3 Aquifer Test .....	A-5
A2.4 FUEL PIPELINE REMOVAL .....	A-5
A2.4.1 Fuel Pipeline Location and Pavement Removal .....	A-5
A2.4.2 Fuel Pipeline Removal.....	A-6
A2.4.3 Fuel Pipeline Site Restoration.....	A-6
A2.5 SURVEY .....	A-7
A2.6 DECONTAMINATION AND MANAGEMENT OF INVESTIGATION-DERIVED WASTE ..	A-7
A2.6.1 Decontamination Sampling Equipment.....	A-7
A2.6.2 Management of Investigation-Derived Waste .....	A-7
A3.0 QUALITY CONTROL.....	A-8
A3.1 EQUIPMENT RINSATE SAMPLES .....	A-8
A3.2 MATRIX SPIKE AND MATRIX SPIKE DUPLICATES.....	A-8
A3.3 FIELD DUPLICATES .....	A-8
A3.4 TRIP BLANKS .....	A-9
A3.5 SOURCE WATER BLANK SAMPLES.....	A-9
A3.6 INSTRUMENT CALIBRATION AND FREQUENCY .....	A-9
A3.7 LABORATORY DATA VALIDATION.....	A-9
A4.0 DEVIATIONS FROM THE WORK PLAN/SAMPLING AND ANALYSIS PLAN...	A-9
A5.0 REFERENCES .....	A-10

**FIGURES**

---

A-1 Sample Locations at IR Site 34

**TABLES**

---

A-1 Groundwater Monitoring Well Construction Details

A-2 Summary of Deviations from the Work Plan and Sampling and Analysis Plan

## ***ACRONYMS AND ABBREVIATIONS***

---

bgs	Below ground surface
EBS	Environmental baseline survey
EPA	U.S. Environmental Protection Agency
IDW	Investigation-derived waste
IT Corp.	International Technology Corporation
MS	Matrix spike
MSD	Matrix spike duplicate
PID	Photoionization detector
PVC	Polyvinyl chloride
QC	Quality control
RI	Remedial investigation
RPD	Relative percent difference
TPH	Total petroleum hydrocarbons
VOC	Volatile organic compound
XRF	X-ray fluorescence

## **A1.0 INTRODUCTION**

This appendix describes field activities performed prior to and as part of the remedial investigation (RI) of Installation Restoration (IR) Site 34, Alameda Point. The following sections summarize field methodology, quality control (QC), and any deviations from the work plan during the following investigations at IR Site 34: the Phase I environmental baseline survey (EBS) (Environmental Management Resources West, Inc. 1994), Phase 2a and 2b EBS (International Technology Corporation [IT Corp.] 2001), fuel pipeline removal action (IT 1999), site inspection (Bechtel Environmental, Inc. 2003), and remedial investigation (RI) sampling events (SulTech 2006).

## **A2.0 FIELD METHODOLOGY**

The section describes the methods used in the field activities related to installation of soil borings and monitoring wells, collection of soil and groundwater samples, and removal of fuel pipelines.

### **A2.1 UNDERGROUND UTILITY LOCATION AND CLEARANCE**

Prior to the start of field work, an underground utility survey and clearance was conducted to locate subsurface utilities within IR Site 34. The utility clearance was intended to locate any existing underground utilities, including water distribution piping, telecommunications lines, storm sewer lines, sanitary sewer lines, fire water lines, and electrical lines. The utility survey was conducted at IR Site 34 by a local, private utility locating company. Colored spray paint was used to mark the locations and types of utilities encountered.

In addition to the private utility locator, Underground Service Alert was notified 48 hours prior to drilling or removal activities.

### **A2.2 INSTALLATION OF SOIL BORINGS AND COLLECTION OF SOIL SAMPLES**

Soil samples were collected during various investigations at IR Site 34. Depending on the type of investigation, soil borings may have been completed using a hollow-stem auger with a split-spoon sampler, direct-push drilling, hand-auger, or slide hammer. In addition, some samples were field screened using x-ray fluorescence (XRF) technology to help identify appropriate soil sampling locations. Each method is discussed below.

#### **A2.2.1 Hollow-Stem Auger**

Soil borings were drilled with a truck-mounted, hollow-stem auger drill rig using an 8.25-inch outer diameter auger. Soil samples were collected by using a drop hammer to drive a split-spoon sampler into the ground. The split-spoon sampler was opened, and the soil was screened in the field using a photoionization detector (PID). Selection of soil samples for analysis was at a pre-determined depth above the water table; typically, two samples were collected from each

boring: one surface sample (0 to 2 feet below ground surface [bgs]) and a deeper sample just above the water table. Soil samples selected for analysis were placed in clean 8-ounce clear glass jars. Soil samples to be analyzed for volatile organic compounds (VOC) were collected directly from the split-spoon sampler using an EnCore<sup>®</sup> sampling device, which cored a 5-gram sample from the split-spoon sampler. The soil sample containers were labeled with unique sample identification numbers and placed in chilled coolers awaiting laboratory delivery. Chain-of-custody documents accompanied the samples to the laboratory.

Monitoring wells 34-MW20 through 34-MW24, MW07B, and MW07C were drilled using this soil boring method (see Figure A-1). The construction of these monitoring wells is described in Section A2.3.1 of this appendix. Copies of the soil boring logs and well construction diagrams are included in Appendix B of the RI Report.

### **A2.2.2 Direct-Push Drilling**

Soil borings DP05 through DP08, DP10, DP12, DP13, and DP15 through DP19 were drilled using direct-push drilling equipment consisting of a hydraulic drive-point system operated from the rear of a modified flat-bed pickup truck. Continuous soil samples were collected using a hydraulic hammer to advance a 4-foot-long, 1.5-inch-diameter, hollow core stainless steel sampler lined with a disposable acetate tube into the ground. Upon retrieval of the soil core, the inner acetate tube was pushed out of the sampler and a California state-registered geologist measured the percent recovery and logged the core in accordance with the Unified Soil Classification System.

Soil sampling depths and suites of analyses differed depending on the phase of sampling. Once the soil sample interval was collected, the acetate tube section containing the sample was cut and capped with Teflon<sup>®</sup> sheets and a plastic end cap, or the soil was placed into clean 8-ounce glass jars. For samples requiring analysis of VOCs and total petroleum hydrocarbons (TPH) as gasoline, an Encore<sup>®</sup> sampler was used to extract the sample from the deepest end of the interval before capping. The soil sample containers were labeled with unique sample identification numbers and placed in chilled coolers awaiting laboratory delivery. Chain-of-custody documents accompanied the samples to the laboratory.

The borings were backfilled with grout consisting of 5 percent bentonite-cement slurry the same day of drilling. The slurry was poured into the boring, and after settling, the boring was topped off with additional slurry to the surface grade.

### **A2.2.3 Shallow Soil and Sediment Sampling**

Small disposable scoops, shovels, steel spades, a hand auger, or a slide hammer were used to collect surface soil samples and deeper soil samples not exceeding 5 feet bgs. Samples collected from deeper than 2 feet bgs could not be reached by hand from the surface and were collected indirectly with a shovel. Disposable scoops were then used to collect soil that did not come into direct contact with the shovel. When using a stainless steel spade, the spade was used to

penetrate the top 2 inches of soil within a 6 inch by 19 inch rectangular template to collect the needed surface soil sample volume need for analysis. Soil samples from hand-auger borings were collected by advancing a hand auger to the desired depth and then extracting the soil sample from the boring.

Soil sampling depths and suites of analyses differed depending on the phase of sampling. Soil chosen for analysis was placed into clean, 8-ounce glass jars directly from the disposable scope, stainless steel spade, or hand auger. For samples collected before 2001 and requiring analysis of VOCs and TPH as gasoline, a slide hammer was used to drive brass sleeves into the undisturbed soil at the desired sampling depth. The brass sleeves were capped with Teflon<sup>®</sup> sheets and plastic end caps. Encore<sup>®</sup> samplers were used during more recent investigations to collect samples for analysis of VOCs and TPH as gasoline. The soil sample containers were labeled with unique sample identification numbers and placed in chilled coolers awaiting laboratory delivery. Chain-of-custody documents accompanied the samples to the laboratory. All shallow soil borings were backfilled with cuttings.

Shallow soil sampling methods were used to collect soil samples from the following locations: 004-001-001, 004-001-002, 004-001-003, 004-001-004, 004-003-008, 004-003-009, 004-Z03-005 through 004-Z03-007, 018-001-001, 018-001-002, 018-001-005 through 018-001-008, 018-002-003, 018-002-004, 018-002-009 through 018-002-012, 018-003-013 through 018-003-019, 018-004-020 through 018-004-023, 018-005-024, 018-005-025, 018-006-026, 018-Z03-027 through 018-Z03-030, 018-007-033 through 018-007-041, and 018-Z03-031 through 018-Z03-032 (see Figure A-1).

Sediment samples were collected from storm sewer manholes and catchment basins using plastic disposable scoops. If the sediment sample was not within reach, a clamshell grab sampler mounted on an extendable handle was used to collect the sediment sample. The sediment sample was placed into 8-ounce glass jars directly from the disposable scoop or clamshell sampler. The sediment sample containers were labeled with unique sample identification numbers and placed in chilled coolers awaiting laboratory delivery. Chain-of-custody documents accompanied the samples to the laboratory. One sediment sample was collected within IR Site 34 at location AA-IT001 (see Figure A-1).

#### **A2.2.4 X-Ray Fluorescence Sampling**

XRF technology was used to assist with identifying soil sampling locations by field screening samples for specific heavy metals. The XRF device was calibrated in the field daily using National Institute of Standards and Technology standards for chromium and lead. Surface soil samples (0 to 3 inches bgs) were collected using a clean stainless steel trowel and placed in clean zip-lock bags, and analyzed in the field for lead and chromium using the XRF device. If field analysis results showed concentrations of chromium or lead above screening criteria, then a deeper soil sample was collected from that same location. In such a case, a subsurface soil sample was collected every 1 foot (from 12 to 15 inches and 24 to 27 inches bgs) in depth with a clean, stainless steel hand-auger and placed in a zip-lock bag for XRF analysis. In addition, soil samples from each location and depth were also placed into 4-ounce glass jars, and 20 percent of

these samples were sent to an off-site laboratory for confirmatory analysis. The soil sample containers were labeled with unique sample identification numbers and placed in chilled coolers awaiting laboratory delivery. Chain-of-custody documents accompanied the samples to the laboratory.

XRF field screening occurred at the following locations: HS-1A, HS-1W, HS-1E, HS-1N, HS-2A, HS-2N, HS-2S, HS-2W, HS-3A, HS-3E, HS-3S, HS-3W, HS-4E, HS-4W, HS-5E, HS-5S, HS-5W, HS-6A, HS-6N, HS-6S, HS-6W, HS-7N, HS-7S, HS-7W, PW1 through PW18, PW 3A, PW4A, PW7A, PW7C, PW8A, PW9-10-15A, PW9-6A, and PW11A (see Figure A-1).

Samples for confirmatory analysis were collected from the following locations: HS-1A, HS-1E, HS-1N, HS-1W, HS-2A, HS-2W, HS-3A, HS-3E, HS-3SS, HS-3SA, HS-6N, HS-6S-5W, PW1, PW4, PW4A, PW7, PW8, PW10, PW14, PW17, PW18, PW9-10-15A, and PW9-6A (see Figure A-1).

### **A2.3           INSTALLATION OF MONITORING WELLS AND COLLECTION OF GROUNDWATER SAMPLES**

This section describes installation of permanent and temporary monitoring wells and collection of groundwater samples at IR Site 34. Appendix B of this RI Report contains available well construction diagrams and monitoring well sampling sheets.

#### **A2.3.1           Permanent Monitoring Well Installation**

Hollow-stem auger drilling equipment was used to advance a boring for monitoring wells 34-MW20 through 34-MW24, MW7B, and MW7C, as described in Section A2.2.1. Table A-1 presents the construction details for these monitoring wells.

The monitoring wells, except for MW7B and MW7C, were purged using low-flow-rate purging and bladder pumps until water quality parameters stabilized. Monitoring wells MW7B and MW7C were discovered during the RI field investigation; therefore, well construction information was not available. These two wells were not purged, and the groundwater samples were collected with a peristaltic pump. The water samples were collected in appropriate sample containers depending on analysis. The groundwater sample containers were labeled with unique sample identification numbers and placed in chilled coolers awaiting laboratory delivery. Chain-of-custody documents accompanied the samples to the laboratory.

#### **A2.3.2           Temporary Monitoring Well Installation**

Temporary groundwater monitoring wells were installed to depths ranging from 4 to 65 feet bgs at the following 29 locations: 004-003-008, 004-003-009, 018-007-033, 018-007-035, 018-007-036, 018-007-039, 018-007-041, 030-FLI-519, 473-002, and DP01 through DP19 (see Figure A-1). Temporary monitoring wells were constructed by inserting a 5-foot section of a 1-inch diameter polyvinyl chloride (PVC)-slotted well screen (0.01-inch slot size) fitted with

an end cap into the soil boring. The upper sections of the wells were solid PVC pipes. The temporary wells were destroyed by removing the well material and backfilling the boring with a cement and bentonite mixture.

Groundwater samples were collected from the temporary monitoring wells using a disposable bailer or a low-flow-rate peristaltic pump. The water samples were collected in appropriate sample containers depending on analysis. The groundwater sample containers were labeled with unique sample identification numbers and placed in chilled coolers awaiting laboratory delivery. Chain-of-custody documents accompanied the samples to the laboratory.

### **A2.3.3 Aquifer Test**

Aquifer tests were conducted at shallow and deep monitoring wells (34-MW20 and 34-MW24, respectively) at IR Site 34. The aquifer tests consisted of a slug withdrawal test or "rising head" tests. The slug test involved insertion (slug in) or withdrawal (slug out) of a solid cylinder into or from a well and monitoring the resulting change in water level over time.

A pressure transducer (In-Situ Inc.'s Hermit 3000 or Mini Troll Pro) was lowered into the monitoring wells to conduct the slug test. The transducer was set to collect water level readings at shorter time increments at the beginning of the test, when recovery is quick, to longer increments of time toward the end of the test, when recovery is slower. A solid slug of known volume was then instantaneously inserted (or removed), and water level readings were automatically recorded during water level recovery. The tests in each well ran for approximately 25 to 50 minutes. The slug test data were used to estimate the hydraulic properties of materials beneath the site. Appendix C of this RI Report presents the results of the slug tests.

## **A2.4 FUEL PIPELINE REMOVAL**

This section describes the fuel pipeline location and pavement removal, and the field activities associated with fuel pipeline removal and site restoration.

### **A2.4.1 Fuel Pipeline Location and Pavement Removal**

Fuel pipelines were located using radio frequency direct coupling and induction testing. The outline of the fuel pipelines and any utilities were marked with paint. If asphalt or concrete covered the fuel pipeline, it was saw cut, removed, and stockpiled on-site awaiting off-site disposal. Typically, the width of the removed asphalt or concrete was 60 inches; however, additional concrete was removed if adjacent pipelines were located several feet apart or where soil contamination required overexcavation of the fuel pipeline trench (IT Corp. 1999).

#### **A2.4.2 Fuel Pipeline Removal**

Residual product within the fuel pipelines was removed through existing valves and fitting when possible. Low points in the fuel pipelines were identified from as-built drawings and uncovered. The fuel pipelines were tapped using tapping saddles and a sealed, non-sparking, air-driven hot tapping drill to inspect line and contain any product using a vacuum truck (IT Corp. 1999).

Fuel pipeline removal involved using a backhoe to initially expose the tops of the fuel pipelines, where possible. The fuel pipelines were further exposed by hand-digging. If product was discovered during pipeline removal, the excavation trench was lined with plastic sheeting and one end of the pipe segment would be raised so that any product could drain toward the vacuum truck at the other end of the pipe. After draining, the end near the vacuum truck was capped with absorbent pads and plastic sheeting to capture any residual product.

A PID was used to monitor the petroleum hydrocarbon vapor inside the fuel pipeline. If petroleum hydrocarbon vapors were detected in quantities above 100 parts per million, additional holes were drilled in the top of the pipeline to increase ventilation. Combustible gases also were monitored inside the pipeline. When combustible gases were below 10 percent of the calibrated lower explosive limit, the pipe was deemed ready for removal (IT Corp. 1999). After the fuel pipeline was determined to be free of product, petroleum hydrocarbon vapors, and combustible gas, a backhoe was used to remove the pipe by pinching the steel pipeline until the metal failed and split apart. The pipeline sections were placed in a storage bin for transportation and off-site disposal.

During removal of the fuel pipelines, soil samples were collected from the bottom of the excavations; only one sample (030-FLI-122) was collected within the boundaries of IR Site 34 (see Figure A-1). Prior to collecting the soil sample, any soil that fell into the excavation from the surface or sidewalls was removed from the bottom of the excavations with a shovel, exposing the relatively undisturbed material beneath. Soil samples were collected directly from the backhoe bucket with small, disposable plastic scoops. Soil samples that were to be analyzed for VOCs and TPH as gasoline were collected directly from the backhoe bucket using brass sleeves. One groundwater sample (030-FLI-519) was collected from the excavation trench (see Figure A-1). The soil sample containers were labeled with unique sample identification numbers and placed in chilled coolers. Chain-of-custody documents accompanied the samples to the laboratory.

#### **A2.4.3 Fuel Pipeline Site Restoration**

Site restoration after the fuel pipeline removal and abandonment included backfilling excavation trenches, compacting the soil, and replacing the asphalt or concrete. Backfill was placed in the trenches in 8-inch to 12-inch lifts and compacted. Compaction tests were randomly conducted on the completed lifts (IT Corp. 1999). After backfilling, the surface of the trench areas was resurfaced to natural conditions by reestablishing roadways with asphalt pavement, lawns, or open areas with topsoil and grass seed, and sidewalks with concrete.

## **A2.5 SURVEY**

The locations of all new monitoring wells were surveyed to an accuracy of plus or minus 0.1 foot horizontally and plus or minus 0.01 foot vertically. Horizontal coordinates are reported in accordance with the California State Planar Coordinate System, and vertical coordinates were reported as feet above Alameda Point mean lowest low water level.

## **A2.6 DECONTAMINATION AND MANAGEMENT OF INVESTIGATION-DERIVED WASTE**

This section describes procedures for decontamination of sampling equipment and management of investigation-derived waste (IDW).

### **A2.6.1 Decontamination Sampling Equipment**

Decontamination procedures used during collection of soil samples included steam-cleaning augers, rods, bits, the back end of the drill rig, split-spoon sampler, and core barrel sampling device both before work began and between activities at different boring locations. The hand-auger, slide hammer, and stainless steel trowels and shovels were cleaned with a brush before work began and between activities at different boring locations.

Groundwater samples were collected from temporary monitoring wells using disposable bailers or a peristaltic pump with disposable tubing; therefore, decontamination was not necessary. However, groundwater samples were collected from permanent monitoring wells using a reusable bladder pumps and electric sounders were used to measure water levels. The bladder pumps and electric sounder were decontaminated before and after use at each permanent monitoring well. Decontamination was performed by rinsing the reusable equipment with deionized water, washing with a trisodium phosphate detergent, rinsing with deionized water, and wiping the reusable equipment before reuse.

### **A2.6.2 Management of Investigation-Derived Waste**

IDW generated during field activities included soil cuttings from borings and monitoring wells, contaminated soil excavated during removal of pipelines, groundwater from monitoring well purging, wastewater from decontamination procedures, and product from inactive fuel pipelines. Soil cuttings, groundwater, and wastewater were containerized in 55-gallon drums or roll-off bins and then transported to a temporary storage area at Alameda Point. Free product removed from the fuel pipelines was transferred to temporary on-site storage tanks. Composite samples were collected from the IDW to characterize the waste for disposal off site at an appropriate waste facility.

## **A3.0 QUALITY CONTROL**

In general, QC samples collected during field activities included field duplicates for groundwater, equipment rinsate samples, and trip blanks. The following sections discuss the field QC samples and laboratory QC samples. The use of field duplicates for soils and laboratory QC also is discussed in this section.

### **A3.1 EQUIPMENT RINSATE SAMPLES**

Equipment rinsate samples demonstrate whether decontamination procedures are effective in removing chemicals from the field sampling equipment. The presence of contamination in equipment rinsate samples indicates that cleaning procedures were not effective, allowing for the possibility of cross-contamination. Equipment rinsate samples were collected once per sampling event.

### **A3.2 MATRIX SPIKE AND MATRIX SPIKE DUPLICATES**

Matrix spike (MS) and MS duplicate (MSD) samples are aliquots of a sample spiked in the analytical laboratory with known quantities of target compounds, and analyzed using the same procedures as for field samples. The MS recovery provides information about the accuracy of the analysis process, whereas the relative percent difference (RPD) of the MS/MSD recoveries is used to assess matrix-specific precision. Typically, additional sample volume is collected for 1 sample in every batch of 20 samples.

### **A3.3 FIELD DUPLICATES**

Field duplicate pairs consist of two samples of the same matrix (an original and a duplicate) collected at the same time and location (to the extent possible), using the same sampling techniques. Field duplicate samples are collected at the same time and from the same source as environmental samples and then submitted as separate samples to the laboratory for analysis.

Combined field and laboratory precision are evaluated by collecting and analyzing field duplicates and then calculating the variance between the samples, as follows:

$$RPD = \frac{|A-B|}{(A+B)/2} \times 100$$

where

- A = First duplicate concentration
- B = Second duplicate concentration

Groundwater field duplicate samples were collected at a frequency of 10 percent and were analyzed for the same chemicals as their corresponding original samples. Duplicate samples were not collected for waste samples.

#### **A3.4 TRIP BLANKS**

Trip blanks were prepared in the laboratory by pouring carbon-free (or distilled) water into the appropriate sample containers and including all appropriate preservative chemicals. The trip blank then traveled with the cooler and other sample containers from the laboratory to the field and back to the laboratory. The purpose of the trip blank sample is to monitor for introduced contamination of VOCs and TPH as gasoline between the field and the laboratory.

#### **A3.5 SOURCE WATER BLANK SAMPLES**

Source water blanks were collected during each sampling event. Source blanks consisted of the deionized water used for equipment decontamination and for the collection of equipment rinsates. The purpose of the source blank sample is to monitor the source of water used during field activities.

#### **A3.6 INSTRUMENT CALIBRATION AND FREQUENCY**

All field equipment was operated, maintained, calibrated, and standardized in accordance with U.S. Environmental Protection Agency's (EPA) and manufacturer's recommended procedures. The equipment was calibrated at the beginning of each day and checked throughout the day as warranted. Laboratory instrument and equipment testing, inspection, and maintenance followed the EPA Contract Laboratory Program Statement of Work for Organic Analysis (EPA 1999).

#### **A3.7 LABORATORY DATA VALIDATION**

A data validation review was completed for the soil and groundwater sampling events. Appendix F to this RI Report presents the QC summary report for these sampling events. Of the data collected at IR Site 34, all but 0.1 percent were considered usable and data quality was within acceptable limits.

#### **A4.0 DEVIATIONS FROM THE WORK PLAN/SAMPLING AND ANALYSIS PLAN**

Table A-2 lists the deviations from the work plan and sampling and analysis plan. The deviations did not impact the investigation.

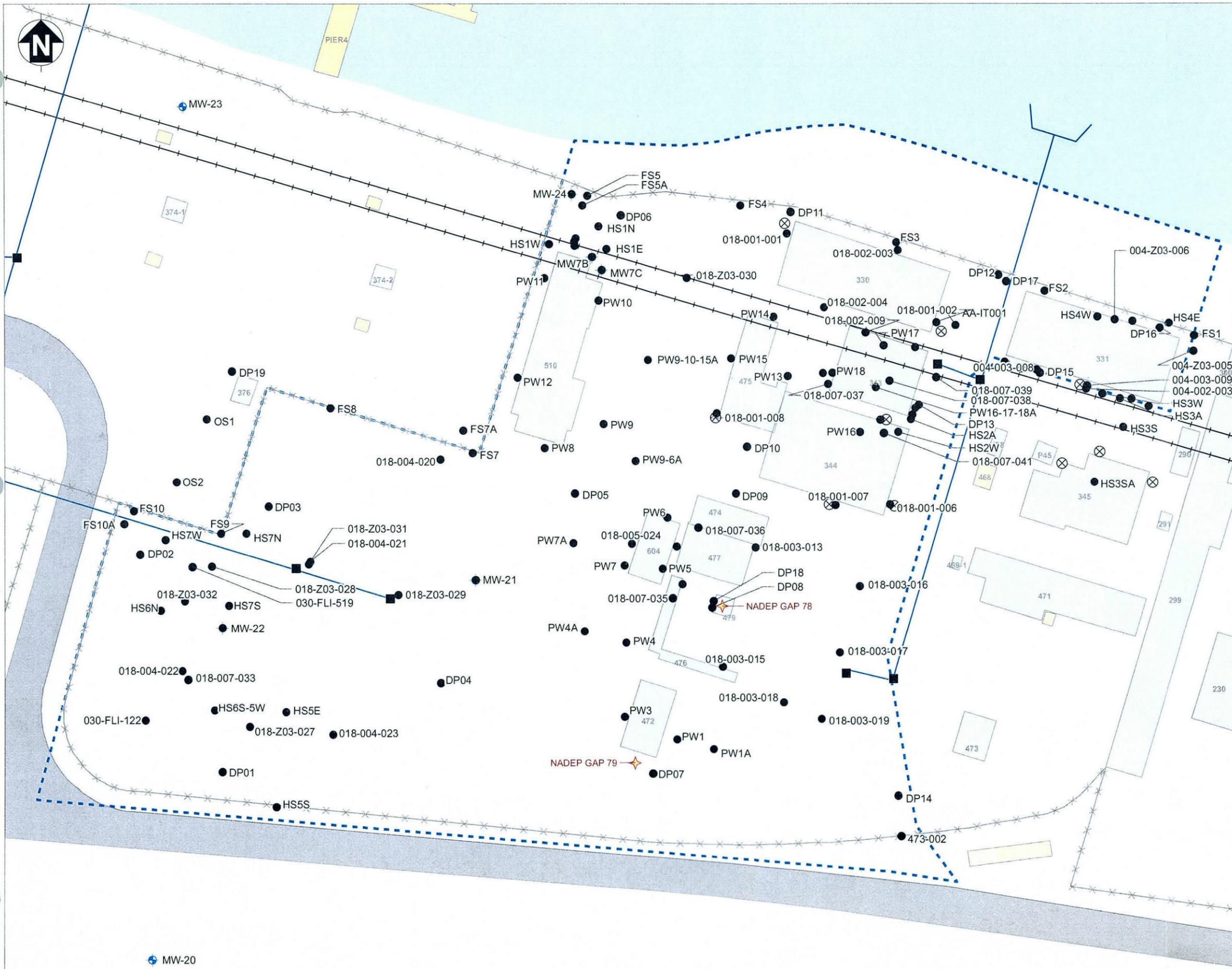
## A5.0 REFERENCES

- Bechtel Environmental, Inc. 2003. "Draft Site Inspection Report Transfer Parcels PBC-1A and EDC-3, Alameda Point, Alameda, California." March
- Environmental Management Resource-West, Inc. 1994. "Final Environmental Baseline Survey/Community Environmental Response Facilitation Act Report for NAS/NADEP Alameda." October 31.
- International Technology Corporation (IT Corp.). 1999. "Draft As-Built Report, Removal of Fuel Lines and Underground Storage Tanks, Alameda Point, Alameda, California." December.
- IT Corp. 2001. "Final Environmental Baseline Survey Data Evaluation Summaries, Alameda Point, Alameda, California." January.
- SulTech. 2006. "Final Remedial Investigation Work Plan, Installation Restoration Site 34, Alameda Point, Alameda, California." January.
- U.S. Environmental Protection Agency. 1999. "USEPA Contract Laboratory Program, Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration." OLM04.2. May. Available Online at:  
<http://www.epa.gov/superfund/programs/clp/download/olm/olm42a-d.pdf>

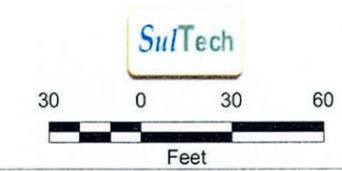
**FIGURES**

---

>



- Soil Sample Location
  - ⊕ Monitoring Well Location
  - ⊕ Groundwater Sample Location
- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
  - ⬠ Generator Accumulation Point (Removed)
  - Catch Basin
  - +— Railroad Track (Removed)
  - Storm Sewer Line
  - ××× Fence
  - Building (Present)
  - Building (Removed)
  - ⋯ Site 34 Boundary
  - Road
  - Unpaved Area
  - Water



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE A-1**  
**SAMPLE LOCATIONS AT SITE 34**

**TABLE**

---

**TABLE A-1: GROUNDWATER MONITORING WELL CONSTRUCTION DETAILS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Monitoring Well Identification	Well Diameter (inches)	Well Construction Material	Well Screen Size (inches)	Well Screen Interval (feet bgs)	Well Riser Interval (feet bgs)	Sand Pack Interval (feet bgs)	Cement/Bentonite Seal Interval (feet bgs)	Annular Seal Interval (feet bgs)
34-MW20	2	Schedule 40 PVC	0.01	3 to 13	0 to 3	2.5 to 13	1 to 2.5	0 to 1
34-MW21	2	Schedule 40 PVC	0.01	3 to 13	0 to 3	2.5 to 13	1 to 2.5	0 to 1
34-MW22	2	Schedule 40 PVC	0.01	3 to 13	0 to 3	2.5 to 13	1 to 2.5	0 to 1
34-MW23	2	Schedule 40 PVC	0.01	3 to 13	0 to 3	2.5 to 13	1 to 2.5	0 to 1
34-MW24	2	Schedule 40 PVC	0.01	45 to 55	0 to 45	43 to 55	41 to 43	0 to 41
MW7B	5	Schedule 40 PVC	0.04	70 to 80	0 to 70	60.5 to 88	55 to 60.5	0 to 55
MW7C	6	Mild steel	0.04	199 to 219	0 to 199	189 to 238	184 to 189	0 to 184

Notes:

bgs Below ground surface  
 PVC Polyvinyl chloride

**TABLE A-2: SUMMARY OF DEVIATIONS FROM THE WORK PLAN AND SAMPLING AND ANALYSIS PLAN**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Original Work Statement	Deviation	Media	Work Plan/SAP Section	Reason for Deviation	Benefit of Deviation	Sampling Locations Affected	Effect on Data
None	Existing monitoring wells (MW7B and MW7C) were found at IR Site 34 during the field investigation. A purge line was placed approximately 3 feet below the groundwater surface at the existing monitoring wells. Samples were collected with a peristaltic pump. The field team did not purge the well or collect water quality parameters.	Groundwater	NA	To qualitatively assess water quality in unknown historic monitoring wells.	A field team was already present at the site and had the appropriate equipment on hand. However, the field team did not have well construction details, thus they could not properly purge the well so water quality results should be considered qualitative and not quantitative. Data obtained from these monitoring wells will help with the qualitative assessment of deeper aquifers at the site.	Addition of two groundwater monitoring well locations.	Additional data for site characterization were obtained. However, the analytical results are qualitative because proper purging could not be performed.
Step-out criteria for XRF samples was to collect four samples in a semicircle around each planned sampling location with previous chemical concentrations exceeding screening criteria.	Step-out locations were adjusted to provide more spatial coverage and eliminate redundant sampling locations.	Soil	Section 5.1, pages 25-28	The sampling plan was based on a conceptual site model where the investigation would define discrete metals hot spots. The number of planned sampling locations showed that discrete hot spots were not present and metals exceeded screening criteria in a widespread fashion.	Provided a more cost-effective method for screening site-wide metals concentrations without compromising data quality. More widespread presence of metals in soil did not require such localized delineation but a more general delineation that was provided by the amended plan.	Approximately 16	The quality of the XRF data was not compromised. The intent of the XRF investigation was to define the extent of chromium and lead at concentrations exceeding screening criteria. By altering the step-out sampling plan, a greater portion of the site could be characterized at a lower but more appropriate level of detail.
Borings will be continuously logged to assist in developing a geologic profile.	Many of the hand augered soil samples were not logged in the field because of time constraints. Boring logs were recreated from excess sample volume several weeks later and from adjacent sample descriptions.	Soil	Section 5.1, Page 26	Time constraints during field work.	None. However, data quality was not substantially compromised.	All subsurface hand augered soil samples.	All of the boring logs were recreated after the field event based on excess sample volume and field notes. Distinct interfaces in the soil were not recorded. However, the general soil descriptions were not compromised.
Groundwater samples will be collected from each direct push boring location. These groundwater samples will be analyzed for VOCs, TPH-purgable, TPH-extractable, SVOCs, PAHs, PCBs, pesticides, and metals.	At direct push location DP19 the groundwater sample was not analyzed for PAHs or PCBs.	Groundwater	Section 2.1.1, Page 30	Groundwater recharge at this location was very slow, resulting in insufficient sample volume being collected from this sample location.	None.	One location, DP19.	Data quality was not substantially compromised since PAH constituents are reported under SVOC analysis and PCBs were not detected above detection limits at IR Site 34.

Notes:

SulTech. 2006. "Final Remedial Investigation Work Plan, Installation Restoration Site 34, Alameda Point, Alameda, California." January.

IR	Installation Restoration	VOCs	Volatile organic compounds
NA	Not applicable	XRF	X-ray fluorescence
PAHs	Polycyclic aromatic hydrocarbons		
PCBs	Polychlorinated biphenyls		
SVOCs	Semivolatile organic compounds		
SAP	Sampling and analysis plan		
TPH	Total petroleum hydrocarbons		

**APPENDIX B**  
**SOIL BORING LOGS**

---

# LOG OF WELL NO. MW7C

Sheet 1 of 7

Project Name & Location: Hydrogeologic Investigation, -50 Foot Navigation Improvement Project, Port of Oakland, Oakland and Alameda, California		Ground Surface Elevation: +10.8 Feet	Well Head Elevation: +10.54 Feet
Coordinates: N2116405.1, E6037032.9		Elevation Datum: Port of Oakland Datum	
Drilling Company & Driller: Water Development Corporation; Rob Charbineau		Start: Date 7/31/97	Time 9:00 am
Rig Type & Drilling Method: Drill Tech DH 40; Rotary Wash		Finish: Date 8/5/97	Time 9:00 am
Sampler Type(s): A) SPT Sampler (2.0-inch O.D.) B) Modified California Sampler (3.0-inch O.D.) C) Shelby Tube with Piston Sampler (3.0-inch O.D.)		Drilling Fluid: Bentonite Mud and Barite plus Polymer Additive	Pilot Hole Diameter: 6-5/8 to 30', 7-7/8 below 30'
E) Bag of Cuttings Note: X = Sand Catcher Used		Logged By: John Wolfe	Reamed Hole Diameter: 12-1/4 inches
Sampling Method(s): A) 140 lb hammer falling 30 inches (Cable and Drum) B1) 280 lb down-hole hammer falling 18 inches (Cable and Drum) C) Hydraulic Push		Backfill Method: Well Constructed	Date: 8/8/97

Elevation (feet)	Depth (feet)	Sampler Type	Blows/8 inches or Pressure	SPT N-Value	Sample Interval	Graphic Log	Well Construction	SOIL DESCRIPTIONS		LABORATORY DATA		
								GROUP NAME (GROUP SYMBOL) color, consistency/density, moisture condition, other descriptions (Local Name or Material Type)	Moisture Content (%)	Dry Density (pcf)	Other	
0	0	E						Asphalt Concrete, 3-1/2 inches thick <b>SILTY GRAVEL WITH SAND (GM)</b> olive-yellow 2.5Y 6/6, dense, dry, quartz fine-grained sand, sandstone and rhyolite, gravel angular to 3-inch diameter (Fill)				
-10	10	E A	3 4 4	8				Groundwater during drilling  <b>POORLY GRADED SAND WITH SILT (SP-SM)</b> light yellowish-brown 2.5Y 6/4, loose, moist to wet, fine-grained sand (Fill) Some balls of Bay Mud below 6.5 feet				
-5	5	E B1	7 10 14	19				<b>FAT CLAY WITH GRAVEL (CH)</b> mottled dark greenish-gray 5GY 4/1 and greenish-black 10Y N, soft, moist, rhyolite gravel very angular, 1/4 to 2+ inches diameter (Gravel Fill Mixed with Young Bay Mud)				
-10	10	E B1x	3 4 5	7				<b>INTERBEDDED POORLY GRADED SAND (SP) AND FAT CLAY (CH)</b> very dark gray N 3/, loose, wet, with ~5 percent shell fragments, fine-grained sand, 90 percent clear or frosted quartz subangular to subrounded interbedded with lenses to 4-inch-thick of fat clay (CH), dark greenish-gray 10GY 3/1, soft, moist, and layers of shells and pockets of peat (PT), dark brown 7.5YR 3/2, soft wet (Recent Bay Deposits)				
-15	15	B1x	3 5 6	9				Drilled 6-5/8-inch-diameter rotary wash boring to 20.5 feet, reamed to 12-1/4-inch-diameter, set 20.5 feet of 13-inch-diameter steel conductor casing			-200 = 20.6%	
-20	20	Ax	5 6 1	7				Sand in cuttings, some shell lenses			-200 = 12.0%	
-25	25	Ax	3 2 3	5				Shell layer at 29' to 30'				
								Log continued on next page				

**SCI** Subsurface Consultants, Inc.  
Geotechnical & Environmental Engineers

**PORT OF OAKLAND**  
530 WATER STREET, OAKLAND, CALIFORNIA

JOB NUMBER  
133.008  
DATE  
10/9/97  
APPROVED

PLATE  
**E36a**

Project Name & Location: Hydrogeologic Investigation, -50 Foot Navigation Improvement Project, Port of Oakland, Oakland and Alameda, California							Start Date: 7/31/97				
							Logged By: John Wolfe				
Elevation (feet)	Depth (feet)	Sampler Type	Blows/6 inches or Pressure	SPT N-Value	Sample Interval	Graphic Log	Well Construction	SOIL DESCRIPTIONS		LABORATORY DATA	
								GROUP NAME (GROUP SYMBOL) color, consistency/density, moisture condition, other descriptions (Local Name or Material Type)	Moisture Content (%)	Dry Density (pcf)	Other
20		E									
	30	B1x	8 7 8	12				Alternating lenses of SP and CH, approximately 60 percent SP and 40 percent CH from 28.5 feet to 38.5 feet with shells			-200 = 15.5%
	35										
	40	C						<b>FAT CLAY (CH/MH)</b> dark grayish-green 10Y 3/1, soft to medium stiff, wet, with lenses of shells, fine-grained sand, and decaying organics (Young Bay Mud)  Some very angular sandstone gravel to 1-inch diameter at 42 to 42.5 feet	60.6	64	TxUU = 670 (3,800) TV = 600
	45	B1x	2 3 3	5					53.9	68	TV = 400
	50	B1x	5 3 6	9				Shells on bit at 48 feet <b>SILTY SAND (SM)</b> dark greenish-gray 10Y 3/1, loose, wet, fine-grained sand, subrounded quartz (Recent Bay Deposits)			TV = 400 -200 = 23.1%
	55	C						<b>FAT CLAY (CH/MH)</b> dark greenish-gray 5GY 4/1, medium stiff, wet, with shell fragments (Young Bay Mud)  <b>POORLY GRADED SAND WITH CLAY (SP-SC)</b> mottled olive-yellow 5Y 6/8 and dark greenish-gray 5G 4/1, medium dense, wet, fine-grained sand, subrounded to subangular, 90+ percent quartz (San Antonio Formation)			
	60	E						<b>FAT CLAY WITH GRAVEL AND SHELL FRAGMENTS (CH)</b> dark greenish-gray 5G 3/1, gravel very angular to angular, olive-yellow 2.5Y 6/8 to 2-inch diameter (San Antonio Formation)			
	65	B1x	3 6 10	13				<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> mottled olive-yellow 5Y 6/8 and dark greenish gray 5G 4/1, medium dense, wet, silt content varies, fine-grained sand, subrounded (San Antonio Formation) Subangular, 80 percent quartz at 60.5 feet			
	70	B1x	2 3 7	8				<b>CLAYEY SAND (SC)</b> dark greenish-gray 5G 4/1, medium dense, wet, 90 percent quartz, subangular to subrounded, possibly with angular gravel to 2+ inches (San Antonio Formation)			LL = 24, PI = 12 TV = 440 -200 = 44.6%
	75							Log continued on next page			

# LOG OF WELL NO. MW7C

Project Name & Location: Hydrogeologic Investigation, -50 Foot Navigation Improvement Project, Port of Oakland, Oakland and Alameda, California

Start Date: 7/31/97

Logged By: John Wolfe

Elevation (feet) SR Depth (feet)	Sampler Type	Blows/6 Inches or Pressure	SPT N-value	Sample Interval	Graphic Log	Well Construction	SOIL DESCRIPTIONS		LABORATORY DATA		
							GROUP NAME (GROUP SYMBOL) color, consistency/density, moisture condition, other descriptions (Local Name or Material Type)	Moisture Content (%)	Dry Density (pcf)	Other	
55	E						<b>FAT CLAY (CH)</b> dark greenish-gray 10GY 4/1, medium stiff to stiff, wet (San Antonio Formation)				
70	C						<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> dark grayish-green 5G 4/1, dense, wet, fine-grained sand, 80 percent quartz, subangular to subrounded, some serpentine, olivine, and chert, with some scattered or decayed vegetation and peat (San Antonio Formation)				
	B1x	15 21 32	42				Lense of elastic silt (MH) at 72 to 73.5 feet				MA -200 = 6.0%
75	E						Interbedded with clayey sand and elastic silt at 75.2 to 78 feet				
80	B1x	13 18 27	36				Color changes to greenish-black 5GY 2.5/1				
85	B1	5 10 22	26				<b>FAT CLAY (CH)</b> mottled dark brown 7.5YR 3/2 and grayish-green 5G 4/1, with organic soil (OL/OH), very dark grayish-brown 10YR 3/2 and peat (PT), stiff to very stiff, moist, with rootlets and thin lenses of shells (Old Bay Mud)	42.4	76		TV = 2,200
90	C							44.7	77		LL = 50, PI = 30 Perm = $1 \times 10^{-8}$ cm/s (82 psi) TV = 1,400
95	B1	5 11 13	19				Thin discordant stringers of fine sand with scattered mica and crescent-shaped lenses of fine-grained quartz sand to 1-inch long, sparse shell fragments and decayed vegetation at 92.2 feet				
100	B1	11 17 26	34				Less organic matter	41.8	79		
							Log continued on next page				

Project Name & Location: Hydrogeologic Investigation, -50 Foot Navigation Improvement Project, Port of Oakland, Oakland and Alameda, California	Start Date: 7/31/97 Logged By: John Wolfe
---	--

Elevation (feet)	Depth (feet)	Sampler Type	Blows/6 inches or Pressure	SPT N-Value	Sample Interval	Graphic Log	Well Construction	SOIL DESCRIPTIONS	LABORATORY DATA		
								GROUP NAME (GROUP SYMBOL) color, consistency/density, moisture condition, other descriptions (Local Name or Material Type)	Moisture Content (%)	Dry Density (pcf)	Other
90		E									
95		E									
100		E					Some fine-grained sand				
105		E									
110		E									
115		E									
120		C						34.1	88	LL = 54, PI = 34 TV = 1,000	
125		E									
130		E									
135		E									

Log continued on next page

<b>Subsurface Consultants, Inc.</b> <small>Geotechnical &amp; Environmental Engineers</small>	<b>PORT OF OAKLAND</b> <small>530 WATER STREET, OAKLAND, CALIFORNIA</small>	<small>JOB NUMBER</small> 133.008 <small>DATE</small> 10/9/97 <small>APPROVED</small>	<small>PLATE</small> <b>E36d</b>
--	--	---	-------------------------------------

Project Name & Location:  
Hydrogeologic Investigation, -50 Foot Navigation Improvement Project,  
Port of Oakland, Oakland and Alameda, California

Start Date:  
7/31/97

Logged By:  
John Wolfe

Elevation (feet) Depth (feet)	Sampler Type	Blows/6 inches or Pressure	SPT N-Value	Sample Interval	Graphic Log	Well Construction	SOIL DESCRIPTIONS		LABORATORY DATA		
							GROUP NAME (GROUP SYMBOL) color, consistency/density, moisture condition, other descriptions (Local Name or Material Type)	Moisture Content (%)	Dry Density (pcf)	Other	
135											
125	E B1	11 12 14	21				<b>FAT CLAY (CH)</b> light olive-brown 2.5Y 5/4, hard, moist, with occasional brown gravel of chert and sandstone (Alameda Formation)	32.3	90	LL = 83, PI = 62 TV = 4,600	
140	E										
130	E										
145	E										
135	E						Color changes to mottled olive 5Y 5/6 and dark greenish-gray 10Y 4/1				
150	E										
155	E										
145	E B1	10 13 16	23				Shell and gravel lense at 101 to 103 feet	33.0	89	TV = 3,000	
160	E										
150	E										
165	E										
155	E										
170							Log continued on next page				

Project Name & Location: Hydrogeologic Investigation, -50 Foot Navigation Improvement Project, Port of Oakland, Oakland and Alameda, California	Start Date: 7/31/97 Logged By: John Wolfe
---	--

Elevation (feet)	Depth (feet)	Sampler Type	Blows/6 inches or Pressure	SPT N-Value	Sample Interval	Graphic Log	Well Construction	SOIL DESCRIPTIONS	LABORATORY DATA		
								GROUP NAME (GROUP SYMBOL) color, consistency/density, moisture condition, other descriptions (Local Name or Material Type)	Moisture Content (%)	Dry Density (pcf)	Other
170		E									
160		E						Increase in gravel and shell content, some lenses of fine-grained sand, some mica			
175		E									
165		B1x	6 12 14	21				Tried Shelby Tube, no recovery <b>FAT CLAY (CH)</b> greenish-gray 5GY 5/1, stiff to very stiff, moist, with crescent-shaped lenses of fine-grained sand (Alameda Formation)	40.2	82	LL = 64, PI = 46 TV = 2,000
180		E									
170		E									
185		E									
175		E									
185		E						Color changes to greenish-gray 5G 5/1; sand very angular to subrounded sand 75 percent quartz, some chert, sandstone, and serpentinite			
190		E									
180		E									
195		E						Color changes back to dark greenish-gray 5GY 5/1, with angular gravel to 1-inch diameter of rhyolite with SiO <sub>2</sub> coating			
185		B1	6 16 21	30							
200		E									
190		E						Sparse coarse sand			
205								Log continued on next page			

# LOG OF WELL NO. MW7C

Project Name & Location:  
Hydrogeologic Investigation, -50 Foot Navigation Improvement Project,  
Port of Oakland, Oakland and Alameda, California

Start Date:  
7/31/97

Logged By:  
John Wolfe

Elevation (feet) Depth (feet)	Sampler Type	Blows/6 inches or Pressure	SPT N-Value	Sample Interval	Graphic Log	Well Construction	SOIL DESCRIPTIONS		LABORATORY DATA			
							GROUP NAME (GROUP SYMBOL) color, consistency/density, moisture condition, other descriptions (Local Name or Material Type)	Moisture Content (%)	Dry Density (pcf)	Other		
205												
195	E						Some red chert, increasing sand content					
210	E						<b>POORLY GRADED SAND WITH CLAY (SP-SC)</b> greenish-gray 10Y 5/1, sand mostly coarse, very angular to subangular, some subrounded less than 20 percent quartz, quartz mostly white lithics include white claremont chert, hard, angular graywacke sandstone, subrounded, serpentinite, and red, brown, and black chert (Alameda Formation)				MA -200 = 11.1%	
215	E											MA -200 = 11.3%
205	E						<b>FAT CLAY (CH)</b> greenish-gray 10Y 6/1, moist, with stringers of clayey sand and angular chert gravel to 1-inch diameter (Alameda Formation)					
220	E											
225	E						Very hard at 224 feet Color change to greenish-gray 5GY 7/1					
215												
230												
220												
235												
225							Color change to dark greenish-gray 10GY 3/1					
240	B1						Boring terminated at 241.5 feet	31.3	93		LL = 58, PI = 43 TV = 2,600	

**SCI** Subsurface Consultants, Inc.  
Geotechnical & Environmental Engineers

**PORT OF OAKLAND**  
530 WATER STREET, OAKLAND, CALIFORNIA

JOB NUMBER 133.008  
DATE 10/9/97  
APPROVED

PLATE  
**E36g**

# UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487-93)

MAJOR DIVISIONS			GROUP NAMES		
<b>COARSE-GRAINED SOILS</b> More than 50% retained on the No. 200 sieve	<b>GRAVELS</b>  More than 50% of coarse fraction retained on No. 4 sieve	Clean gravels less than 5% fines	GW		Well-graded gravel, Well-graded gravel with sand
			GP		Poorly graded gravel, Poorly graded gravel with sand
			GM		Silty gravel, Silty gravel with sand
			GC		Clayey gravel, Clayey gravel with sand
	<b>SANDS</b>  50% or more of coarse fraction passes No. 4 sieve	Clean sand less than 5% fines	SW		Well-graded sand, Well-graded sand with gravel
			SP		Poorly graded sand, Poorly graded sand with gravel
		Sands with more than 12% fines	SM		Silty sand, Silty sand with gravel
			SC		Clayey sand, Clayey sand with gravel
<b>FINE-GRAINED SOILS</b> 50% or more passes the No. 200 sieve	<b>SILTS AND CLAYS</b>  Liquid Limit Less than 50%		ML		Silt, Silt with sand or gravel, Sandy or gravelly silt, Sandy or gravelly silt with gravel or sand
			CL		Lean clay, Lean clay with sand or gravel, Sandy or gravelly lean clay, Sandy or gravelly lean clay with gravel or sand
			OL		Organic silt or clay, Organic silt or clay with sand or gravel, Sandy or gravelly organic silt or clay, Sandy or gravelly organic silt or clay with gravel or sand
	<b>SILTS AND CLAYS</b>  Liquid Limit Greater than 50%		MH		Elastic silt, Elastic silt with sand or gravel, Sandy or gravelly elastic silt, Sandy or gravelly elastic silt with gravel or sand
			CH		Fat clay, Fat clay with sand or gravel, Sandy or gravelly fat clay, Sandy or gravelly fat clay with gravel or sand
			OH		Organic silt or clay, Organic silt or clay with sand or gravel, Sandy or gravelly organic silt or clay, Sandy or gravelly organic silt or clay with gravel or sand
<b>HIGHLY ORGANIC SOILS</b>			Pt		Peat

For definition of dual and borderline symbols, see ASTM D2487-93.

## KEY TO TEST DATA AND SYMBOLS

Perm - Permeability Consol - Consolidation LL - Liquid Limit PI - Plasticity Index Gs - Specific Gravity MA - Particle Size Analysis -200 - Percent Passing No. 200 Sieve ND - Not Detected ■ - Tube Sample ☒ - Bag or Bulk Sample ☒ - Lost Sample ▽ - First Groundwater ▽ - Stabilized Groundwater	Shear Strength (psf) TxUU 3200 TxCU 3200 TxCD 3200 SSCU 3200 SSCD 3200 DSCD 2700 UC 470 LVS 700 FV 300 RFV TV 800 PP 400	Confining Pressure (psf) (2600) (2600) (2600) (2600) (2600) (2000)	Unconsolidated-Undrained Triaxial Shear Consolidated-Undrained Triaxial Shear Consolidated-Drained Triaxial Shear Consolidated-Undrained Simple Shear Consolidated-Drained Simple Shear Consolidated-Drained Direct Shear Unconfined Compression Laboratory Vane Shear Field Vane Shear Torvane Shear Pocket Penetrometer (actual reading divided by 2)
---	--	--	--

# DEFINITION OF SOIL PROPERTIES

## RELATIVE DENSITY OF COARSE-GRAINED SOILS\*

Relative Density	Standard Penetration Test Blow Count (blows per foot)	3-in. OD; 2.5-in ID w/SPT Hammer	3-in. OD; 2.5-in. ID w/325 lb. Hammer Dropping 18"‡
very loose	<4	<7	<6
loose	4 - 10	7 - 17	6 - 14
medium dense	10 - 30	17 - 50	14 - 42
dense	30 - 50	50 - 83	42 - 70
very dense	>50	>83	>70

‡ Hammer below water table or drilling mud.

## CONSISTENCY OF FINE-GRAINED SOILS\*

Consistency	Identification Procedure	Approximate SPT N-Value (blows/ft)	Approximate Shear Strength (psf)
very soft	Easily penetrated several inches with fist	0 - 2	<250
soft	Easily penetrated several inches with thumb	2 - 4	250 - 500
medium stiff	Penetrated several inches by thumb with moderate effort	4 - 8	500 - 1000
stiff	Readily indented by thumb, but penetrated only with great effort	8 - 15	1000 - 2000
very stiff	Readily indented by thumb nail	15 - 30	2000 - 4000
hard	Indented with difficulty by thumb nail	>30	>4000

## NATURAL MOISTURE CONTENT\*\*

Description	Criteria
dry	Absence of moisture, dusty, dry to the touch
moist	Damp, but no visible water
wet	Visible free water, usually soil is below water table

\* Table based on information presented in Peck, R.B., Hanson, W.E., and Thornburn, T.H., 1974. *Foundation Engineering, Second Edition*. John Wiley & Sons.

\*\* ASTM D2488-93



Subsurface Consultants, Inc.  
Geotechnical & Environmental Engineers

PORT OF OAKLAND  
630 WATER STREET, OAKLAND, CALIFORNIA

JOB NUMBER  
133.007  
DATE  
11/5/97  
APPROVED

PLATE

E38



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP01 Drilling Method: Dual Tube Percussion Outer Diameter of Boring: 1.5" Inner Diameter of Well Casing: 3/4" Sch 40.010 screen temp well Depth to Water (feet bgs): 1.3	Date Started: 2/8/06 Date Completed: 2/8/06 Logged by: B. Shelton Drilling Subcontractor: Resonant Sonic Driller: Jose Ambriz Location Sketch: See Boring Log Map
---	--

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
1110	—	↓	↓	105-S34-001	SC - Clayey sand, dark brown (10YR3/3), loose, dry, fine to medium sand, 15% clay, rare gravel		SC	0.0
1115	—			105-S34-002				
1	—	↓	↓		SC - Clayey sand, yellowish brown (10YR5/6), loose, wet, medium subrounded quartz, 30% clay		SC	0.0
2	—							
3	—	↓	↓		SP - Sand, yellowish brown (10YR5/6), loose, wet, rounded to subrounded quartz, feldspar, rare mica		SP	0.0
4	—							
5	—	↓	↓		Change to dense, gray (10YR5/1), less feldspar			0.0
6	—							
7	—	↓	↓					0.0
8	—			Not Recov.				
				105-S34-004 GW				

Total Depth = 8' bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

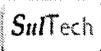
### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP02	Date Started: 2/8/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/8/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): 0.9	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OMV (ppm)
1130	—	↓	↓	105-S34-005	SC - Clayey sand, dark brown (10YR3/5), loose, dry, fine to medium sand, very strong odor in first foot, unknown, 20% clay		SC	4840 0.0
1135	—			105-S34-006				
1	—						SC - Clayey sand, yellowish brown (10YR5/6), same as above	
2	—				SP - Sand, yellowish brown (10YR5/6), (2-2.5), then gray (10YR5/1) to bottom, subrounded fine to medium quartz sand, some mica, rare mafics		SP	0.0
3	—							
4	—	↓	↓					
5	—							
6	—							
7	—							0.0
1145	—	↓	↓	105-S34-010 GW				
8	—							

Total Depth = 8' bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
 Bldg./Site: Site 34  
 Project Name: Site 34 RI

Boring Number: S34RI-105-DP03 Drilling Method: Dual Tube Percussion Outer Diameter of Boring: 1.5" Inner Diameter of Well Casing: 3/4" temp well casing Depth to Water (feet bgs): 0.9	Date Started: 2/8/06 Date Completed: 2/8/06 Logged by: B. Shelton Drilling Subcontractor: Resonant Sonic Driller: Jose Ambriz Location Sketch: See Boring Log Map
--	--

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	0				SC - Clayey sand, dark brown (10YR3/3), loose, dry, fine to medium sand		SC	0.0
1	1				SC - Clayey sand, yellowish brown (10YR5/6), loose, moist, medium quartz sand, 30% clay		SC	
2	2				SP - Sand, yellowish brown (10YR5/6), dense, wet, subrounded quartz, feldspar, mica		SP	0.0
3	3				Changes to gray (10YR5/1), less feldspar at 3'			
4	4							0.0
5	5							0.0
6	6							0.0
7	7							0.0
1315	8			105-S34-011 GW				

Total Depth = 8' bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP04	Date Started: 2/8/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/8/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): 1.7	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	0				SC - Clayey sand, dark brown (10YR3/3), loose, dry, fine to medium sand with 15% clay		SC	0.0
1	1				SC - Clayey sand, yellowish brown (10YR5/6), loose, wet, medium quartz sand, 30% clay		SC	0.0
2	2				SP - Sand, yellowish brown (10YR5/6), dense but not cemented, wet, rounded to subrounded quartz, feldspar, mica		SP	0.0
3	3				Changes to gray (10YR5/1), less feldspar at 3'			0.0
4	4							
5	5							
6	6							
7	7							
8	8							



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP04	Date Started: 2/8/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/8/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): 1.7	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	—							
	—							
	9 —							
	—							
	—							
	10 —							
	—							
	—							
	11 —							
	—							
1700	—			105-S34-012 GW				
	12 —							

Total Depth = Well dry, push to 12', not logged.



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP05	Date Started: 2/8/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/8/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): dry when set at 12', water at 5.7' when set at 16', actual interface likely between 12 and 16'	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OMV (ppm)
0925	0			105-S34-013	SP - Sand, dark yellowish brown (10YR4/4), loose, fine to medium sand		SP	0.0
0930	1				CL - Clay, very dark gray (5Y3/1), moist, medium stiff, shell fragments common, strong H <sub>2</sub> S odor		CL	0.0
	2			105-S34-014				
	3							
	4							
	5							
	6							
	7							
0935	8			105-S34-015				



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP05

Date Started: 2/8/06

Drilling Method: Dual Tube Percussion

Date Completed: 2/8/06

Outer Diameter of Boring: 1.5"

Logged by: B. Shelton

Inner Diameter of Well Casing: 3/4" temp well casing

Drilling Subcontractor: Resonant Sonic

Depth to Water (feet bgs): dry when set at 12', water at 5.7' when set at 16', actual interface likely between 12 and 16'

Driller: Jose Ambriz

Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	9						CL	
	10							
	11							
	12	▼	▼					
	13							
	14							
	15							
1300	16	▼	▼	105-S34-016 GW	SP - Sand, very dark gray (5Y3/1), wet, mainly medium grained quartz sand, 10% clay, pink and green shell fragments common		SP	0.0

Total Depth = 16' bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP06	Date Started: 2/8/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/8/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): 2.7'	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
0845	0			105-S34-017	SP - Sand, dark brown (10YR3/3), loose, dry, subrounded to rounded quartz feldspar, fine to medium		SP	0.0
	1				SC - Clayey sand, brown (10YR4/3), loose, moist, nonplastic fine to coarse sand, 20% clay, wet at 2'		SC	
0850	2		105-S34-018					
	3		105-S34-019					
	4				SC - Clayey sand very dark gray (5YR 3/1), wet, alternating 3-8" bands of clay and sand		SC	0.0
	5			More clayey				
	6			More clayey				
	7			More clayey				
1230	7			105-S34-020 GW				
0855	8							

Total Depth = 8' bgs

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
 Bldg./Site: Site 34  
 Project Name: Site 34 RI

Boring Number: S34RI-105-DP07  
 Drilling Method: Dual Tube Percussion  
 Outer Diameter of Boring: 1.5"  
 Inner Diameter of Well Casing: 3/4" temp well casing  
 Depth to Water (feet bgs): Not measured, estimated ~2' bgs

Date Started: 2/6/06  
 Date Completed: 2/6/06  
 Logged by: B. Shelton  
 Drilling Subcontractor: Resonant Sonic  
 Driller: Jose Ambriz  
 Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
1110	0			105-S34-021	AS/GW - Dark brown (10YR3/3), loose, mixed sand/gravel		AS/GW	0.0
	1				SC - Clayey sand, yellowish brown (10YR5/6), loose, moist, subrounded to angular fine to medium quartz, mafics, some mica. Occasional shell fragments to 1.5"		SC	
	2			105-S34-022				
1115	2.5				Wet at 2.5'			0.0
	3				SP - Sand, olive gray (5Y4/2), loose, "clean" (no fines), rounded to subrounded quartz, some mafics		SP	0.0
	4							
	5							
1125	7			105-S34-024 GW				
1120	8			105-S34-023				

Total Depth = 8' bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP08 Drilling Method: Dual Tube Percussion Outer Diameter of Boring: 1.5" Inner Diameter of Well Casing: 3/4" temp well casing Depth to Water (feet bgs): Not measured, estimated ~2' bgs	Date Started: 2/6/06 Date Completed: 2/6/06 Logged by: B. Shelton Drilling Subcontractor: Resonant Sonic Driller: Jose Ambriz Location Sketch: See Boring Log Map
--	--

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	1230			105-S34-025	AS/GW - Dark brown (10YR3/3), loose, dry		AS/GW	0.0
	1				SC - Clayey sand, yellowish brown (10YR5/4), loose, moist, fine to medium sand, quartz, feldspar, 20% clay		SC	
	1235			105-S34-026				
	2				SP - Sand, dark grayish brown (2.5Y4/2), loose, wet, fine to medium sand, mainly subrounded quartz, rare mica, mafics		SP	0.0
	3							
	4				CL - Clay, very dark gray (5Y3/1), soft, wet		CL	0.0
	5							
	6							
	1245			105-S34-028 GW	SP - Same as 2-5.5', more dense		SP	
	1240			105-S34-027 (not analyzed)				
	8							

Total Depth = 8' bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP09 Drilling Method: Dual Tube Percussion Outer Diameter of Boring: 1.5" Inner Diameter of Well Casing: 3/4" temp well casing Depth to Water (feet bgs): Not measured	Date Started: 2/6/06 Date Completed: 2/6/06 Logged by: B. Shelton Drilling Subcontractor: Resonant Sonic Driller: Jose Ambriz Location Sketch: See Boring Log Map
---	--

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	0				AS/GW - Mixed asphalt and gravel, dark brown (10YR3/3), loose		AS/GW	0.0
	1			No soil collected - GW only	SC - Clayey sand, yellowish brown (10YR5/4), loose, moist, fine to medium sand, quartz, feldspar, 20% clay		SC	0.0
	2				SP - Sand, dark grayish brown (2.5Y4/2), loose, wet, fine to medium sand, mainly subrounded quartz, rare mica, mafics		SP	0.0
	3							
	4							0.0
	5				PT - Peat from 5 to 5.5		PT	0.0
	6				SP - Same as above		SP	0.0
1410	7			105-S34-029				0.0
	8							0.0

Total Depth = 8' bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP10

Date Started: 2/6/06

Drilling Method: Dual Tube Percussion

Date Completed: 2/6/06

Outer Diameter of Boring: 1.5"

Logged by: B. Shelton

Inner Diameter of Well Casing: 3/4" temp well casing

Drilling Subcontractor: Resonant Sonic

Depth to Water (feet bgs): Not measured, estimated approximately 3'

Driller: Jose Ambriz

Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
1330	0			105-S34-030	AS/GW - Mixed asphalt and gravel, dark brown (10YR3/3), loose, dry		AS/GW	0.0
	1							
1335	2			105-S34-031	SC - Clayey sand, yellowish brown (10YR5/4), loose, moist, fine to medium sand, quartz, feldspar, 20% clay		SC	0.0
	3							
	4				SP - Sand, dark grayish brown (2.5Y4/2), loose, wet, fine to medium sand, mainly subrounded quartz, rare mica, mafics		SP	0.0
	5							
	6							
1530	7			105-S34-033				0.0
1340	8			105-S34-032				0.0

Total Depth = 8' bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP11	Date Started: 2/7/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/7/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): Measured at 2.5' on 2/9/06	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	0				SP - Sand, with clay, gravel, very dark brown (10YR2/2), well rounded to subangular quartz, feldspar, rare gravel, 10% clay, loose		SP	0.0
	1				SP - Same as above, no clay or gravel, brown (10YR5/3), fine to medium sand, loose, moist		SP	0.0
	2				SC - Same as above, 30% clay, medium stiff		SC	0.2
	3							
	4				CL - Clay, grades from brown (10YR5/3) to very dark gray (10YR3/1), soft, wet, occasional shell fragments		CL	0.6
	5							
	6				SP - Sand, very dark gray (5Y3/1), wet, loose, fine to medium quartz sand		SP	0.0
1550	7			105-S34-034				
	8							

Total Depth = 8' bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP12	Date Started: 2/7/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/7/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): Measured at 2.2' on 2/9/06	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
1115	0			105-S34-035	SP - Sand, dark yellowish brown (10YR3/4), loose, fine to medium quartz sand mixed SP/AS 0-0.5'		SP	
	1				SC - Clayey sand with gravel, dark yellowish brown (10YR5/4) mixed, loose, medium to coarse well rounded sand, with angular gravel to 1.5"		SC	0.0
1200	2			105-S34-036				
	3				CL - Clay, dark gray (2.5Y4/1), soft, wet mottled with black clay, occasional peat		CL	
	4							0.0
	5							
	6							
1710	7			105-S34-197 GW	SP - Sand (10YR4/1)		SP	0.0
1205	8			105-S34-196				

Total Depth = 8' bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP13	Date Started: 2/7/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/7/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): 2.5	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
0830	0			105-S34-037	GW - Mixed gravel/sand, dark brown (10YR3/3), loose, dry		GW	
	1				SC - Clayey sand, dark grayish brown (2.5Y4/2), medium dense, subrounded quartz feldspar, 20% fines		SC	
0835	2			105-S34-038				
	3							0.0
	4				CL - Clay, dark gray (5Y4/1), soft, wet, mottled with black, peat occasionally		CL	0.0
	5							
	6							
0900	7			105-S34-040 GW	SC - Clayey sand, dark gray (10YR4/1), loose, wet, medium sand, 15% fines		SC	0.0
0840	8			105-S34-039				

Total Depth = 8' bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP14	Date Started: 2/6/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/6/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): ~2 (estimated)	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	0				AS/GW - dark brown (10YR3/3), loose, dry, mixed asphalt/gravel, and fine to coarse sand		AS/GW	0.0
1	1				SC - Sandy clay, yellowish brown (10YR5/4), loose, moist, nonplastic, fine to medium sand, 20% clay, wet at 2'		SC	0.0
2	2							
3	3							
					grades into ↓			
4	4				SP - Sand, dark grayish brown (2.5Y4/2), loose, wet, fine to medium sand, subrounded quartz, mica/mafic mins		SP	0.0
5	5							
6	6							
1030	7		Not Recov.	105-S34-041 GW				
8	8							

Total Depth = 8' bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP15	Date Started: 2/7/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/7/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): 2.1	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
1015	0			105-S34-042	GW - Mixed soil and gravel, dark brown (10YR3/3), loose, dry		GW	
	1				SC - Clayey sand, dark yellowish brown (10YR5/4), loose, moist, medium to coarse subrounded quartz sand, rare gravel		SC	
1020	2			105-S34-043				0.0
	3							
	4				CL - Clay, dark gray (2.5Y4/1), wet, very soft		CL	
	5		Not Recov.					0.0
1030	7			105-S34-045 GW				
1025				105-S34-044 Not analyzed				0.0

Total Depth = 8' bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP16	Date Started: 2/7/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/7/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs):	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
1105	0			105-S34-046	SP - Sand, dark yellowish brown (10YR 3/4), medium dense, fine to medium subrounded quartz, feldspar, 10% clay		SP	
	1							
1110	2			105-S34-047	SC - Sandy clay, same as above, 20% clay		SC	31
	3				SP - Sand, black, clayey, strong odor, diesel-like fine to medium sand, wet 10% clay		SP	383
	4				SP - Same as above, less clay, dark grey (5Y4/1), slight odor		SP	
	5							0.6
	6							
1400	7			105-S34-048				
				105-S34-049 (GW)				0.9
1415	8			105-S34-200 (GW-dup)				

Total Depth = 8' bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP17	Date Started: 2/7/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/8/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): 7.17'	Driller: Jose Ambriz
Refusal at 48'. Pushed solid stem to 52', inserted 3/4" temp well casing.	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OMV (ppm)
1405	0			105-S34-050	SP - Sand, dark yellowish brown (10YR3/4), loose, fine to medium quartz/feldspar		SP	
1410	2			105-S34-051	SC - Clayey sand with gravel, dark yellowish brown (10YR3/4) mixed loose to medium to coarse, well rounded sand with angular gravel to 1.5"		SC	
	4				CL - Clay, dark gray (2.5Y4/1), soft, wet, mottled with black clay, occasional peat		CL	0.0
	6							0.0
1410	8			105-S34-052	SP - Sand, dark gray (10YR4/1), loose, wet medium quartz sand		SP	
	10				CL - Clay dark gray (5Y3/2), soft, wet, strong H <sub>2</sub> S odor		CL	0.0
	12			105-S34-054	SP - Sand, gray (5Y5/1), loose, wet, 80% medium, well to subrounded quartz, some feldspar, mica, strong H <sub>2</sub> S odor, 5% clay		SP	0.0
1030 2/8/06	12			GW				
	14							0.0
	16							



**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP17

Date Started: 2/7/06

Drilling Method: Dual Tube Percussion

Date Completed: 2/8/06

Outer Diameter of Boring: 1.5"

Logged by: B. Shelton

Inner Diameter of Well Casing: 3/4" temp well casing

Drilling Subcontractor: Resonant Sonic

Depth to Water (feet bgs): 7.17'

Driller: Jose Ambriz

Refusal at 48'. Pushed solid stem to 52', inserted 3/4"  
temp well casing.

Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OMV (ppm)
	18				SP - See previous		SP	
	20				SC - Clayey sand, same as above, clay to 30% very soft		SC	0.0
	22				SP - Sandy, same as 10'-18'		SP	0.0
	24							
	26							0.0
	28							
	30							
	32				SC - Same as above, clay to 25%		SC	0.0



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
 Bldg./Site: Site 34  
 Project Name: Site 34 RI

Boring Number: S34RI-105-DP17	Date Started: 2/7/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/8/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): 7.17'	Driller: Jose Ambriz
Refusal at 48'. Pushed solid stem to 52', inserted 3/4" temp well casing.	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	34				SP - Sandy, same as 20-30'		SP	0.0
	36							
	38				SP - Sand (Merritt), brown (10YR4/3), loose to medium dense, wet, well rounded quartz, feldspar, mafics, some quartz frosted. No odor.		SP	0.0
	40							0.0
	42							
	44							
	46							
	48				Refusal at 48', 44'-48' not recovered			

Boring Number: S34RI-105-DP18 Drilling Method: Dual Tube Percussion Outer Diameter of Boring: 1.5" Inner Diameter of Well Casing: 3/4" temp well casing Depth to Water (feet bgs): after 12'-3.8', but core wet at 2'	Date Started: 2/8/06 Date Completed: 2/8/06 Logged by: B. Shelton Drilling Subcontractor: Resonant Sonic Driller: Jose Ambriz Location Sketch: See Boring Log Map
---	--

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	0			105-S34-055	AS/GW - Mixed asphalt and gravel, very dark brown (10YR2/2), loose, dry, mix of fine to coarse sand and gravel		AS/GW	
	2			105-S34-056	SC - Clayey sand, brown (10YR4/3), moist, loose, medium to coarse sand, 30% clay, some gravel		SC	0.0
	4	↓	↓		SP - Sand, dark gray (5Y4/1), dense, moist, fine to medium subrounded quartz, minor feldspar, mafics		SP	0.0
	6							
	8	↓	↓		CL - Clay, very dark gray (5Y3/1), very soft, wet, shell fragments common		CL	
	10							
	12	↓	↓		SP - Sand, dark grayish brown (2.5Y4/2), dense, wet, subrounded to subangular quartz, some feldspar, mafics		SP	0.0
	14							
	16	↓	↓		Change to gray (2.5Y5/1) at 11'			0.0



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP18	Date Started: 2/8/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/8/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): after 12'-3.8', but core wet at 2'	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	18				CL - Same as 6'-8'		CL	0.0
	20				SC - Clayey sand, dark gray (5Y4/1), 60% fine to medium sand (quartz), 40% clay, very soft, wet, abundant shell fragments		SC	0.0
	24				CL - Same as 6'-8'		CL	0.0
	28				SP - Sand, dark gray (5Y4/1), very loose, strong H <sub>2</sub> S odor, subrounded fine to medium quartz sand, 10% clay		SP	0.0



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP18	Date Started: 2/8/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/8/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): after 12'-3.8', but core wet at 2'	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	34						SP	0.0
	36	▼	▼		Change to dense			
	38							
	40	▼	▼		Very dense			
	42							
	44	▼	▼		Refusal at 44' with Geoprobe, advance to 56' bgs with Hydropunch, set temp well inside macrocore casing			
	46							
	48							

Total depth = 44' bgs (logged)



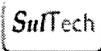
A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
 Bldg./Site: Site 34  
 Project Name: Site 34 RI

Boring Number: S34RI-105-DP18	Date Started: 2/8/06
Drilling Method: Dual Tube Percussion	Date Completed: 2/8/06
Outer Diameter of Boring: 1.5"	Logged by: B. Shelton
Inner Diameter of Well Casing: 3/4" temp well casing	Drilling Subcontractor: Resonant Sonic
Depth to Water (feet bgs): after 12'-3.8', but core wet at 2'	Driller: Jose Ambriz
	Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	—							
	—							
	—							
	52 —							
	—							
	—							
	—							
	56 —			105-S34-059 GW				



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-DP19 Drilling Method: Dual Tube Percussion Outer Diameter of Boring: 1.5" Inner Diameter of Well Casing: 3/4" temp well casing Depth to Water (feet bgs): 1.3'	Date Started: 2/8/06 Date Completed: 2/8/06 Logged by: B. Shelton Drilling Subcontractor: Resonant Sonic Driller: Jose Ambriz Location Sketch: See Boring Log Map
---	--

Time	Depth (feet bgs)	Drive Interval	Recovered Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol	OVM (ppm)
	1155			105-S34-060	SC - Clayey sand (10YR3/3), dark brown		SC	
	1200				SP - Sand (10YR5/6), yellowish brown		SP	
	1			105-S34-061				
	1200							31
	2				SP - Same as above, gradual increase in clay to 40% SC - Clayey sand, gray (10YR5/1)		SC	383
	3							
	4				SP - Same as 0.5-2, gray (10YR5/1)		SP	
	5							0.6
	6							
	7			105-S34-063 GW				0.9
	8							

Total Depth = 8' bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

Sheet 1 of 1

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS01	Date Started: 2/13/06
Drilling Method: Hand Auger	Date Completed: 2/13/06
Depth to Water (feet bgs): NA	Logged by: Bauman
Location Sketch: See Boring Log Map	Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1235	0	↓	105-S34-064	SP - Fine sand with fine rootlets, very dark grayish brown (10YR3/2), poorly graded, non-plastic, moist, loose, non-cement, subrounded, traces of fine gravel and slight organic smell.		SP
	1		105-S34-065	SM - Fine sand, olive brown (2.5Y4/3), poorly graded, non-plastic, moist-wet, loose, non-cement, subrounded, traces of rootlets.		SM
1250	2					

Total Depth = 2.0 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS01-A	Date Started: 2/13/06
Drilling Method: Hand Auger	Date Completed: 2/13/06
Depth to Water (feet bgs): NA	Logged by: Bauman
Location Sketch: See Boring Log Map	Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1305	—	↓	105-S34-066	SP - Fine sand with fine rootlets, very dark grayish brown (10YR3/2, poorly graded, non-plastic, moist, loose, non-cement, subrounded, traces of fine gravel and slight organic smell.		SP
1310	1		105-S34-067	SM - Fine sand, olive brown (2.5Y4/3), poorly graded, non-plastic, moist-wet, loose, non-cement, subrounded, traces of rootlets.		SM
	2					

Total Depth = 2.0 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS02  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1320		↓	105-S34-068	SP - Fine sand, yellowish brown (10YR5/4), poorly graded, non-plastic, slightly moist, very loose, non-cemented, rounded, ~5% organic matter as thin roots and woody debris.		SP
	1					
		↓	105-S34-071	SP - Fine sand with gravel. Dark brown (10YR3/3), poorly graded, non-plastic, wet, loose, non-cemented, rounded, ~5% organic but more woody debris than above.		SP
1335	2	↓				

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS-02A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1430		↓	105-S34-070	SP - Fine sand, yellowish brown (10YR5/4), poorly graded, non-plastic, very loose, non-cemented, rounded, ~5% organic matter as thin roots and woody debris.		SP
	1					
			105-S34-071	SP - Fine sand with gravel. Dark brown (10YR3/3), poorly graded, non-plastic, wet, loose, non-cemented, rounded, ~5% organic, but more woody debris than above.		SP
1432	2	↓				

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS03  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Shelton  
Driller: Geisler/Helge

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1350		▼	105-S34-072	SP - Sand with clay, gravel, very dark brown (10YR2/2), well rounded to subangular, quartz, feldspar, poorly graded, loose, 10% clay.		SP
				SP - Same as above, no clay or gravel, brown (10YR5/3), fine to medium sand, loose, moist.		SP
	1		105-S34-073			
1400		▼				

Total Depth = 1.5 feet bgs



### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS03A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Shelton  
Driller: Geisler/Helge

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
		↓	105-S34-074	SP - Sand with clay, gravel, very dark brown (10YR2/2), well rounded to subangular, quartz, feldspar, poorly graded, loose, 10% clay.		SP
						SP
	1		105-S34-075	SP - Same as above, no clay or gravel, brown (10YR5/3), fine to medium sand, loose, moist.		
		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

Sheet 1 of 1

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS04  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Shelton  
Driller: Geisler, Helge

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1510			105-S34-076	SP - Sand with clay, gravel, dark brown (10YR2/2), well rounded to subangular quartz, feldspar, poorly graded, loose, 10% clay.		SP
	1					
			105-S34-077	SP - Same as above, no clay or gravel, brown (10YR5/3), fine to medium sand, loose, moist.		SP
	2					

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS05  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Shelton  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1525			105-S34-080	SP - Sand, dark grayish brown, mainly medium sand, some fine shells		SP
	1					
			105-S34-081	SP - Clayey sand with gravel, dark yellowish brown (10YR4/6), medium sand, 20% clay		SC
	2					

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS04A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Kennedy  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1525			105-S34-078	SP - Sand with clay, gravel, dark brown (10YR2/2), well rounded to subangular quartz, feldspar, poorly graded, loose, 10% clay.		SP
	1			SP - Sand, brown (10YR5/3), fine to medium sand, well rounded to subangular quartz, feldspar, poorly graded, loose, moist.		SP
	2					

Total Depth = 2 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS05-A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Shelton  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1545			105-S34-082	SP - Sandm very dark grayish brown, mainly medium sand, some fines, shells.		SP
	1					
			105-S34-083	SP - Clayey sand with gravel, dark yellowish brown (10YR4/6), medium sand, 20% clay.		SC
	2					

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS06  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Kennedy  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1612			105-S34-084	SW - Poorly graded fine sand with traces of fine gravels, dark reddish brown (5YR3/2), poorly graded, non-plastic, moist, loose, weak, subrounded, slight organic odor.		SW
	1					
			105-S34-085	SP - Fine sand with trace gravel, dark yellow brown (10YR4/4), poorly graded, non-plastic, moist, loose, non-cemented, subangular granular.		SP
	2					

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS06A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1642			105-S34-086	SW - Poorly graded fine sand with trace fine gravels, dark reddish brown (5YR3/2), poorly graded, non-plastic, moist, loose, weak, subrounded, slight organic odor.		SW
	1					
			105-S34-087	SP - Fine sand with trace gravels, dark yellow brown (10YR4/4), poorly graded, non-plastic, moist, loose, non-cemented, subangular, granular.		SP
	2					

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS07  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Kennedy  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1610	0	↓	105-S34-088	SW - Poorly graded, fine sand with trace fine gravels, dark reddish brown (5YR3/2), poorly graded, non-plastic, moist, loose, weak, subrounded, slight organic odor.		SW
	1		105-S34-089	SP - Poorly graded sand, light brown (10YR4/6), poorly graded, slightly plastic, moist, loose, weak		SP
	2	↓				

Total Depth = 2 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS07A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map for FS07

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Kennedy  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
16:30			105-S34-090	SW - Poorly graded, fine sand with trace fine gravels, dark reddish brown (5YR3/2), poorly graded, non-plastic, moist, loose, weak, subrounded, slight organic odor		SW
	1					
			105-S34-091	SP - Poorly graded sand, light brown (10YR4/6), poorly graded, slightly plastic, moist, loose, weak.		SP
	2					

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS08  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map for FS08

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1655			105-S34-092	SP - Fine sand with gravel, dark yellowish brown (10YR4/4), poorly graded, non-plastic, dry to slightly moist (lighter color when dry), loose, non-cemented, subrounded to rounded, few pieces of debris, including cardboard and white fibrous material, few fragments of sea shells.		SP
	1		105-S34-093	SP - Fine sand, olive brown (2.5Y4/3), poorly graded, non-plastic, wet, loose, non-cemented, subrounded to rounded, few small fragments, clam shells.		SP
	2					

Total Depth = 2 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS08A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1655	— — — 1 — — — — — — 2 —	↓          ↓	105-S34-094	SP - Fine sand with gravel, yellowish brown (10YR5/4) to dark yellowish brown (10YR4/4), poorly graded, non-plastic, dry to slightly moist (lighter color when dry), loose, non-cemented, subrounded to rounded, few pieces of debris, including cardboard and white fibrous material, few fragments of sea shells.		SP
			105-S34-095	SP - Fine sand, olive brown (2.5Y4/3), poorly graded, non-plastic, wet, loose, non-cemented, subrounded to rounded, few small fragments, clam shells.		SP

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS09  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1658			105-S34-098	SP - Fine sand with trace gravels and rootlets, trace of silt, dark brown (10YR2/2), poorly graded, non-plastic, slightly moist, loose, non-cemented, subrounded, slight organic odo.		SP
	1		105-S34-099	SP - Fine sand, olive brown (2.5Y4/4), poorly graded, non-plastic, moist, loose, non-cemented, subrounded.		SP
	2					

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS09A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1658			105-S34-096	SP - Fine sand with trace gravels and rootlets, trace of silt, very dark brown (10YR2/2), poorly graded, non-plastic, slightly moist, loose, non-cemented, subrounded, slight organic odor.		SP
	1			SP - Fine sand, olive brown (2.5Y4/4), poorly graded, non-plastic, moist, loose, non-cemented, subrounded.		SP
	2					

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS10  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Kennedy  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
	—	↓	105-S34-100	SP - Fine sand with silt, trace gravel, dark yellowish brown (10YR3/2), poorly graded, very slightly plastic, wet, loose to slightly cohesive, non-cemented, sub rounded to rounded, thin root masses and few small pieces of clam shells.		SP
	—					
	1	↓				
	—					
	—	↓	105-S34-101	SP - Fine sand, dark yellowish brown, (10YR4/4), very poorly graded, wet, non-plastic, loose, non-cemented, subrounded to rounded, fragments of clam shell - more abundant than above.		SP
	—					
	2					

Total Depth = 2 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-FS10-A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/13/06  
Date Completed: 2/13/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
		↓	105-S34-102	SP - Fine sand with silt, trace gravel. Very dark grayish brown (10YR3/2), poorly graded, very slightly plastic, wet, loose, to slightly cohesive, non-cemented, subround to round. Thin root masses and few small clam shells.		SP
	1					
		↓	105-S34-103	SP - Fine sand, dark yellowish brown (10YR4/4), very poorly graded, wet, non-plastic, loose, non-cemented, subrounded to rounded. Fragments of clam shell - more abundant than above.		SP
	2					

Total Depth = 2 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-1A  
Drilling Method: Solid Stem Auger  
Outer Diameter of Boring: 10"  
Inner Diameter of Well Casing: NA  
Depth to Water (feet bgs): Not Encountered

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: B. Shelton  
Driller: Bobcat with Auger Attachment  
Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1233				SP - Sand, brown (10YR4/3), loose, dry, 80% fine sand, 15% medium sand, trace gravel.		SP
	1			SC - Clayey sand with ground, dark yellowish brown (10YR4/4), 80% medium sand, 20% clay, 15% gravel.		SC
	2					
	3			Change to very dark gray (10YR3/1), fine to medium sand, 40% clay.		
1525						
	4					

Total Depth = 4 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-1N  
Drilling Method: Solid Stem Auger  
Outer Diameter of Boring: 10"  
Inner Diameter of Well Casing: NA  
Depth to Water (feet bgs): Not Encountered

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: B. Shelton  
Driller: Bobcat with Auger Attachment  
Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1542			105-S34-113	SP - Sand, very dark grayish brown (10YR3/2), mainly medium sand, some fine, shells.		SP
	1			SC - Clayey sand with gravel, dark yellowish brown (10YR4/6), medium sand, 20% clay.		SC
1503	2		105-S34-114	Increasing gravel, cobbles to 4", clast supported.		
1554	3			CL - clay, olive brown (2.5Y4/3), medium plastic, some fine sand/silt, rare gravel.		CL
	4					

Total Depth = 4 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-1E  
Drilling Method: Solid Stem Auger  
Outer Diameter of Boring: 10"  
Inner Diameter of Well Casing: NA  
Depth to Water (feet bgs): Not Encountered

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: B. Shelton  
Driller: Bobcat with Auger Attachment  
Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
			105-S34-110	SP - Sand, very dark grayish brown (10YR3/2), mainly medium sand, shells.		SP
1				SC - Clayey sand, dark yellowish brown (10YR4/6), medium sand, 20% clay.		SC
2				GW - Gravel with sand and clay, dark yellowish brown (10YR4/6), cobbles to 2", clast supported, some medium sand/clay.		GW
3				SC/CL - Mixed clayey sand and clay, very dark grayish brown (2.5Y3/2), fine to medium sand, rare gravel.		SC/CL
4						

Total Depth = 4 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-1W  
Drilling Method: Solid Stem Auger  
Outer Diameter of Boring: 10"  
Inner Diameter of Well Casing: NA  
Depth to Water (feet bgs): Not Encountered

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: B. Shelton  
Driller: Bobcat with Auger Attachment  
Location Sketch: See Boring Log Map

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
			105-S34-107	SP - Sand, brown (10YR4/3), loose, dry, mainly fine sand, trace gravel.		SP
1				SC - Clayey sand, brown (10YR4/3), trace gravel, mainly medium sand, 20% clay.		SC
2						
3				Change to olive brown (2.5Y4/3).		
			105-S34-109			
4						

Total Depth = 4 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-2A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

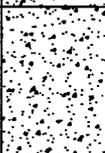
Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Kennedy  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
		↓	105-S34-116	SW - Gravelly sand very dark gray brown (10YR3/2), moderately well graded, non-plastic, wet, loose, non-cement, subrounded.		SW
	1	↓	105-S34-117	SP - Fine sand, olive brown (2.5Y R4/3), poorly graded, non-plastic, moist, loose, non-cement, subrounded.		SP

Total Depth = 1.5 feet bgs

Boring Number: S34RI-105-HS-2S  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1136		↓	105-S34-120	SW - Gravelly sand. Dark grayish brown (2.5Y4/2). Well graded, non-plastic, moist, very loose, non-cemented, subangular to subrounded.		SW
	1	↓	105-S34-121	SW - Gravelly sand. Dark brown (10YR3/3). Moderately to well sorted, but relatively few medium to coarse sand grains. Non-plastic, wet, very loose, non-cemented, subrounded to rounded.		SW
1149						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-2N  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1133		↓	105-S34-118	SW - Gravelly sand with clay. Dark grayish brown (10YR4/2), well graded up to fine gravel size. Non-plastic, wet (leakage into Ziploc bag?), very loose, non-cemented, subrounded.		SW
	1		105-S34-119	SP - Fine sand with gravel up to 1/2". Brown (10YR4/3), poorly graded non-plastic, moist to wet, very loose, non-cemented, subrounded. Gravel is well rounded.		SP
1200		↓				
Total Depth = 1.5 feet bgs						



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-2W  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1125		↓	105-S34-122	SP - Fine sand with gravel, very dark grayish brown (10YR3/2), poorly graded sand with moderately graded gravel, non-plastic, moist, loose, non-cement, subrounded.		SP
	1		105-S34-123	SW - Fine sand with fine to coarse gravel, very dark brown (10YR2/2), non-plastic, moist, loose, non-cement, subangular.		SW
1135		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-3A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Kennedy  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0933		↓	105-S34-124	SP - Fine sand with fine gravels, trace seashells and trace metal and wood debris. Brown (10YR4/3), poorly graded, non-plastic, dry, very loose, non-cement, subrounded.		SP
	1	↓	105-S34-125	SW - Fine sand with moderate to well graded fine gravel, olive brown (2.5Y4/3), poorly graded, non-plastic, moist, loose, non-cement, subrounded.		SP
0943						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-3S  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0945		↓	105-S34-128	SW - Gravelly sand. Dark brown (7.5YR3/3). Well graded, non-plastic, wet, very loose, non-cemented, subrounded with few rounded gravels. Small roots.		SW
	1		105-S34-129	SP - Uniform fine sand. Dark yellowish brown (10YR4/4), very poorly graded, non-plastic, moist, very loose, non-cemented, subrounded.		SP
1003		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-3E  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0947			105-S34-126	SP - Fine sand with coarse sand. Yellowish brown (10YR5/4), poorly graded. Non-plastic, dry, very loose, non-cemented, rounded. ~5% organic matter as thin roots and woody debris.		SP
	1		105-S34-127	SP/SW - Gravelly fine sand. Brown (10YR5/3), moderately graded, non-plastic, moist, loose, non-cemented, rounded. Similar to above, but more coarse material with better grading and no organic matter.		SP/SW
1010						

Total Depth = 1.5 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-3W  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0942		↓	105-S34-130	SP - Fine sand with gravel. Very dark grayish brown (10YR3/2). Fine sand is uniform, but gravel is fairly well graded. Non-plastic, wet, loose, non-cemented, subrounded. Dense (relative to other samples) root structures within.		SP
1000		↓	105-S34-131	SP - Fine sand with gravel. Dark yellowish brown (10YR4/4), poorly graded (sand is more uniform than above and less quantity and gradation in gravel). Non-plastic, moist, non-cemented, subrounded to rounded (gravel).		SP

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-4E  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0921		↓	105-S34-132	SP - Fine sand with fine rootlets, very dark grayish brown (10YR3/2), poorly graded, non-plastic, moist, loose, non-cement, subrounded, traces of fine gravel and slight organic smell.		SP
	1	↓	105-S34-133	SP - Fine sand, olive brown (2.5Y 4/3), poorly graded, non-plastic, moist-wet, loose, non-cement, subrounded, traces of rootlets.		SP
0927		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-4W  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0900		↓	105-S34-134	SP - Fine sand, yellowish brown (10YR5/4), poorly graded, non-plastic, slightly moist, very loose, non-cemented, rounded. ~5% organic matter as thin roots and woody debris.		SP
	1		105-S34-135	SP - Fine sand with gravel. Dark brown (10YR3/3), poorly graded, non-plastic, wet, loose, non-cemented, rounded. ~5% organics, but more as woody debris and less roots than above.		
0905		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-5E  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1642		↓	105-S34-136	SP - Gravelly sand. Dark brown (10YR3/3), moderate grading (predominantly uniform fine sand). Very slightly plastic, wet, loose to slightly cohesive, non-cemented subrounded. <5% organic matter as thin root structures.		SP
	1	↓	105-S34-137	SP - Fine sand. Yellowish brown (10YR5/4), poorly graded, non-plastic, wet, loose, non-cemented, subrounded. Few fragments of broken clam shell.		SP
1649						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-5S  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Kennedy  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0653		↓	105-S34-138	SP - Fine sand with gravel, very dark brown (10YR2/2), poor to moderate grading, non-plastic, moist, loose, non-cemented, subrounded, organic smell, some rootlets.		SP
0704	1	↓	105-S34-139	SP - Fine sand, dark yellowish brown (10YR4/4), poorly graded, non-plastic, moist, loose, non-cemented, subrounded, very slight organic odor.		SP

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-6A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1602		↓	105-S34-142	SP - Fine sand with small amount of gravel. Very dark grayish brown (10YR3/2), poorly graded, non-plastic, wet, loose, uncemented, rounded. Held together very weakly by the root masses.		SP
	1	↓	105-S34-143	SP - Fine sand. Dark yellowish brown (10YR4/4, very poorly graded, moist, non-plastic, loose, not cemented, rounded. Fragments of white broken clam shell.		SP
1647		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-6W	Date Started: 2/15/06
Drilling Method: Hand Auger	Date Completed: 2/15/06
Depth to Water (feet bgs): NA	Logged by: Bauman
Location Sketch: See Boring Log Map	Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1638	— — — 1	↓	105-S34-148	SP - Fine sand with gravel. Very dark grayish brown (10YR3/2), poorly graded, non-plastic, wet, loose, non-cemented, subrounded to rounded. Very weakly held together by thin root masses.		SP
1635	—	↓	105-S34-149	SP - Fine sand. Dark yellowish brown (10YR4/4), very poorly graded, non-plastic, moist, loose, non-cemented, subrounded. Fragments of broken clam shell.		SP

Total Depth = 1.5 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-6S  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1623		↓	105-S34-146	SP - Fine sand with fine rootlets and various gravels, very dark brown (10YR2/2), poorly graded with moderately graded gravels, non-plastic, moist, loose, non-cemented, subrounded, slight organic odor.		SP
	1	↓	105-S34-147	SP - Fine sand. Olive brown (2.5Y4/3), poorly graded, non-plastic, moist, loose, non-cement, subangular.		SP
1655						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-6N  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1614		↓	105-S34-144	SP - Fine sand with trace of gravel. Very dark gray (10YR3/1). Poorly graded, very slightly plastic, wet, loose to slightly cohesive, subrounded. Traces of fine root structures.		SP
	1		105-S34-145	SP - Uniform fine to medium sand. Dark grayish brown (10YR4/2), poorly graded, non-plastic, wet, loose, subrounded, fragments of broken clam shells.		SP
1622		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

Sheet 1 of 1

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-6W/6SA	Date Started: 2/17/06
Drilling Method: Hand Auger	Date Completed: 2/17/06
Depth to Water (feet bgs): NA	Logged by: Bauman
Location Sketch: See Boring Log Map	Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1015	— — — 1 — — —	↓		SP - Fine sand with gravel. Very dark grayish brown (10YR3/2), poorly graded, moist, non-plastic, loose, non-cemented, subrounded to rounded. Weakly held together by thin root masses.		SP

Total Depth = 1.5 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-7N  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1703		↓	105-S34-150	SP - Fine sand with silt and gravel. Very dark brown (10YR3/2), poorly graded, wet, slightly plastic, weakly cohesive, non-cemented, subrounded to rounded. Few small root structures and fragments of broken clam shells.		SP
				SP - Fine sand with trace of gravel. Dark yellowish brown (10YR4/4), very poorly graded, non-plastic, wet, loose, non-cemented, subrounded to rounded. Fragments of broken clam shell (more abundant than above).		SP
	1		105-S34-151			
1718		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-7S	Date Started: 2/15/06
Drilling Method: Hand Auger	Date Completed: 2/15/06
Depth to Water (feet bgs): NA	Logged by: Kennedy
Location Sketch: See Boring Log Map	Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1711		↓	105-S34-152	SP - Fine sand with trace gravel and rootlets, trace of silt, very dark brown (10YR2/2), poorly graded, non-plastic, moist, loose, non-cemented, subrounded, slight organic odor.		SP
				SP - Fine sand, olive brown (2.5Y4/4), poorly graded, non-plastic, moist, loose, non-cemented, subrounded.		SP
	1		105-S34-153			
1725		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

Sheet 1 of 1

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-7N/7SA  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/17/06  
Date Completed: 2/17/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1120	—  —	↓		SP - Silty sand, very dark grayish brown (10YR3/2), poorly graded, slightly plastic, moist, loose, non-cemented subrounded, organic odor.		SP

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-HS-7W  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/15/06  
Date Completed: 2/15/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1623	—	↓	105-S34-154	SP - Fine sand with silt, trace gravel. Very dark grayish brown (10YR3/2), poorly graded, very slightly plastic, wet, loose to slightly cohesive, non-cemented, subrounded to rounded. Thin root masses and few very small pieces of clam shells.		SP
	—			SP - Fine sand, dark yellowish brown (10YR4/4), very poorly graded, wet, non-plastic, loose, non-cemented, subrounded to rounded. Fragments of clam shell, more abundant than above.		SP
	1		105-S34-155			
1630	—	↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-OS1  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1448	— — — —		105-S34-192	SP - Fine sand with gravel. Yellowish brown (10YR5/4) to dark yellowish brown (10YR4/4), poorly graded. Non-plastic, dry to slightly moist (lighter color when dry), loose, non-cemented. Subrounded to rounded. Few pieces of debris, including cardboard and white fibrous material (cigarette butt?). Few small fragments of clam shell.		SP
1503	1 — —		105-S34-193	SP - Fine sand. Olive brown (2.5Y4/3), very poorly graded, non-plastic, wet, loose, non-cemented, subrounded to rounded, few small fragments of clam shell.		SP

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-OS2  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1452		↓	105-S34-194	SP - Fine sand with trace gravel and pockets of clayey sand, very dark grayish brown (2.5Y3/2), poorly graded, non-plastic with slightly plastic pockets, moist, loose, non-cemented, subrounded, slight organic odor.		SP
	1	↓	105-S34-195	SP - Fine sand with pockets of clayey sand, olive brown (2.5Y4/4), poorly graded, non-plastic with slightly plastic pockets, moist, loose, non-cemented, subrounded.		SP
1458						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW1  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1152		↓	105-S34-156	SP - Gravelly sand. Brown (10YR4/3), moderately graded (very few fines), non-plastic, moist, very loose, non-cemented, rounded.		SP
				SP - Fine sand, yellowish brown (10YR5/4), very poorly graded, non-plastic, wet, very loose, non-cemented, rounded. Trace of white clam shell fragments.		SP
	1	↓	105-S34-157			
1213						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW11  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/16/06  
Logged by: Kennedy  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1403			105-S34-176	GW - Gravelly sand, dark yellow brown (10YR3/4), moderately graded, non-plastic, moist, loose, no cementation, subrounded, sand with subrounded gravels.		GW
				SP - Fine sand, very dark brown (10YR2/2), poorly graded, non-plastic, moist, loose, no cementation, subrounded.		SP
1411	1		105-S34-177	SP - Fine sand, olive brown (2.5Y 4/4), poorly graded, non-plastic, moist, loose, non-cemented, subrounded.		SP
1525						
2/16						

Total Depth = 2.5 feet bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW10  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/16/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1357 2/14		↓	105-S34-174	SP- Gravelly sand. Very dark grayish brown (10YR3/2). Moderately graded - would be well graded but no medium sand present. Non-plastic, moist, very loose, no cementation. Subrounded to rounded.		SP
1404 2/14	1		105-S34-175	SP - Fine sand with very little clay, gravel. Dark yellowish brown (10YR4/4), very poorly graded, non-plastic, moist, very loose, no cementation, well rounded.		
	2		105-S34-313	SP - Same as 1-1.5', but higher moisture content (saturated).		SP
1606 2/16		↓				

Total Depth = 2.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW11A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1423		↓	105-S34-314	SW - Poorly graded fine sand with fine gravels (trace), dark reddish brown (5YR3/2), poorly graded, non-plastic, moist, loose, weak, subrounded, slight organic odor.		SW
				SP - Fine sand with trace gravels, dark yellowish brown (10YR4/4), poorly graded, non-plastic, moist, loose, non-cemented, subangular, granular.		SP
	1		105-S34-315			
1440		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW12  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman, Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1426	—	↓	105-S34-178	GW - Gravelly sand, dark yellowish brown (10YR4/4), moderately to well graded, but relatively few medium sand grains. Non-plastic, moist, very loose, non-cemented, subrounded to rounded.		SW
	—			SP - Fine sand with little clay. Dark yellowish brown (10YR4/4). Very poorly graded. Non-plastic but has few clumps with clay, slight plasticity. Moist, very loose, non-cemented, rounded. Few fragments of broken clam shell.		SP
1	—		105-S34-179	SP - Coarse sand with flecks of feldspar (?), trace fine gravel, brown (10YR4/3), poorly graded, non-plastic, moist, loose, weak, subangular.		
1433	—	↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW12A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1420	— — —	↓		SW - Poorly graded fine sand with trace fine gravels, dark reddish brown (5YR3/2), poorly graded, non-plastic, moist, loose, weak, subrounded, slight organic odor.		SW
	— — —	↓		SP - Poorly graded sands, light brown (10YR4/6), poorly graded, slightly plastic, moist, loose, weak.		SP
1430	— — —	↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

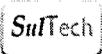
CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW13  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman, Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1522		↓	105-S34-180	SW/SP - Gravelly sand, trace amount of clay. Very dark gray (10YR3/1). Moderately well graded (fine sand to fine gravel). Non-plastic, wet, very loose, no cementation, subrounded to rounded. Fine roots and fragments of broken clam shell.		SW/SP
				SP - Fine sand, trace of gravel. Olive brown (2.5Y4/4). Very poorly graded, non-plastic, moist, very loose, non-cemented, rounded.		SP
1			105-S34-181	SP - Trace fines, dark brown sand, poorly graded, trace subangular fine gravel, trace mica (shiny), moist.		
1535						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

Sheet 1 of 1

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW14  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Shelton  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1500		↓	105-S34-182	SP - Fine sand, olive brown (2.5Y4/4), poorly graded, non-plastic, wet, loose, non-cemented, subrounded.		SP
1533	1	↓	105-S34-183	SP - Gravelly fine sand, olive brown (2.5Y4/4), moderately graded, non-plastic with pockets of non- to slightly-plastic, wet, loose, weak, subrounded.		SP

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW15  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Kennedy, Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1504		↓	105-S34-184	SP - Medium to fine sand with gravel. Very dark grayish brown (10YR3/2). Poorly graded, wet, loose, non-cemented. Sand is subrounded to rounded. Gravel is subangular to rounded. Structure/cohesion provided by small root tangles. Trace of broken clam shells.		SP
			105-S34-185	SP - Fine sand, dark yellowish brown (10YR4/4). Very poorly graded, moist, very loose, non-cemented, rounded grains.		SP
1506		↓				

Total Depth = 1.5 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW16  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1532		↓	105-S34-186	SP - Fine sand with gravel. Very dark grayish brown (10YR3/2). Very poorly graded, non-plastic, moist, very loose, non-cemented, rounded. Few small roots and fragments of broken clam shell.		SP
	1	↓	105-S34-187	SP - Gravelly sand with clay. Dark brown (10YR3/3). Well graded up to fine gravel. Non-plastic, saturated, very loose, non-cemented, subrounded to rounded.		SW
1546						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW16/17/18A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/17/06  
Date Completed: 2/17/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0955		↓	105-S34-321	SP - Poorly graded fine sand with fine gravel, very dark brown (10YR2/2), poorly graded, non-plastic, moist, loose, weak, small organic content.		SP
				SP - Poorly graded sand with gravel (fine), brown (10YR4/3), poorly graded, slightly plastic, moist, loose, weak, subrounded.		SP
	1		NA			
1020						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

Sheet 1 of 1

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW16A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/17/06  
Date Completed: 2/17/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1005	— — — 1 — — —	↓		SP -Fine sand, dark brown (7.5YR3/4), very poorly graded. Non-plastic, slightly moist, generally very loose but some balls are moderately dense. No cementation (except few balls), rounded. Few small roots, clam shell fragments and piece of particle board.		SP

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW17  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Wetter  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1604		↓	105-S34-188	SM - Well graded gravelly sand, very dark grayish brown (2.5Y3/2), well graded, non-plastic, wet, very loose, weak, subangular, small rootlets.		SM
				SP - Fine sand, olive brown (2.5Y4/3), poorly graded, non-plastic, moist, loose, non-cemented, subangular.		SW
	1		105-S34-189			
1610		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW18  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1551			105-S34-190	SP/SW - Gravelly sand with little clay, very dark grayish brown (10YR3/2). Moderately graded up to fine gravel size. Non-plastic, wet (possibly from sample bag leakage). Very loose, non-cemented. Subrounded to rounded. Few small roots, piece of broken glass.		SP/SW
	1		105-S34-191 NA	SW - Gravelly sand with little silt and clay. Overall, brown to yellowish brown (10YR5/3 to 10YR5/4), well graded. Very slightly plastic, wet, loose, non-cemented, subrounded to rounded. Size up to medium gravel.		SW
1559						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW1A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
			105-S34-305	SM - Gravelly sand, some fines, dark yellow brown (10YR3/4), well graded, non-plastic, wet, very loose, weak, slightly angular.		SM
				SP - Fine sand, pale brown (10YR6/3), very poorly graded, non-plastic, moist, very loose, massive, non-cemented, rounded. 1% plastic material (1-2 mm thick) that is white, angular edges (broken pieces of larger unit) - appears to be clam shell.		SP
1716			105-S34-331			

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW2  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Kennedy  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1223			105-S34-158	SP - Medium to fine sand with fine gravel/coarse sand. Very dark grayish brown (10YR3/2), poorly graded (gap-graded), non-plastic, moist, very loose, non-cemented, rounded. Best rounding in gravel/coarse sand.		SP
				SW - Sandy.		SW
	1		105-S34-159			
NS						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW3  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1210		↓	105-S34-160	SP - Fine to medium sand with gravel. Very dark grayish brown (10YR3/2) poorly graded, non-plastic, moist, very loose, non-cemented, rounded.		SP
				SP - Fine sand with small amount of clay. Yellowish brown (10YR5/4), very poorly graded. Generally non-plastic, but few clay rich-er clumps have slight plasticity. Moist, very loose, non-cemented, rounded. Fragments of white clam shell.		SP
	1		105-S34-161			
1248		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW4  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0837		↓	105-S34-162	SP - Fine sand with gravel. Dark yellowish brown (10YR3/4), poorly graded (sand is very uniform). Non-plastic, slightly moist, very loose, non-cemented, well rounded.		SP
				SP - Fine sand. Dark yellowish brown (10YR4/4), very poorly graded, non-plastic, saturated, very loose, non-cemented, well rounded.		SP
	1		105-S34-163			
0857		↓		*Very little sample to inspect (1-1.5').		

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW4/3A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1605		↓	105-S34-306	SW - Gravelly sand with silt and clay. Light olive brown (2.5Y5/3), well graded, wet, non-plastic to very slightly plastic, loose, non-cemented, well rounded, except longest gravel (1/2") is subangular to subrounded.		SW
				Fine sand with trace gravels, olive brown (2.5Y4/4), poorly graded, moist, non-plastic, loose, non-cemented, subrounded.		SP
1709		↓	105-S34-316			

Total Depth = 1.5 feet bgs

Boring Number: S34RI-105-PW4A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1055		↓	105-S34-303	SP - Fine sand with coarse sand and gravel. Brown (10YR4/3), poorly graded (very uniform sand), non-plastic, slightly moist, very loose, non-cemented, rounded.		SP
				(Sample interval, not soil contact)		
	1	↓	105-S34-304	SP - Fine sand with silt and clay. Yellowish brown (10YR5/4), very poorly graded. Non-plastic to very slightly plastic, moist to wet, very loose, non-cemented, rounded, fragments of white clam shell.		
1105						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW5  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0927		↓	105-S34-164	SP - Fine sand with gravel. Very dark grayish brown (10YR3/2), gap graded (no fines or medium-coarse sand). Non-plastic, moist, very loose, non-cemented, rounded. Many small roots.		SP
	1		105-S34-165	SW - Silty sand with gravel and clay. Very dark gray (10YR3/1), well graded up to fine gravel, slightly plastic, moist, loose, non-cemented, subrounded to rounded. Largest gravels are subangular to subrounded.		SW
0937		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

### SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW6  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0903		↓	105-S34-166	SP - Gravelly sand. Very dark grayish brown (10YR3/2). Predominantly fine and with very fine gravel/coarse sand component. Moist, very loose, not cemented. Sand is subrounded to rounded; gravel is generally well rounded. Fine roots included.		SP
	1	↓	105-S34-167	SP - Fine sand with clay. Dark yellowish brown (10YR4/4), very poorly graded, moist, non plastic to slightly plastic, loose, not cemented, rounded. Fragments of broken white clam shell.		SP
0912		↓				

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW7  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
0832		↓	105-S34-168	SW - Gravelly sand. Very dark grayish brown (10YR3/2). Moderately to well graded fine sand to fine gravel. Non-plastic, very loose, non-cemented, rounded with subrounded gravels.		SW
0849	1	↓	105-S34-169	SP - Fine sand with little clay. Dark yellowish brown (10YR4/4), very poorly graded, moist, non-plastic to slightly plastic (in clay rich-er clumps), loose, not cemented, rounded. Fragments of broken white clam shell.		SP
	2	↓	105-S34-300	SP - Same as above, with higher moisture content.		SP
1037		↓				

Total Depth = 2.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
 Bldg./Site: Site 34  
 Project Name: Site 34 RI

Boring Number: S34RI-105-PW7A	Date Started: 2/16/06
Drilling Method: Hand Auger	Date Completed: 2/16/06
Depth to Water (feet bgs): NA	Logged by: Bauman
Location Sketch: See Boring Log Map	Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1555		↓	105-S34-307	SW - Gravelly sand, very dark grayish brown (10YR3/2), moderately to well graded, non-plastic, moist, very loose, non-cemented, subrounded to rounded.	•••••	SW
1705		↓	105-S34-325	SP - Fine sand with clay. Brown (10YR5/3), poorly graded, slightly plastic, wet, loose, non-cemented, subrounded to rounded. Trace of what appears to be small fragments of white clam shell.	•••••	SP

Total Depth = 9" bgs



A Joint Venture of Sullivan Consulting  
Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION,  
AND VISUAL CLASSIFICATION LOG**

Sheet 1 of 1

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW7C  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/4/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1045		↓	105-S34-301	SP - Gravelly sand. Very dark grayish brown (10YR3/2), gap graded (no medium to coarse sand). Non-plastic, very loose, no cementation, well rounded.		SP
				SP - Fine sand with clay. Dark yellowish brown (10YR4/4), poorly graded, moist, non-plastic to slightly plastic, loose, non-cemented, rounded, trace of broken white clam shell fragments.		SP
1047		↓	105-S34-302			

Total Depth = 1.5 feet bgs



**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW8  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/14/06  
Logged by: Kennedy/Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1330		↓	105-S34-170	SP - Fine sand with coarse sand and gravel up to 3/4". Very dark grayish brown (10YR3/2), gap graded (no medium sand), non-plastic, moist, very loose, not cemented, subrounded to rounded.		SP
1335	1		105-S34-171	SP - Fine sand with clay. Dark yellowish brown (10YR4/4), poorly graded, slightly to moderately plastic, loose, moist, non-cemented, rounded. Few small roots and fragments of broken clam shell.		SP
1542	2		105-S34-308	SP - Clayey fine sand. Brown (10YR4/3), poorly graded, slightly to moderately plastic, moist, loose, non-cemented, rounded. Trace of clam shell fragments. Very similar to above.		SP

Total Depth = 2.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW8A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Wetter, Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1550		↓	105-S34-309	SP - Fine to medium sand and ~15% gravel. Overall very dark grayish brown (10YR3/2). Sand is very poorly graded; gravel is moderately graded. Non-plastic, slightly moist, very loose, non-cemented. Sand is rounded; gravel subrounded to rounded.		SP
				SP - Fine to medium sand, olive brown (2.5Y4/4), poorly graded, non-plastic, moist, loose, weak, subangular.		SP
	1	↓	105-S34-317			
1656						

Total Depth = 1.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW9  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

Date Started: 2/14/06  
Date Completed: 2/16/06  
Logged by: Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1340 2/14		↓	105-S34-172	SP - Fine sand with gravel up to 1". Very dark grayish brown (10YR3/2), poorly graded (sand is very uniform), non-plastic, moist, very loose, not cemented, rounded. Trace of clam shell fragments.		SP
1355 2/14	1			105-S34-173	SP - Fine sand with gravel and clay. Gravel is very fine, almost coarse sand. Dark yellowish brown (10YR4/4), poorly graded, slightly plastic, moist, not cemented, loose, rounded. Fragments of broken clam shells.	
1550 2/16	2	↓	105-S34-310	CL - Sandy, silty clay. Color ranges from dark yellowish brown (10YR4/4), in sand to very dark greenish gray (GLEY2 3/5BG). Poorly graded. Plastic, moist, soft.		CL

Total Depth = 2.5 feet bgs



A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc.

**SOIL BORING, WELL INSTALLATION, AND VISUAL CLASSIFICATION LOG**

CTO: 105  
Bldg./Site: Site 34  
Project Name: Site 34 RI

Boring Number: S34RI-105-PW9/10/15A  
Drilling Method: Hand Auger  
Depth to Water (feet bgs): NA  
Location Sketch: See Boring Log Map

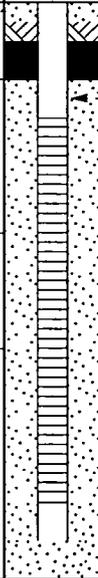
Date Started: 2/16/06  
Date Completed: 2/16/06  
Logged by: Wetter, Bauman  
Driller: Wetter, Shelton, Geisler

Time	Depth (feet bgs)	Drive Interval	Sample ID	Description	Graphic Log	USCS Soil Symbol
1535		↓	105-S34-311	SP - Fine sand with coarse sand and gravel up to 1". Very dark grayish brown, poorly graded, no medium sand. Non-plastic, moist, very loose, no cementation, subrounded to rounded.		SP
				SW - Well graded sand, with gravels and small amount of fines, dark brown (10YR3/3), well graded, non-plastic, moist, very loose, weak, subrounded to rounded.		SW
	1		105-S34-330			
1645		↓				

Total Depth = 1.5 feet bgs



**CLIENT** U.S. Navy **PROJECT NAME** IR Site 34 Alameda  
**PROJECT NUMBER** B141 CTO: 0105 **PROJECT LOCATION** Site 34  
**DATE STARTED** 6/26/06 **COMPLETED** 6/26/06 **GROUND ELEVATION** \_\_\_\_\_ **HOLE SIZE** 8.25 inches  
**DRILLING CONTRACTOR** Gregg Drilling **GROUND WATER LEVELS:**  
**DRILLING METHOD** Hand Auger to 5 ft. Hollow Stem Auger to 15 ft. **AT TIME OF DRILLING** ---  
**LOGGED BY** J. Hamm **CHECKED BY** \_\_\_\_\_ **AT END OF DRILLING** ---  
**NOTES** \_\_\_\_\_ **AFTER DRILLING** ---

DEPTH (ft)	SAMPLE TYPE NUMBER	PID (ppm)	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0	105-S34-156		SC		0.21 Clayey Sand (10 YR 3/3), very fine to medium sand with 10 - 15% clay, dry, loose	
			SP		2.0 Fine Sand (10 YR 3/4), poorly graded, dry, loose	
			ML		Silty Fine Sand (10 YR 3/4), 15% plastic fines, wet, loose.	
5		0.0	SP		Subtle color change to 10 YR 4/1 at 5'. 6.0 Fine Sand (10 YR 3/4), poorly graded, wet, loose.	
10		0.0			9.0 Fine Sand (10 YR 3/4), poorly graded, wet, loose.	
15		0.0			15.0	
<p>Installed flush mount 2". Schedule 40 PVC well. Screened from 3 to 13 ft bgs with 0.01 slot size. PVC riser from ground surface to 3 ft bgs. Bottom of hole at 15.0 feet.</p>						

GW encountered at 2 ft bgs

CLIENT <u>U.S. Navy</u>	PROJECT NAME <u>IR Site 34 Alameda</u>
PROJECT NUMBER <u>B141</u> CTO: <u>0105</u>	PROJECT LOCATION <u>Site 34</u>
DATE STARTED <u>6/23/06</u> COMPLETED <u>6/23/06</u>	GROUND ELEVATION _____ HOLE SIZE <u>8.25 inches</u>
DRILLING CONTRACTOR <u>Gregg Drilling</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Hollow Stem Auger</u>	AT TIME OF DRILLING <u>---</u>
LOGGED BY <u>J. Eby</u> CHECKED BY _____	AT END OF DRILLING <u>---</u>
NOTES _____	AFTER DRILLING <u>---</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	PID (ppm)	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0	105-S34-158		Asphalt		0.0 / Asphalt 1/4" to 3/4"	<p>GW encountered at 2.5 ft</p>
	105-S34-159		GP SW SC		0.8 / Gravel 15% fines, large, angular, loose	
					2.0 / Fine Sand (10 YR 4/6), 10% clay, loose	
					Clayey Sand (10YR 4/6), well graded, 20% medium plasticity fines, 10% shell fragments, moist, loose.	
5		0.0			Wet at 4'	
		0.0				
		0.0				
10		0.0	CL SW		8.5 / Plastic Clay (GLEY 1 2.5/N) wet, loose	
		0.0			9.0 / Fine Sand (GLEY 1 4/104), well graded, wet, loose	
15					15.0	
<p>Installed flush mount 2". Schedule 40 PVC well. Screened from 3 to 13 ft bgs with 0.01 slot size. PVC riser from ground surface to 3 ft bgs. Bottom of hole at 15.0 feet.</p>						

CLIENT <u>U.S. Navy</u>	PROJECT NAME <u>IR Site 34 Alameda</u>
PROJECT NUMBER <u>B141 CTO: 0105</u>	PROJECT LOCATION <u>Site 34</u>
DATE STARTED <u>6/23/06</u> COMPLETED <u>6/23/06</u>	GROUND ELEVATION _____ HOLE SIZE <u>8.25 inches</u>
DRILLING CONTRACTOR <u>Gregg Drilling</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Hollow Stem Auger</u>	AT TIME OF DRILLING <u>---</u>
LOGGED BY <u>J. Eby</u> CHECKED BY _____	AT END OF DRILLING <u>---</u>
NOTES _____	AFTER DRILLING <u>---</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	PID (ppm)	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0	105-S34-160		SW		Fine Sand (10 YR 3/3), well graded, dry, loose	
	105-S34-161		SW		1.5 Subtle color change to 10 YR 5/6 at 0.5'	
5		0.0	SW		5.0 Fine Sand (10 YR 4/1) with shell fragments, well graded, moist, loose	
		0.0			Fine Sand (10 YR 4/1) with shell fragments, well graded, wet, loose	
10		0.0				
		0.0				
15			CL		14.0 Silty Clay (GLEY 7 5/N) 15% fine sand, medium stiffness, medium plasticity 15.0 Installed flush mount 2" Schedule 40 PVC well. Screened from 3 to 13 ft bgs with 0.01 slot size. PVC riser from ground surface to 3 ft bgs. Bottom of hole at 15.0 feet.	

CLIENT <u>U.S. Navy</u>	PROJECT NAME <u>IR Site 34 Alameda</u>
PROJECT NUMBER <u>B141 CTO: 0105</u>	PROJECT LOCATION <u>Site 34</u>
DATE STARTED <u>6/22/06</u> COMPLETED <u>6/22/06</u>	GROUND ELEVATION _____ HOLE SIZE <u>8.25 inches</u>
DRILLING CONTRACTOR <u>Gregg Drilling</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Hand Auger to Hollow Stem Auger</u>	AT TIME OF DRILLING <u>---</u>
LOGGED BY <u>J. Hamm</u> CHECKED BY _____	AT END OF DRILLING <u>---</u>
NOTES _____	AFTER DRILLING <u>---</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	PID (ppm)	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0			GP		Gravel with Fine-Medium Sand (10 YR 4/6), poorly graded with 30% shell fragments	
	105-S34-162					
	105-S34-163					
5		0.0	SW		Gravelly Sand (10 YR 4/6), gravel (15%), trace shell fragments (10%), poorly graded, dry, loose Moist at 6 feet	
		0.0	CL		Plastic Clay with Fine Sand and Gravel 20% fine sand, (2.5 YR 3/2), 5% angular 1/2" diameter gravel, medium stiff	
10		0.0			Plastic Clay with Fine Sand and Gravel 20% fines, (2.5 YR 3/2), wet, medium stiff	
					Refusal at 13 feet. Boring not completed	
					Installed flush mount 2". Schedule 40 PVC well. Screened from 3 to 13 ft bgs with 0.01 slot size. PVC riser from ground surface to 3 ft bgs. Bottom of hole at 13.0 feet.	

CLIENT <u>U.S. Navy</u>	PROJECT NAME <u>IR Site 34 Alameda</u>
PROJECT NUMBER <u>B141 CTO: 0105</u>	PROJECT LOCATION <u>Site 34</u>
DATE STARTED <u>6/22/06</u> COMPLETED <u>6/22/06</u>	GROUND ELEVATION _____ HOLE SIZE <u>8.25 inches</u>
DRILLING CONTRACTOR <u>Gregg Drilling</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Hand Auger to 5 ft</u>	AT TIME OF DRILLING <u>---</u>
LOGGED BY <u>J. Hamm and J. Eby</u> CHECKED BY _____	AT END OF DRILLING <u>---</u>
NOTES _____	AFTER DRILLING <u>---</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	PID (ppm)	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0	105-S34-168		SW		Fine Sand (3/3), well graded, dry, loose. Plastic debris at 1.5 feet	
			SC		2.0 Clayey Sand (3/3), 10% slightly plastic clay, well graded fine size grains, dry, loose	
	105-S34-165	0.0			Fine Sand (3/5), loose Moist at 4.8 feet	
5		0.0				
		0.0	CL		8.0 Clay with 20% fine sand, moist	
		0.0	SW		9.0 Fine to Medium Sand with Plastic Clay, (GLE Y1 5/N), 5% shell fragments, wet, loose	
10		0.0				
		0.0	SP		11.5 Fine Sand (5/N), 10% shell fragments, poorly graded, wet, loose	
		0.0	CL		14.9 Plastic Clay Lense wet, stiff	
15		0.0	SP		Fine Sand (5/N), 10% shell fragments, poorly graded, wet, loose	
		0.0			16.5 Fine Sand with Clay (GLE Y1 5/N), 10% shell fragments, stiff clay, wet, loose	
20		0.0				
		0.0	SP		21.0 Fine Sand with Clay (5/N), dense shell fragments, stiff clay, wet	
		0.0	ML		22.0 Silty Clay 15% fine-grained sand, (GLE Y 1 5/N), shell fragments, wet, medium stiff, some organics	
25		0.0				
		0.0	CL		27.0 Clay (GLE Y 1 5/N), wet, medium plasticity	
		0.0	ML		28.0 Silty Clay with 15% fine-grained sand, (GLE Y 5/N), wet, medium stiff, trace organics (<5%)	
30		0.0				
35						

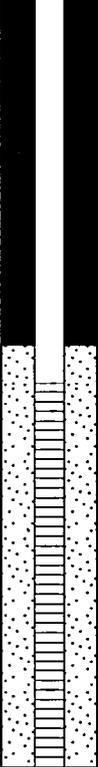
(Continued Next Page)

CLIENT U.S. Navy

PROJECT NAME IR Site 34 Alameda

PROJECT NUMBER B141 CTO: 0105

PROJECT LOCATION Site 34

DEPTH (ft)	SAMPLE TYPE NUMBER	PID (ppm)	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
35						
		0.0	CL		36.0 Clay (GLEY1 5/N), wet, medium stiff, medium plasticity.	
		0.0				
40		0.0	SP		40.0 Fine Sand (5/N), poorly graded, wet, loose.	
		0.0	SC		40.5 Clayey Sand (5/N), with shell fragments, poorly graded, medium stiff, wet, loose.	
		0.0	CL		41.0 Silty Clay with 10% fines, (5/N), wet, medium stiff.	
		0.0	CL		44.0 Clay (5/N), wet, moist from 42' to 44', medium stiff, medium plasticity	
45		0.0	CL		45.0 Silty Clay with 10% fines, (5/N), trace shell fragments, wet, medium stiff	
		0.0	CL		45.5 Plastic Clay (5/N), moist, stiff.	
		0.0			45.5 Silty Clay with 10% fines, (5/N), wet, medium stiff	
		0.0				
50		0.0	SP		51.0 Fine Sand (5/N), poorly graded, wet, loose.	
		0.0				
55		0.0			3/10GY, dry (55 ft)	
		0.0			1/2" to 3/4" angular gravel at 56 ft	
60		0.0	SP-SC		60.0 Clayey Sand poorly graded, wet, medium density	
					Formation collapse to 55 feet below ground surface. Installed flush mount well. 2" PVC screen (0.01 inch slots) from 45 to 55 ft bgs and 2" riser from ground surface to 45 ft bgs. Bottom of hole at 60.0 feet.	

**APPENDIX C**  
**AQUIFER TESTING**

---

**TABLE OF CONTENTS**

---

ACRONYMS AND ABBREVIATIONS ..... C-ii

C1.0 INTRODUCTION .....C-1

C2.0 METHODS .....C-1

C3.0 RESULTS .....C-3

C4.0 CONCLUSIONS.....C-4

C5.0 REFERENCES .....C-5

**Attachment**

- C-1 Boring Logs and Monitoring Wells Completion Diagrams for MW-20 and MW-24
- C-2 AQT SOLV Printouts of the Slug Test Interpretations
- C-3 Pressure Transducer Data

**Figure**

- C-1 Monitoring Well Locations

**Table**

- C-1 Slug Test Results

## **ACRONYMS AND ABBREVIATIONS**

---

EPA	U.S. Environmental Protection Agency
IR	Installation Restoration
ft/day	Feet per day
S	Storage coefficient

## C1.0 INTRODUCTION

On behalf of the Navy, SulTech conducted slug tests in two monitoring wells at Installation Restoration (IR) Site 34 at Alameda Point, Alameda, California. The slug tests were used to estimate the hydraulic properties of materials beneath the site. This appendix summarizes the methods used to conduct and interpret the slug tests (Section C2.0), presents the estimated hydraulic parameters for IR Site 34 (Section C3.0), and presents the conclusions based on the slug test results (Section C4.0).

## C2.0 METHODS

The slug tests were performed at two monitoring wells (34-MW20 and 34-MW24) on July 7, 2006, and March 1, 2007; these wells are shown on Figure C-1. The slug tests were performed in accordance with the U.S. Environmental Protection Agency (EPA) Standard Operating Procedure No. 2046, dated October 3, 1994 (EPA 1994).

To avoid damaging the field transducer, the senior hydrogeologist in the field recommended that slug withdrawal tests only be conducted in well 34-MW20; three tests were performed. Two slug injection tests and two slug withdrawal tests were conducted in well 34-MW24. Background water level readings were taken in well 34-MW24 to evaluate whether conditions are likely to change during a slug test in response to barometric pressure or tides. However, the data collected during this background test were not useable because the transducer malfunctioned presenting little or no change in barometric pressure even though water level readings showed that on average 3 feet of water was displaced. However, the transducer did function as required during all of the other slug tests.

The slug test involves insertion (slug in) or withdrawal (slug out) of a solid cylinder into or from a well and monitoring the resulting change in water level over time. The slug used in the tests was made of polyvinyl chloride pipe, with end caps and filled with sand for weight. The slug dimensions were somewhat different for each well to accommodate for well diameter and transducer cable thickness. The slugs for 2-inch wells 34-MW20 and 34-MW24 were 60 inches long, with a diameter of 0.75 and 1.5 inches (respectively), and weighed approximately 5.65 and 5.5 pounds. The theoretical displacement of water levels as a result of slug insertion or withdrawal inside the 2-inch wells 34-MW20 and 34-MW24 was estimated at 1.7 and 3 feet, respectively.

The depth to water (static water level) was measured before the tests in each well. Next, the pressure transducer (In-Situ Inc.'s Hermit 3000 or Mini Troll Pro) was set approximately 0.5 to 2 feet above the bottom of the well. The transducer was set to collect water level readings at shorter time increments at the beginning of the test, when recovery is quick, to longer increments of time toward the end of the test, when recovery is slower. The slug was then instantaneously inserted (or removed), and water level readings were automatically recorded during water level recovery. The tests in each well ran for approximately 25 to 50 minutes.

The slug test data were used to calculate the horizontal hydraulic conductivity of the fine sand fill materials in which well 34-MW20 is screened and fine sand and clay materials in which well 34-MW24 is screened. The boring logs for each well are presented in Attachment C-1. Review of the boring logs indicated well 34-MW20 is screened in a shallow unconfined unit, while well 34-MW24 is screened beneath the Bay Mud unit in a confined aquifer.

Hydraulic conductivity is a measure of the capacity of a porous medium to transmit water. It is defined as the volume of water that will move in a unit time under a unit hydraulic gradient through a unit area measured at right angles to the direction of flow. The dimensions of hydraulic conductivity are length per time or velocity. Hydraulic conductivity is governed by the size and the shape of the pores, the effectiveness of the interconnection between pores, the roughness of mineral particles, the degree of soil saturation, and the physical properties of the fluid.

For the confined aquifer represented by well 34-MW24, a determination of the storage coefficient (S) was also possible. The S of an aquifer represents a volume released from an aquifer per 1 foot surface area per 1 foot change in head. The coefficient's value characterizes the ability of an aquifer to store water. Mathematically, the S value is dimensionless (volume of water divided by a product of surface area and head change). The S value depends on whether the aquifer is confined or unconfined. In a confined aquifer setting, the load on top of an aquifer is supported by the solid rock skeleton and the hydraulic pressure exerted by water (the hydraulic pressure acts as a support mechanism). Water derived from storage of a confined aquifer results from (1) the expansion of water as the aquifer is depressurized (pumped) and (2) compression of the aquifer. Because of these variables, the S value of most confined aquifers ranges from 0.00001 to 0.001. Conversely, in an unconfined aquifer setting, the predominant source of water is from gravity drainage and the expansion of water and compaction of the rock skeleton is negligible. Thus, the S value is approximately equal to a value of specific yield and ranges from 0.1 to about 0.3.

Based on review of the boring logs, well 34-MW20 was interpreted to fully penetrate the sand fill materials, while well 34-MW24 partially penetrates the fine sand unit. The Bouwer and Rice method (Bouwer and Rice 1976) for a slug test in an unconfined aquifer was used to interpret slug test data from the shallow well 34-MW20. For the deep well 34-MW24, which better represents confined aquifer conditions, the following two methods for a slug test in a confined aquifer were used: Bouwer and Rice (1976) and Cooper, Bredehoeft, and Papadopulos (1967). The analysis was performed using computer program AQTESOLV Pro 3.0 (Hydrosolve, Inc. 2000), which uses a suite of analytical solutions to assess aquifer properties from pumping tests and slug tests. The Bouwer and Rice method allows for calculation of hydraulic conductivities. In addition, the Cooper, Bredehoeft, Papadopulos method allows for calculation of the aquifer S value (Hydrosolve, Inc. 2000).

Before evaluating the hydraulic parameters, data from pressure transducers were graphed to evaluate its suitability for analysis. The graphs indicated that water level data for both wells are suitable for analysis. Prior to importing the water level data from transducers into the AQTESOLV, the data were normalized by shifting a peak response (or trough for slug out) for

the displacement to mark the beginning of the test (time zero). The water level prior to insertion (or extraction for slug out) of the slug was used as the initial level for calculation of the initial displacement.

When analyzing the water level displacement-over-time data in the AQTESOLV, the matching of the straight-line or curvilinear solutions to displacement-time data was done first using the automatic feature in the program. If deemed necessary, the initial estimate of hydraulic conductivity was then adjusted using visual matching of solution to displacement-time data.

### **C3.0 RESULTS**

This section discusses the estimated hydraulic parameters for the unconfined unit in the fine sand fill materials (well 34-MW20) and for the confined aquifer (well 34-MW24). The hydraulic conductivities estimated by using the Bouwer and Rice and Cooper, Bredehoeft, and Papadopulos methods for each monitoring well are summarized in Table C-1. Attachment C-2 provides the AQTESOLV printouts of the details of slug test interpretations. Attachment C-3 contains the pressure transducer data.

As shown in Attachment C-2, the displacement-versus-time data were plotted on semi-logarithmic axes and the straight-line Bouwer and Rice or curvilinear Cooper, Bredehoeft, and Papadopulos solutions were matched to the data. The resulting estimates of hydraulic conductivity are provided at the bottom of each page that summarizes the interpretation of each individual slug test. The results of interpretation of the slug tests in well 34-MW24 using the Cooper, Bredehoeft, and Papadopulos solution include transmissivity and aquifer coefficients values. The hydraulic conductivity for this solution was obtained by dividing transmissivity by 10 feet (a portion of thickness of confined unit in which well 34-MW24 is screened).

There is one page per slug test for well 34-MW20 and two pages of the results for each of the four tests conducted in well 34-MW24 for each interpretation method. The first page presents the results of interpretation using the Bouwer and Rice method and the second presents the results obtained by the Cooper, Bredehoeft, and Papadopulos method.

The estimated average hydraulic conductivity based on three slug out tests in well 34-MW20 is 22.3 feet per day (ft/day). This estimate is typical of sandy materials (see Table C-1). The estimated average hydraulic conductivity based on two slug-in and two slug-out tests in well 34-MW24 is 0.06 ft/day (Bouwer and Rice method) and 0.05 ft/day (Cooper, Bredehoeft, and Papadopulos method). Based on averaging the results from both methods, the hydraulic conductivity for well 34-MW24 is 0.052 ft/day. The average aquifer coefficients value was estimated at 0.002. The estimated hydraulic conductivity for well 34-MW24 is representative of fine and silty sands; the estimated S value corresponds to the higher-end estimates for a confined aquifer.

#### **C4.0 CONCLUSIONS**

The slug tests conducted in wells 34-MW20 and 34-MW24 provided the estimates of hydraulic parameters of fine sand fill materials and confined unit of fine sand beneath the site, respectively. The average hydraulic conductivity for fill materials is estimated at 22.3 ft/day (well 34-MW20). The average hydraulic conductivity and S value for the confined unit of fine sand are 0.052 ft/day and 0.002, respectively (well 34-MW24).

## C5.0 REFERENCES

Bouwer, H., and R.C. Rice. 1976. "A Slug Test Method for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells." *Water Resources Research*. Volume 12, No. 3. Pages. 423-428.

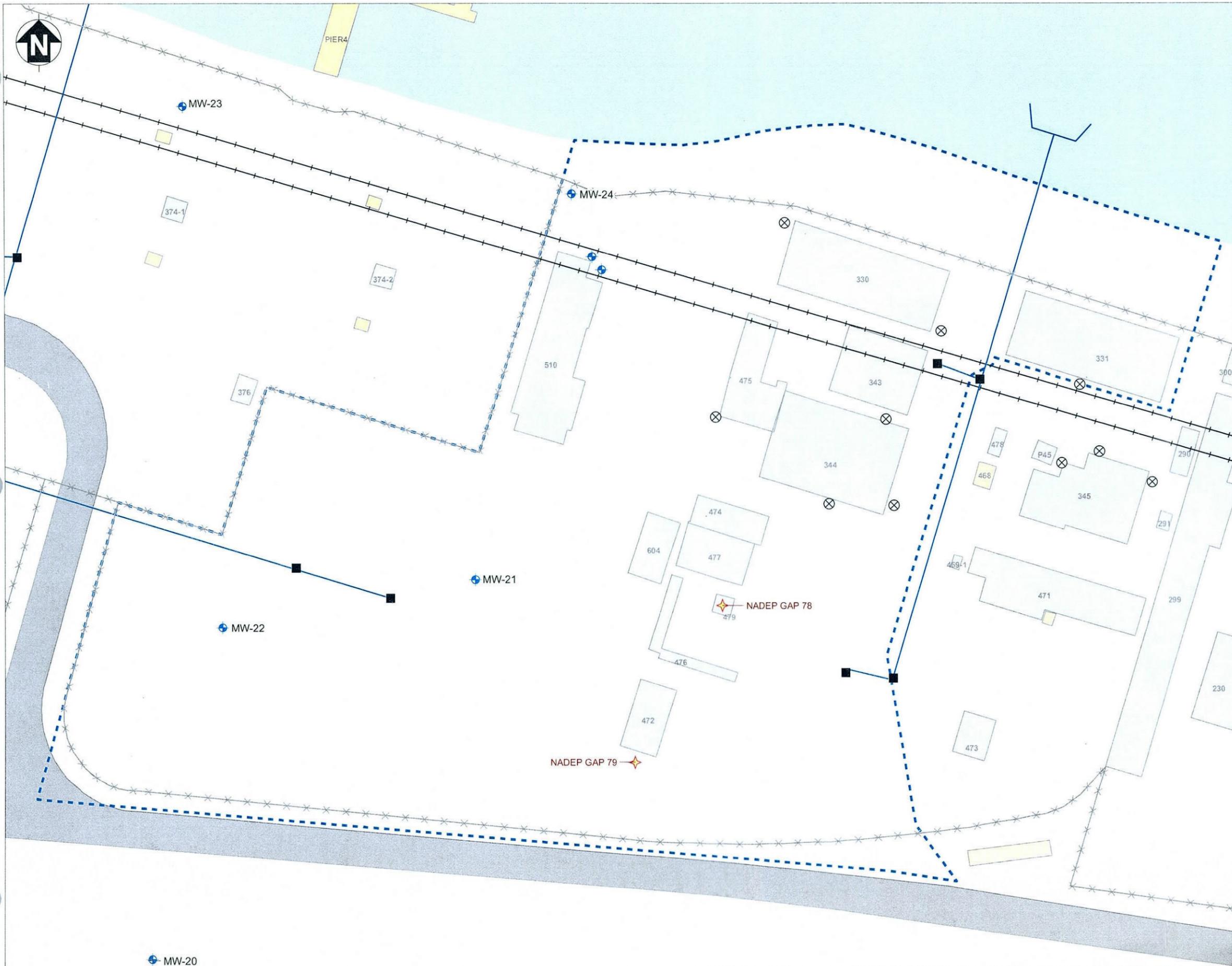
Cooper, H.H., J.D. Bredehoeft, and S.S. Papadopoulos. 1967. "Response of A Finite-Diameter Well to An Instantaneous Charge of Water." *Water Resources Research*. Volume 3, No. 1. Pages 263-269.

Hydrosolve, Inc. 2000. "AQTESOLV for Windows User's Guide." 164 Pages.

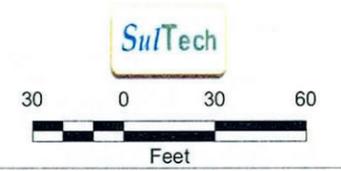
U.S. Environmental Protection Agency. 1994. "Standard Operating Procedure No. 2046." October 3.

FIGURE

---



- ⊕ Monitoring Well Location
- Resource Conservation and Recovery Act Unit**
- ⊗ Aboveground Storage Tank (Removed)
- ⚡ Generator Accumulation Point (Removed)
- Catch Basin
- +— Railroad Track (Removed)
- Storm Sewer Line
- ××× Fence
- Building (Present)
- Building (Removed)
- ⋯ Site 34 Boundary
- Road
- Unpaved Area
- Water



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE C-1**  
**MONITORING WELL**  
**LOCATIONS**

RI Report for IR Site 34

TABLE

---

**TABLE C-1: SLUG TEST RESULTS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Well	Slug Test No.	Test Method	Hydraulic Conductivity [Bouwer-Rice] <sup>1</sup> (ft/day)	Hydraulic Conductivity [Cooper and others] <sup>1</sup> (ft/day)	Aquifer Storage Coefficient <sup>1</sup> (unitless)	Sediment Hydraulic Conductivity Typical of Soil Type	Logged Lithology of Screened Interval <sup>2</sup>
MW-20	1	Out	2.28E+01	--	--	Sand	Fine sand, loose
MW-20	2	Out	2.03E+01	--	--	Sand	Fine sand, loose
MW-20	3	Out	2.40E+01	--	--	Sand	Fine sand, loose
<b>Mean<sup>3</sup> =</b>			<b>2.23E+01</b>				
MW-24	1	In	4.20E-02	1.80E-02	2.20E-02	Silty sand	Fine sand
MW-24	1	Out	1.02E-01	2.10E-01	5.39E-05	Silty sand	Fine sand
MW-24	2	In	6.26E-02	4.67E-02	5.99E-03	Silty sand	Fine sand
MW-24	2	Out	3.42E-02	3.17E-02	2.95E-03	Silty sand	Fine sand
<b>Mean<sup>3</sup> =</b>			<b>5.50E-02</b>	<b>4.86E-02</b>	<b>2.14E-03</b>		

Notes: Slug tests were conducted on July 7, 2006, in well MW-20 and on March 1, 2007, in well MW-24.

1 Interpretation of the slug tests for MW-20 conducted with Bouwer-Rice (1976) solution for a slug test in an unconfined aquifer; for MW-24, a Cooper, Bredehoeft, and Papadopulos (1967) solution for a slug test in a confined aquifer was used.

2 Based on the boring logs

3 Calculated as geometric mean.

-- Not available

ft/day Feet per day

K Hydraulic conductivity

References:

Bouwer, H., and R.C. Rice. 1976. "A Slug Test Method for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells." *Water Resources Research*. Volume 12, No. 3. Pages. 423-428.

Cooper, H.H., J.D. Bredehoeft, and S.S. Papadopulos. 1967. "Response of A Finite-Diameter Well to An Instantaneous Charge of Water." *Water Resources Research*. Volume 3, No. 1. Pages 263-269.

**ATTACHMENT C-1**

**BORING LOGS AND MONITORING WELLS COMPLETION DIAGRAMS FOR MW-20  
AND MW-24**

CLIENT <u>U.S. Navy</u>	PROJECT NAME <u>IR Site 34 Alameda</u>
PROJECT NUMBER <u>B141</u>	PROJECT LOCATION <u>Site 34</u>
DATE STARTED <u>6/26/06</u> COMPLETED <u>6/26/06</u>	GROUND ELEVATION <u>0 ft</u> HOLE SIZE <u>8.25 inches</u>
DRILLING CONTRACTOR <u>Gregg Drilling</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Hand Auger to 5 ft Hollow Stem Auger to 15 ft.</u>	AT TIME OF DRILLING <u>---</u>
LOGGED BY _____ CHECKED BY _____	AT END OF DRILLING <u>---</u>
NOTES _____	AFTER DRILLING <u>---</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0				SC SP		0.2' Clayey Sand (10 YR 3/3), very fine to medium sand with 10 - 15% clay, dry, loose	<p>GW encountered at 2 ft bgs</p>
2.0	105-S34-156			CLS		2.0' Fine Sand (10 YR 3/4), poorly graded, dry, loose Plastic Clay with Fine Sand (10 YR 3/4), 15% fines, medium plasticity, very moist - wet, loose	
5.0				CLS		5.0' Plastic Clay with Fine Sand (10 YR 4/1), very moist-wet, loose	
6.0				SP		6.0' Fine Sand (10 YR 3/4), poorly graded, wet, loose.	
9.0				SP		9.0' Fine Sand (10 YR 3/4), poorly graded, wet, loose.	
15.0						15.0' Formation collapse to 13 feet below ground surface. Installed flush mount well. 2" PVC screen (0.01 inch slots) from 3 to 13 ft bgs and 2" PVC riser from ground surface to 3 ft bgs. Bottom of hole at 15.0 feet.	

CLIENT <u>U.S. Navy</u>	PROJECT NAME <u>IR Site 34 Alameda</u>
PROJECT NUMBER <u>B141</u>	PROJECT LOCATION <u>Site 34</u>
DATE STARTED <u>6/22/06</u> COMPLETED <u>6/22/06</u>	GROUND ELEVATION <u>0 ft</u> HOLE SIZE <u>8.25 inches</u>
DRILLING CONTRACTOR <u>Gregg Drilling</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Hand Auger to 5 ft</u>	AT TIME OF DRILLING <u>---</u>
LOGGED BY _____ CHECKED BY _____	AT END OF DRILLING <u>---</u>
NOTES _____	AFTER DRILLING <u>---</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0	105-S34-168			SW		Fine Sand (3/3), well graded, dry, loose. Plastic trash at 1.5 feet	
				SW-SC		2.0 Fine Sand with clay (3/3), 10% fines, well graded, slightly plastic, dry, loose -2.0	
	105-S34-165	3-3		SW		4.0 Fine Sand (3/5), well graded, loose -4.0	
5		2-1-3 (4)		SW		Moist at 4.8 feet Petroleum odor at 5 feet	
		2-2-2 (4)		CL		8.0 Plastic Clay with 20% fines, trace fine sand, moist -8.0	
				SW-SC		9.0 Fine to Medium Sand with Plastic Clay, (GLEY1 5/N), shell fragments, wet, loose -9.0	
10		4-3-4 (7)		SW-SC		11.5 Fine Sand (5/N), shell fragments, poorly graded, wet, loose -11.5	
		3-2-2 (4)		SP			
				CL-CH		14.9 Plastic Clay Lense wet, stiff -14.9	
15		2-1-2/0"		SP		16.5 Fine Sand (5/N), shell fragments, poorly graded, wet, loose -16.5	
		1-1-1 (2)		SP-SC		Fine Sand with Clay Lenses (GLEY1 5/N), shell fragments, stiff clay, wet, loose	
		2-2-1/0"					
20		1-1-1 (2)				21.0 Fine Sand with Clay (5/N), dense shell fragments, stiff clay, wet -21.0	
		3-2-3 (5)		SP-SC		22.0 Clay with 15% fine-grained sands, (GLEY 1 5/N), shell fragments, wet, medium stiff, some decaying organics -22.0	
				CL-ML			
25		1-2-1 (3)				27.0 Plastic Clay (GLEY 1 5/N), wet, stiff -27.0	
		1-1-1 (2)		CL		28.0 Clay with 15% fine-grained sand, (GLEY 5/N), wet, medium stiff and some decaying organics -28.0	
				CL-ML			
30		5-7-7 (14)					
35							

(Continued Next Page)

CLIENT U.S. Navy

PROJECT NAME IR Site 34 Alameda

PROJECT NUMBER B141

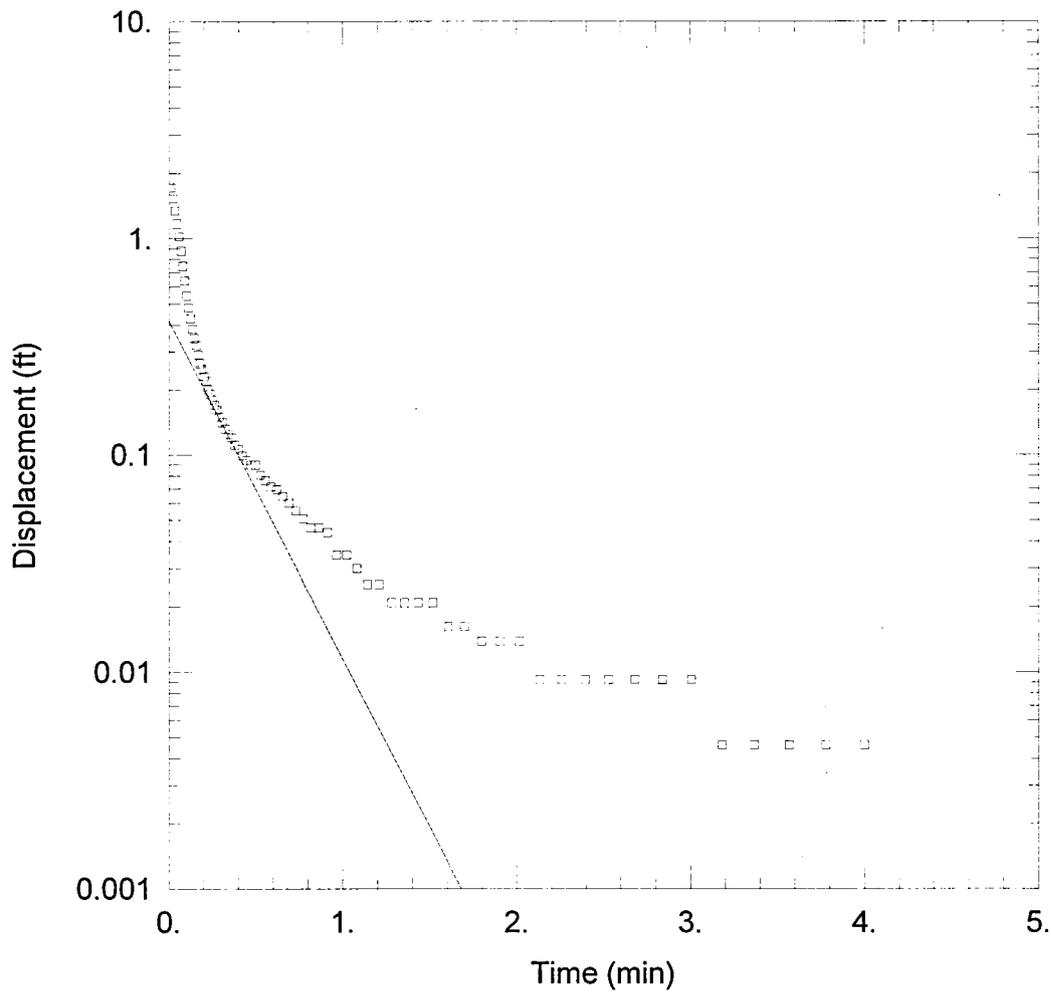
PROJECT LOCATION Site 34

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	USCS	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
35							
				CL		36.0 Plastic Clay (GLEY1 5/N), wet, stiff. -36.0	
	1-1-1/0"						
	1-2-1 (3)						
40				SP SW-SC		40.0 Fine Sand (5/N), poorly graded, wet, loose. 40.9 41.0 Fine Sand with Clay (5/N), with shell fragments, poorly graded, medium stiff, wet, loose. -41.0	
	2-3-2 (5)			CL		Plastic Clay with 10% fines, (5/N), wet, stiff. -44.0	
	2-1-1 (2)			CL		Plastic Clay (5/N), wet, moist from 42' to 44', stiff -44.0	
45				CL		Plastic Clay with 10% fines, (5/N), trace shell fragments, wet, medium stiff -45.0	
	1-1-1 (2)			CL		Plastic Clay (5/N), moist, stiff. -45.5 Clay with 10% fines, (5/N), wet, medium stiff	
	1-1-1 (2)						
50				SP		51.0 Fine Sand (5/N), poorly graded, wet, loose. -51.0	
	7-13-20 (33)						
	14-18-13 (31)						
55						3/10GY, dry (55 ft) Gravel layer, very angular 1/2 to 3/4 in diameter (56 ft)	
	10-20-20 (40)						
	10-13-12 (25)						
60				SP-SC		60.0 Clayey Sand poorly graded, wet, medium dense -60.0	
						Formation collapse to 55 feet below ground surface. Installed flush mount well. 2" PVC screen (0.01 inch slots) from 45 to 55 ft bgs and 2" riser from ground surface to 45 ft bgs. Bottom of hole at 60.0 feet.	

ENVIRONMENTAL BH ALAMEDA SITE 34.GPJ GINT US LAB.GDT 6/5/07

**ATTACHMENT C-2**

**AQTSOLV PRINTOUTS OF THE SLUG TEST INTERPRETATIONS**



**MW-20 SLUG OUT TEST 1**

Data Set: C:\...MW-20\_test1.aqt  
 Date: 04/08/07

Time: 23:55:23

**PROJECT INFORMATION**

Company: Tetra Tech EM Inc.  
 Client: Navy  
 Test Location: Site 34 Alameda  
 Test Well: MW-20  
 Test Date: 07/07/2006

**AQUIFER DATA**

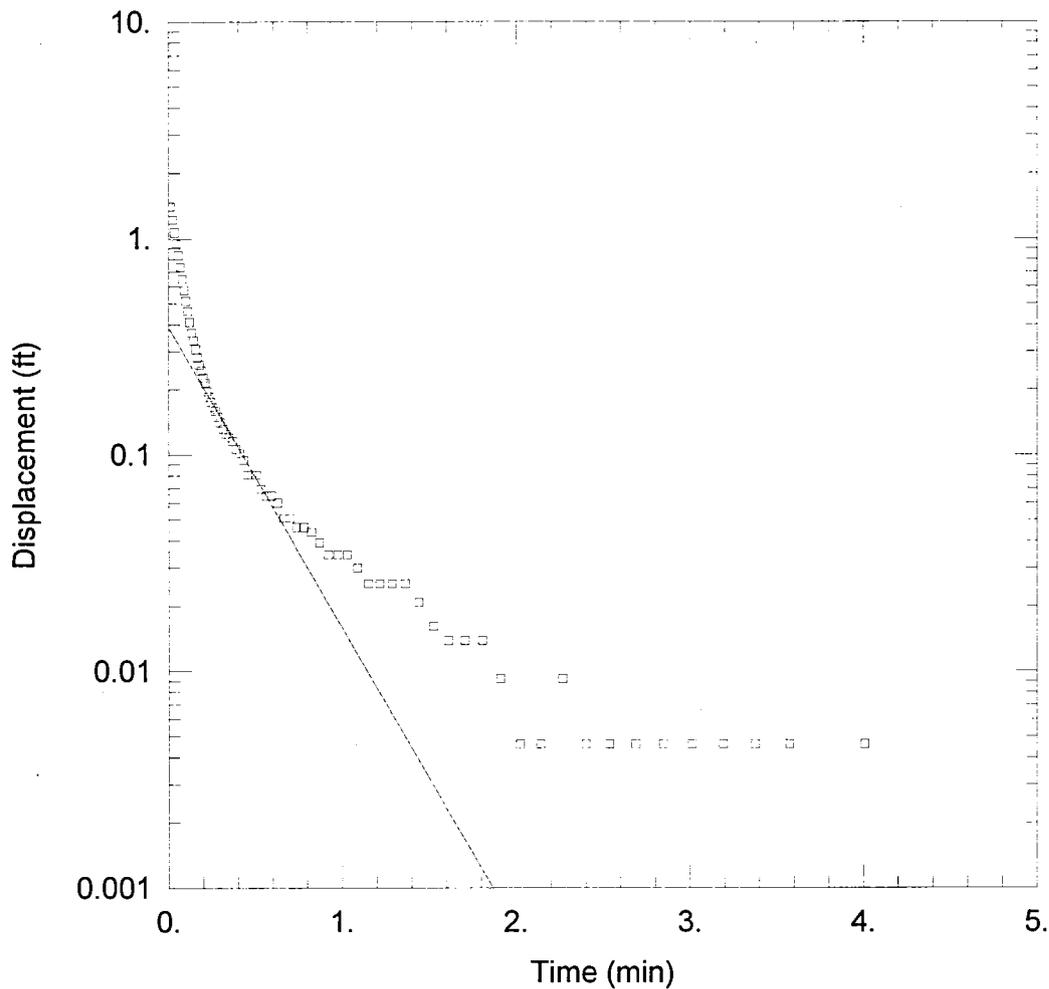
Saturated Thickness: 10. ft                      Anisotropy Ratio (Kz/Kr): 1.

**WELL DATA (MW-20)**

Initial Displacement: 1.72 ft                      Casing Radius: 0.08333 ft  
 Wellbore Radius: 0.3438 ft                      Well Skin Radius: 0.3438 ft  
 Screen Length: 10. ft                      Total Well Penetration Depth: 10. ft  
 Gravel Pack Porosity: 0.25

**SOLUTION**

Aquifer Model: Unconfined                      Solution Method: Bouwer-Rice  
 K = 22.78 ft/day                      y0 = 0.4127 ft



MW-20 SLUG OUT TEST 2

Data Set: C:\...MW-20\_test2.aqt  
 Date: 04/08/07

Time: 23:55:49

PROJECT INFORMATION

Company: Tetra Tech EM Inc.  
 Client: Navy  
 Test Location: Site 34 Alameda  
 Test Well: MW-20  
 Test Date: 07/07/2006

AQUIFER DATA

Saturated Thickness: 10. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-20)

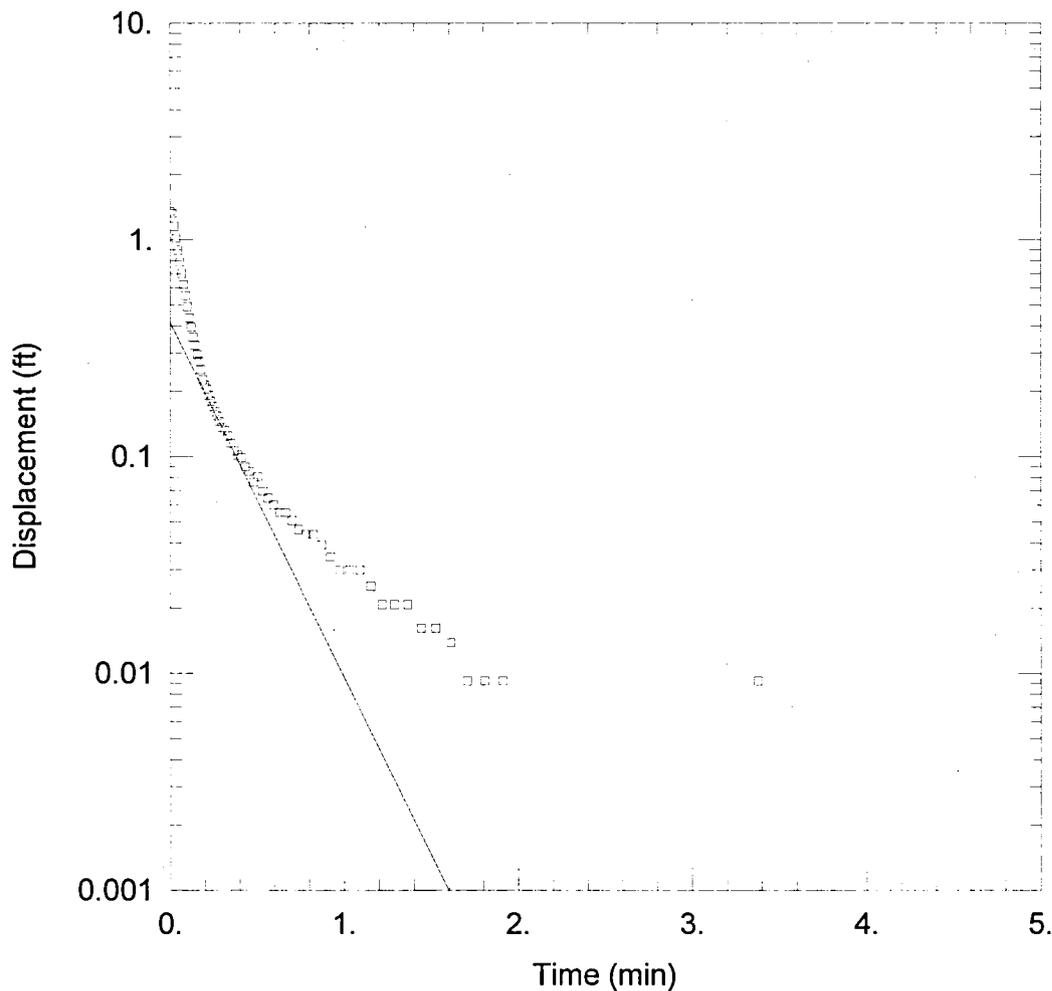
Initial Displacement: 1.4 ft  
 Wellbore Radius: 0.3438 ft  
 Screen Length: 10. ft  
 Gravel Pack Porosity: 0.25

Casing Radius: 0.08333 ft  
 Well Skin Radius: 0.3438 ft  
 Total Well Penetration Depth: 10. ft

SOLUTION

Aquifer Model: Unconfined  
 K = 20.31 ft/day

Solution Method: Bouwer-Rice  
 y0 = 0.3864 ft



### MW-20 SLUG OUT TEST 3

Data Set: C:\...MW-20\_test3.aqt  
 Date: 04/08/07

Time: 23:56:04

### PROJECT INFORMATION

Company: Tetra Tech EM Inc.  
 Client: Navy  
 Test Location: Site 34 Alameda  
 Test Well: MW-20  
 Test Date: 07/07/2006

### AQUIFER DATA

Saturated Thickness: 10. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

### WELL DATA (MW-20)

Initial Displacement: 1.35 ft  
 Wellbore Radius: 0.3438 ft  
 Screen Length: 10. ft  
 Gravel Pack Porosity: 0.25

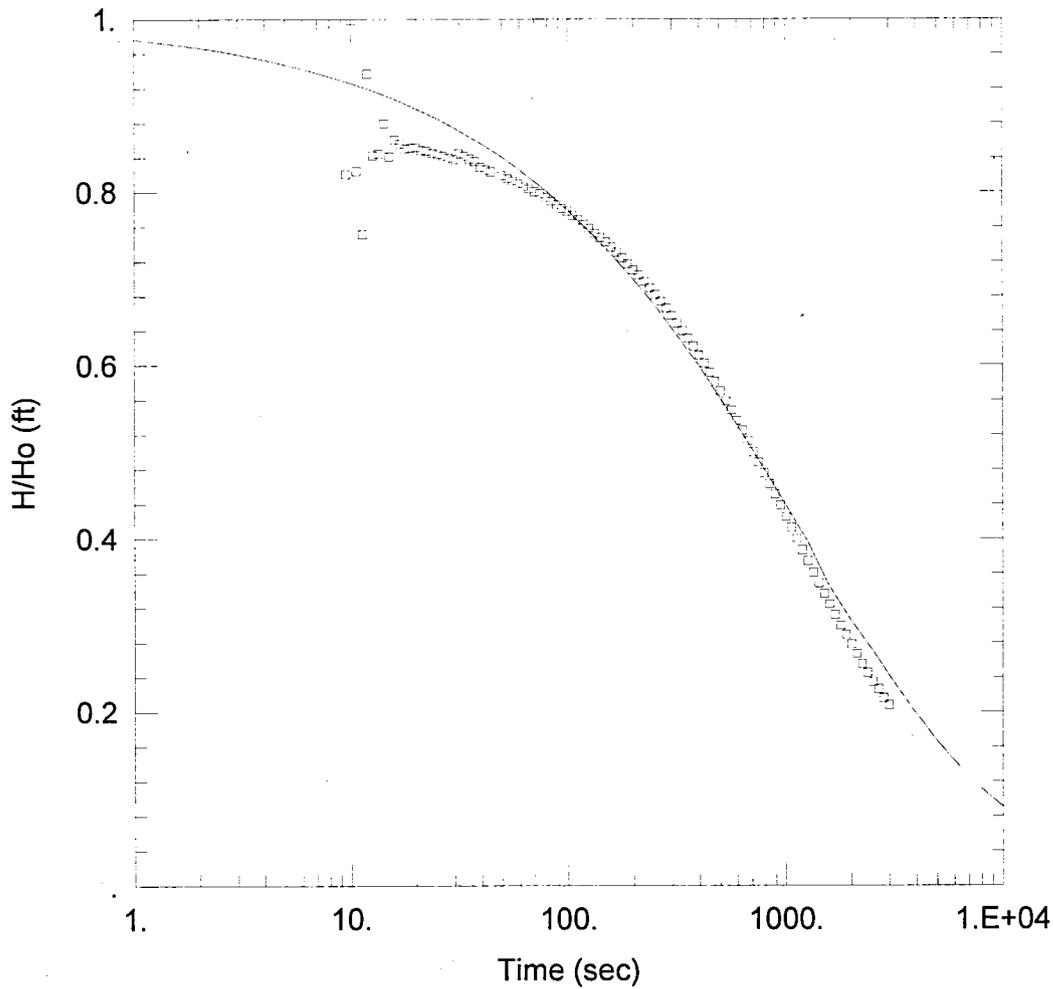
Casing Radius: 0.08333 ft  
 Well Skin Radius: 0.3438 ft  
 Total Well Penetration Depth: 10. ft

### SOLUTION

Aquifer Model: Unconfined  
 K = 24. ft/day

Solution Method: Bowser-Rice  
 $y_0 =$  0.4153 ft





MW-24 SLUG IN TEST 1

Data Set: C:\...MW-24\_IN1\_CBP.aqt  
 Date: 04/08/07

Time: 23:53:06

PROJECT INFORMATION

Company: Tetra Tech EM Inc.  
 Client: Navy  
 Test Location: Site 34, Alameda  
 Test Well: MW-24  
 Test Date: 07/07/2006

AQUIFER DATA

Saturated Thickness: 20. ft

Anisotropy Ratio ( $K_z/K_r$ ): 1.

WELL DATA (MW-24)

Initial Displacement: 3.03 ft  
 Wellbore Radius: 0.3438 ft  
 Screen Length: 10. ft  
 Gravel Pack Porosity: 0.25

Casing Radius: 0.08333 ft  
 Well Skin Radius: 0.3438 ft  
 Total Well Penetration Depth: 10. ft

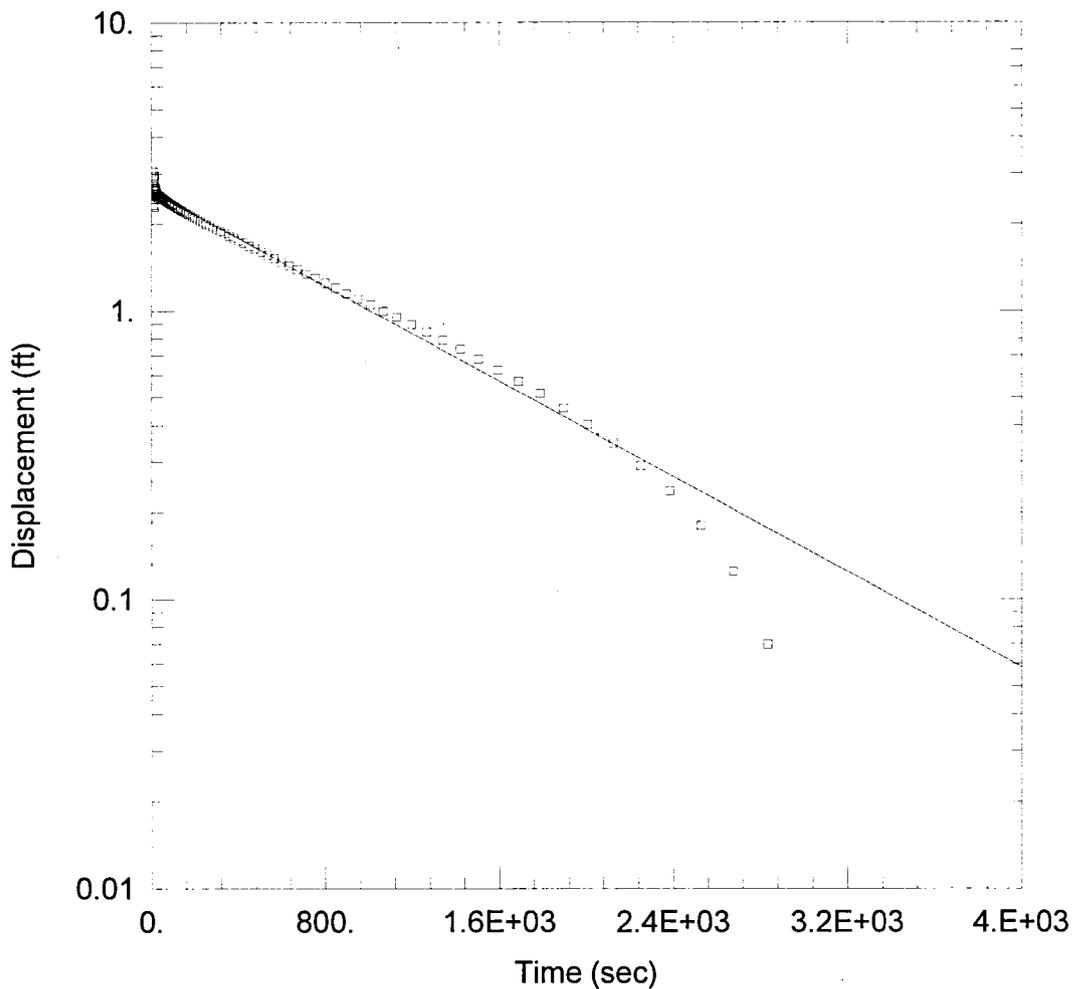
SOLUTION

Aquifer Model: Confined

Solution Method: Cooper et al.

$T =$  0.1782 ft<sup>2</sup>/day

$S =$  0.02227



MW-24 SLUG IN TEST 2

Data Set: C:\...MW-24\_IN2.aqt  
 Date: 04/08/07

Time: 23:45:55

PROJECT INFORMATION

Company: Tetra Tech EM Inc.  
 Client: Navy  
 Test Location: Site 34, Alameda  
 Test Well: MW-24  
 Test Date: 07/07/2006

AQUIFER DATA

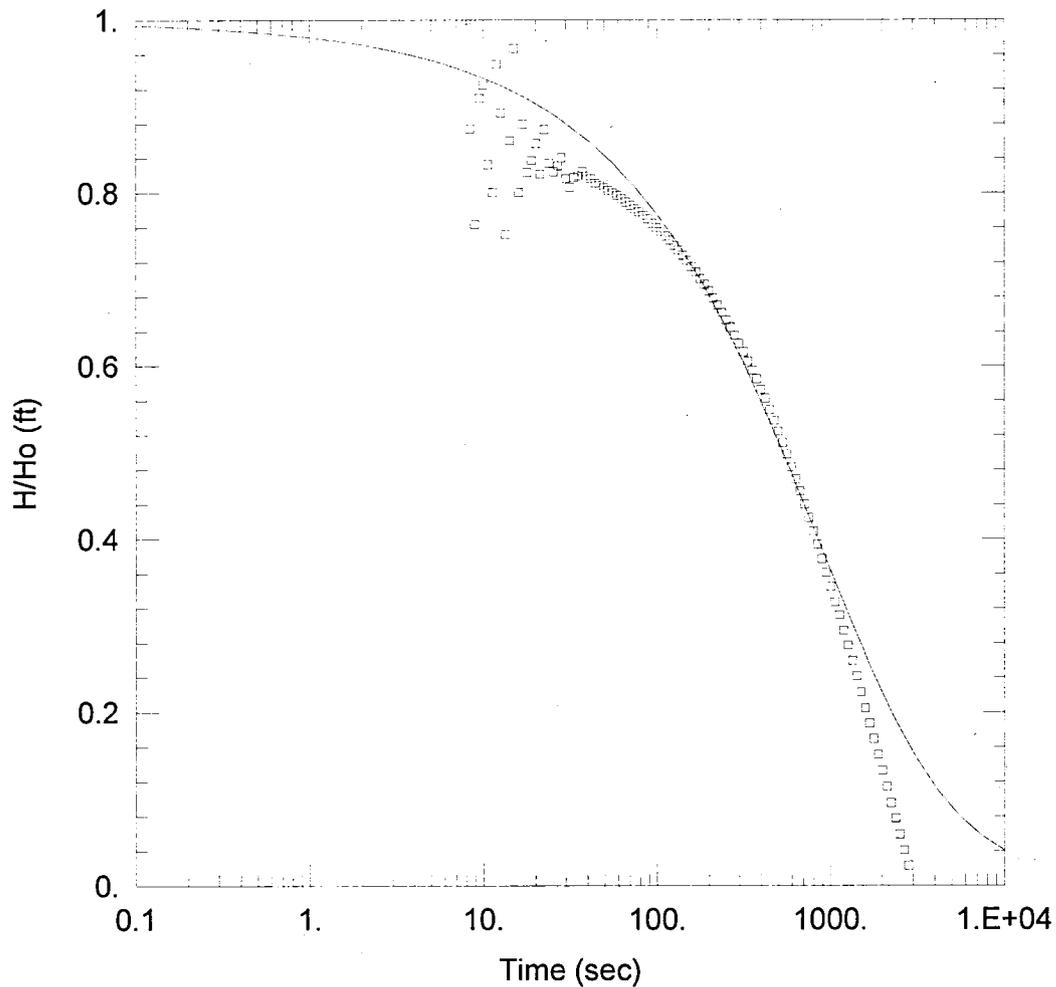
Saturated Thickness: 20. ft                      Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-24)

Initial Displacement: 3.05 ft                      Casing Radius: 0.08333 ft  
 Wellbore Radius: 0.3438 ft                      Well Skin Radius: 0.3438 ft  
 Screen Length: 10. ft                      Total Well Penetration Depth: 10. ft  
 Gravel Pack Porosity: 0.25

SOLUTION

Aquifer Model: Confined                      Solution Method: Bouwer-Rice  
 K = 0.0626 ft/day                      y0 = 2.598 ft



MW-24 SLUG IN TEST 2

Data Set: C:\...MW-24\_IN2\_CBP.aqt  
 Date: 04/08/07

Time: 23:47:01

PROJECT INFORMATION

Company: Tetra Tech EM Inc.  
 Client: Navy  
 Test Location: Site 34, Alameda  
 Test Well: MW-24  
 Test Date: 07/07/2006

AQUIFER DATA

Saturated Thickness: 20. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-24)

Initial Displacement: 3.05 ft  
 Wellbore Radius: 0.3438 ft  
 Screen Length: 10. ft  
 Gravel Pack Porosity: 0.25

Casing Radius: 0.08333 ft  
 Well Skin Radius: 0.3438 ft  
 Total Well Penetration Depth: 10. ft

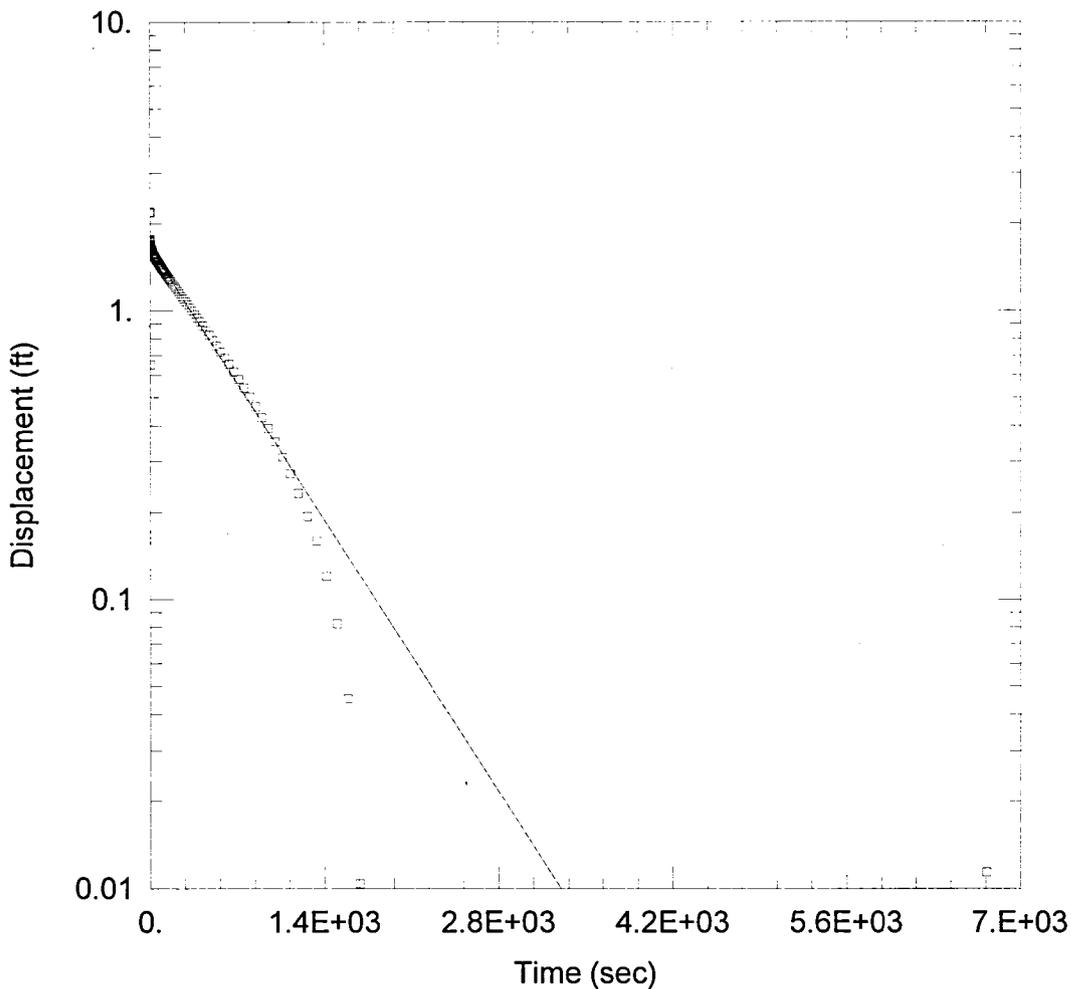
SOLUTION

Aquifer Model: Confined

Solution Method: Cooper et al.

T = 0.4666 ft<sup>2</sup>/day

S = 0.005988



### MW-24 SLUG OUT TEST 1

Data Set: C:\...MW-24\_OUT1.aqt  
 Date: 04/08/07

Time: 22:58:32

### PROJECT INFORMATION

Company: Tetra Tech EM Inc.  
 Client: Navy  
 Test Location: Site 34, Alameda  
 Test Well: MW-24  
 Test Date: 07/07/2006

### AQUIFER DATA

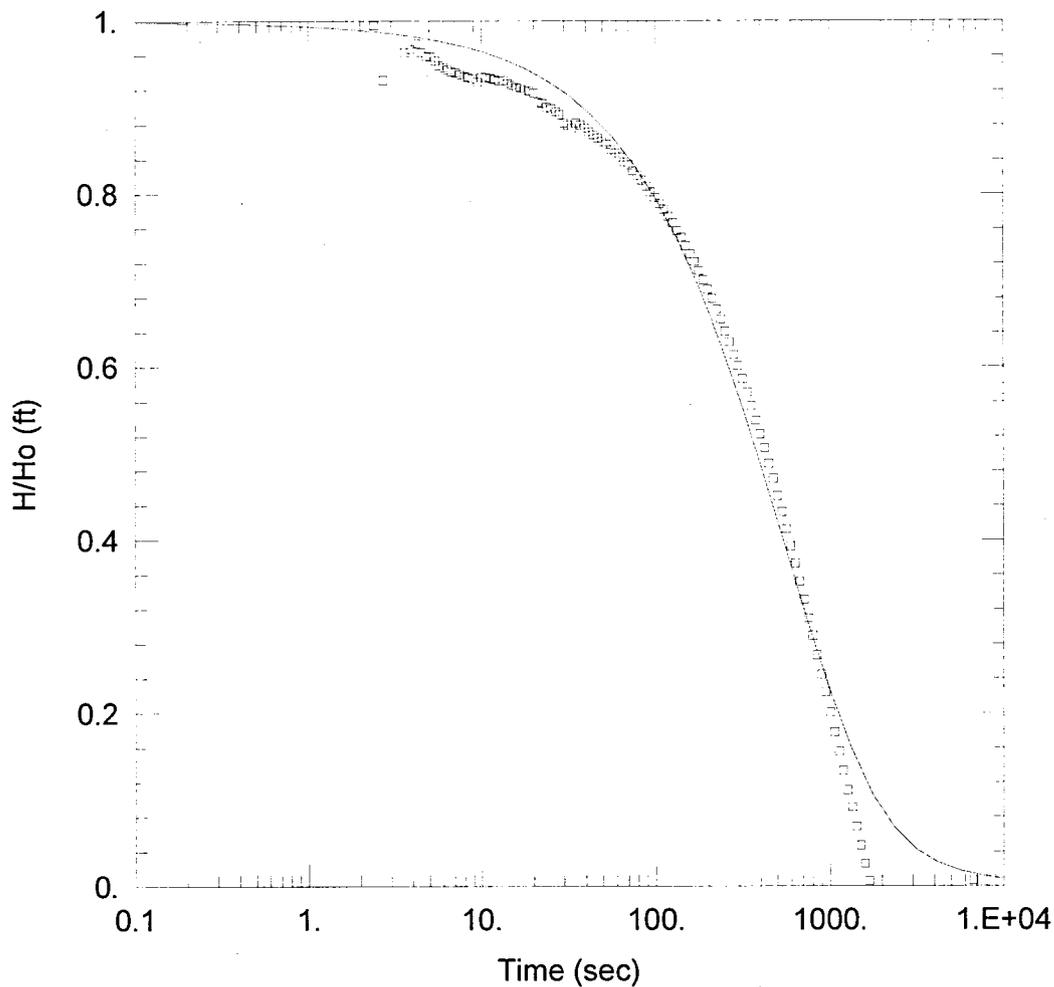
Saturated Thickness: 20. ft                      Anisotropy Ratio (Kz/Kr): 1.

### WELL DATA (MW-24)

Initial Displacement: 1.75 ft                      Casing Radius: 0.08333 ft  
 Wellbore Radius: 0.3438 ft                      Well Skin Radius: 0.3438 ft  
 Screen Length: 10. ft                      Total Well Penetration Depth: 10. ft  
 Gravel Pack Porosity: 0.25

### SOLUTION

Aquifer Model: Confined                      Solution Method: Bower-Rice  
 K = 0.102 ft/day                       $y_0 =$  1.649 ft



MW-24 SLUG OUT TEST 1

Data Set: C:\...MW-24\_OUT1\_CBP.aqt  
 Date: 04/08/07

Time: 22:56:41

PROJECT INFORMATION

Company: Tetra Tech EM Inc.  
 Client: Navy  
 Test Location: Site 34, Alameda  
 Test Well: MW-24  
 Test Date: 07/07/2006

AQUIFER DATA

Saturated Thickness: 20. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-24)

Initial Displacement: 1.75 ft  
 Wellbore Radius: 0.3438 ft  
 Screen Length: 10. ft  
 Gravel Pack Porosity: 0.25

Casing Radius: 0.08333 ft  
 Well Skin Radius: 0.3438 ft  
 Total Well Penetration Depth: 10. ft

SOLUTION

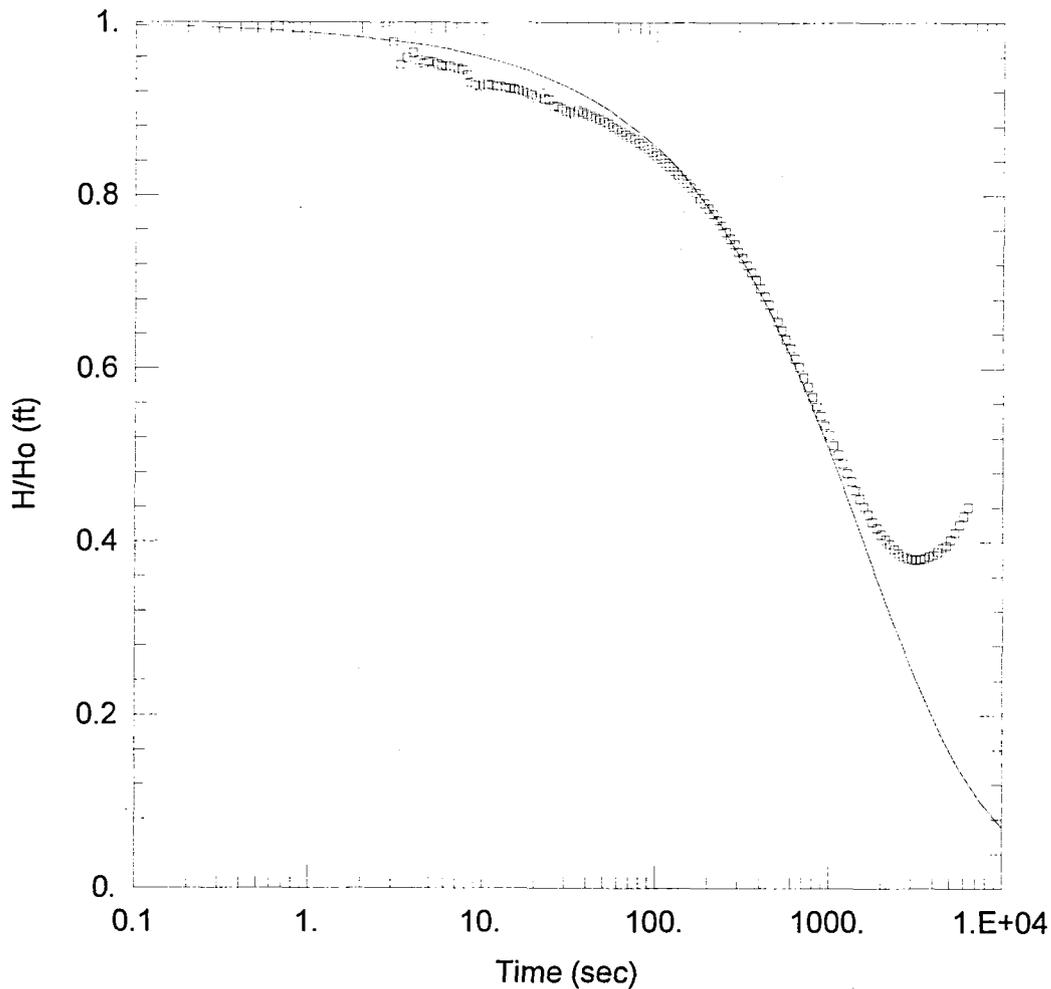
Aquifer Model: Confined

Solution Method: Cooper et al.

T = 2.074 ft<sup>2</sup>/day

S = 5.387E-05





MW-24 SLUG OUT TEST 2

Data Set: C:\...MW-24\_OUT2\_CBP.aqt

Date: 04/08/07

Time: 23:34:47

PROJECT INFORMATION

Company: Tetra Tech EM Inc.

Client: Navy

Test Location: Site 34, Alameda

Test Well: MW-24

Test Date: 07/07/2006

AQUIFER DATA

Saturated Thickness: 20. ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-24)

Initial Displacement: 2.675 ft

Casing Radius: 0.08333 ft

Wellbore Radius: 0.3438 ft

Well Skin Radius: 0.3438 ft

Screen Length: 10. ft

Total Well Penetration Depth: 10. ft

Gravel Pack Porosity: 0.25

SOLUTION

Aquifer Model: Confined

Solution Method: Cooper et al.

T = 0.3168 ft<sup>2</sup>/day

S = 0.002951

**ATTACHMENT C-3**

**PRESSURE TRANSDUCER DATA**

Test 1 MW-20

In-Situ Inc. Hermit 3000

Report generated: 07/07/06 12:54:20  
 Report from file: C:\WIN-SITU\Data\SN45352 2006-07-07 123355 Test #3.bin  
 DataMgr Version 3.70

Serial number: 00045352  
 Firmware Version 7.10  
 Unit name: Hermit 3000

Test name: Test 1 MW-20

Test defined on: 07/07/06 12:32:45  
 Test started on: 07/07/06 12:33:55  
 Test stopped on: 07/07/06 12:58:09  
 Test extracted on: 07/07/06 12:58:21

Data gathered using Logarithmic testing  
 Maximum time between data points: 25.0000 Minutes.  
 Number of data samples: 104

TOTAL DATA SAMPLES 104

Channel number [1]  
 Measurement type: Pressure  
 Channel name: PXD-261-65491  
 Linearity: 0.2435000  
 Scale: 29.6194000  
 Offset: -0.0449000  
 Warmup: 50

Channel number [0]  
 Measurement type: Barometric Pressure  
 Channel name: Barometric  
 Linearity: 0.0000000  
 Scale: 0.0000000  
 Offset: 0.0000000  
 Warmup: 50

Date	Time	Chan[1] Chan[0] ET (min)	PSI	Inches Hg
07/07/06	12:33:55	0.0000	2.658	30.082
07/07/06	12:33:55	0.0112	2.792	30.088
07/07/06	12:33:56	0.0223	2.875	30.090
07/07/06	12:33:57	0.0335	2.955	30.098
07/07/06	12:33:57	0.0447	3.029	30.098
07/07/06	12:33:58	0.0558	3.094	30.102
07/07/06	12:33:59	0.0670	3.157	30.102
07/07/06	12:33:59	0.0782	3.214	30.104
07/07/06	12:34:00	0.0893	3.259	30.104
07/07/06	12:34:01	0.1005	3.301	30.102
07/07/06	12:34:01	0.1117	3.329	30.104
07/07/06	12:34:02	0.1228	3.352	30.104
07/07/06	12:34:03	0.1340	3.372	30.110
07/07/06	12:34:03	0.1452	3.387	30.104
07/07/06	12:34:04	0.1563	3.398	30.106
07/07/06	12:34:05	0.1675	3.411	30.106
07/07/06	12:34:05	0.1787	3.422	30.104
07/07/06	12:34:06	0.1898	3.429	30.108
07/07/06	12:34:07	0.2010	3.437	30.108

Test 1 MW-20

07/07/06	12:34:07	0.2122	3.442	30.108
07/07/06	12:34:08	0.2233	3.450	30.108
07/07/06	12:34:09	0.2350	3.454	30.108
07/07/06	12:34:09	0.2475	3.459	30.110
07/07/06	12:34:10	0.2607	3.463	30.108
07/07/06	12:34:11	0.2747	3.467	30.108
07/07/06	12:34:12	0.2895	3.472	30.108
07/07/06	12:34:13	0.3052	3.476	30.106
07/07/06	12:34:14	0.3218	3.480	30.110
07/07/06	12:34:15	0.3395	3.483	30.108
07/07/06	12:34:16	0.3582	3.485	30.108
07/07/06	12:34:17	0.3780	3.489	30.110
07/07/06	12:34:18	0.3990	3.491	30.108
07/07/06	12:34:20	0.4212	3.494	30.104
07/07/06	12:34:21	0.4447	3.496	30.108
07/07/06	12:34:23	0.4695	3.498	30.108
07/07/06	12:34:24	0.4958	3.498	30.108
07/07/06	12:34:26	0.5238	3.502	30.072
07/07/06	12:34:28	0.5535	3.504	30.072
07/07/06	12:34:30	0.5848	3.506	30.072
07/07/06	12:34:32	0.6180	3.507	30.066
07/07/06	12:34:34	0.6532	3.509	30.072
07/07/06	12:34:36	0.6905	3.511	30.070
07/07/06	12:34:38	0.7300	3.513	30.070
07/07/06	12:34:41	0.7718	3.515	30.064
07/07/06	12:34:43	0.8162	3.517	30.062
07/07/06	12:34:46	0.8632	3.517	30.066
07/07/06	12:34:49	0.9130	3.518	30.060
07/07/06	12:34:52	0.9657	3.522	30.066
07/07/06	12:34:56	1.0215	3.522	30.064
07/07/06	12:34:59	1.0807	3.524	30.062
07/07/06	12:35:03	1.1433	3.526	30.062
07/07/06	12:35:07	1.2097	3.526	30.062
07/07/06	12:35:11	1.2800	3.528	30.062
07/07/06	12:35:16	1.3545	3.528	30.062
07/07/06	12:35:21	1.4335	3.528	30.062
07/07/06	12:35:26	1.5172	3.528	30.060
07/07/06	12:35:31	1.6057	3.530	30.062
07/07/06	12:35:36	1.6995	3.530	30.064
07/07/06	12:35:42	1.7988	3.531	30.062
07/07/06	12:35:49	1.9042	3.531	30.062
07/07/06	12:35:55	2.0157	3.531	30.062
07/07/06	12:36:03	2.1338	3.533	30.062
07/07/06	12:36:10	2.2590	3.533	30.060
07/07/06	12:36:18	2.3915	3.533	30.062
07/07/06	12:36:26	2.5320	3.533	30.060
07/07/06	12:36:35	2.6808	3.533	30.064
07/07/06	12:36:45	2.8383	3.533	30.062
07/07/06	12:36:55	3.0052	3.533	30.062
07/07/06	12:37:05	3.1820	3.535	30.064
07/07/06	12:37:17	3.3693	3.535	30.066
07/07/06	12:37:29	3.5677	3.535	30.064
07/07/06	12:37:41	3.7778	3.535	30.066
07/07/06	12:37:55	4.0005	3.535	30.068
07/07/06	12:38:09	4.2363	3.537	30.064
07/07/06	12:38:24	4.4862	3.537	30.066
07/07/06	12:38:40	4.7508	3.539	30.064
07/07/06	12:38:56	5.0312	3.539	30.068
07/07/06	12:39:14	5.3280	3.539	30.066
07/07/06	12:39:33	5.6425	3.539	30.066
07/07/06	12:39:53	5.9757	3.537	30.068
07/07/06	12:40:14	6.3285	3.537	30.068
07/07/06	12:40:37	6.7023	3.539	30.070

Test 1 MW-20

07/07/06	12:41:00	7.0983	3.537	30.068
07/07/06	12:41:26	7.5177	3.537	30.066
07/07/06	12:41:52	7.9620	3.537	30.068
07/07/06	12:42:20	8.4327	3.539	30.070
07/07/06	12:42:50	8.9312	3.537	30.068
07/07/06	12:43:22	9.4592	3.539	30.070
07/07/06	12:43:56	10.0185	3.537	30.068
07/07/06	12:44:31	10.6110	3.541	30.074
07/07/06	12:45:09	11.2385	3.537	30.068
07/07/06	12:45:49	11.9033	3.537	30.070
07/07/06	12:46:31	12.6075	3.537	30.072
07/07/06	12:47:16	13.3533	3.539	30.070
07/07/06	12:48:03	14.1433	3.539	30.068
07/07/06	12:48:53	14.9802	3.537	30.070
07/07/06	12:49:47	15.8667	3.539	30.068
07/07/06	12:50:43	16.8057	3.539	30.070
07/07/06	12:51:43	17.8003	3.539	30.066
07/07/06	12:52:46	18.8540	3.539	30.070
07/07/06	12:53:53	19.9700	3.539	30.070
07/07/06	12:55:04	21.1522	3.537	30.068
07/07/06	12:56:19	22.4043	3.537	30.072
07/07/06	12:57:38	23.7308	3.537	30.072

Test 2 MW-20

In-Situ Inc. Hermit 3000

Report generated: 07/07/06 13:33:51  
 Report from file: C:\WIN-SITU\Data\SN45352 2006-07-07 131630 Test 2 MW-20.bin  
 DataMgr Version 3.70

Serial number: 00045352  
 Firmware Version 7.10  
 Unit name: Hermit 3000

Test name: Test 2 MW-20

Test defined on: 07/07/06 13:13:58  
 Test started on: 07/07/06 13:16:30  
 Test stopped on: 07/07/06 13:37:07  
 Test extracted on: 07/07/06 13:37:16

Data gathered using Logarithmic testing  
 Maximum time between data points: 20.0000 Minutes.  
 Number of data samples: 102

TOTAL DATA SAMPLES 102

Channel number [1]  
 Measurement type: Pressure  
 Channel name: PXD-261-65491  
 Linearity: 0.2435000  
 Scale: 29.6194000  
 Offset: -0.0449000  
 Warmup: 50

Channel number [0]  
 Measurement type: Barometric Pressure  
 Channel name: Barometric  
 Linearity: 0.0000000  
 Scale: 0.0000000  
 Offset: 0.0000000  
 Warmup: 50

Date	Time	Chan[1] ET (min)	Chan[0] PSI	Inches Hg
07/07/06	13:16:30	0.0000	2.838	30.080
07/07/06	13:16:30	0.0110	2.931	30.084
07/07/06	13:16:31	0.0220	3.010	30.088
07/07/06	13:16:31	0.0330	3.075	30.092
07/07/06	13:16:32	0.0440	3.127	30.092
07/07/06	13:16:33	0.0550	3.175	30.094
07/07/06	13:16:33	0.0660	3.218	30.094
07/07/06	13:16:34	0.0770	3.255	30.096
07/07/06	13:16:35	0.0880	3.287	30.100
07/07/06	13:16:35	0.0990	3.314	30.100
07/07/06	13:16:36	0.1100	3.337	30.100
07/07/06	13:16:37	0.1210	3.359	30.098
07/07/06	13:16:37	0.1320	3.378	30.098
07/07/06	13:16:38	0.1430	3.391	30.100
07/07/06	13:16:39	0.1540	3.404	30.098
07/07/06	13:16:39	0.1650	3.415	30.098
07/07/06	13:16:40	0.1760	3.424	30.098
07/07/06	13:16:41	0.1870	3.431	30.096
07/07/06	13:16:41	0.1980	3.439	30.098

Test 2 MW-20

07/07/06	13:16:42	0.2090	3.444	30.096
07/07/06	13:16:43	0.2200	3.452	30.096
07/07/06	13:16:43	0.2310	3.457	30.098
07/07/06	13:16:44	0.2427	3.461	30.100
07/07/06	13:16:45	0.2552	3.465	30.098
07/07/06	13:16:46	0.2683	3.468	30.096
07/07/06	13:16:46	0.2823	3.472	30.096
07/07/06	13:16:47	0.2972	3.476	30.092
07/07/06	13:16:48	0.3128	3.480	30.094
07/07/06	13:16:49	0.3295	3.483	30.094
07/07/06	13:16:50	0.3472	3.485	30.090
07/07/06	13:16:51	0.3658	3.487	30.094
07/07/06	13:16:53	0.3857	3.491	30.090
07/07/06	13:16:54	0.4067	3.493	30.090
07/07/06	13:16:55	0.4288	3.496	30.092
07/07/06	13:16:57	0.4523	3.502	30.090
07/07/06	13:16:58	0.4772	3.502	30.090
07/07/06	13:17:00	0.5035	3.502	30.086
07/07/06	13:17:01	0.5315	3.507	30.066
07/07/06	13:17:03	0.5612	3.509	30.068
07/07/06	13:17:05	0.5925	3.509	30.068
07/07/06	13:17:07	0.6257	3.511	30.064
07/07/06	13:17:09	0.6608	3.515	30.064
07/07/06	13:17:11	0.6982	3.515	30.068
07/07/06	13:17:14	0.7377	3.517	30.064
07/07/06	13:17:16	0.7795	3.517	30.064
07/07/06	13:17:19	0.8238	3.518	30.062
07/07/06	13:17:22	0.8708	3.520	30.057
07/07/06	13:17:25	0.9207	3.522	30.062
07/07/06	13:17:28	0.9733	3.522	30.057
07/07/06	13:17:31	1.0292	3.522	30.062
07/07/06	13:17:35	1.0883	3.524	30.060
07/07/06	13:17:39	1.1510	3.526	30.057
07/07/06	13:17:43	1.2173	3.526	30.062
07/07/06	13:17:47	1.2877	3.526	30.060
07/07/06	13:17:51	1.3622	3.526	30.057
07/07/06	13:17:56	1.4412	3.528	30.060
07/07/06	13:18:01	1.5248	3.530	30.060
07/07/06	13:18:06	1.6133	3.531	30.060
07/07/06	13:18:12	1.7072	3.531	30.060
07/07/06	13:18:18	1.8065	3.531	30.060
07/07/06	13:18:24	1.9118	3.533	30.062
07/07/06	13:18:31	2.0233	3.535	30.064
07/07/06	13:18:38	2.1415	3.535	30.060
07/07/06	13:18:46	2.2667	3.533	30.062
07/07/06	13:18:53	2.3992	3.535	30.060
07/07/06	13:19:02	2.5397	3.535	30.064
07/07/06	13:19:11	2.6885	3.535	30.060
07/07/06	13:19:20	2.8460	3.535	30.062
07/07/06	13:19:30	3.0128	3.535	30.064
07/07/06	13:19:41	3.1897	3.535	30.062
07/07/06	13:19:52	3.3770	3.535	30.066
07/07/06	13:20:04	3.5753	3.535	30.062
07/07/06	13:20:17	3.7855	3.537	30.064
07/07/06	13:20:30	4.0082	3.535	30.064
07/07/06	13:20:44	4.2440	3.537	30.064
07/07/06	13:20:59	4.4938	3.537	30.066
07/07/06	13:21:15	4.7585	3.537	30.066
07/07/06	13:21:32	5.0388	3.537	30.064
07/07/06	13:21:50	5.3357	3.539	30.064
07/07/06	13:22:09	5.6502	3.541	30.066
07/07/06	13:22:29	5.9833	3.537	30.068
07/07/06	13:22:50	6.3362	3.539	30.064

Test 2 MW-20

07/07/06	13:23:12	6.7100	3.539	30.068
07/07/06	13:23:36	7.1060	3.539	30.066
07/07/06	13:24:01	7.5253	3.539	30.062
07/07/06	13:24:28	7.9697	3.539	30.062
07/07/06	13:24:56	8.4403	3.541	30.064
07/07/06	13:25:26	8.9388	3.539	30.070
07/07/06	13:25:58	9.4668	3.539	30.066
07/07/06	13:26:31	10.0262	3.539	30.068
07/07/06	13:27:07	10.6187	3.539	30.068
07/07/06	13:27:44	11.2462	3.539	30.070
07/07/06	13:28:24	11.9110	3.543	30.068
07/07/06	13:29:06	12.6152	3.541	30.068
07/07/06	13:29:51	13.3610	3.539	30.068
07/07/06	13:30:39	14.1510	3.537	30.066
07/07/06	13:31:29	14.9878	3.543	30.068
07/07/06	13:32:22	15.8743	3.539	30.068
07/07/06	13:33:18	16.8133	3.539	30.064
07/07/06	13:34:18	17.8080	3.543	30.068
07/07/06	13:35:21	18.8617	3.537	30.066
07/07/06	13:36:28	19.9777	3.537	30.066

Test 3 MW-20

In-Situ Inc. Hermit 3000

Report generated: 07/07/06 14:12:25  
 Report from file: C:\WIN-SITU\Data\SN45352 2006-07-07 135441 Test 3 MW-20.bin  
 DataMgr Version 3.70

Serial number: 00045352  
 Firmware Version 7.10  
 Unit name: Hermit 3000

Test name: Test 3 MW-20

Test defined on: 07/07/06 13:52:15  
 Test started on: 07/07/06 13:54:41  
 Test stopped on: 07/07/06 14:16:15  
 Test extracted on: 07/07/06 14:16:27

Data gathered using Logarithmic testing  
 Maximum time between data points: 20.0000 Minutes.  
 Number of data samples: 103

TOTAL DATA SAMPLES 103

Channel number [1]  
 Measurement type: Pressure  
 Channel name: PXD-261-65491  
 Linearity: 0.2435000  
 Scale: 29.6194000  
 Offset: -0.0449000  
 Warmup: 50

Channel number [0]  
 Measurement type: Barometric Pressure  
 Channel name: Barometric  
 Linearity: 0.0000000  
 Scale: 0.0000000  
 Offset: 0.0000000  
 Warmup: 50

Date	Time	ET (min)	Chan[1] PSI	Chan[0] Inches Hg	
07/07/06	13:54:41		0.0000	2.877	30.070
07/07/06	13:54:41		0.0110	2.964	30.072
07/07/06	13:54:42		0.0220	3.036	30.074
07/07/06	13:54:42		0.0330	3.097	30.080
07/07/06	13:54:43		0.0440	3.149	30.074
07/07/06	13:54:44		0.0550	3.196	30.082
07/07/06	13:54:44		0.0660	3.235	30.078
07/07/06	13:54:45		0.0770	3.268	30.078
07/07/06	13:54:46		0.0880	3.298	30.080
07/07/06	13:54:46		0.0990	3.324	30.082
07/07/06	13:54:47		0.1100	3.348	30.078
07/07/06	13:54:48		0.1210	3.366	30.082
07/07/06	13:54:48		0.1320	3.383	30.078
07/07/06	13:54:49		0.1430	3.396	30.078
07/07/06	13:54:50		0.1540	3.409	30.078
07/07/06	13:54:50		0.1650	3.418	30.078
07/07/06	13:54:51		0.1760	3.428	30.076
07/07/06	13:54:52		0.1870	3.439	30.076
07/07/06	13:54:52		0.1980	3.444	30.074

Test 3 MW-20

07/07/06	13:54:53	0.2090	3.448	30.070
07/07/06	13:54:54	0.2200	3.454	30.074
07/07/06	13:54:54	0.2310	3.459	30.074
07/07/06	13:54:55	0.2427	3.463	30.076
07/07/06	13:54:56	0.2552	3.467	30.074
07/07/06	13:54:57	0.2683	3.470	30.074
07/07/06	13:54:57	0.2823	3.474	30.068
07/07/06	13:54:58	0.2972	3.478	30.072
07/07/06	13:54:59	0.3128	3.480	30.066
07/07/06	13:55:00	0.3295	3.483	30.072
07/07/06	13:55:01	0.3472	3.487	30.070
07/07/06	13:55:02	0.3658	3.491	30.070
07/07/06	13:55:04	0.3857	3.493	30.070
07/07/06	13:55:05	0.4067	3.494	30.064
07/07/06	13:55:06	0.4288	3.498	30.066
07/07/06	13:55:08	0.4523	3.500	30.060
07/07/06	13:55:09	0.4772	3.504	30.064
07/07/06	13:55:11	0.5035	3.502	30.062
07/07/06	13:55:12	0.5315	3.507	30.041
07/07/06	13:55:14	0.5612	3.509	30.041
07/07/06	13:55:16	0.5925	3.511	30.041
07/07/06	13:55:18	0.6257	3.513	30.039
07/07/06	13:55:20	0.6608	3.513	30.037
07/07/06	13:55:22	0.6982	3.515	30.039
07/07/06	13:55:25	0.7377	3.517	30.035
07/07/06	13:55:27	0.7795	3.518	30.039
07/07/06	13:55:30	0.8238	3.518	30.041
07/07/06	13:55:33	0.8708	3.520	30.041
07/07/06	13:55:36	0.9207	3.522	30.039
07/07/06	13:55:39	0.9733	3.524	30.035
07/07/06	13:55:42	1.0292	3.524	30.037
07/07/06	13:55:46	1.0883	3.524	30.037
07/07/06	13:55:50	1.1510	3.526	30.037
07/07/06	13:55:54	1.2173	3.528	30.039
07/07/06	13:55:58	1.2877	3.528	30.039
07/07/06	13:56:02	1.3622	3.528	30.037
07/07/06	13:56:07	1.4412	3.530	30.041
07/07/06	13:56:12	1.5248	3.530	30.039
07/07/06	13:56:17	1.6133	3.531	30.041
07/07/06	13:56:23	1.7072	3.533	30.041
07/07/06	13:56:29	1.8065	3.533	30.039
07/07/06	13:56:35	1.9118	3.533	30.041
07/07/06	13:56:42	2.0233	3.537	30.037
07/07/06	13:56:49	2.1415	3.537	30.037
07/07/06	13:56:57	2.2667	3.537	30.045
07/07/06	13:57:04	2.3992	3.537	30.041
07/07/06	13:57:13	2.5397	3.537	30.043
07/07/06	13:57:22	2.6885	3.537	30.043
07/07/06	13:57:31	2.8460	3.537	30.045
07/07/06	13:57:41	3.0128	3.537	30.047
07/07/06	13:57:52	3.1897	3.537	30.047
07/07/06	13:58:03	3.3770	3.533	30.049
07/07/06	13:58:15	3.5753	3.537	30.047
07/07/06	13:58:28	3.7855	3.537	30.047
07/07/06	13:58:41	4.0082	3.539	30.043
07/07/06	13:58:55	4.2440	3.539	30.045
07/07/06	13:59:10	4.4938	3.537	30.047
07/07/06	13:59:26	4.7585	3.539	30.047
07/07/06	13:59:43	5.0388	3.537	30.049
07/07/06	14:00:01	5.3357	3.537	30.049
07/07/06	14:00:20	5.6502	3.537	30.047
07/07/06	14:00:40	5.9833	3.537	30.047
07/07/06	14:01:01	6.3362	3.539	30.047

Test 3 MW-20

07/07/06	14:01:23	6.7100	3.539	30.049
07/07/06	14:01:47	7.1060	3.539	30.047
07/07/06	14:02:12	7.5253	3.539	30.045
07/07/06	14:02:39	7.9697	3.537	30.047
07/07/06	14:03:07	8.4403	3.539	30.049
07/07/06	14:03:37	8.9388	3.539	30.047
07/07/06	14:04:09	9.4668	3.539	30.045
07/07/06	14:04:42	10.0262	3.539	30.049
07/07/06	14:05:18	10.6187	3.539	30.049
07/07/06	14:05:55	11.2462	3.543	30.051
07/07/06	14:06:35	11.9110	3.541	30.049
07/07/06	14:07:17	12.6152	3.541	30.049
07/07/06	14:08:02	13.3610	3.541	30.053
07/07/06	14:08:50	14.1510	3.537	30.045
07/07/06	14:09:40	14.9878	3.537	30.047
07/07/06	14:10:33	15.8743	3.537	30.047
07/07/06	14:11:29	16.8133	3.537	30.051
07/07/06	14:12:29	17.8080	3.541	30.049
07/07/06	14:13:32	18.8617	3.539	30.053
07/07/06	14:14:39	19.9777	3.543	30.049
07/07/06	14:15:50	21.1598	3.537	30.047

MW-24 Slug In Test 1

In-Situ Inc. MiniTroll Pro  
 Report generated: 3/6/2007 9:00:12  
 Report from file: ...\\SN08573 2007-03-01 094002 mw24 slugin1.bin  
 Win-Situ Version 4.47  
 Serial number: 8573  
 Firmware Version 3.09  
 Unit name:

Test name: mw24 slugin1

Test defined on: 3/1/2007 8:09:10  
 Test started on: 3/1/2007 9:40:02  
 Test stopped on: 3/1/2007 10:30:24  
 Test extracted on: N/A N/A

Data gathered using Logarithmic testing  
 Maximum time between data points: Seconds.  
 Number of data samples: 129

TOTAL DATA SAMPLES 129

Channel number [1]  
 Measurement type: Temperature  
 Channel name:

Channel number [2]  
 Measurement type: Pressure  
 Channel name: slugin1  
 Sensor Range: 30 PSIG.  
 Specific gravity: 1  
 Mode: TOC  
 User-defined reference: 0 Feet H2O  
 Referenced on: channel definition.  
 Pressure head at reference: 24.68 Feet H2O

Date	Time	ET (sec)	Chan[1] Fahrenheit	Chan[2] Feet H2O
3/1/2007	9:40:02	0	63.09	-0.843
3/1/2007	9:40:02	0.3	63.16	-0.953
3/1/2007	9:40:03	0.6	63.16	-1.286
3/1/2007	9:40:03	0.9	63.16	-1.658
3/1/2007	9:40:03	1.2	63.18	-1.985
3/1/2007	9:40:04	1.5	63.18	-2.186
3/1/2007	9:40:04	1.8	63.18	-2.351
3/1/2007	9:40:04	2.1	63.18	-2.376
3/1/2007	9:40:04	2.4	63.18	-2.523
3/1/2007	9:40:05	2.7	63.18	-2.582
3/1/2007	9:40:05	3	63.18	-2.68
3/1/2007	9:40:05	3.3	63.18	-2.921
3/1/2007	9:40:06	3.6	63.18	-2.926
3/1/2007	9:40:06	3.9	63.18	-3.126
3/1/2007	9:40:06	4.2	63.2	-3.233

MW-24 Slug In Test 1

3/1/2007	9:40:07	4.5	63.2	-3.486
3/1/2007	9:40:07	4.8	63.2	-3.494
3/1/2007	9:40:07	5.1	63.2	-3.504
3/1/2007	9:40:07	5.4	63.2	-3.596
3/1/2007	9:40:08	5.7	63.2	-3.459
3/1/2007	9:40:08	6	63.2	-3.535
3/1/2007	9:40:08	6.4	63.2	-3.543
3/1/2007	9:40:09	6.7	63.2	-3.447
3/1/2007	9:40:09	7.1	63.2	-3.619
3/1/2007	9:40:10	7.5	63.2	-3.654
3/1/2007	9:40:10	8	63.2	-3.408
3/1/2007	9:40:11	8.4	63.2	-3.4
3/1/2007	9:40:11	8.9	63.2	-3.478
3/1/2007	9:40:12	9.5	63.2	-3.629
3/1/2007	9:40:12	10	63.16	-3.869
3/1/2007	9:40:13	10.6	63.16	-3.342
3/1/2007	9:40:13	11.3	63.16	-3.119
3/1/2007	9:40:14	11.9	63.16	-3.681
3/1/2007	9:40:15	12.6	63.16	-3.395
3/1/2007	9:40:15	13.4	63.16	-3.401
3/1/2007	9:40:16	14.2	63.16	-3.508
3/1/2007	9:40:17	15	63.14	-3.391
3/1/2007	9:40:18	15.9	63.14	-3.45
3/1/2007	9:40:19	16.8	63.14	-3.436
3/1/2007	9:40:20	17.8	63.14	-3.419
3/1/2007	9:40:21	18.9	63.14	-3.421
3/1/2007	9:40:22	20	63.14	-3.424
3/1/2007	9:40:23	21.2	63.14	-3.413
3/1/2007	9:40:25	22.4	63.14	-3.411
3/1/2007	9:40:26	23.8	63.14	-3.403
3/1/2007	9:40:27	25.2	63.14	-3.399
3/1/2007	9:40:29	26.7	63.14	-3.393
3/1/2007	9:40:30	28.2	63.14	-3.387
3/1/2007	9:40:32	29.8	63.14	-3.381
3/1/2007	9:40:34	31.5	63.14	-3.401
3/1/2007	9:40:35	33.3	63.14	-3.393
3/1/2007	9:40:37	35.2	63.14	-3.383
3/1/2007	9:40:39	37.3	63.14	-3.374
3/1/2007	9:40:42	39.5	63.14	-3.354
3/1/2007	9:40:44	41.8	63.14	-3.344
3/1/2007	9:40:46	44.3	63.14	-3.338
3/1/2007	9:40:49	46.9	63.14	-3.33
3/1/2007	9:40:52	49.7	63.14	-3.325
3/1/2007	9:40:55	52.6	63.14	-3.315
3/1/2007	9:40:58	55.7	63.14	-3.307
3/1/2007	9:41:01	59	63.14	-3.297
3/1/2007	9:41:05	62.5	63.14	-3.285
3/1/2007	9:41:08	66.2	63.14	-3.278
3/1/2007	9:41:12	70.1	63.11	-3.268
3/1/2007	9:41:16	74.3	63.11	-3.26
3/1/2007	9:41:21	78.7	63.11	-3.249
3/1/2007	9:41:25	83.4	63.11	-3.235
3/1/2007	9:41:30	88.4	63.11	-3.223
3/1/2007	9:41:36	93.7	63.11	-3.209
3/1/2007	9:41:41	99.3	63.11	-3.2
3/1/2007	9:41:47	105.2	63.11	-3.186
3/1/2007	9:41:54	111.5	63.11	-3.17

MW-24 Slug In Test 1

3/1/2007	9:42:00	118.1	63.11	-3.155
3/1/2007	9:42:07	125.1	63.11	-3.141
3/1/2007	9:42:15	132.6	63.11	-3.123
3/1/2007	9:42:23	140.5	63.09	-3.108
3/1/2007	9:42:31	148.9	63.09	-3.092
3/1/2007	9:42:40	157.8	63.09	-3.075
3/1/2007	9:42:49	167.2	63.09	-3.057
3/1/2007	9:42:59	177.2	63.09	-3.036
3/1/2007	9:43:10	187.8	63.09	-3.016
3/1/2007	9:43:21	199	63.09	-2.994
3/1/2007	9:43:33	210.9	63.07	-2.977
3/1/2007	9:43:46	223.5	63.07	-2.954
3/1/2007	9:43:59	236.8	63.07	-2.932
3/1/2007	9:44:13	250.9	63.07	-2.909
3/1/2007	9:44:28	265.8	63.07	-2.885
3/1/2007	9:44:44	281.6	63.07	-2.862
3/1/2007	9:45:00	298.4	63.05	-2.835
3/1/2007	9:45:18	316.2	63.05	-2.809
3/1/2007	9:45:37	335	63.05	-2.782
3/1/2007	9:45:57	354.9	63.05	-2.756
3/1/2007	9:46:18	376	63.02	-2.727
3/1/2007	9:46:40	398.4	63.02	-2.696
3/1/2007	9:47:04	422.1	63.02	-2.667
3/1/2007	9:47:29	447.2	63	-2.636
3/1/2007	9:47:56	473.8	63	-2.604
3/1/2007	9:48:24	502	63	-2.571
3/1/2007	9:48:54	531.9	63	-2.536
3/1/2007	9:49:26	563.5	63	-2.503
3/1/2007	9:49:59	597	63	-2.467
3/1/2007	9:50:35	632.5	62.98	-2.433
3/1/2007	9:51:12	670.1	62.98	-2.397
3/1/2007	9:51:52	709.9	62.98	-2.358
3/1/2007	9:52:34	752.1	63	-2.322
3/1/2007	9:53:19	796.8	62.98	-2.284
3/1/2007	9:54:06	844.2	62.98	-2.246
3/1/2007	9:54:56	894.4	62.95	-2.21
3/1/2007	9:55:50	947.5	62.95	-2.171
3/1/2007	9:56:46	1003.8	62.95	-2.131
3/1/2007	9:57:45	1063.4	62.95	-2.094
3/1/2007	9:58:49	1126.6	62.95	-2.055
3/1/2007	9:59:56	1193.5	62.95	-2.014
3/1/2007	10:01:06	1264.4	62.95	-1.977
3/1/2007	10:02:22	1339.5	62.98	-1.937
3/1/2007	10:03:41	1419	62.98	-1.898
3/1/2007	10:05:05	1503.3	62.98	-1.863
3/1/2007	10:06:35	1592.6	62.95	-1.826
3/1/2007	10:08:09	1687.1	62.98	-1.788
3/1/2007	10:09:49	1787.2	62.98	-1.751
3/1/2007	10:11:35	1893.3	62.98	-1.718
3/1/2007	10:13:28	2005.7	62.95	-1.685
3/1/2007	10:15:27	2124.7	62.95	-1.652
3/1/2007	10:17:33	2250.8	62.98	-1.616
3/1/2007	10:19:46	2384.4	62.95	-1.585
3/1/2007	10:22:08	2525.9	62.98	-1.553
3/1/2007	10:24:38	2675.8	62.95	-1.528
3/1/2007	10:27:17	2834.6	62.98	-1.497
3/1/2007	10:30:05	3002.8	62.98	-1.473

Mw-24 Slug Out Test 1

In-Situ Inc.

MiniTroll Pro

Report generated: 3/6/2007 9:07:53  
 Report from file: ...ISN08573 2007-03-01 112636 mw24 slugout 1.bin  
 Win-Situ Version 4.47

Serial number: 8573  
 Firmware Version 3.09  
 Unit name:

Test name: mw24 slugout 1

Test defined on: 3/1/2007 10:32:10  
 Test started on: 3/1/2007 11:26:36  
 Test stopped on: 3/1/2007 13:22:29  
 Test extracted on: N/A N/A

Data gathered using Logarithmic testing

Maximum time between data points: Seconds.  
 Number of data samples: 143

TOTAL DATA SAMPLES 143

Channel number [1]

Measurement type: Temperature  
 Channel name:

Channel number [2]

Measurement type: Pressure  
 Channel name: slugin1  
 Sensor Range: 30 PSIG.  
 Specific gravity: 1  
 Mode: TOC  
 User-defined reference: 0 Feet H2O  
 Referenced on: channel definition.  
 Pressure head at reference: 24.68 Feet H2O

Date	Time	ET (sec)	Chan[1] Fahrenheit	Chan[2] Feet H2O
3/1/2007	11:26:36	0	63.02	-0.932
3/1/2007	11:26:37	0.3	63.07	-0.951
3/1/2007	11:26:37	0.6	63.09	-0.954
3/1/2007	11:26:37	0.9	63.09	-0.8
3/1/2007	11:26:38	1.2	63.09	-0.845
3/1/2007	11:26:38	1.5	63.09	0.555
3/1/2007	11:26:38	1.8	63.09	1.632
3/1/2007	11:26:38	2.1	63.11	2.098
3/1/2007	11:26:39	2.4	63.11	1.646
3/1/2007	11:26:39	2.7	63.11	1.535
3/1/2007	11:26:39	3	63.11	1.67
3/1/2007	11:26:40	3.3	63.11	1.656
3/1/2007	11:26:40	3.6	63.11	1.591
3/1/2007	11:26:40	3.9	63.11	1.597
3/1/2007	11:26:41	4.2	63.11	1.609
3/1/2007	11:26:41	4.5	63.11	1.591
3/1/2007	11:26:41	4.8	63.11	1.583
3/1/2007	11:26:41	5.1	63.11	1.582
3/1/2007	11:26:42	5.4	63.11	1.574
3/1/2007	11:26:42	5.7	63.11	1.564
3/1/2007	11:26:42	6	63.11	1.56

Mw-24 Slug Out Test 1

3/1/2007	11:26:43	6.4	63.11	1.556
3/1/2007	11:26:43	6.7	63.11	1.552
3/1/2007	11:26:43	7.1	63.11	1.55
3/1/2007	11:26:44	7.5	63.11	1.546
3/1/2007	11:26:44	8	63.11	1.542
3/1/2007	11:26:45	8.4	63.11	1.54
3/1/2007	11:26:45	8.9	63.11	1.537
3/1/2007	11:26:46	9.5	63.11	1.531
3/1/2007	11:26:46	10	63.09	1.54
3/1/2007	11:26:47	10.6	63.09	1.54
3/1/2007	11:26:48	11.3	63.09	1.538
3/1/2007	11:26:48	11.9	63.07	1.536
3/1/2007	11:26:49	12.6	63.09	1.534
3/1/2007	11:26:50	13.4	63.07	1.534
3/1/2007	11:26:50	14.2	63.07	1.528
3/1/2007	11:26:51	15	63.07	1.524
3/1/2007	11:26:52	15.9	63.07	1.52
3/1/2007	11:26:53	16.8	63.07	1.518
3/1/2007	11:26:54	17.8	63.07	1.514
3/1/2007	11:26:55	18.9	63.07	1.512
3/1/2007	11:26:56	20	63.07	1.508
3/1/2007	11:26:58	21.2	63.07	1.489
3/1/2007	11:26:59	22.4	63.07	1.487
3/1/2007	11:27:00	23.8	63.07	1.479
3/1/2007	11:27:02	25.2	63.07	1.477
3/1/2007	11:27:03	26.7	63.07	1.471
3/1/2007	11:27:05	28.2	63.07	1.465
3/1/2007	11:27:06	29.8	63.07	1.448
3/1/2007	11:27:08	31.5	63.07	1.444
3/1/2007	11:27:10	33.3	63.07	1.438
3/1/2007	11:27:12	35.2	63.07	1.448
3/1/2007	11:27:14	37.3	63.07	1.444
3/1/2007	11:27:16	39.5	63.07	1.438
3/1/2007	11:27:18	41.8	63.07	1.43
3/1/2007	11:27:21	44.3	63.07	1.424
3/1/2007	11:27:23	46.9	63.07	1.418
3/1/2007	11:27:26	49.7	63.07	1.41
3/1/2007	11:27:29	52.6	63.07	1.405
3/1/2007	11:27:32	55.7	63.05	1.394
3/1/2007	11:27:35	59	63.07	1.387
3/1/2007	11:27:39	62.5	63.05	1.379
3/1/2007	11:27:43	66.2	63.05	1.369
3/1/2007	11:27:46	70.1	63.05	1.363
3/1/2007	11:27:51	74.3	63.05	1.351
3/1/2007	11:27:55	78.7	63.05	1.342
3/1/2007	11:28:00	83.4	63.05	1.332
3/1/2007	11:28:05	88.4	63.05	1.32
3/1/2007	11:28:10	93.7	63.05	1.308
3/1/2007	11:28:16	99.3	63.05	1.297
3/1/2007	11:28:22	105.2	63.05	1.285
3/1/2007	11:28:28	111.5	63.05	1.273
3/1/2007	11:28:34	118.1	63.05	1.259
3/1/2007	11:28:41	125.1	63.05	1.246
3/1/2007	11:28:49	132.6	63.05	1.23
3/1/2007	11:28:57	140.5	63.05	1.216
3/1/2007	11:29:05	148.9	63.05	1.199
3/1/2007	11:29:14	157.8	63.05	1.183
3/1/2007	11:29:24	167.2	63.05	1.167
3/1/2007	11:29:34	177.2	63.05	1.148
3/1/2007	11:29:44	187.8	63.05	1.13
3/1/2007	11:29:55	199	63.05	1.111

Mw-24 Slug Out Test 1

3/1/2007	11:30:07	210.9	63.05	1.093
3/1/2007	11:30:20	223.5	63.05	1.071
3/1/2007	11:30:33	236.8	63.05	1.05
3/1/2007	11:30:47	250.9	63.05	1.026
3/1/2007	11:31:02	265.8	63.05	1.005
3/1/2007	11:31:18	281.6	63.05	0.979
3/1/2007	11:31:35	298.4	63.05	0.956
3/1/2007	11:31:53	316.2	63.05	0.93
3/1/2007	11:32:11	335	63.05	0.903
3/1/2007	11:32:31	354.9	63.07	0.876
3/1/2007	11:32:52	376	63.05	0.846
3/1/2007	11:33:15	398.4	63.07	0.819
3/1/2007	11:33:38	422.1	63.07	0.79
3/1/2007	11:34:04	447.2	63.07	0.758
3/1/2007	11:34:30	473.8	63.07	0.729
3/1/2007	11:34:58	502	63.07	0.694
3/1/2007	11:35:28	531.9	63.07	0.661
3/1/2007	11:36:00	563.5	63.07	0.627
3/1/2007	11:36:33	597	63.07	0.592
3/1/2007	11:37:09	632.5	63.07	0.557
3/1/2007	11:37:46	670.1	63.09	0.52
3/1/2007	11:38:26	709.9	63.09	0.483
3/1/2007	11:39:08	752.1	63.09	0.446
3/1/2007	11:39:53	796.8	63.09	0.41
3/1/2007	11:40:41	844.2	63.09	0.371
3/1/2007	11:41:31	894.4	63.09	0.332
3/1/2007	11:42:24	947.5	63.09	0.297
3/1/2007	11:43:20	1003.8	63.09	0.256
3/1/2007	11:44:20	1063.4	63.09	0.216
3/1/2007	11:45:23	1126.6	63.09	0.177
3/1/2007	11:46:30	1193.5	63.09	0.138
3/1/2007	11:47:41	1264.4	63.07	0.099
3/1/2007	11:48:56	1339.5	63.09	0.064
3/1/2007	11:50:15	1419	63.09	0.025
3/1/2007	11:51:40	1503.3	63.09	-0.013
3/1/2007	11:53:09	1592.6	63.09	-0.05
3/1/2007	11:54:43	1687.1	63.09	-0.085
3/1/2007	11:56:24	1787.2	63.09	-0.118
3/1/2007	11:58:10	1893.3	63.09	-0.15
3/1/2007	12:00:02	2005.7	63.09	-0.181
3/1/2007	12:02:01	2124.7	63.07	-0.211
3/1/2007	12:04:07	2250.8	63.07	-0.238
3/1/2007	12:06:21	2384.4	63.07	-0.262
3/1/2007	12:08:42	2525.9	63.07	-0.285
3/1/2007	12:11:12	2675.8	63.07	-0.305
3/1/2007	12:13:51	2834.6	63.07	-0.32
3/1/2007	12:16:39	3002.8	63.07	-0.334
3/1/2007	12:19:37	3180.9	63.05	-0.346
3/1/2007	12:22:46	3369.6	63.05	-0.354
3/1/2007	12:26:06	3569.5	63.05	-0.356
3/1/2007	12:29:38	3781.2	63.07	-0.358
3/1/2007	12:33:22	4005.5	63.05	-0.356
3/1/2007	12:37:19	4243.1	63.05	-0.346
3/1/2007	12:41:31	4494.7	63.05	-0.332
3/1/2007	12:45:58	4761.3	63.05	-0.313
3/1/2007	12:50:40	5043.7	63.05	-0.268
3/1/2007	12:55:39	5342.8	63.02	-0.241
3/1/2007	13:00:56	5659.6	63.05	-0.211
3/1/2007	13:06:32	5995.2	63.07	-0.175
3/1/2007	13:12:27	6350.7	63.07	-0.13
3/1/2007	13:18:44	6727.2	63.05	-0.084

MW-24 Slug In Test 2

In-Situ Inc.

MiniTroll Pro

Report generated: 3/6/2007 9:09:34  
 Report from file: ...\\SN08573 2007-03-01 132526 mw24 slugin 2.bin  
 Win-Situ Version 4.47

Serial number: 8573  
 Firmware Version 3.09  
 Unit name:

Test name: mw24 slugin 2

Test defined on: 3/1/2007 13:23:53  
 Test started on: 3/1/2007 13:25:26  
 Test stopped on: 3/1/2007 14:14:06  
 Test extracted on: N/A N/A

Data gathered using Logarithmic testing

Maximum time between data points: Seconds.  
 Number of data samples: 128

TOTAL DATA SAMPLES 128

Channel number [1]  
 Measurement type: Temperature  
 Channel name:

Channel number [2]  
 Measurement type: Pressure  
 Channel name: slugin1  
 Sensor Range: 30 PSIG.  
 Specific gravity: 1  
 Mode: TOC  
 User-defined reference: 0 Feet H2O  
 Referenced on: channel definition.  
 Pressure head at reference: 24.68 Feet H2O

Date	Time	ET (sec)	Chan[1] Fahrenheit	Chan[2] Feet H2O
3/1/2007	13:25:26	0	63.07	-0.027
3/1/2007	13:25:27	0.3	63.11	-0.045
3/1/2007	13:25:27	0.6	63.11	-0.049
3/1/2007	13:25:27	0.9	63.14	-0.051
3/1/2007	13:25:28	1.2	63.14	-0.053
3/1/2007	13:25:28	1.5	63.14	-0.057
3/1/2007	13:25:28	1.8	63.14	-0.174
3/1/2007	13:25:28	2.1	63.16	-0.524
3/1/2007	13:25:29	2.4	63.16	-0.947
3/1/2007	13:25:29	2.7	63.16	-1.511
3/1/2007	13:25:29	3	63.16	-1.869
3/1/2007	13:25:30	3.3	63.16	-2.277
3/1/2007	13:25:30	3.6	63.16	-2.189
3/1/2007	13:25:30	3.9	63.16	-2.339
3/1/2007	13:25:31	4.2	63.16	-2.504

MW-24 Slug In Test 2

3/1/2007	13:25:31	4.5	63.16	-2.625
3/1/2007	13:25:31	4.8	63.16	-2.774
3/1/2007	13:25:31	5.1	63.16	-2.735
3/1/2007	13:25:32	5.4	63.16	-2.747
3/1/2007	13:25:32	5.7	63.16	-2.768
3/1/2007	13:25:32	6	63.16	-2.729
3/1/2007	13:25:33	6.4	63.16	-2.619
3/1/2007	13:25:33	6.7	63.16	-2.535
3/1/2007	13:25:33	7.1	63.16	-2.612
3/1/2007	13:25:34	7.5	63.18	-2.872
3/1/2007	13:25:34	8	63.18	-3.077
3/1/2007	13:25:35	8.4	63.18	-2.693
3/1/2007	13:25:35	8.9	63.18	-2.357
3/1/2007	13:25:36	9.5	63.18	-2.801
3/1/2007	13:25:36	10	63.14	-2.847
3/1/2007	13:25:37	10.6	63.14	-2.567
3/1/2007	13:25:38	11.3	63.14	-2.469
3/1/2007	13:25:38	11.9	63.14	-2.921
3/1/2007	13:25:39	12.6	63.11	-2.749
3/1/2007	13:25:40	13.4	63.11	-2.321
3/1/2007	13:25:40	14.2	63.11	-2.651
3/1/2007	13:25:41	15	63.11	-2.976
3/1/2007	13:25:42	15.9	63.11	-2.469
3/1/2007	13:25:43	16.8	63.11	-2.71
3/1/2007	13:25:44	17.8	63.11	-2.54
3/1/2007	13:25:45	18.9	63.11	-2.581
3/1/2007	13:25:46	20	63.11	-2.64
3/1/2007	13:25:48	21.2	63.11	-2.534
3/1/2007	13:25:49	22.4	63.11	-2.691
3/1/2007	13:25:50	23.8	63.11	-2.571
3/1/2007	13:25:52	25.2	63.11	-2.542
3/1/2007	13:25:53	26.7	63.11	-2.563
3/1/2007	13:25:55	28.2	63.11	-2.591
3/1/2007	13:25:56	29.8	63.11	-2.518
3/1/2007	13:25:58	31.5	63.11	-2.487
3/1/2007	13:26:00	33.3	63.11	-2.522
3/1/2007	13:26:02	35.2	63.11	-2.528
3/1/2007	13:26:04	37.3	63.11	-2.542
3/1/2007	13:26:06	39.5	63.11	-2.528
3/1/2007	13:26:08	41.8	63.09	-2.517
3/1/2007	13:26:11	44.3	63.09	-2.501
3/1/2007	13:26:13	46.9	63.09	-2.493
3/1/2007	13:26:16	49.7	63.11	-2.485
3/1/2007	13:26:19	52.6	63.09	-2.476
3/1/2007	13:26:22	55.7	63.09	-2.466
3/1/2007	13:26:25	59	63.09	-2.458
3/1/2007	13:26:29	62.5	63.09	-2.446
3/1/2007	13:26:33	66.2	63.09	-2.435
3/1/2007	13:26:36	70.1	63.09	-2.423
3/1/2007	13:26:41	74.3	63.09	-2.411
3/1/2007	13:26:45	78.7	63.09	-2.401
3/1/2007	13:26:50	83.4	63.09	-2.388
3/1/2007	13:26:55	88.4	63.09	-2.376
3/1/2007	13:27:00	93.7	63.09	-2.36
3/1/2007	13:27:06	99.3	63.09	-2.346
3/1/2007	13:27:12	105.2	63.09	-2.331
3/1/2007	13:27:18	111.5	63.09	-2.315

MW-24 Slug In Test 2

3/1/2007	13:27:24	118.1	63.07	-2.3
3/1/2007	13:27:31	125.1	63.07	-2.282
3/1/2007	13:27:39	132.6	63.07	-2.265
3/1/2007	13:27:47	140.5	63.07	-2.247
3/1/2007	13:27:55	148.9	63.07	-2.229
3/1/2007	13:28:04	157.8	63.07	-2.208
3/1/2007	13:28:14	167.2	63.07	-2.188
3/1/2007	13:28:24	177.2	63.07	-2.165
3/1/2007	13:28:34	187.8	63.07	-2.145
3/1/2007	13:28:45	199	63.05	-2.122
3/1/2007	13:28:57	210.9	63.05	-2.097
3/1/2007	13:29:10	223.5	63.05	-2.073
3/1/2007	13:29:23	236.8	63.05	-2.046
3/1/2007	13:29:37	250.9	63.05	-2.018
3/1/2007	13:29:52	265.8	63.05	-1.993
3/1/2007	13:30:08	281.6	63.05	-1.965
3/1/2007	13:30:25	298.4	63.05	-1.936
3/1/2007	13:30:43	316.2	63.05	-1.907
3/1/2007	13:31:01	335	63.05	-1.875
3/1/2007	13:31:21	354.9	63.05	-1.842
3/1/2007	13:31:42	376	63.02	-1.811
3/1/2007	13:32:05	398.4	63.02	-1.774
3/1/2007	13:32:28	422.1	63.02	-1.743
3/1/2007	13:32:54	447.2	63.02	-1.703
3/1/2007	13:33:20	473.8	63.02	-1.666
3/1/2007	13:33:48	502	63.02	-1.627
3/1/2007	13:34:18	531.9	63.02	-1.586
3/1/2007	13:34:50	563.5	63	-1.547
3/1/2007	13:35:23	597	63	-1.5
3/1/2007	13:35:59	632.5	63	-1.459
3/1/2007	13:36:36	670.1	63	-1.416
3/1/2007	13:37:16	709.9	63	-1.369
3/1/2007	13:37:58	752.1	62.98	-1.322
3/1/2007	13:38:43	796.8	62.98	-1.275
3/1/2007	13:39:31	844.2	62.98	-1.228
3/1/2007	13:40:21	894.4	62.98	-1.177
3/1/2007	13:41:14	947.5	62.98	-1.129
3/1/2007	13:42:10	1003.8	62.98	-1.08
3/1/2007	13:43:10	1063.4	62.98	-1.025
3/1/2007	13:44:13	1126.6	62.98	-0.978
3/1/2007	13:45:20	1193.5	62.95	-0.925
3/1/2007	13:46:31	1264.4	62.98	-0.872
3/1/2007	13:47:46	1339.5	62.95	-0.818
3/1/2007	13:49:05	1419	62.95	-0.763
3/1/2007	13:50:30	1503.3	62.95	-0.708
3/1/2007	13:51:59	1592.6	62.95	-0.651
3/1/2007	13:53:33	1687.1	62.93	-0.597
3/1/2007	13:55:14	1787.2	62.93	-0.544
3/1/2007	13:57:00	1893.3	62.95	-0.487
3/1/2007	13:58:52	2005.7	62.95	-0.432
3/1/2007	14:00:51	2124.7	62.95	-0.375
3/1/2007	14:02:57	2250.8	62.95	-0.318
3/1/2007	14:05:11	2384.4	62.93	-0.264
3/1/2007	14:07:32	2525.9	62.93	-0.207
3/1/2007	14:10:02	2675.8	62.93	-0.152
3/1/2007	14:12:41	2834.6	62.95	-0.097

MW-24 Slug Out Test 2

In-Situ Inc.

MiniTroll Pro

Report generated: 3/6/2007 9:12:02  
 Report from file: ...\\SN08573 2007-03-01 141518 mw24 slugout 2.bin  
 Win-Situ Version 4.47

Serial number: 8573  
 Firmware Version 3.09  
 Unit name:

Test name: mw24 slugout 2

Test defined on: 3/1/2007 14:15:07  
 Test started on: 3/1/2007 14:15:18  
 Test stopped on: 3/1/2007 16:02:16  
 Test extracted on: N/A N/A

Data gathered using Logarithmic testing

Maximum time between data points: 1Seconds.  
 Number of data samples: 142

TOTAL DATA SAMPLES 142

Channel number [1]

Measurement type: Temperature  
 Channel name:

Channel number [2]

Measurement type: Pressure  
 Channel name: slugin1  
 Sensor Range: 30 PSIG.  
 Specific gravity: 1  
 Mode: TOC  
 User-defined reference: 0 Feet H2O  
 Referenced on: channel definition.  
 Pressure head at reference: 24.68 Feet H2O

Date	Time	ET (sec)	Chan[1] Fahrenheit	Chan[2] Feet H2O
3/1/2007	14:15:18	0	62.95	0.138
3/1/2007	14:15:19	0.3	63	0.113
3/1/2007	14:15:19	0.6	63.02	0.117
3/1/2007	14:15:19	0.9	63.02	0.668
3/1/2007	14:15:20	1.2	63.05	2.307
3/1/2007	14:15:20	1.5	63.05	3.36
3/1/2007	14:15:20	1.8	63.05	2.974
3/1/2007	14:15:21	2.1	63.05	2.557
3/1/2007	14:15:21	2.4	63.05	2.63
3/1/2007	14:15:21	2.7	63.05	2.788
3/1/2007	14:15:21	3	63.05	2.728
3/1/2007	14:15:22	3.3	63.05	2.657
3/1/2007	14:15:22	3.6	63.05	2.679
3/1/2007	14:15:22	3.9	63.05	2.693
3/1/2007	14:15:23	4.2	63.05	2.671
3/1/2007	14:15:23	4.5	63.05	2.661
3/1/2007	14:15:23	4.8	63.05	2.667
3/1/2007	14:15:24	5.1	63.05	2.665
3/1/2007	14:15:24	5.4	63.05	2.659
3/1/2007	14:15:24	5.7	63.05	2.653

MW-24 Slug Out Test 2

3/1/2007	14:15:24	6	63.07	2.652
3/1/2007	14:15:25	6.4	63.07	2.652
3/1/2007	14:15:25	6.7	63.07	2.646
3/1/2007	14:15:26	7.1	63.07	2.646
3/1/2007	14:15:26	7.5	63.07	2.642
3/1/2007	14:15:26	8	63.07	2.626
3/1/2007	14:15:27	8.4	63.07	2.603
3/1/2007	14:15:27	8.9	63.07	2.595
3/1/2007	14:15:28	9.5	63.07	2.591
3/1/2007	14:15:29	10	63.02	2.596
3/1/2007	14:15:29	10.6	63.02	2.596
3/1/2007	14:15:30	11.3	63.02	2.594
3/1/2007	14:15:30	11.9	63.02	2.59
3/1/2007	14:15:31	12.6	63.02	2.59
3/1/2007	14:15:32	13.4	63.02	2.586
3/1/2007	14:15:33	14.2	63.02	2.584
3/1/2007	14:15:33	15	63.02	2.583
3/1/2007	14:15:34	15.9	63.02	2.579
3/1/2007	14:15:35	16.8	63.02	2.575
3/1/2007	14:15:36	17.8	63.02	2.571
3/1/2007	14:15:37	18.9	63.02	2.565
3/1/2007	14:15:38	20	63.02	2.555
3/1/2007	14:15:40	21.2	63.02	2.569
3/1/2007	14:15:41	22.4	63.02	2.553
3/1/2007	14:15:42	23.8	63.02	2.549
3/1/2007	14:15:44	25.2	63.02	2.53
3/1/2007	14:15:45	26.7	63.02	2.528
3/1/2007	14:15:47	28.2	63.02	2.522
3/1/2007	14:15:48	29.8	63.02	2.514
3/1/2007	14:15:50	31.5	63.02	2.51
3/1/2007	14:15:52	33.3	63.02	2.504
3/1/2007	14:15:54	35.2	63.02	2.516
3/1/2007	14:15:56	37.3	63.02	2.51
3/1/2007	14:15:58	39.5	63.02	2.504
3/1/2007	14:16:00	41.8	63.02	2.498
3/1/2007	14:16:03	44.3	63.02	2.492
3/1/2007	14:16:05	46.9	63.02	2.487
3/1/2007	14:16:08	49.7	63.02	2.479
3/1/2007	14:16:11	52.6	63.02	2.473
3/1/2007	14:16:14	55.7	63.02	2.465
3/1/2007	14:16:17	59	63.02	2.459
3/1/2007	14:16:21	62.5	63.02	2.451
3/1/2007	14:16:25	66.2	63.02	2.442
3/1/2007	14:16:29	70.1	63.02	2.434
3/1/2007	14:16:33	74.3	63.02	2.428
3/1/2007	14:16:37	78.7	63.02	2.416
3/1/2007	14:16:42	83.4	63.02	2.408
3/1/2007	14:16:47	88.4	63.02	2.397
3/1/2007	14:16:52	93.7	63.02	2.387
3/1/2007	14:16:58	99.3	63.02	2.377
3/1/2007	14:17:04	105.2	63.02	2.367
3/1/2007	14:17:10	111.5	63.02	2.355
3/1/2007	14:17:17	118.1	63.02	2.344
3/1/2007	14:17:24	125.1	63.02	2.33
3/1/2007	14:17:31	132.6	63.02	2.318
3/1/2007	14:17:39	140.5	63.02	2.304
3/1/2007	14:17:47	148.9	63.02	2.291
3/1/2007	14:17:56	157.8	63.02	2.277
3/1/2007	14:18:06	167.2	63.02	2.261
3/1/2007	14:18:16	177.2	63.02	2.246
3/1/2007	14:18:26	187.8	63.02	2.23

MW-24 Slug Out Test 2

3/1/2007	14:18:37	199	63.02	2.214
3/1/2007	14:18:49	210.9	63.02	2.197
3/1/2007	14:19:02	223.5	63.02	2.177
3/1/2007	14:19:15	236.8	63.02	2.16
3/1/2007	14:19:29	250.9	63.02	2.14
3/1/2007	14:19:44	265.8	63.02	2.12
3/1/2007	14:20:00	281.6	63.02	2.103
3/1/2007	14:20:17	298.4	63.02	2.079
3/1/2007	14:20:35	316.2	63.02	2.06
3/1/2007	14:20:53	335	63.02	2.038
3/1/2007	14:21:13	354.9	63.02	2.015
3/1/2007	14:21:34	376	63.02	1.991
3/1/2007	14:21:57	398.4	63.02	1.966
3/1/2007	14:22:21	422.1	63.02	1.94
3/1/2007	14:22:46	447.2	63.02	1.917
3/1/2007	14:23:12	473.8	63.02	1.889
3/1/2007	14:23:40	502	63.02	1.864
3/1/2007	14:24:10	531.9	63.02	1.837
3/1/2007	14:24:42	563.5	63.02	1.809
3/1/2007	14:25:15	597	63.02	1.782
3/1/2007	14:25:51	632.5	63.02	1.75
3/1/2007	14:26:29	670.1	63.02	1.723
3/1/2007	14:27:08	709.9	63.02	1.692
3/1/2007	14:27:51	752.1	63.02	1.662
3/1/2007	14:28:35	796.8	63.02	1.631
3/1/2007	14:29:23	844.2	63.02	1.602
3/1/2007	14:30:13	894.4	63.02	1.572
3/1/2007	14:31:06	947.5	63.02	1.543
3/1/2007	14:32:02	1003.8	63.02	1.513
3/1/2007	14:33:02	1063.4	63.02	1.482
3/1/2007	14:34:05	1126.6	63.02	1.453
3/1/2007	14:35:12	1193.5	63.02	1.425
3/1/2007	14:36:23	1264.4	63.02	1.396
3/1/2007	14:37:38	1339.5	63	1.37
3/1/2007	14:38:57	1419	63	1.343
3/1/2007	14:40:22	1503.3	63	1.317
3/1/2007	14:41:51	1592.6	63	1.292
3/1/2007	14:43:26	1687.1	63	1.268
3/1/2007	14:45:06	1787.2	63.02	1.245
3/1/2007	14:46:52	1893.3	63.02	1.226
3/1/2007	14:48:44	2005.7	63.02	1.206
3/1/2007	14:50:43	2124.7	63.02	1.19
3/1/2007	14:52:49	2250.8	63.02	1.177
3/1/2007	14:55:03	2384.4	63.02	1.161
3/1/2007	14:57:24	2525.9	63.02	1.149
3/1/2007	14:59:54	2675.8	63.02	1.14
3/1/2007	15:02:33	2834.6	63.02	1.134
3/1/2007	15:05:21	3002.8	63.02	1.13
3/1/2007	15:08:19	3180.9	63.02	1.128
3/1/2007	15:11:28	3369.6	63.02	1.13
3/1/2007	15:14:48	3569.5	63.02	1.132
3/1/2007	15:18:20	3781.2	63.02	1.138
3/1/2007	15:22:04	4005.5	63.02	1.143
3/1/2007	15:26:02	4243.1	63.02	1.153
3/1/2007	15:30:13	4494.7	63.02	1.167
3/1/2007	15:34:40	4761.3	63.02	1.173
3/1/2007	15:39:22	5043.7	63.02	1.19
3/1/2007	15:44:21	5342.8	63.02	1.212
3/1/2007	15:49:38	5659.6	63.02	1.237
3/1/2007	15:55:14	5995.2	63.02	1.263
3/1/2007	16:01:09	6350.7	63.02	1.29

**APPENDIX D**  
**ANALYTICAL RESULTS FOR SOIL SAMPLES**

---

TABLE D-1. TOTAL METALS IN SOIL  
 Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Aluminum	Antimony	Arsenic	Barium	Beryllium	Calcium	Cadmium	Chromium (Total)	Chromium (Hexavalent)	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc
004-001-001	004-001M	4/27/1995	0.5-1		3.4 U	1.6 B	45.2	0.28		0.14	29.4		4.7	15.5	3.1				0.11 U	1.1 U	26.9		0.28 U	0.56 U		0.28 U	17.9	29
004-001-002	004-002	4/27/1995	0.5-1	6,040 *	1.4 UNJ	1.6 B	61.8	0.15 JU	2,570 *J	0.07 JUE*	41.4 E		4.4 BJ	31.1 NJ	10,100 J	3 E	2,940	130 NJ	0.18 JN	2.1 U	35 J	916 B	0.64 BJ	0.2 U	130 B	3.5 J	25.1	73
004-001-003	004-003M	4/27/1995	0.5-1		3.2 U	1.4	54.4	0.29		0.17	30.9		4.6	28.8	2.1				0.11 U	1.1 U	29.4		0.27 U	0.54 U		0.27 U	18.8	58
004-002-003	004-003M	4/27/1995	0.3-0.8		3.5 U	1.5	24.5	0.23		2.6	25.6		3.5	11.7	1.9				0.12 U	1.2 U	21.6		0.29 U	0.58 U		0.29 U	14.9	234
004-003-008	004-0012	10/25/1995	5-6	8,690	0.87 U	20.6 U	157	0.69 U	3,090	0.56 U	23.5		12.1	15.1 U	13,300	6.3	4,410	219	0.08 B	1.7 U	42.6	764 B	0.63 U	1.5 U	282 B	0.19 U	29.3	37 U
004-003-009	004-0015	10/25/1995	2.5-3.5	5,190	0.77 UJ	2.9 U	53.3	0.27 U	2,490	0.49 U	30.8		5.1 B	8.2	8,760	4.7	2,780	115	0.08 B	1.5 U	31.1	935 B	0.9 U	1.3 U	191 B	0.17 U	21.8	31 UJ
018-002-003	018-0003	4/26/1995	0-0.5	4,480 J	1.4 UNJ	1.6 B	40.1 B	0.15 UJ	1,800	0.69 BE*J	33.8 NJ		4.8 BJ	51.4 *J	8,110 J	23.7 ENJ	2,280	174 NJ	0.16 U	2.1 U	28.5 J	659 U	0.55 U	0.19 U	95 B	2.5 J	21.2	463
018-002-003	018-0003M	4/26/1995	0-0.5		3.3 U	1.5	37.9	0.3		1.6	30.6		4.7	26.5	1.7				0.11 U	1.1 U	30.1		0.27 U	0.54 U		0.27 U	21.9	565
018-002-004	018-0004M	4/26/1995	0-0.5		3.2 U	0.7	16.6	0.46		0.42	9.4		9.3	75.2					0.11 U	1.1 U	8.3		0.27 U	0.53 U		0.27 U	53.9	38
018-002-009	018-0009M	4/26/1995	0-0.5		3.2 U	1.5	19.4	0.43		3	33.2		7.3	49.7		66.1			0.11 U	1.1 U	17.3		0.27 U	0.54 U		0.27 U	43.4	214
018-002-010	018-0010M	4/26/1995	0-0.5		3.1 U	1.3	24.9	0.32		6.8	37.5		5	35.7		55.1			0.11 U	1 U	21.7		0.26 U	0.52 U		0.26 U	28.4	331
018-002-011	018-0011M	4/26/1995	0-0.5		3 U	2.1	22.3	0.34		2.9	46.4		7.8	79.3		188			0.1 U	1.1	17.5		0.25 U	0.5 U		0.25 U	37.7	399
018-002-011	018-0033M+	4/26/1995	0-0.5		3.2 U	1	17.7	0.21		0.075	20.3		3.2	4.6		3.9			0.11 U	1.1 U	18.4		0.26 U	0.53 U		0.26 U	12.9	11
018-002-012	018-0012	4/27/1995	0-0.5	4,130 *	10.2 BNJ	3.6 *J	41 B	0.36 BJ	1,710 *J	14.8 E*J	230 E		21.7 J	150 NJ	41,400 J	1,890 E*J	1,530	377 NJ	0.15 NJ	13.7	122 J	295 B	1.1 J	0.88 BJ	188 B	1 B	20.1	628
018-002-012	018-0012M	4/27/1995	0-0.5		6	2.7	28	0.39		12.8	81.4		10.5	122		277			0.57	2.4	28.5		0.25 U	1.7		0.25 U	45.5	357
018-004-020	018-0020M	4/25/1995	0-0.5		9.4	2.2	106	0.19		4.7	51.9		3.8	19.5		79.7			0.1 U	1 U	20.6		0.26 U	0.51 U		0.26 U	13.3	314
018-004-021	018-0021	4/25/1995	0-0.5	4,270 J	1.4 UNJ	1.4 BJ	35 BJ	0.15 UJ	2,170	2.8 E*J	61.5 NJ		3.8 BJ	105 *J	14,100 J	92.2 ENJ	2,400	147 NJ	0.16 U	2.1 U	25.1 J	683 U	0.55 U	0.28 BJ	646 B	2.4 J	19.8	241
018-004-021	018-0031+	4/25/1995	0-0.5	3,990 J	1.3 UNJ	2.8 J	61.3 J	0.14 UJ	3,520	1.1 E*J	123 NJ		6.8 BJ	85.6 *J	31,800 J	279 ENJ	2,190	273 NJ	0.15 U	4.5 B	44 J	688 U	0.53 U	3.9 J	992 B	4.4 J	18.8	243
018-004-021	018-0021M	4/25/1995	0-0.5		3.3 U	1.4	32	0.24		2	28		4.2	6		2.2			0.11 U	1.1 U	22.6		0.28 U	0.55 U		0.28 U	17.9	14
018-004-022	018-0022M	4/25/1995	0-0.5		3.1 U	2.4	51.9	0.23		7.1	82.4		6.3	79.9		272			0.1 U	1 U	34		0.32	9.5		0.25 U	19.3	139
018-004-023	018-0023M	4/25/1995	0-0.5		6.1	1.9	51.9	0.29		0.066	33.9		5.4	15.6		2.8			0.11 U	1 U	28.6		0.26	0.52 U		0.26 U	23	32
018-005-024	018-0024	4/27/1995	0.5-1	7,910 *	1.4 UNJ	2 B	54.4	0.25 BJ	4,600 *J	0.07 JUE*	46.4 E		4.7 BJ	14.7 NJ	11,600 J	4.2 E*J	2,310	127 NJ	0.2 NJ	2.2 U	34.2 J	977 B	0.58 U	0.2 U	328 B	2.7 J	26.1	33
018-005-024	018-0024M	4/27/1995	0.5-1		3.3 U	2.7	41.7	0.41		0.1	42.3		6.3	10.1		5.5			0.11 U	1.1 U	34.4		0.28 U	0.56 U		0.28 U	23.5	20
018-005-025	018-0025M	4/27/1995	0-0.5		3.3 U	1.4	40.5	0.31		2.5	79.3		5.4	45.8		49.6			0.11 U	1.1 U	31.2		0.28 U	0.55 U		0.28 U	21.1	363
018-006-026	018-0026	4/25/1995	0-0.5	9,420 J	2.7 BNJ	2.7	45.8	0.17 BJ	2,690	45.8 E*J	147 NJ		6 BJ	254 *J	20,400 J	295 ENJ	2,400	198 NJ	0.21	2.3 B	42.3 J	792 U	0.53 U	4.9 J	195 B	1.9 BJ	25.9	548
018-007-033	018-0038	10/23/1995	2.5-3.5	3,380	0.84 UJ	2.8	14.1 B	0.23 U	4,470	1.1 U	28.4 J		5.3 B	7.1	8,010	30.1 J	2,150	90	0.06 BJ	1.6 U	21.2	741 B	0.61 U	1.4 U	189 B	0.12 UJ	15.4	30
018-007-034	018-0040	10/23/1995	2-2.5	7,280	0.89 UJ	52.1	71.1	0.46 U	2,610	0.55 U	33.5 J		6.8 B	37.4	14,500	215 J	3,720	213	0.09 BJ	1.7 U	34.4	1,570	0.62 U	1.4 U	182 B	0.12 UJ	27	51
018-007-035	018-0042	10/23/1995	3-4	3,600	0.83 UJ	2.5	40.4 B	0.25 U	1,650	0.53 U	27.8 J		4.4 B	8.8	7,240	19.5 J	1,660	87	0.08 BJ	1.6 U	25.1	1,010 B	0.6 U	1.4 U	454 B	0.12 UJ	17.6	31
018-007-036	018-0044	10/23/1995	3-4	5,370	0.84 UJ	2.1 B	89.8	0.45 U	9,900	0.54 U	38.6 J		4.6 B	13.2	9,750	3.7 J	2,050	71	0.08 BJ	1.6 U	31.1	800 B	0.61 U	1.4 U	377 B	0.12 UJ	24.6	17
018-007-037	018-0046	10/24/1995	3.5-4.5	4,910	0.89 B	7.1 U	49.2	0.28 U	2,470	0.54 U	46.1		5.1 B	13 U	9,770	20.4	2,430	191	0.06 U	1.6 U	30.3	899 B	0.61 U	1.4 U	157 U	0.19 U	21.5	44 U
018-007-037	018-0055+	10/24/1995	3.5-4.5	5,170	0.79 U	2.2 U	62.4	0.28 U	2,510	0.51 U	38.1		5.7 B	23.6	10,200	15.4	2,890	261	0.06 B	1.5 U	37.7	913 B	0.57 U	1.3 U	137 B	0.18 U	22.3	37
018-007-038	018-0047	10/24/1995	4-5	4,430	0.79 U	2.5 U	40.4 B	0.24 U	2,220	0.51 U	30.2		5.6 B	6.4 U	8,690	1.6 U	2,690	111	0.05 U	1.5 U	31.6	590 B	0.57 U	1.3 U	149 U	0.18 U	20	20 U
018-007-039	018-0049	10/23/1995	2-3	4,940	0.85 UJ	0.84 B	37.9 B	0.26 U	1,780	0.54 U	30.8 J		5 B	9.2	10,100	5.9 J	3,590	106	0.06 UJ	1.6 U	38.1	943 B	0.61 U	1.4 U	107 B	0.12 UJ	18.1	28
018-007-040	018-0051	10/24/1995	4-4.5	8,710	1.4 B	5.5 U	85.5	0.53 U	3,550	0.53 U	51.8		6.3 B	32.6	15,500	39.7	3,950	138	0.1 B	1.6 B	43.8	1,620	0.91 B	1.4 U	268 B	0.19 U	33.3	65 U
018-007-041	018-0052	10/24/1995	3.5-4.5	33,000	1.9	10.3 U	57.9	0.99 U	3,240	0.66 U	108		11 B	45.1	50,900	9.6	10,800	233	0.13 B	2 U	63.1	6,420	1.6 U	1.7 U	1,110 B	0.23 U	87.5	99
AA-IT001	AA-IT001-01++	11/22/1994		6,570 J	1.9 J	4.2 J	179	0.46	4,890	4.7	222 J		9	138	47,600	261	3,490	329	0.18 U	22.7	91.7 J	569 J	0.71 U	0.38	1,430	1.3 J	27.2	417
DP01	105-S34-001	2/8/2006	0-0.5	4,200	1.8 UJ	2.3	35	0.094	2,500 J	0.36	34 J		4	7.2	10,000	27	2,200	140	0.1	0.45 J	28	630	0.23 U	0.23 U	69	0.15 UJ	20	46
DP01	105-S34-002	2/8/2006	0.85-1.3	9,700	0.21 J	3.9	61	0.14 J	3,600 J	0.26 J	34 J		6.6	13	20,000	13	6,800	320	0.22	0.85 J	36	940	0.34 U	0.34 U	79	0.25 J	27	48
DP02	105-S34-005	2/8/2006	0-0.5	4,700	0.73 J	2.4	41	0.063 J	2,700 J	2.2	550 J		15	27	11,000	280	2,300	200	0.088	2.4	51	860	0.16 J	2.6	280	0.079 UJ	23	100
DP02	105-S34-006	2/8/2006	0.5-0.9	8,800	1.3 J	2.6	43	0.12	3,700 J	6.5	92 J		6.7	31	18,000	160	2,800	170	0.11	1.5	42	860	0.24 U	0.24 U	740	0.12 UJ	31	110
DP05	105-S34-013	2/8/2006	0-0.5	11,000	1.8 UJ	2.9	88	0.59	8,900 J																			

**TABLE D-1. TOTAL METALS IN SOIL (continued)**  
 Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Aluminum	Antimony	Arsenic	Barium	Beryllium	Calcium	Cadmium	Chromium (Total)	Chromium (Hexavalent)	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Thallium	Vanadium	Zinc	
PW1	105-S34-157	2/14/2006	1 - 1.5	7,000	0.52 UJ	2.2	60	0.16	3,000	0.11 J	41	0.06 U	5.1	5.1 J	11,000	3.4	1,900	96	0.024 U	0.27 J	30	700 J	0.24 U	0.24 U	320	0.24 U	26	16 J	
PW10	105-S34-174	2/14/2006	0 - 0.5	8,300	0.89 J	3.1	75	0.31	5,700 J	9.4	49	0.05 U	6.6	24 J	18,000	91	3,100	290	0.064	0.71 J	29	1,400 J	0.24 U	0.27	170	0.18 UJ	34	130	
PW14	105-S34-182	2/14/2006	0 - 0.5	6,800	0.75 J	3.2	59	0.16	2,700 J	4.7	64	0.05 U	6.3	14 J	12,000	79	2,500	170	0.055	0.29 J	35	740 J	0.2 U	0.2 U	92	0.08 UJ	28	75	
PW17	105-S34-189	2/14/2006	1 - 1.5	5,300	0.31 J	2.5	43	0.11 J	2,500 J	0.34	42	0.06 U	4.5	13 J	10,000	6.9	2,700	130	0.014 J	0.1 J	31	570 J	0.29 U	0.29 U	230	0.29 UJ	27	73	
PW18	105-S34-190	2/14/2006	0 - 0.5	15,000	1.2 J	4	57	0.097 J	6,200 J	7.9	97	0.06 U	12	120 J	36,000	640	6,900	400	1.9	2.1 J	34	850 J	0.28 U	0.28 U	760	0.097 UJ	82	1,400	
PW4	105-S34-163	2/14/2006	1 - 1.5	9,100	0.55 UJ	3.1	69	0.43	6,000	4.3	61	0.06 U	6.1	16 J	16,000	49	3,400	220	0.082	0.6 J	29	1,300 J	0.25 U	0.25 U	110	0.25 U	27	79 J	
PW4A	105-S34-316	2/17/2006	1 - 1.5	8,400	0.17 UJ	2.3 J	65 J	0.16	4,100 J	0.18 J	46	0.06 U	6 J	6.7	13,000	4.1	2,700 J	140	0.037	0.15 UJ	37 J	880	0.26 U	0.26 UJ	230	0.26 UJ	35 J	24	
PW7	105-S34-170	2/14/2006	0 - 0.5	9,000	0.2 J	2.6	79	0.3	6,400 J	0.37	29	0.05 U	6.4	21 J	15,000	7.9	3,900	270	0.066	0.57 J	30	1,300 J	0.22 U	0.22 U	230	0.18 UJ	34	32	
PW8	105-S34-308	2/16/2006	2 - 2.5									0.06 U																	
PW9-10-15A	105-S34-311	2/16/2006	0 - 0.5	10,000	0.95 UJ	4.2 J	76 J	0.26	5,100 J	1.1	54	0.06 U	6.1 J	31	19,000	51	6,600 J	340	0.1	0.3 J	43 J	1,300	0.1 UJ	0.24 UJ	230	0.13 UJ	33 J	94	
PW9-10-15A	105-S34-330	2/16/2006	1 - 1.5	12,000	0.85 J	4.1 J	56 J	0.3	4,200 J	0.38	39	0.06 U	6.9 J	25	21,000	15	7,300 J	270	0.038	0.56 J	42 J	1,000	0.23 U	0.23 UJ	300	0.23 UJ	36 J	46	
PW9-6A	105-S34-312	2/16/2006	0 - 0.5	5,600	0.12 UJ	1.9 J	33 J	0.11	3,400 J	0.2 J	31	0.06 U	3.8 J	5.4	9,200	6.8	2,000 J	110	0.018 J	0.13 UJ	27 J	740	0.2 U	0.2 UJ	190	0.2 UJ	25 J	22	

Notes  
 Concentrations in milligrams per kilogram  
 \* Duplicate of sample in previous row  
 \*\* Sediment sample  
 \* Duplicate analysis not within control limits  
 B Reported value less than contract required detection limit, but greater than instrument detection limit  
 E Estimated because of interference  
 R Foot below ground surface  
 J Estimated concentration  
 N Spiked sample recovery not within control limits  
 U Not detected

**TABLE D-2. CHROMIUM AND LEAD IN SOIL BY X-RAY FLUORESCENCE ANALYSIS**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Chromium								Lead									
				Test 1		Test 2		Test 3		Test 4		Lab Result	Test 1		Test 2		Test 3		Test 4		Lab Result
				Result	σ	Result	σ	Result	σ	Result	σ		Result	σ	Result	σ	Result	σ	Result	σ	
HS1A	105-S34-104	2/15/06	0 - 0.5	384.91	43.49	291.01	41.78	205.24	42.50			100	252.93	5.91	242.80	5.79	220.95	5.72			200
HS1A	105-S34-105	2/15/06	2 - 2.5	103.71	33.76	166.58	35.14	162.25	34.99				91.48	3.62	108.91	3.88	36.82	2.75			
HS1A	105-S34-106	2/15/06	3 - 3.5	131.39	34.75	136.36	35.60	<LOD	90.50				30.98	2.59	28.15	2.56	39.77	2.59			
HS1E	105-S34-110	2/15/06	0 - 0.5	238.12	49.40	163.48	48.29	461.52	59.37			110	308.71	6.99	313.41	7.07	444.56	8.74			290
HS1E	105-S34-111	2/15/06	2 - 2.5	130.32	37.92								75.10	3.51							
HS1E	105-S34-112	2/15/06	3 - 3.5	103.50	32.28								92.61	3.47							
HS1N	105-S34-113	2/15/06	0 - 0.5	476.67	65.95							170	476.84	9.41							320
HS1N	105-S34-114	2/15/06	2 - 2.5	170.27	39.47							73	164.37	4.91							200
HS1N	105-S34-115	2/15/06	3 - 3.5	172.48	38.79								116.14	4.12							
HS1W	105-S34-107	2/15/06	0 - 0.5	282.25	40.28	342.49	42.09	<LOD	108.40			100	226.49	5.50	213.34	5.38	250.39	5.73			260
HS1W	105-S34-108	2/15/06	2 - 2.5	119.97	31.38	112.05	31.22	178.54	33.57				17.13	2.21	13.82	2.13	41.15	2.73			
HS1W	105-S34-109	2/15/06	3 - 3.5	273.33	34.12	244.62	33.39	334.65	36.24			77	16.09	2.20	14.53	2.15	23.96	2.39			51
HS2A	105-S34-116	2/15/06	0 - 0.5	1,084.52	86.53	1,015.09	85.14	638.52	81.75			240	899.48	14.04	948.75	14.34	877.35	14.07			620
HS2A	105-S34-117	2/15/06	1 - 1.5	<LOD	85.50	<LOD	87.10	<LOD	88.60				<LOD	6.07	<LOD	6.03	9.74	2.13			
HS2N	105-S34-118	2/15/06	0 - 0.5	<LOD	144.08	<LOD	140.44	<LOD	135.65				27.47	2.97	18.35	2.77	28.86	3.08			
HS2N	105-S34-119	2/15/06	1 - 1.5	<LOD	93.22	<LOD	94.75	<LOD	92.33				13.00	2.16	12.73	2.15	11.72	2.13			
HS2S	105-S34-120	2/15/06	0 - 0.5	<LOD	153.48	<LOD	156.01	<LOD	147.27				<LOD	7.88	11.31	2.72	<LOD	7.14			
HS2S	105-S34-121	2/15/06	1 - 1.5	<LOD	117.35	<LOD	115.47	<LOD	103.74				22.15	2.59	14.95	2.40	14.10	2.32			
HS2W	105-S34-122	2/15/06	0 - 0.5	1,479.20	91.41	516.28	68.94	457.70	67.48			210	852.13	13.32	851.52	12.83	983.46	13.79			920
HS2W	105-S34-123	2/15/06	1 - 1.5	163.77	34.52	111.15	33.48	331.20	38.94			60	89.90	3.62	76.35	3.40	100.07	3.84			110
HS3A	105-S34-124	2/16/06	0 - 0.5	372.08	49.49							99	965.95	12.46							720
HS3A	105-S34-125	2/16/06	1 - 1.5	225.36	36.10								59.20	3.15							
HS3E	105-S34-126	2/16/06	0 - 0.5	176.16	40.81								356.18	7.09							
HS3E	105-S34-127	2/16/06	1 - 1.5	322.37	38.27								91.26	3.67							
HS3S	105-S34-128	2/16/06	0 - 0.5	419.01	53.56	337.11	52.30	310.39	52.38			72	220.65	5.94	204.86	5.76	205.14	5.74			150
HS3S	105-S34-129	2/16/06	1 - 1.5	<LOD	95.91								10.59	2.14							
HS3SA	105-S34-318	2/17/06	0 - 0.5	504.12	81.94							110	504.08	10.50							530
HS3W	105-S34-130	2/16/06	0 - 0.5	197.33	38.82								88.19	3.75							
HS3W	105-S34-131	2/16/06	1 - 1.5	<LOD	89.10								29.38	2.61							
HS5E	105-S34-136	2/17/06	0 - 0.5	<LOD	100.46								76.62	3.36							
HS6A	105-S34-142	2/15/06	0 - 0.5	168.72	35.23								64.30	3.20							
HS6A	105-S34-143	2/15/06	1 - 1.5	<LOD	87.44								6.67	1.99							
HS6N	105-S34-144	2/15/06	0 - 0.5	<LOD	91.73	<LOD	89.61	259.06	36.02			70	77.13	3.30	74.18	3.23	71.31	3.30			83
HS6N	105-S34-145	2/16/06	1 - 1.5	<LOD	85.78								9.93	2.08							
HS6S-5W	105-S34-146	2/16/06	0 - 0.5	295.23	37.84							190	333.96	6.41							290
HS6S-5W	105-S34-147	2/16/06	1 - 1.5	<LOD	93.97							42	9.68	2.09							3.2 UJ
HS6W	105-S34-148	2/16/06	0 - 0.5	150.92	32.52								60.07	3.04							
HS6W	105-S34-149	2/16/06	1 - 1.5	<LOD	88.91								25.60	2.45							
HS6W/GSA	105-S34-320	2/17/06	0 - 0.5	<LOD	85.45								34.48	2.57							
HS7N	105-S34-150	2/17/06	0 - 0.5	324.14	45.19								117.79	4.41							
HS7N/7SA	105-S34-324	2/17/06	0 - 0.5	<LOD	100.59								117.97	3.97							
HS7S	105-S34-152	2/17/06	0 - 0.5	243.54	38.38								97.88	3.85							
PW1	105-S34-156	2/14/06	0 - 0.5	<LOD	103.93	<LOD	106.45	<LOD	114.27				11.80	2.32	11.03	2.34	10.98	2.63			
PW1A	105-S34-305	2/16/06	0 - 0.5	<LOD	93.61								13.01	2.38							
PW1A	105-S34-331	2/17/06	1 - 1.5	285.42	39.33								13.16	2.38							
PW1	105-S34-157	2/14/06	1 - 1.5	421.89	38.81	284.34	35.09	104.01	31.20			41	12.38	2.15	6.51	1.95	8.68	2.01			3

**TABLE D-2. CHROMIUM AND LEAD IN SOIL BY X-RAY FLUORESCENCE ANALYSIS (continued)**  
Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Chromium								Lead											
				Test 1		Test 2		Test 3		Test 4		Lab Result	Test 1		Test 2		Test 3		Test 4		Lab Result		
				Result	$\sigma$	Result	$\sigma$	Result	$\sigma$	Result	$\sigma$		Result	$\sigma$	Result	$\sigma$	Result	$\sigma$	Result	$\sigma$			
PW2	105-S34-158	2/14/06	0 - 0.5	<LOD	111.79	<LOD	109.12	<LOD	102.92						8.14	2.54	14.56	2.37	16.49	2.39			
PW3	105-S34-160	2/14/06	0 - 0.5	<LOD	101.63	<LOD	110.75	<LOD	99.28						11.97	2.29	<LOD	6.60	11.71	2.28			
PW3	105-S34-161	2/14/06	1 - 1.5	296.98	35.81	326.25	36.02	603.21	41.66						8.82	2.10	9.93	2.10	14.13	2.22			
PW3A	105-S34-306	2/16/06	0 - 0.5	<LOD	103.49										12.07	2.35							
PW4	105-S34-162	2/14/06	0 - 0.5	<LOD	107.04	<LOD	106.36	<LOD	112.94						16.18	2.46	19.98	2.51	13.77	2.53			
PW4	105-S34-163	2/14/06	1 - 1.5	<LOD	99.80	181.51	34.69	339.70	38.25			61			33.77	2.69	51.98	2.98	82.73	3.50		49	
PW4A	105-S34-303	2/14/06	0 - 0.5	<LOD	102.68	<LOD	105.24	<LOD	96.04						17.17	2.42	15.52	2.37	8.05	2.19			
PW4A	105-S34-304	2/14/06	1 - 1.5	263.30	36.55	318.92	37.51	337.38	37.46						47.71	2.92	45.39	2.90	12.02	2.18			
PW4A	105-S34-316	2/17/06	1 - 1.5	267.11	36.53							46			14.76	2.27						4.1	
PW5	105-S34-164	2/14/06	0 - 0.5	164.77	42.20	218.82	43.01	241.55	46.22						118.53	4.32	103.58	4.10	109.50	4.40			
PW5	105-S34-165	2/14/06	1 - 1.5	<LOD	154.39	<LOD	156.48	<LOD	135.20						14.53	2.86	18.17	2.95	21.46	2.82			
PW6	105-S34-166	2/14/06	0 - 0.5	<LOD	97.73	<LOD	94.75	212.55	39.05						91.34	3.61	100.32	3.73	108.50	4.06			
PW6	105-S34-167	2/14/06	1 - 1.5	166.74	37.73	244.23	39.49	230.93	40.54						8.22	2.23	13.24	2.36	<LOD	6.32			
PW7	105-S34-168	2/14/06	0 - 0.5	<LOD	101.36	<LOD	98.77	<LOD	105.05						18.50	2.52	12.95	2.33	10.04	2.23			
PW7	105-S34-169	2/14/06	1 - 1.5	<LOD	103.22	<LOD	117.97	193.35	36.84			315.76	38.94		11.79	2.26	8.62	2.54	15.61	2.33	14.92	2.31	
PW7	105-S34-300	2/14/06	2 - 2.5	<LOD	99.00	104.12	33.92	261.76	37.47						12.69	2.22	9.56	2.15	13.04	2.25			
PW7A	105-S34-307	2/16/06	0 - 0.5	<LOD	105.16	<LOD	102.63	<LOD	100.91						14.33	2.36	13.96	2.34	14.15	2.34			
PW7A	105-S34-325	2/17/06	0.5 - 0.8	278.18	37.12										20.29	2.37							
PW7C	105-S34-301	2/14/06	0 - 0.5	<LOD	106.00	<LOD	111.92	<LOD	106.87						14.99	2.45	13.21	2.43	12.10	2.42			
PW7C	105-S34-302	2/14/06	1 - 1.5	<LOD	97.29	<LOD	102.39	<LOD	95.91						15.36	2.36	13.76	2.33	11.61	2.19			
PW8	105-S34-170	2/14/06	0 - 0.5	207.91	39.80	181.51	39.03	<LOD	117.36			29			15.73	2.44	11.55	2.33	24.08	2.69		7.9	
PW8	105-S34-171	2/14/06	1 - 1.5	107.32	33.95	132.60	34.07	<LOD	102.48						15.85	2.32	17.34	2.34	13.56	2.25			
PW8	105-S34-308	2/16/06	2 - 2.5	278.68	36.46										13.94	2.24							
PW8A	105-S34-309	2/16/06	0 - 0.5	<LOD	99.05										9.23	2.24							
PW8A	105-S34-317	2/17/06	1 - 1.5	108.60	32.78										11.69	2.21							
PW9	105-S34-172	2/14/06	0 - 0.5	252.57	36.96	180.73	37.05	266.91	36.39						14.61	2.29	18.30	2.46	17.67	2.30			
PW9	105-S34-173	2/14/06	1 - 1.5	<LOD	100.14	<LOD	109.89	355.31	40.96						23.25	2.48	19.26	2.48	17.96	2.39			
PW9	105-S34-310	2/16/06	2 - 2.5	112.90	34.45										16.41	2.24							
PW9/10/15A	105-S34-311	2/16/06	0 - 0.5	<LOD	108.43							54			71.03	3.53						51	
PW9/10/15A	105-S34-330	2/17/06	1 - 1.5	<LOD	115.07							39			34.31	2.90						15	
PW9/16A	105-S34-329	2/17/06	1 - 1.5	<LOD	93.49										6.85	2.07							
PW9/6A	105-S34-312	2/16/06	0 - 0.5	356.18	38.60							31			21.38	2.42						6.8	
PW10	105-S34-174	2/14/06	0 - 0.5	<LOD	114.28	181.29	39.14	432.32	42.74						49	102.91	4.01	121.74	4.23	121.09	4.22		91
PW10	105-S34-175	2/14/06	1 - 1.5	244.75	35.37	<LOD	93.70	<LOD	99.77						11.44	2.16	10.47	2.15	10.71	2.17			
PW10	105-S34-313	2/16/06	2 - 2.5	179.87	34.31										18.04	2.31							
PW11	105-S34-176	2/14/06	0 - 0.5	<LOD	115.08	<LOD	112.90	<LOD	117.78						40.23	2.99	38.92	2.95	38.04	2.93			
PW11	105-S34-177	2/14/06	1 - 1.5	515.89	41.40	298.41	36.38	148.54	34.36						23.93	2.50	20.46	2.35	16.75	2.31			
PW11	105-S34-326	2/17/06	2 - 2.5	<LOD	92.66	<LOD	93.13	<LOD	94.59						10.48	2.15	6.25	2.05	27.23	2.55			
PW11A	105-S34-314	2/16/06	0 - 0.5	<LOD	101.76										34.82	2.74							
PW11A	105-S34-315	2/16/06	1 - 1.5	<LOD	95.37										12.03	2.22							
PW12	105-S34-178	2/14/06	0 - 0.5	<LOD	109.61	<LOD	133.00	<LOD	101.92						35.44	2.81	30.43	3.33	26.14	2.59			
PW12	105-S34-179	2/14/06	1 - 1.5	113.44	32.14	197.65	33.77	190.76	33.57						28.30	2.48	31.11	2.54	30.57	2.52			
PW12	105-S34-327	2/17/06	2 - 2.5	<LOD	94.82										33.10	2.66							
PW12A	105-S34-323	2/17/06	1 - 1.5	123.18	31.70										10.44	2.10							
PW12A	105-S34-328	2/17/06	0 - 0.5	<LOD	100.54										20.94	2.51							
PW13	105-S34-180	2/15/06	0 - 0.5	714.09	60.58	571.05	58.33	595.63	57.23						574.03	9.69	577.26	9.66	542.30	9.27			
PW13	105-S34-181	2/15/06	1 - 1.5	<LOD	84.22	<LOD	85.69	<LOD	91.07						29.86	2.48	25.49	2.40	31.98	2.52			
PW14	105-S34-182	2/15/06	0 - 0.5	293.90	46.14	260.66	45.59	<LOD	116.37			64			73.39	3.79	80.40	3.91	78.97	3.60		79	
PW14	105-S34-183	2/15/06	1 - 1.5	327.95	57.41	171.39	53.95	258.30	51.19						54.44	3.67	54.96	3.65	111.82	4.55			
PW15	105-S34-184	2/15/06	0 - 0.5	<LOD	105.89	<LOD	108.00	171.24	39.16						158.74	4.65	161.95	4.73	180.77	5.10			

**TABLE D-2. CHROMIUM AND LEAD IN SOIL BY X-RAY FLUORESCENCE ANALYSIS (continued)**  
Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Chromium								Lead									
				Test 1		Test 2		Test 3		Test 4		Lab Result	Test 1		Test 2		Test 3		Test 4		Lab Result
				Result	$\sigma$	Result	$\sigma$	Result	$\sigma$	Result	$\sigma$		Result	$\sigma$	Result	$\sigma$	Result	$\sigma$	Result	$\sigma$	
PW15	105-S34-185	2/15/06	1 - 1.5	<LOD	93.90	<LOD	93.99	263.00	36.94					<LOD	5.87	11.00	2.16	8.44	2.13		
PW16	105-S34-186	2/15/06	0 - 0.5	669.37	46.17	702.53	47.09	387.83	42.78					201.77	5.16	186.82	5.01	198.73	5.26		
PW16	105-S34-187	2/15/06	1 - 1.5	<LOD	101.20	<LOD	105.39	<LOD	112.46					28.09	2.70	30.18	2.74	31.34	2.80		
PW16/17/18A	105-S34-321	2/17/06	0 - 0.5	412.69	70.48									937.83	13.72						
PW16/17/18A	105-S34-322	2/17/06	1 - 1.5	151.48	33.33									11.08	2.11						
PW16A	105-S34-319	2/17/06	0 - 0.5	<LOD	117.14	<LOD	112.94	<LOD	99.78					12.62	2.68	8.76	2.58	20.17	2.40		
PW17	105-S34-188	2/15/06	0 - 0.5	<LOD	139.11	<LOD	132.23	<LOD	134.37					66.44	3.65	57.50	3.53	69.06	3.80		
PW17	105-S34-189	2/15/06	1 - 1.5	191.38	33.68	184.25	33.27	402.54	38.15			42	15.98	2.26	15.55	2.23	14.84	2.24			6.9
PW18	105-S34-190	2/15/06	0 - 0.5	<LOD	151.73	<LOD	153.28	280.45	51.48			97	674.09	10.60	660.04	10.42	584.90	9.64			640
PW18	105-S34-191	2/15/06	1 - 1.5	<LOD	101.67	<LOD	105.10	<LOD	109.74					12.71	2.30	13.25	2.32	22.64	2.56		

Notes:

All concentrations are reported in milligrams per kilogram

$\sigma$  Standard deviation

<LOD Below the instrument level of detection

UJ Not detected at estimated concentration

**TABLE D-3. ORGANIC METALS IN SOIL**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Analyte	Result
AA-IT001	AA-IT001-01+	11/22/1994	Dibutyl Tin	0.02 J
			Monobutyl Tin	0.002 J
			Tetrabutyl Tin	0.001 U
			Tributyl Tin	0.026 J

## Notes:

Concentrations in milligrams per kilogram

- + Sediment sample
- J Estimated concentration
- U Not detected

**TABLE D-4. VOLATILE ORGANIC COMPOUNDS IN SOIL**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,2-Dichloroethane
018-003-013	018-0013	5/3/1995	3 - 3.5		0.012 U	0.012 U	0.012 U	0.012 U	0.012 U								0.012 U
018-003-014	018-0014	4/27/1995	3 - 3.5		0.012 U	0.012 U	0.012 U	0.012 U	0.012 U								0.012 U
018-003-015	018-0015	4/27/1995	3 - 3.5		0.011 U	0.011 U	0.011 U	0.011 U	0.011 U								0.011 U
030-FLI-122	030-FLI-122	12/4/1998	0 - 3														
AA-IT001	AA-IT001-01+	11/22/1994			0.012 U	0.012 U	0.012 U	0.012 U	0.012 U								0.012 U
DP01	105-S34-002	2/8/2006	0.85 - 1.3	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U
DP02	105-S34-006	2/8/2006	0.5 - 0.9	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	1.5	0.14 U	5.1	0.5	0.14 U	26	0.14 U
DP05	105-S34-014	2/8/2006	1.5 - 2	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U
DP05	105-S34-015	2/8/2006	7	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
DP06	105-S34-018	2/8/2006	1.5 - 2	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U
DP06	105-S34-019	2/8/2006	2 - 2.5	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U
DP07	105-S34-022	2/6/2006	1.5 - 2	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U
DP07	105-S34-023	2/6/2006	7	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
DP08	105-S34-026	2/6/2006	1.5 - 2	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
DP08	105-S34-027	2/6/2006	7	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U
DP10	105-S34-031	2/6/2006	1.5 - 2	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
DP10	105-S34-032	2/6/2006	7	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U
DP12	105-S34-036	2/7/2006	1.5 - 2	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
DP12	105-S34-196	2/7/2006	7	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U
DP13	105-S34-038	2/7/2006	1.5 - 2	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
DP13	105-S34-039	2/7/2006	7	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U
DP15	105-S34-043	2/7/2006	1.5 - 2	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
DP15	105-S34-044	2/7/2006	7	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
DP16	105-S34-047	2/7/2006	1.5 - 2	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
DP16	105-S34-048	2/7/2006	7	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
DP17	105-S34-051	2/7/2006	1.5 - 2	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
DP17	105-S34-052	2/7/2006	7	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U
DP18	105-S34-056	2/8/2006	1.5 - 2	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U
DP19	105-S34-061	2/8/2006	0.8 - 1.3	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
MW-20	105-S34-156	6/26/2006	2 - 2.5	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
MW-21	105-S34-158	6/23/2006	0 - 1	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
MW-22	105-S34-160	6/23/2006	0 - 1	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U
MW-24	105-S34-165	6/22/2006	3 - 4	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U
MW-24	105-S34-168	6/22/2006	0 - 1	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U

Notes:

- Concentrations in milligrams per kilogram
- + Sediment sample
- ft Foot below ground surface
- J Estimated concentration
- U Not detected

**TABLE D-4. VOLATILE ORGANIC COMPOUNDS IN SOIL (continued)**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	1,2-Dichloroethene (Total)	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone	2-Chlorotoluene	2-Hexanone	4-Chlorotoluene	4-Methyl-2-pentanone	Acetone	Benzene
018-003-013	018-0013	5/3/1995	3 - 3.5	0.012 U	0.012 U						0.002 J		0.012 U		0.012 U	0.012 U	0.012 U
018-003-014	018-0014	4/27/1995	3 - 3.5	0.012 U	0.012 U						0.012 U		0.012 U		0.012 U	0.036 UJ	0.012 U
018-003-015	018-0015	4/27/1995	3 - 3.5	0.011 U	0.011 U						0.011 U		0.011 U		0.011 U	0.02 UJ	0.011 U
030-FLI-122	030-FLI-122	12/4/1998	0 - 3														0.0057 U
AA-IT001	AA-IT001-01+	11/22/1994		0.012 U	0.012 U						0.01 J		0.012 U		0.012 U	0.019 U	0.012 U
DP01	105-S34-002	2/8/2006	0.85 - 1.3		0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.011 U	0.0057 U	0.011 U	0.0057 U	0.011 U	0.023 U	0.0057 U
DP02	105-S34-006	2/8/2006	0.5 - 0.9		0.14 U	0.16	1.1	0.14 U	6.8	0.14 U	0.27 U	0.14 U	0.27 U	0.14 U	0.27 U	0.55 U	0.14 U
DP05	105-S34-014	2/8/2006	1.5 - 2		0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.012 UJ	0.0058 U	0.012 U	0.0058 U	0.012 U	0.023 UJ	0.0058 U
DP05	105-S34-015	2/8/2006	7		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.025 U	0.013 U	0.025 U	0.013 U	0.025 U	0.051 U	0.013 U
DP06	105-S34-018	2/8/2006	1.5 - 2		0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.011 U	0.0053 U	0.011 U	0.0053 U	0.011 U	0.021 U	0.0053 U
DP06	105-S34-019	2/8/2006	2 - 2.5		0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.015 U	0.0073 U	0.015 U	0.0073 U	0.015 U	0.029 U	0.0073 U
DP07	105-S34-022	2/6/2006	1.5 - 2		0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0087 U	0.0044 U	0.0087 U	0.0044 U	0.0087 U	0.017 U	0.0044 U
DP07	105-S34-023	2/6/2006	7		0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.022 U	0.0054 U
DP08	105-S34-026	2/6/2006	1.5 - 2		0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.022 UJ	0.0055 U
DP08	105-S34-027	2/6/2006	7		0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.011 U	0.0057 U	0.011 U	0.0057 U	0.011 U	0.003 UJ	0.0057 U
DP10	105-S34-031	2/6/2006	1.5 - 2		0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.012 U	0.0059 U	0.012 U	0.0059 U	0.012 U	0.024 UJ	0.0059 U
DP10	105-S34-032	2/6/2006	7		0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.013 U	0.0065 U	0.013 U	0.0065 U	0.013 U	0.026 UJ	0.0065 U
DP12	105-S34-036	2/7/2006	1.5 - 2		0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0095 U	0.0047 U	0.0095 U	0.0047 U	0.0095 U	0.019 U	0.0047 U
DP12	105-S34-196	2/7/2006	7		0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.019 UJ	0.0094 U	0.019 U	0.0094 U	0.019 U	0.058 UJ	0.0094 U
DP13	105-S34-038	2/7/2006	1.5 - 2		0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.022 UJ	0.0055 U
DP13	105-S34-039	2/7/2006	7		0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.018 UJ	0.0091 U	0.018 U	0.0091 U	0.018 U	0.037 UJ	0.0091 U
DP15	105-S34-043	2/7/2006	1.5 - 2		0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.022 UJ	0.0055 U
DP15	105-S34-044	2/7/2006	7		0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.033 U	0.016 U	0.033 U	0.016 U	0.033 U	0.065 UJ	0.016 U
DP16	105-S34-047	2/7/2006	1.5 - 2		0.0036 J	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0094 U	0.0047 U	0.0094 U	0.0047 U	0.0094 U	0.019 UJ	0.0047 U
DP16	105-S34-048	2/7/2006	7		0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.021 U	0.011 U	0.021 U	0.011 U	0.021 U	0.043 UJ	0.011 U
DP17	105-S34-051	2/7/2006	1.5 - 2		0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.011 U	0.0056 U	0.011 U	0.0056 U	0.011 U	0.022 U	0.0056 U
DP17	105-S34-052	2/7/2006	7		0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.02 UJ	0.0099 U	0.02 U	0.0099 U	0.02 U	0.039 UJ	0.0099 U
DP18	105-S34-056	2/8/2006	1.5 - 2		0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.02 U	0.0098 U	0.02 U	0.0098 U	0.02 U	0.039 U	0.0098 U
DP19	105-S34-061	2/8/2006	0.8 - 1.3		0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.022 U	0.0054 U
MW-20	105-S34-156	6/26/2006	2 - 2.5		0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.011 U	0.0056 U	0.011 U	0.0056 U	0.011 U	0.022 U	0.0056 U
MW-21	105-S34-158	6/23/2006	0 - 1		0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0084 U	0.0042 U	0.0084 U	0.0042 U	0.0084 U	0.017 UJ	0.0042 U
MW-21	105-S34-159	6/23/2006	2 - 2.5		0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.022 U	0.0055 U
MW-22	105-S34-160	6/23/2006	0 - 1		0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.022 U	0.0054 U
MW-22	105-S34-162	6/23/2006	2 - 2.5		0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.022 U	0.0054 U
MW-23	105-S34-171	9/6/2006	0.5 - 2		0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.01 U	0.0051 U	0.01 U	0.0051 U	0.01 U	0.02 UJ	0.0051 U
MW-24	105-S34-165	6/22/2006	3 - 4		0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.013 U	0.0065 U	0.013 U	0.0065 U	0.013 U	0.026 UJ	0.0065 U
MW-24	105-S34-168	6/22/2006	0 - 1		0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.01 U	0.0052 U	0.01 U	0.0052 U	0.01 U	0.021 UJ	0.0052 U

Notes:

- Concentrations in milligrams per kilogram
- + Sediment sample
- ft Foot below ground surface
- J Estimated concentration
- U Not detected

**TABLE D-4. VOLATILE ORGANIC COMPOUNDS IN SOIL (continued).**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane
018-003-013	018-0013	5/3/1995	3 - 3.5			0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U		0.012 U	0.012 U	
018-003-014	018-0014	4/27/1995	3 - 3.5			0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U		0.012 U	0.012 U	
018-003-015	018-0015	4/27/1995	3 - 3.5			0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U		0.011 U	0.011 U	
030-FLI-122	030-FLI-122	12/4/1998	0 - 3															
AA-IT001	AA-IT001-01+	11/22/1994				0.012 U	0.012 U	0.012 U	0.002 J	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U		0.012 U	0.012 U	
DP01	105-S34-002	2/8/2006	0.85 - 1.3	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.011 U	0.0057 U	0.0057 U	0.0057 U	0.011 U	0.0057 U	0.011 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U
DP02	105-S34-006	2/8/2006	0.5 - 0.9	0.14 U	0.14 U	0.14 U	0.14 U	0.27 U	0.14 U	0.14 U	0.11 J	0.27 U	0.14 U	0.27 U	0.14 U	0.14 U	0.14 U	0.14 U
DP05	105-S34-014	2/8/2006	1.5 - 2	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.012 U	0.0058 U	0.0058 U	0.0058 U	0.012 U	0.0058 U	0.012 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U
DP05	105-S34-015	2/8/2006	7	0.013 U	0.013 U	0.013 U	0.013 U	0.025 U	0.013 U	0.013 U	0.013 U	0.025 U	0.013 U	0.025 U	0.013 U	0.013 U	0.013 U	0.013 U
DP06	105-S34-018	2/8/2006	1.5 - 2	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.011 U	0.0053 U	0.0053 U	0.0053 U	0.011 U	0.0053 U	0.011 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U
DP06	105-S34-019	2/8/2006	2 - 2.5	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.015 U	0.0073 U	0.0073 U	0.0073 U	0.015 U	0.0073 U	0.015 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U
DP07	105-S34-022	2/6/2006	1.5 - 2	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0087 U	0.0044 U	0.0044 U	0.0044 U	0.0087 U	0.0044 U	0.0087 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U
DP07	105-S34-023	2/6/2006	7	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
DP08	105-S34-026	2/6/2006	1.5 - 2	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
DP08	105-S34-027	2/6/2006	7	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.011 U	0.0057 U	0.0057 U	0.0057 U	0.011 U	0.0057 U	0.011 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U
DP10	105-S34-031	2/6/2006	1.5 - 2	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.012 U	0.0059 U	0.0059 U	0.0059 U	0.012 U	0.0059 U	0.012 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
DP10	105-S34-032	2/6/2006	7	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.013 U	0.0065 U	0.0065 U	0.0065 U	0.013 U	0.0065 U	0.013 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U
DP12	105-S34-036	2/7/2006	1.5 - 2	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0095 U	0.0047 U	0.0047 U	0.0047 U	0.0095 U	0.0047 U	0.0095 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
DP12	105-S34-196	2/7/2006	7	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.019 U	0.0094 U	0.0094 U	0.0094 U	0.019 U	0.0094 U	0.019 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U
DP13	105-S34-038	2/7/2006	1.5 - 2	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
DP13	105-S34-039	2/7/2006	7	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.018 U	0.0091 U	0.0091 U	0.0091 U	0.018 U	0.0091 U	0.018 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U
DP15	105-S34-043	2/7/2006	1.5 - 2	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
DP15	105-S34-044	2/7/2006	7	0.016 U	0.016 U	0.016 U	0.016 U	0.033 U	0.016 U	0.016 U	0.016 U	0.033 U	0.016 U	0.033 U	0.016 U	0.016 U	0.016 U	0.016 U
DP16	105-S34-047	2/7/2006	1.5 - 2	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0094 U	0.0047 U	0.0047 U	0.0047 U	0.0094 U	0.0047 U	0.0094 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
DP16	105-S34-048	2/7/2006	7	0.011 U	0.011 U	0.011 U	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.021 U	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.011 U
DP17	105-S34-051	2/7/2006	1.5 - 2	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.011 U	0.0056 U	0.0056 U	0.0056 U	0.011 U	0.0056 U	0.011 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
DP17	105-S34-052	2/7/2006	7	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.02 U	0.0099 U	0.0099 U	0.0099 U	0.02 U	0.0099 U	0.02 U	0.0057 J	0.0099 U	0.0099 U	0.0099 U
DP18	105-S34-056	2/8/2006	1.5 - 2	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.02 U	0.0098 U	0.0098 U	0.0098 U	0.02 U	0.0098 U	0.02 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U
DP19	105-S34-061	2/8/2006	0.8 - 1.3	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
MW-20	105-S34-156	6/26/2006	2 - 2.5	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.011 U	0.0056 U	0.0056 U	0.0056 U	0.011 U	0.0056 U	0.011 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
MW-21	105-S34-158	6/23/2006	0 - 1	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0084 UJ	0.0042 U	0.0042 U	0.0042 U	0.0084 U	0.0042 U	0.0084 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	0.0055 U	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
MW-22	105-S34-160	6/23/2006	0 - 1	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	0.0054 U	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.01 U	0.00024 J	0.0051 U	0.0051 U	0.01 U	0.0051 U	0.01 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U
MW-24	105-S34-165	6/22/2006	3 - 4	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.013 UJ	0.0065 U	0.0065 U	0.0065 U	0.013 U	0.0065 U	0.013 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U
MW-24	105-S34-168	6/22/2006	0 - 1	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.01 UJ	0.0052 U	0.0052 U	0.0052 U	0.01 U	0.0052 U	0.01 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U

Notes:

- Concentrations in milligrams per kilogram
- + Sediment sample
- ft Foot below ground surface
- J Estimated concentration
- U Not detected

**TABLE D-4. VOLATILE ORGANIC COMPOUNDS IN SOIL (continued)**  
 Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Dichlorodifluoromethane	Ethylbenzene	Ethylene dibromide	Hexachlorobutadiene	Isopropylbenzene	Lead (organic)	M,P-Xylene	Methyl-t-butyl ether	Methylene chloride	N-Butylbenzene	N-Propylbenzene	Naphthalene	O-Xylene	P-Isopropyltoluene
018-003-013	018-0013	5/3/1995	3 - 3.5		0.012 U							0.012 U					
018-003-014	018-0014	4/27/1995	3 - 3.5		0.012 U							0.002 J					
018-003-015	018-0015	4/27/1995	3 - 3.5		0.011 U							0.002 J					
030-FLI-122	030-FLI-122	12/4/1998	0 - 3		0.0057 U						0.028 U						
AA-IT001	AA-IT001-01+	11/22/1994			0.012 U				0.6 U			0.012 U					
DP01	105-S34-002	2/8/2006	0.85 - 1.3	0.011 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U		0.0057 U		0.023 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U
DP02	105-S34-006	2/8/2006	0.5 - 0.9	0.27 UJ	0.14 U	0.14 U	0.14 U	0.14 U		0.14 U		0.55 U	0.14 U	0.14 U	0.62	0.14 U	0.11 J
DP05	105-S34-014	2/8/2006	1.5 - 2	0.012 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U		0.0058 U		0.023 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U
DP05	105-S34-015	2/8/2006	7	0.025 U	0.013 U	0.013 U	0.013 U	0.013 U		0.013 U		0.051 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
DP06	105-S34-018	2/8/2006	1.5 - 2	0.011 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U		0.0053 U		0.021 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U
DP06	105-S34-019	2/8/2006	2 - 2.5	0.015 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U		0.0073 U		0.029 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U
DP07	105-S34-022	2/6/2006	1.5 - 2	0.0087 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U		0.0044 U		0.017 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U
DP07	105-S34-023	2/6/2006	7	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U		0.0054 U		0.022 UJ	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
DP08	105-S34-026	2/6/2006	1.5 - 2	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U		0.0055 U		0.022 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
DP08	105-S34-027	2/6/2006	7	0.011 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U		0.0057 U		0.023 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U
DP10	105-S34-031	2/6/2006	1.5 - 2	0.012 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U		0.0059 U		0.024 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
DP10	105-S34-032	2/6/2006	7	0.013 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U		0.0065 U		0.026 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U
DP12	105-S34-036	2/7/2006	1.5 - 2	0.0095 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U		0.0047 U		0.019 UJ	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
DP12	105-S34-196	2/7/2006	7	0.019 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U		0.0094 U		0.038 UJ	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U
DP13	105-S34-038	2/7/2006	1.5 - 2	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U		0.0055 U		0.022 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
DP13	105-S34-039	2/7/2006	7	0.018 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U		0.0091 U		0.037 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U
DP15	105-S34-043	2/7/2006	1.5 - 2	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U		0.0055 U		0.022 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
DP15	105-S34-044	2/7/2006	7	0.033 U	0.016 U	0.016 U	0.016 U	0.016 U		0.016 U		0.065 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U
DP16	105-S34-047	2/7/2006	1.5 - 2	0.0094 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U		0.0047 U		0.019 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
DP16	105-S34-048	2/7/2006	7	0.021 U	0.011 U	0.011 U	0.011 U	0.011 U		0.011 U		0.043 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U
DP17	105-S34-051	2/7/2006	1.5 - 2	0.011 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U		0.0056 U		0.022 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
DP17	105-S34-052	2/7/2006	7	0.02 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U		0.0099 U		0.039 UJ	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U
DP18	105-S34-056	2/8/2006	1.5 - 2	0.02 UJ	0.0098 U	0.0098 U	0.0098 U	0.0098 U		0.0098 U		0.039 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U
DP19	105-S34-061	2/8/2006	0.8 - 1.3	0.011 UJ	0.0054 U	0.0054 U	0.0054 U	0.0054 U		0.0054 U		0.022 UJ	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
MW-20	105-S34-156	6/26/2006	2 - 2.5	0.011 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U		0.0056 U		0.0024 J	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
MW-21	105-S34-158	6/23/2006	0 - 1	0.0084 UJ	0.0042 U	0.0042 U	0.0042 U	0.0042 U		0.0042 U		0.017 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.011 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U		0.0055 U		0.022 UJ	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U
MW-22	105-S34-160	6/23/2006	0 - 1	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U		0.0054 U		0.022 UJ	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.011 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U		0.0054 U		0.022 UJ	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.01 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U		0.0051 U		0.02 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U
MW-24	105-S34-165	6/22/2006	3 - 4	0.013 UJ	0.0065 U	0.0065 U	0.0065 U	0.0065 U		0.0065 U		0.026 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U
MW-24	105-S34-168	6/22/2006	0 - 1	0.01 UJ	0.0052 U	0.0052 U	0.0052 U	0.0052 U		0.0052 U		0.021 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.0052 U

Notes:  
 Concentrations in milligrams per kilogram  
 + Sediment sample  
 ft Foot below ground surface  
 J Estimated concentration  
 U Not detected

**TABLE D-4. VOLATILE ORGANIC COMPOUNDS IN SOIL (continued)**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Sec-butylbenzene	Styrene	Tert-butylbenzene	Tetrachloroethene	Toluene	Trans-1,2-dichloroethene	Trans-1,3-dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl chloride	Xylene (total)
018-003-013	018-0013	5/3/1995	3 - 3.5		0.012 U		0.012 U	0.012 U		0.012 U	0.012 U		0.012 U	0.012 U
018-003-014	018-0014	4/27/1995	3 - 3.5		0.012 U		0.012 U	0.012 U		0.012 U	0.012 U		0.012 U	0.012 U
018-003-015	018-0015	4/27/1995	3 - 3.5		0.011 U		0.011 U	0.011 U		0.011 U	0.011 U		0.011 U	0.011 U
030-FLI-122	030-FLI-122	12/4/1998	0 - 3					0.0057 U						0.011 U
AA-IT001	AA-IT001-01+	11/22/1994			0.012 U		0.012 U	0.012 U		0.012 U	0.012 U		0.012 U	0.012 U
DP01	105-S34-002	2/8/2006	0.85 - 1.3	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.011 U	
DP02	105-S34-006	2/8/2006	0.5 - 0.9	0.071 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.27 U	
DP05	105-S34-014	2/8/2006	1.5 - 2	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.012 U	
DP05	105-S34-015	2/8/2006	7	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.025 U	
DP06	105-S34-018	2/8/2006	1.5 - 2	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.0053 U	0.011 U	
DP06	105-S34-019	2/8/2006	2 - 2.5	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.015 U	
DP07	105-S34-022	2/6/2006	1.5 - 2	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0044 U	0.0087 U	
DP07	105-S34-023	2/6/2006	7	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	
DP08	105-S34-026	2/6/2006	1.5 - 2	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	
DP08	105-S34-027	2/6/2006	7	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.0057 U	0.011 U	
DP10	105-S34-031	2/6/2006	1.5 - 2	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.012 U	
DP10	105-S34-032	2/6/2006	7	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.013 U	
DP12	105-S34-036	2/7/2006	1.5 - 2	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0095 U	
DP12	105-S34-196	2/7/2006	7	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.019 U	
DP13	105-S34-038	2/7/2006	1.5 - 2	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	
DP13	105-S34-039	2/7/2006	7	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.0091 U	0.018 U	
DP15	105-S34-043	2/7/2006	1.5 - 2	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	
DP15	105-S34-044	2/7/2006	7	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.033 U	
DP16	105-S34-047	2/7/2006	1.5 - 2	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0094 U	
DP16	105-S34-048	2/7/2006	7	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.021 U	
DP17	105-S34-051	2/7/2006	1.5 - 2	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.011 U	
DP17	105-S34-052	2/7/2006	7	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.02 U	
DP18	105-S34-056	2/8/2006	1.5 - 2	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.02 U	
DP19	105-S34-061	2/8/2006	0.8 - 1.3	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	
MW-20	105-S34-156	6/26/2006	2 - 2.5	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.00029 J	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.011 U	
MW-21	105-S34-158	6/23/2006	0 - 1	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0084 U	
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.011 U	
MW-22	105-S34-160	6/23/2006	0 - 1	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.011 U	
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.0051 U	0.01 U	
MW-24	105-S34-165	6/22/2006	3 - 4	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.00038 J	0.0065 U	0.0065 U	0.0065 U	0.0065 U	0.013 U	
MW-24	105-S34-168	6/22/2006	0 - 1	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.00043 J	0.0052 U	0.0052 U	0.0052 U	0.0052 U	0.01 U	

Notes:

- Concentrations in milligrams per kilogram
- + Sediment sample
- ft Foot below ground surface
- J Estimated concentration
- U Not detected

TABLE D-5. SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,2'-Oxybis(1-chloropropane)	2,2'-Oxybis(2-chloropropane)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol
004-003-008	004-0011	10/25/1995	1 - 1.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U		0.84 U	0.35 U	0.35 U	0.35 U	0.84 U	0.35 U	0.35 U	0.35 U	0.35 U
004-003-008	004-0012	10/25/1995	5 - 6	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.95 U	0.39 U	0.39 U	0.39 U	0.95 U	0.39 U	0.39 U	0.39 U	0.39 U
004-003-009	004-0014	10/25/1995	0.5 - 1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U		0.86 U	0.35 U	0.35 U	0.35 U	0.86 U	0.35 U	0.35 U	0.35 U	0.35 U
004-003-009	004-0015	10/25/1995	2.5 - 3.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U		0.84 U	0.35 U	0.35 U	0.35 U	0.84 U	0.35 U	0.35 U	0.35 U	0.35 U
018-004-020	018-0020	4/25/1995	0 - 0.5	2 U	2 U	2 U	2 U	2 U		4.9 U	2 U	2 U	2 U	4.9 UJ	2 U	2 U	2 U	2 U
018-004-021	018-0021	4/25/1995	0 - 0.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U		0.85 U	0.35 U	0.35 U	0.35 U	0.85 U	0.35 U	0.35 U	0.35 U	0.35 U
018-004-021	018-0031+	4/25/1995	0 - 0.5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U		0.82 U	0.34 U	0.34 U	0.34 U	0.82 U	0.34 U	0.34 U	0.34 U	0.34 U
018-004-022	018-0022	4/25/1995	0 - 0.5	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U		1.8 U	0.74 U	0.74 U	0.74 U	1.8 UJ	0.74 U	0.74 U	0.74 U	0.74 U
018-004-023	018-0023	4/25/1995	0 - 0.5	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U		0.81 U	0.33 U	0.33 U	0.21 J	0.81 UJ	0.33 U	0.33 U	0.33 U	0.33 U
018-007-035	018-0041	10/23/1995	0.5 - 1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 UJ		0.84 U	0.35 U	0.35 U	0.35 U	0.84 U	0.35 U	0.35 U	0.35 U	0.35 U
018-007-035	018-0042	10/23/1995	3 - 4	0.37 U	0.37 U	0.37 U	0.37 U	0.37 UJ		0.9 U	0.37 U	0.37 U	0.37 U	0.9 U	0.37 U	0.37 U	0.37 U	0.37 U
018-007-036	018-0044	10/23/1995	3 - 4	0.38 U	0.38 U	0.38 U	0.38 U	0.38 UJ		0.93 U	0.38 U	0.38 U	0.38 U	0.93 U	0.38 U	0.38 U	0.38 U	0.38 U
018-007-038	018-0047	10/24/1995	4 - 5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U		0.88 U	0.36 U	0.36 U	0.36 U	0.88 U	0.36 U	0.36 U	0.36 U	0.36 U
018-007-039	018-0048	10/23/1995	0.5 - 1.5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 UJ		0.82 U	0.34 U	0.34 U	0.34 U	0.82 U	0.34 U	0.34 U	0.34 U	0.34 U
018-007-039	018-0054+	10/23/1995	0.5 - 1.5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 UJ		0.82 U	0.34 U	0.34 U	0.34 U	0.82 U	0.34 U	0.34 U	0.34 U	0.34 U
018-007-039	018-0049	10/23/1995	2 - 3	0.39 U	0.39 U	0.39 U	0.39 U	0.39 UJ		0.94 U	0.39 U	0.39 U	0.39 U	0.94 U	0.39 U	0.39 U	0.39 U	0.39 U
018-007-041	018-0052	10/24/1995	3.5 - 4.5	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U		1.1 U	0.47 U	0.47 U	0.47 U	1.1 U	0.47 U	0.47 U	0.47 U	0.47 U
AA-IT001	AA-IT001-01++	11/22/1994		0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.95 U	0.39 U	0.39 U	0.39 U	0.95 U	0.39 U	0.39 U	0.39 U	0.39 U
DP02	105-S34-006	2/8/2006	0.5 - 0.9	1.8 U	1.8 U	1.8 U	1.8 U		1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	3.7 UJ	1.8 U	1.8 U	1.8 U	1.8 U
DP05	105-S34-014	2/8/2006	1.5 - 2	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U		0.37 U	0.37 U	0.37 U	0.37 U	0.74 UJ	0.37 U	0.37 U	0.37 U	0.37 U
DP05	105-S34-015	2/8/2006	7	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U		0.56 U	0.56 U	0.56 U	0.56 U	1.1 UJ	0.56 U	0.56 U	0.56 U	0.56 U
DP06	105-S34-018	2/8/2006	1.5 - 2	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U		0.79 U	0.79 U	0.79 U	0.79 U	1.6 U	0.79 U	0.79 U	0.79 U	0.79 U
DP06	105-S34-019	2/8/2006	2 - 2.5	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U		1.3 U	1.3 U	1.3 U	1.3 U	2.5 U	1.3 U	1.3 U	1.3 U	1.3 U
DP07	105-S34-022	2/6/2006	1.5 - 2	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U		0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U
DP08	105-S34-026	2/6/2006	1.5 - 2	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.39 U	0.39 U	0.39 U	0.39 U	0.78 U	0.39 U	0.39 U	0.39 U	0.39 U
DP10	105-S34-031	2/6/2006	1.5 - 2	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.39 U	0.39 U	0.39 U	0.39 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U
DP12	105-S34-036	2/7/2006	1.5 - 2	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U		0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U
DP13	105-S34-038	2/7/2006	1.5 - 2	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.39 U	0.39 U	0.39 U	0.39 U	0.78 U	0.39 U	0.39 U	0.39 U	0.39 U
DP15	105-S34-043	2/7/2006	1.5 - 2	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U		0.77 U	0.77 U	0.77 U	0.77 U	1.5 U	0.77 U	0.77 U	0.77 U	0.77 U
DP16	105-S34-047	2/7/2006	1.5 - 2	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U		3.6 U	3.6 U	3.6 U	3.6 U	7.3 U	3.6 U	3.6 U	3.6 U	3.6 U
DP17	105-S34-051	2/7/2006	1.5 - 2	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U		0.81 U	0.81 U	0.81 U	0.81 U	1.6 U	0.81 U	0.81 U	0.81 U	0.81 U
DP18	105-S34-056	2/8/2006	1.5 - 2	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.39 U	0.39 U	0.39 U	0.39 U	0.78 U	0.39 U	0.39 U	0.39 U	0.39 U
MW-20	105-S34-156	6/26/2006	2 - 2.5	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U		1.8 U	1.8 U	1.8 U	1.8 U	3.5 U	1.8 U	1.8 U	1.8 U	1.8 U
MW-21	105-S34-158	6/23/2006	0 - 1	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U		3.6 U	3.6 U	3.6 U	3.6 U	7.3 U	3.6 U	3.6 U	3.6 U	3.6 U
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.39 U	0.39 U	0.39 U	0.39 U	0.77 U	0.39 U	0.39 U	0.39 U	0.39 U
MW-22	105-S34-160	6/23/2006	0 - 1	70 U	70 U	70 U	70 U	70 U		70 U	70 U	70 U	70 U	140 U	70 U	70 U	70 U	70 U
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.39 U	0.39 U	0.39 U	0.39 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U		0.72 U	0.72 U	0.72 U	0.72 U	1.4 U	0.72 U	0.72 U	0.72 U	0.72 U
MW-24	105-S34-165	6/22/2006	3 - 4	21 U	21 U	21 U	21 U	21 U		21 U	21 U	21 U	21 U	41 U	21 U	21 U	21 U	21 U
MW-24	105-S34-168	6/22/2006	0 - 1	34 U	34 U	34 U	34 U	34 U		34 U	34 U	34 U	34 U	68 U	34 U	34 U	34 U	34 U

Notes:

Concentrations in milligrams per kilogram

- + Duplicate of sample in previous row
- ++ Sediment sample
- ft Foot below ground surface
- J Estimated concentration
- U Not detected

**TABLE D-5. SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL (continued)**  
 Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	2-Methylnaphthalene	2-Methylphenol	2-Nitroaniline	2-Nitrophenol	3,3'-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl-phenylether	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl-phenylether	4-Methylphenol	4-Nitroaniline	4-Nitrophenol	Acenaphthene
004-003-008	004-0011	10/25/1995	1 - 1.5	0.35 U	0.35 U	0.84 U	0.35 U	0.35 U	0.84 U	0.84 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.84 U	0.84 U	0.35 U
004-003-008	004-0012	10/25/1995	5 - 6	0.39 U	0.39 U	0.95 U	0.39 U	0.39 U	0.95 U	0.95 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.95 U	0.95 U	0.39 U
004-003-009	004-0014	10/25/1995	0.5 - 1	0.35 U	0.35 U	0.86 U	0.35 U	0.35 U	0.86 U	0.86 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.86 U	0.86 U	0.35 U
004-003-009	004-0015	10/25/1995	2.5 - 3.5	0.35 U	0.35 U	0.84 U	0.35 U	0.35 U	0.84 U	0.84 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.84 U	0.84 U	0.35 U
018-004-020	018-0020	4/25/1995	0 - 0.5	2 U	2 U	4.9 U	2 U	2 U	4.9 U	4.9 U	2 U	2 U	2 U	2 U	2 U	4.9 U	4.9 U	2 U
018-004-021	018-0021	4/25/1995	0 - 0.5	0.35 U	0.35 U	0.85 U	0.35 U	0.35 U	0.85 U	0.85 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.85 U	0.85 U	0.35 U
018-004-021	018-0031+	4/25/1995	0 - 0.5	0.34 U	0.34 U	0.82 U	0.34 U	0.34 U	0.82 U	0.82 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.82 U	0.82 U	0.34 U
018-004-022	018-0022	4/25/1995	0 - 0.5	0.74 U	0.74 U	1.8 U	0.74 U	0.74 U	1.8 U	1.8 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	1.8 U	1.8 U	0.74 U
018-004-023	018-0023	4/25/1995	0 - 0.5	0.33 U	0.081 J	0.81 U	0.33 U	0.33 U	0.81 U	0.81 U	0.33 U	0.33 U	0.33 U	0.33 U	0.27 J	0.81 U	0.81 U	0.33 U
018-007-035	018-0041	10/23/1995	0.5 - 1	0.35 U	0.35 U	0.84 U	0.35 U	0.35 U	0.84 U	0.84 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.84 U	0.84 U	0.35 U
018-007-035	018-0042	10/23/1995	3 - 4	0.37 U	0.37 U	0.9 U	0.37 U	0.37 U	0.9 U	0.9 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.9 U	0.9 U	0.038 J
018-007-036	018-0044	10/23/1995	3 - 4	0.38 U	0.38 U	0.93 U	0.38 U	0.38 U	0.93 U	0.93 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.93 U	0.93 U	0.38 U
018-007-038	018-0047	10/24/1995	4 - 5	0.36 U	0.36 U	0.88 U	0.36 U	0.36 U	0.88 U	0.88 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.88 U	0.88 U	0.36 U
018-007-039	018-0048	10/23/1995	0.5 - 1.5	0.34 U	0.34 U	0.82 U	0.34 U	0.34 U	0.82 U	0.82 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.82 U	0.82 U	0.34 U
018-007-039	018-0054+	10/23/1995	0.5 - 1.5	0.34 U	0.34 U	0.82 U	0.34 U	0.34 U	0.82 U	0.82 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.82 U	0.82 U	0.34 U
018-007-039	018-0049	10/23/1995	2 - 3	0.39 U	0.39 U	0.94 U	0.39 U	0.39 U	0.94 U	0.94 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.94 U	0.94 U	0.39 U
018-007-041	018-0052	10/24/1995	3.5 - 4.5	0.47 U	0.47 U	1.1 U	0.47 U	0.47 U	1.1 U	1.1 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1.1 U	1.1 U	0.47 U
AA-IT001	AA-IT001-01++	11/22/1994		0.39 U	0.39 U	0.95 U	0.39 U	0.39 U	0.95 U	0.95 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.95 U	0.95 U	0.39 U
DP02	105-S34-006	2/8/2006	0.5 - 0.9	0.37 U	1.8 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	3.7 U	3.7 U	0.37 U
DP05	105-S34-014	2/8/2006	1.5 - 2	0.074 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.74 U	0.074 U
DP05	105-S34-015	2/8/2006	7	0.11 U	0.56 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	1.1 U	1.1 U	0.11 U
DP06	105-S34-018	2/8/2006	1.5 - 2	0.16 U	0.79 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	1.6 U	1.6 U	0.16 U
DP06	105-S34-019	2/8/2006	2 - 2.5	0.25 U	1.3 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	2.5 U	2.5 U	0.25 U
DP07	105-S34-022	2/6/2006	1.5 - 2	0.074 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.74 U	0.074 U
DP08	105-S34-026	2/6/2006	1.5 - 2	0.078 U	0.39 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.78 U	0.78 U	0.078 U
DP10	105-S34-031	2/6/2006	1.5 - 2	0.15 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.79 U	0.79 U	0.15 U
DP12	105-S34-036	2/7/2006	1.5 - 2	0.074 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.74 U	0.074 U
DP13	105-S34-038	2/7/2006	1.5 - 2	0.078 U	0.39 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.78 U	0.78 U	0.078 U
DP15	105-S34-043	2/7/2006	1.5 - 2	0.15 U	0.77 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	1.5 U	1.5 U	0.15 U
DP16	105-S34-047	2/7/2006	1.5 - 2	8.5	3.6 U	7.3 U	7.3 U	7.3 U	7.3 U	7.3 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	0.62 J	0.42 J	22
DP17	105-S34-051	2/7/2006	1.5 - 2	0.16 U	0.81 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	1.6 U	1.6 U	0.16 U
DP18	105-S34-056	2/8/2006	1.5 - 2	0.078 U	0.39 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.78 U	0.78 U	0.078 U
MW-20	105-S34-156	6/26/2006	2 - 2.5	0.35 U	1.8 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	3.5 U	3.5 U	0.35 U
MW-21	105-S34-158	6/23/2006	0 - 1	0.73 U	3.6 U	7.3 U	7.3 U	7.3 U	7.3 U	7.3 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	7.3 U	7.3 U	0.73 U
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.077 U	0.39 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.77 U	0.77 U	0.077 U
MW-22	105-S34-160	6/23/2006	0 - 1	14 U	70 U	140 U	140 U	140 U	140 U	140 U	70 U	70 U	70 U	70 U	70 U	140 U	140 U	14 U
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.079 U	0.39 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.79 U	0.79 U	0.079 U
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.16 U	0.72 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	1.4 U	1.4 U	0.14 U
MW-24	105-S34-165	6/22/2006	3 - 4	4.1 U	21 U	41 U	41 U	41 U	41 U	41 U	21 U	21 U	21 U	21 U	21 U	41 U	41 U	4.1 U
MW-24	105-S34-168	6/22/2006	0 - 1	6.8 U	34 U	68 U	68 U	68 U	68 U	68 U	34 U	34 U	34 U	34 U	34 U	68 U	68 U	6.8 U

Notes:  
 Concentrations in milligrams per kilogram  
 + Duplicate of sample in previous row  
 ++ Sediment sample  
 ft Foot below ground surface  
 J Estimated concentration  
 U Not detected

TABLE D-5. SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL (continued)  
 Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic acid	Benzyl alcohol	Bis(2-chloroethoxy)methane	Bis(2-chloroethyl)ether	Bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Carbazole	Chrysene
004-003-008	004-0011	10/25/1995	1 - 1.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U			0.35 U	0.35 U	0.35 B	0.35 U	0.35 U	0.35 U
004-003-008	004-0012	10/25/1995	5 - 6	0.2 J	0.14 J	0.6	1.1	0.89	0.18 J	0.95			0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.93
004-003-009	004-0014	10/25/1995	0.5 - 1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U			0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
004-003-009	004-0015	10/25/1995	2.5 - 3.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U			0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
018-004-020	018-0020	4/25/1995	0 - 0.5	2 U	2 U	2 U	2 U	2 U	2 U	2 U			2 U	2 U	14 D	2 U	2 U	2 U
018-004-021	018-0021	4/25/1995	0 - 0.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U			0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
018-004-021	018-0031+	4/25/1995	0 - 0.5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U			0.34 U	0.34 U	0.031 J	0.34 U	0.34 U	0.34 U
018-004-022	018-0022	4/25/1995	0 - 0.5	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U			0.74 U	0.74 U	0.054 J	0.74 U	0.74 U	0.74 U
018-004-023	018-0023	4/25/1995	0 - 0.5	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U			0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
018-007-035	018-0041	10/23/1995	0.5 - 1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U			0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
018-007-035	018-0042	10/23/1995	3 - 4	0.37 U	0.37 U	0.053 J	0.068 J	0.37 U	0.053 J	0.37 U			0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.057 J
018-007-036	018-0044	10/23/1995	3 - 4	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U			0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
018-007-038	018-0047	10/24/1995	4 - 5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U			0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
018-007-039	018-0048	10/23/1995	0.5 - 1.5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U			0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
018-007-039	018-0054+	10/23/1995	0.5 - 1.5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U			0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
018-007-039	018-0049	10/23/1995	2 - 3	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U			0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
018-007-041	018-0052	10/24/1995	3.5 - 4.5	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U			0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
AA-IT001	AA-IT001-01++	11/22/1994		0.39 U	0.39 U	0.39 U	0.39 U	0.072 J	0.031 J	0.39 U			0.39 U	0.39 U	25	0.63	0.39 U	0.091 J
DP02	105-S34-006	2/8/2006	0.5 - 0.9	0.37 U	0.37 U	0.37 U	0.37 UJ	0.37 UJ	0.37 UJ	0.37 UJ	9.1 U	1.8 U	1.8 U	1.8 U	4.9 UJ	1.8 U		0.37 U
DP05	105-S34-014	2/8/2006	1.5 - 2	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	1.8 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U		0.074 U
DP05	105-S34-015	2/8/2006	7	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	2.8 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U		0.11 U
DP06	105-S34-018	2/8/2006	1.5 - 2	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	3.9 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U		0.16 U
DP06	105-S34-019	2/8/2006	2 - 2.5	0.25 U	0.25 U	0.1 J	0.15 J	0.16 J	0.25 UJ	0.25 UJ	6.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U		0.17 J
DP07	105-S34-022	2/6/2006	1.5 - 2	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	1.9 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U		0.074 U
DP08	105-S34-026	2/6/2006	1.5 - 2	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	1.9 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.078 U
DP10	105-S34-031	2/6/2006	1.5 - 2	0.12 U	0.69 U	2.5 U	2.1 U	1 U	0.94 U	1.2 U	2 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		3.5 U
DP12	105-S34-036	2/7/2006	1.5 - 2	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.057 J	0.074 U	1.8 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U		0.074 U
DP13	105-S34-038	2/7/2006	1.5 - 2	0.078 UJ	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	2 UJ	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.078 U
DP15	105-S34-043	2/7/2006	1.5 - 2	0.1 J	0.08 J	0.25	0.52	0.5	0.4	0.28	3.9 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U		0.48
DP16	105-S34-047	2/7/2006	1.5 - 2	0.73 U	3.6	2.5	0.74 J	1.2	0.73 U	0.69 J	18 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U		2.9
DP17	105-S34-051	2/7/2006	1.5 - 2	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	4.1 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U		0.16 U
DP18	105-S34-056	2/8/2006	1.5 - 2	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	2 U	0.39 U	0.39 U	0.39 U	0.39 UJ	0.39 U		0.078 U
MW-20	105-S34-156	6/26/2006	2 - 2.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	8.8 U	1.8 U	1.8 U	1.8 U	0.078 J	1.8 U		0.35 U
MW-21	105-S34-158	6/23/2006	0 - 1	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	18 UJ	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U		0.73 U
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	1.9 UJ	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.077 U
MW-22	105-S34-160	6/23/2006	0 - 1	14 U	14 U	14 U	14 U	14 U	14 U	14 U	350 UJ	70 U	70 U	70 U	70 U	70 U		14 U
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	2 UJ	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U		0.079 U
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	3.6 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U		0.14 U
MW-24	105-S34-165	6/22/2006	3 - 4	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	100 UJ	21 U	21 U	21 U	21 U	21 U		4.1 U
MW-24	105-S34-168	6/22/2006	0 - 1	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	170 UJ	34 U	34 U	34 U	34 U	34 U		6.8 U

Notes:  
 Concentrations in milligrams per kilogram  
 + Duplicate of sample in previous row  
 ++ Sediment sample  
 ft Foot below ground surface  
 J Estimated concentration  
 U Not detected

TABLE D-5. SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL (continued)  
Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Di-n-butylphthalate	Di-n-octylphthalate	Dibenzo(a,h)anthracene	Dibenzofuran	Diethylphthalate	Dimethylphthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	N-nitroso-di-n-propylamine
004-003-008	004-0011	10/25/1995	1 - 1.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
004-003-008	004-0012	10/25/1995	5 - 6	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.4	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
004-003-009	004-0014	10/25/1995	0.5 - 1	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
004-003-009	004-0015	10/25/1995	2.5 - 3.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
018-004-020	018-0020	4/25/1995	0 - 0.5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
018-004-021	018-0021	4/25/1995	0 - 0.5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.038 J	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
018-004-021	018-0031+	4/25/1995	0 - 0.5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
018-004-022	018-0022	4/25/1995	0 - 0.5	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
018-004-023	018-0023	4/25/1995	0 - 0.5	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
018-007-035	018-0041	10/23/1995	0.5 - 1	2.2 B	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
018-007-035	018-0042	10/23/1995	3 - 4	2.3 B	0.37 U	0.37 U	0.13 J	0.37 U	0.37 U	0.1 J	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.051 J	0.37 U	0.37 U
018-007-036	018-0044	10/23/1995	3 - 4	0.71 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
018-007-038	018-0047	10/24/1995	4 - 5	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
018-007-039	018-0048	10/23/1995	0.5 - 1.5	1.4 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
018-007-039	018-0054+	10/23/1995	0.5 - 1.5	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
018-007-039	018-0049	10/23/1995	2 - 3	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
018-007-041	018-0052	10/24/1995	3.5 - 4.5	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
AA-IT001	AA-IT001-01++	11/22/1994		0.15 J	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.053 J	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
DP02	105-S34-006	2/8/2006	0.5 - 0.9	1.8 U	1.8 UJ	0.37 UJ	1.8 U	1.8 U	1.8 U	0.37 U	0.37 U	1.8 U	1.8 U	3.7 U	1.8 U	0.37 UJ	1.8 U	1.8 U
DP05	105-S34-014	2/8/2006	1.5 - 2	0.37 U	0.37 U	0.074 UJ	0.37 U	0.37 U	0.37 U	0.074 U	0.074 U	0.37 U	0.37 U	0.74 U	0.37 U	0.074 UJ	0.37 U	0.37 U
DP05	105-S34-015	2/8/2006	7	0.56 U	0.56 U	0.11 UJ	0.56 U	0.56 U	0.56 U	0.11 U	0.11 U	0.56 U	0.56 U	1.1 U	0.56 U	0.11 UJ	0.56 U	0.56 U
DP06	105-S34-018	2/8/2006	1.5 - 2	0.79 U	0.79 U	0.16 U	0.79 U	0.79 U	0.79 U	0.16 U	0.16 U	0.79 U	0.79 U	1.6 U	0.79 U	0.16 U	0.79 U	0.79 U
DP06	105-S34-019	2/8/2006	2 - 2.5	1.3 U	1.3 UJ	0.25 UJ	1.3 U	1.3 U	1.3 U	0.25 U	0.25 U	1.3 U	1.3 U	2.5 U	1.3 U	0.25 UJ	1.3 U	1.3 U
DP07	105-S34-022	2/6/2006	1.5 - 2	0.37 U	0.37 U	0.074 U	0.37 U	0.37 U	0.37 U	0.074 U	0.074 U	0.37 U	0.37 U	0.74 U	0.37 U	0.074 U	0.37 U	0.37 U
DP08	105-S34-026	2/6/2006	1.5 - 2	0.39 U	0.39 U	0.078 U	0.39 U	0.39 U	0.39 U	0.078 U	0.078 U	0.39 U	0.39 U	0.78 U	0.39 U	0.078 U	0.39 U	0.39 U
DP10	105-S34-031	2/6/2006	1.5 - 2	0.51	0.39 U	0.37 U	0.39 U	0.39 U	0.39 U	3 U	0.19 U	0.39 U	0.39 U	0.79 U	0.39 U	0.82 U	0.39 U	0.39 U
DP12	105-S34-036	2/7/2006	1.5 - 2	0.37 U	0.37 U	0.074 U	0.37 U	0.37 U	0.37 U	0.074 U	0.074 U	0.37 U	0.37 U	0.74 U	0.37 U	0.074 U	0.37 U	0.37 U
DP13	105-S34-038	2/7/2006	1.5 - 2	0.39 U	0.39 U	0.078 U	0.39 U	0.39 U	0.39 U	0.078 U	0.078 U	0.39 U	0.39 U	0.78 U	0.39 U	0.078 U	0.39 U	0.39 U
DP15	105-S34-043	2/7/2006	1.5 - 2	0.77 U	0.77 U	0.15 U	0.77 U	0.77 U	0.77 U	0.22	0.15 U	0.77 U	0.77 U	1.5 U	0.77 U	0.3	0.77 U	0.77 U
DP16	105-S34-047	2/7/2006	1.5 - 2	3.6 U	3.6 U	0.73 U	13	3.6 U	3.6 U	17	13	3.6 U	3.6 U	7.3 U	3.6 U	0.73 U	3.6 U	3.6 U
DP17	105-S34-051	2/7/2006	1.5 - 2	0.81 UJ	0.81 U	0.16 U	0.81 U	0.81 U	0.81 U	0.16 U	0.16 U	0.81 U	0.81 U	1.6 U	0.81 U	0.16 U	0.81 U	0.81 U
DP18	105-S34-056	2/8/2006	1.5 - 2	0.39 U	0.39 U	0.078 U	0.39 U	0.39 U	0.39 U	0.0077 J	0.078 U	0.39 U	0.39 U	0.78 U	0.39 U	0.078 U	0.39 U	0.39 U
MW-20	105-S34-156	6/26/2006	2 - 2.5	1.8 U	1.8 U	0.35 U	1.8 U	1.8 U	1.8 U	0.35 U	0.35 U	1.8 U	1.8 U	3.5 U	1.8 U	0.35 U	1.8 U	1.8 U
MW-21	105-S34-158	6/23/2006	0 - 1	3.6 U	3.6 U	0.73 U	3.6 U	3.6 U	3.6 U	0.73 U	0.73 U	3.6 U	3.6 U	7.3 U	3.6 U	0.73 U	3.6 U	3.6 U
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.39 U	0.39 U	0.077 U	0.39 U	0.39 U	0.39 U	0.077 U	0.077 U	0.39 U	0.39 U	0.77 U	0.39 U	0.077 U	0.39 U	0.39 U
MW-22	105-S34-160	6/23/2006	0 - 1	70 U	70 U	14 U	70 U	70 U	70 U	14 U	14 U	70 U	70 U	140 U	70 U	14 U	70 U	70 U
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.39 U	0.39 U	0.079 U	0.39 U	0.39 U	0.39 U	0.079 U	0.079 U	0.39 U	0.39 U	0.79 U	0.39 U	0.079 U	0.39 U	0.39 U
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.72 U	0.72 U	0.14 U	0.72 U	0.72 U	0.72 U	0.14 U	0.14 U	0.72 U	0.72 U	1.4 U	0.72 U	0.14 U	0.2 J	0.72 U
MW-24	105-S34-165	6/22/2006	3 - 4	21 U	21 U	4.1 U	21 U	21 U	21 U	4.1 U	4.1 U	21 U	21 U	41 U	21 U	4.1 U	21 U	21 U
MW-24	105-S34-168	6/22/2006	0 - 1	34 U	34 U	6.8 U	34 U	34 U	34 U	6.8 U	6.8 U	34 U	34 U	68 U	34 U	6.8 U	34 U	34 U

Notes:  
Concentrations in milligrams per kilogram  
+ Duplicate of sample in previous row  
++ Sediment sample  
ft Foot below ground surface  
J Estimated concentration  
U Not detected

**TABLE D-5. SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL (continued)**  
Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	N-nitrosodiphenylamine	Naphthalene	Nitrobenzene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
004-003-008	004-0011	10/25/1995	1 - 1.5	0.35 U	0.35 U	0.35 U	0.84 U	0.35 U	0.35 U	0.35 U
004-003-008	004-0012	10/25/1995	5 - 6	0.39 U	0.39 U	0.39 U	0.95 U	0.17 J	0.39 U	1.2
004-003-009	004-0014	10/25/1995	0.5 - 1	0.35 U	0.35 U	0.35 U	0.86 U	0.35 U	0.35 U	0.35 U
004-003-009	004-0015	10/25/1995	2.5 - 3.5	0.35 U	0.35 U	0.35 U	0.84 U	0.35 U	0.35 U	0.35 U
018-004-020	018-0020	4/25/1995	0 - 0.5	2 U	2 U	2 U	4.9 U	2 U	2 U	2 U
018-004-021	018-0021	4/25/1995	0 - 0.5	0.35 U	0.35 U	0.35 U	0.85 U	0.35 U	0.35 U	0.35 U
018-004-021	018-0031+	4/25/1995	0 - 0.5	0.34 U	0.34 U	0.34 U	0.82 U	0.34 U	0.34 U	0.34 U
018-004-022	018-0022	4/25/1995	0 - 0.5	0.74 U	0.74 U	0.74 U	1.8 U	0.74 U	0.74 U	0.74 U
018-004-023	018-0023	4/25/1995	0 - 0.5	0.33 U	0.33 U	0.33 U	0.81 U	0.33 U	0.58	0.33 U
018-007-035	018-0041	10/23/1995	0.5 - 1	0.35 U	0.35 U	0.35 U	0.84 U	0.35 U	0.35 U	0.35 U
018-007-035	018-0042	10/23/1995	3 - 4	0.37 U	0.37 U	0.37 U	0.9 U	0.077 J	0.37 U	0.15 J
018-007-036	018-0044	10/23/1995	3 - 4	0.38 U	0.38 U	0.38 U	0.93 U	0.38 U	0.38 U	0.38 U
018-007-038	018-0047	10/24/1995	4 - 5	0.36 U	0.36 U	0.36 U	0.88 U	0.36 U	0.36 U	0.36 U
018-007-039	018-0048	10/23/1995	0.5 - 1.5	0.34 U	0.34 U	0.34 U	0.82 U	0.34 U	0.34 U	0.34 U
018-007-039	018-0054+	10/23/1995	0.5 - 1.5	0.34 U	0.34 U	0.34 U	0.82 U	0.34 U	0.34 U	0.34 U
018-007-039	018-0049	10/23/1995	2 - 3	0.39 U	0.39 U	0.39 U	0.94 U	0.39 U	0.39 U	0.39 U
018-007-041	018-0052	10/24/1995	3.5 - 4.5	0.47 U	0.47 U	0.47 U	1.1 U	0.47 U	0.47 U	0.47 U
AA-IT001	AA-IT001-01++	11/22/1994		0.39 U	0.39 U	0.39 U	0.95 U	0.39 U	0.39 U	0.073 J
DP02	105-S34-006	2/8/2006	0.5 - 0.9	1.8 U	0.37 U	1.8 U	3.7 U	0.37 U	1.8 U	0.37 U
DP05	105-S34-014	2/8/2006	1.5 - 2	0.37 U	0.074 U	0.37 U	0.74 U	0.074 U	0.37 U	0.074 U
DP05	105-S34-015	2/8/2006	7	0.56 U	0.11 U	0.56 U	1.1 U	0.11 U	0.56 U	0.088 J
DP06	105-S34-018	2/8/2006	1.5 - 2	0.79 U	0.16 U	0.79 U	1.6 U	0.16 U	0.79 U	0.16 U
DP06	105-S34-019	2/8/2006	2 - 2.5	1.3 U	0.25 U	1.3 U	2.5 U	0.25 U	1.3 U	0.31
DP07	105-S34-022	2/6/2006	1.5 - 2	0.37 U	0.074 U	0.37 U	0.74 U	0.074 U	0.37 U	0.074 U
DP08	105-S34-026	2/6/2006	1.5 - 2	0.39 U	0.078 U	0.39 U	0.78 U	0.078 U	0.39 U	0.078 U
DP10	105-S34-031	2/6/2006	1.5 - 2	0.39 U	0.15 U	0.39 U	0.79 U	0.15 U	0.39 U	0.15 U
DP12	105-S34-036	2/7/2006	1.5 - 2	0.37 U	0.074 U	0.37 U	0.74 U	0.074 U	0.37 U	0.074 U
DP13	105-S34-038	2/7/2006	1.5 - 2	0.39 U	0.078 U	0.39 U	0.78 U	0.078 U	0.39 U	0.078 U
DP15	105-S34-043	2/7/2006	1.5 - 2	0.77 U	0.15 U	0.77 U	1.5 U	0.17	0.77 U	0.53
DP16	105-S34-047	2/7/2006	1.5 - 2	3.6 U	13	3.6 U	7.3 U	47	3.6 U	15
DP17	105-S34-051	2/7/2006	1.5 - 2	0.81 U	0.16 U	0.81 U	1.6 U	0.022 J	0.81 U	0.16 U
DP18	105-S34-056	2/8/2006	1.5 - 2	0.39 U	0.078 U	0.39 U	0.78 U	0.0053 J	0.39 U	0.0082 J
MW-20	105-S34-156	6/26/2006	2 - 2.5	1.8 U	0.35 U	1.8 U	3.5 U	0.35 U	1.8 U	0.35 U
MW-21	105-S34-158	6/23/2006	0 - 1	3.6 U	0.73 U	3.6 U	7.3 U	0.73 U	3.6 U	0.73 U
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.39 U	0.077 U	0.39 U	0.77 U	0.077 U	0.39 U	0.077 U
MW-22	105-S34-160	6/23/2006	0 - 1	70 U	14 U	70 U	140 U	14 U	70 U	14 U
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.39 U	0.079 U	0.39 U	0.79 U	0.079 U	0.39 U	0.079 U
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.72 U	0.077 J	0.72 U	1.4 U	0.14 U	0.72 U	0.03 J
MW-24	105-S34-165	6/22/2006	3 - 4	21 U	4.1 U	21 U	41 U	4.1 U	21 U	4.1 U
MW-24	105-S34-168	6/22/2006	0 - 1	34 U	6.8 U	34 U	68 U	6.8 U	34 U	6.8 U

Notes:  
Concentrations in milligrams per kilogram  
+ Duplicate of sample in previous row  
++ Sediment sample  
ft Foot below ground surface  
J Estimated concentration  
U Not detected

TABLE D-6. POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	2-Methylnaphthalene	Acenaphthene	Acenaphthalene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
DP01	105-S34-001	2/8/2006	0 - 0.5	0.0081 J	0.011 U	0.0017 J	0.0039 J	0.018	0.024	0.029	0.027	0.021	0.026	0.0078 J	0.03	0.011 U	0.019	0.005 J	0.01 J	0.041
DP01	105-S34-002	2/8/2006	0.85 - 1.3	0.063 U	0.063 U	0.063 U	0.063 U	0.01 J	0.011 J	0.013 J	0.011 J	0.063 U	0.019 J	0.063 U	0.015 J	0.063 U	0.063 U	0.063 U	0.063 U	0.024 J
DP02	105-S34-005	2/8/2006	0 - 0.5	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 UJ	0.027 J	0.045 J	0.11 UJ	0.029 J	0.11 UJ	0.11 U	0.11 U	0.021 J	0.11 U	0.11 U	0.028 J
DP02	105-S34-006	2/8/2006	0.5 - 0.9	0.055 U	0.055 U	0.055 U	0.028 J	0.16	0.15 J	0.21 J	0.074 J	0.17 J	0.2	0.037 J	0.29	0.055 U	0.071 J	0.055 U	0.12	0.3
DP05	105-S34-013	2/8/2006	0 - 0.5	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 UJ	0.088 J	0.098 J	0.42 UJ	0.15 J	0.42 UJ	0.42 U	0.42 U	0.42 UJ	0.42 U	0.42 U	0.42 U
DP05	105-S34-014	2/8/2006	1.5 - 2	0.011 U	0.011 U	0.011 U	0.011 U	0.0016 J	0.0028 J	0.0052 J	0.0057 J	0.011 U	0.0061 J	0.011 U	0.0046 J	0.011 U	0.003 J	0.011 U	0.003 J	0.0068 J
DP05	105-S34-015	2/8/2006	7	0.0083 U	0.0083 U	0.0083 U	0.0018 J	0.015	0.051	0.028	0.045	0.02	0.021	0.0061 J	0.02	0.0083 U	0.027	0.002 J	0.0032 J	0.088
DP06	105-S34-017	2/8/2006	0 - 0.5	0.054 U	0.049 J	0.0094 J	0.13	0.8	0.76 J	0.91 J	0.33 J	0.78 J	0.93	0.18 J	1	0.035 J	0.36 J	0.054 U	0.5	1.4
DP06	105-S34-018	2/8/2006	1.5 - 2	0.03 U	0.03 U	0.03 U	0.03 U	0.008 J	0.015 J	0.012 J	0.01 J	0.0092 J	0.018 J	0.0048 J	0.012 J	0.03 U	0.0081 J	0.03 U	0.0079 J	0.025 J
DP06	105-S34-019	2/8/2006	2 - 2.5	0.019 U	0.019 U	0.016 J	0.018 J	0.023	0.063 J	0.044 J	0.057 J	0.032 J	0.06	0.023 J	0.02	0.019 U	0.034 J	0.019 U	0.011 J	0.12
DP07	105-S34-021	2/6/2006	0 - 0.5	0.011 U	0.011 U	0.011 U	0.011 U	0.003 J	0.0033 J	0.017	0.0056 J	0.014	0.031	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0046 J	0.0059 J
DP07	105-S34-022	2/6/2006	1.5 - 2	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.00087 J	0.0054 U	0.00082 J	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
DP08	105-S34-025	2/6/2006	0 - 0.5	0.028 U	0.028 U	0.028 U	0.028 U	0.0092 J	0.009 J	0.012 J	0.01 J	0.02 J	0.045	0.0067 J	0.028 U	0.028 U	0.028 U	0.028 U	0.0093 J	0.011 J
DP08	105-S34-026	2/6/2006	1.5 - 2	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0012 J	0.0017 J	0.0012 J	0.0016 J	0.0058 U	0.0025 J	0.0058 U	0.0023 J	0.0058 U	0.0011 J	0.0058 U	0.0016 J	0.0038 J
DP10	105-S34-030	2/6/2006	0 - 0.5	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.015 J	0.11 U	0.023 J	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
DP10	105-S34-031	2/6/2006	1.5 - 2	0.15 U	0.15 U	0.12 J	0.69	2.5	2.1	1	0.94	1.2	3.5	0.37	3	0.19	0.82	0.15 U	3.5	5.1
DP12	105-S34-035	2/7/2006	0 - 0.5	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 J	0.081 J	0.15 J	0.23 J	0.048 J	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.052 J
DP12	105-S34-036	2/7/2006	1.5 - 2	0.0042 J	0.011 U	0.02	0.019	0.01 J	0.018	0.028	0.057	0.021	0.024	0.016	0.0083 J	0.011 U	0.037	0.0086 J	0.0055 J	0.02
DP13	105-S34-037	2/7/2006	0 - 1	0.0054 U	0.0054 U	0.0054 UJ	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U	0.0054 U
DP13	105-S34-038	2/7/2006	1.5 - 2	0.0059 U	0.0059 U	0.0059 UJ	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U	0.0059 U
DP15	105-S34-042	2/7/2006	0 - 1	0.028 U	0.028 U	0.028 UJ	0.028 U	0.028 U	0.028 U	0.028 U	0.0041 J	0.028 U	0.0043 J	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U
DP15	105-S34-043	2/7/2006	1.5 - 2	0.0019 J	0.0058 U	0.012 J	0.009	0.023	0.05	0.032	0.045	0.029	0.046	0.013	0.035	0.0058 U	0.032	0.0034 J	0.012	0.081
DP16	105-S34-046	2/7/2006	0 - 0.5	1.1 U	1.1 U	0.31 J	1.1 J	14	4.6	7.6	2.1	9.2	16	1.3	74	1.1 U	2.4	1.1 U	1.1 U	68
DP16	105-S34-047	2/7/2006	1.5 - 2	4.6	11	0.19 J	2.7	2.5	0.59 J	1.2	0.19 J	0.67 J	2.7	0.69 U	14	7.8	0.2 J	4.8	40	13
DP17	105-S34-050	2/7/2006	0 - 0.5	0.21 U	0.21 U	0.21 UJ	0.21 U	0.21 U	0.036 J	0.31	0.062 J	0.23	0.29	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.079 J
DP17	105-S34-051	2/7/2006	1.5 - 2	0.0039 J	0.0017 J	0.003 J	0.0096	0.0047 J	0.0038 J	0.0055 J	0.0068	0.0041 J	0.012	0.0019 J	0.014	0.0041 J	0.0042 J	0.0025 J	0.022	0.017
DP18	105-S34-055	2/8/2006	0 - 0.5	0.016 U	0.016 U	0.016 U	0.016 U	0.0029 J	0.005 J	0.012 J	0.0049 J	0.014 J	0.02 J	0.0025 J	0.016 U	0.016 U	0.016 U	0.016 U	0.0025 J	0.0047 J
DP18	105-S34-056	2/8/2006	1.5 - 2	0.0058 U	0.0058 U	0.001 J	0.00081 J	0.0021 J	0.0031 J	0.0026 J	0.0041 J	0.0018 J	0.0043 J	0.0058 U	0.0077	0.0013 J	0.0025 J	0.0058 U	0.0035 J	0.0082
DP19	105-S34-060	2/8/2006	0 - 0.5	0.055 U	0.055 U	0.055 U	0.022 J	0.076	0.071 J	0.093 J	0.04 J	0.066 J	0.13	0.014 J	0.13	0.055 U	0.033 J	0.055 U	0.061	0.18
DP19	105-S34-061	2/8/2006	0.8 - 1.3	0.0019 J	0.015 J	0.02 J	0.085 J	0.14 J	0.16	0.15	0.11 J	0.071 J	0.15	0.022 J	0.24	0.016 J	0.083 J	0.0054 J	0.19	0.32
MW-20	105-S34-156	6/26/2006	2 - 2.5	0.053 U	0.053 U	0.053 U	0.053 U	0.039 J	0.011 J	0.014 J	0.015 J	0.053 U	0.017 J	0.053 U	0.019 J	0.053 U	0.0095 J	0.053 U	0.0087 J	0.019 J
MW-21	105-S34-158	6/23/2006	0 - 1	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
MW-22	105-S34-160	6/23/2006	0 - 1	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U	0.0058 U
MW-24	105-S34-165	6/22/2006	3 - 4	0.031 U	0.031 U	0.031 U	0.031 U	0.023 J	0.0084 J	0.005 J	0.01 J	0.031 U	0.0085 J	0.031 U	0.0075 J	0.031 U	0.007 J	0.031 U	0.0048 J	0.015 J
MW-24	105-S34-168	6/22/2006	0 - 1	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.081 J	0.52 U	0.14 J	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U

Notes:  
 Concentrations in milligrams per kilogram  
 Samples analyzed by U.S. Environmental Protection Agency method 8270C-SIM  
 + Duplicate of sample in previous row  
 ++ Sediment sample  
 ft Foot below ground surface  
 J Estimated concentration  
 U Not detected

TABLE D-7. PESTICIDES IN SOIL

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	Alpha-BHC	Alpha-chlordane	Atropine methyl	Beta-BHC	Delta-BHC	Demeton	Diazinon	Dieldrin	Disulfoton	Endosulfan I	Endosulfan II	Endosulfan sulfate	Enfithin	Enfithin aldehyde	Enfithin ketone	Ethion	Ethyl parathion	Gamma-BHC	Gamma-chlordane	Heptachlor	Heptachlor epoxide	Malathion	Methoxychlor	Methyl parathion	Technical chlordane	Toxaphene		
004-203-004	004-0004	4/27/1995	0.5-1	1.8 UJ	1.8 UJ	1.8 UJ	0.93 UJ	0.93 UJ	0.93 UJ		0.93 UJ	0.93 UJ			1.8 UJ		0.93 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ			0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	0.93 UJ	
004-203-005	004-0005	10/25/1995	0.5-1.5	0.0035 U	0.0035 U	0.0035 U	0.0018 U	0.0018 U	0.0018 U		0.0018 U	0.0018 U			0.0035 U		0.0018 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U			0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U		
004-203-006	004-0006	10/25/1995	3-3.5	0.0035 U	0.0035 U	0.0035 U	0.0018 U	0.0018 U	0.0018 U		0.0018 U	0.0018 U			0.0035 U		0.0018 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U			0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	
004-203-007	004-0007	10/24/1995	0.5-1	0.0035 U	0.0035 U	0.0035 U	0.0018 U	0.0018 U	0.0018 U		0.0018 U	0.0018 U			0.0035 U		0.0018 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U			0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	
004-203-008	004-0008	10/24/1995	2.5-3	0.0038 U	0.0038 U	0.0038 U	0.002 U	0.002 U	0.002 U		0.002 U	0.002 U			0.0038 U		0.002 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U			0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	
004-203-009	004-0009	10/24/1995	0.5-1	0.0034 U	0.0034 U	0.0034 U	0.0018 U	0.0018 U	0.0018 U		0.0018 U	0.0018 U			0.0034 U		0.0018 U	0.0034 U	0.0034 U	0.0034 U	0.0034 U	0.0034 U			0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	
004-203-010	004-0010	10/24/1995	3.5-4	0.0042 U	0.0042 U	0.0042 U	0.0022 U	0.0022 U	0.0022 U		0.0022 U	0.0022 U			0.0042 U		0.0022 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U			0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0022 U	
018-203-027	018-0027	4/25/1995	0-0.5	0.018 U	0.018 U	0.018 UJ	0.0087 UJ	0.0087 UJ	0.0087 UJ		0.0087 UJ	0.0087 UJ			0.017 UJ		0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ			0.0087 UJ	0.0087 UJ	0.0087 UJ	0.0087 UJ	0.0087 UJ	0.0087 UJ	0.0087 UJ	0.0087 UJ	0.0087 UJ	0.0087 UJ	
018-203-028	018-0028	4/25/1995	0-0.5	0.036 UJ	0.036 UJ	0.036 UJ	0.019 UJ	0.019 UJ	0.019 UJ		0.019 UJ	0.019 UJ			0.036 UJ		0.019 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ			0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	
018-203-029	018-0029	4/25/1995	0-0.5	0.0067 U	0.0067 U	0.0065 JP	0.0035 U	0.0035 U	0.0035 U		0.0035 U	0.0035 U			0.0067 U		0.0035 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U	0.0067 U			0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U		
018-203-030	018-0030	4/26/1995	0-0.5	0.0035 U	0.0035 U	0.0035 U	0.0018 U	0.0018 U	0.0018 U		0.0018 U	0.0018 U			0.0035 U		0.0018 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U			0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	
018-203-031	018-0031	4/26/1995	0-0.5	0.0036 U	0.0036 U	0.0036 U	0.0018 U	0.0018 U	0.0018 U		0.0018 U	0.0018 U			0.0036 U		0.0018 U	0.0036 U	0.0036 U	0.0036 U	0.0036 U	0.0036 U			0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	0.0018 U	
018-203-032	018-0032	10/23/1995	0.5-1	0.0037 U	0.0037 U	0.0037 U	0.0019 U	0.0019 U	0.0019 U		0.0019 U	0.0019 U			0.0037 U		0.0019 U	0.0037 U	0.0037 U	0.0037 U	0.0037 U	0.0037 U			0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	
018-203-032	018-0032	10/23/1995	3-3.5	0.0036 UJ	0.0036 UJ	0.0036 UJ	0.0018 UJ	0.0018 UJ	0.0018 UJ		0.0018 UJ	0.0018 UJ			0.0036 UJ		0.0018 UJ	0.0036 UJ	0.0036 UJ	0.0036 UJ	0.0036 UJ	0.0036 UJ			0.0018 UJ	0.0018 UJ	0.0018 UJ	0.0018 UJ	0.0018 UJ	0.0018 UJ	0.0018 UJ	0.0018 UJ	0.0018 UJ	0.0018 UJ	
AA-T001-01**	AA-T001-01**	11/22/1994	0.5-1	0.096	0.039 U	0.06 J	0.02 U	0.02 U	0.02 U	0.2 U	0.02 U	0.02 U	0.2 U	0.2 U	0.02 U	0.2 U	0.02 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.2 U	0.2 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	
DP01	105-S34-001	2/8/2006	0-0.5	0.018 U	0.018 U	0.018 U	0.0094 U	0.0094 U	0.0094 U		0.0094 U	0.0094 U			0.018 U		0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U			0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	0.0094 U	
DP01	105-S34-002	2/8/2006	0.85-1.3	0.02 U	0.02 U	0.02 U	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U			0.02 U		0.01 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	
DP02	105-S34-003	2/8/2006	0-0.5	0.037 U	0.037 U	0.021 J	0.019 U	0.019 U	0.019 U		0.019 U	0.019 U			0.037 U		0.019 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	
DP02	105-S34-004	2/8/2006	0.5-0.9	0.036 U	0.036 U	0.017 J	0.036 UJ	0.036 UJ	0.036 UJ		0.036 UJ	0.036 UJ			0.036 UJ		0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ			0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 UJ
DP05	105-S34-013	2/8/2006	0-0.5	0.18 U	0.18 U	0.18 U	0.09 U	0.09 U	0.09 U		0.09 U	0.09 U			0.18 U		0.09 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U			0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	
DP05	105-S34-014	2/8/2006	1.5-2	0.018 U	0.018 U	0.018 U	0.0093 U	0.0093 U	0.0093 U		0.0093 U	0.0093 U			0.018 U		0.0093 U	0.0093 U	0.0093 U	0.0093 U	0.0093 U	0.0093 U			0.0093 U	0.0093 U	0.0093 U	0.0093 U	0.0093 U	0.0093 U	0.0093 U	0.0093 U	0.0093 U	0.0093 U	
DP05	105-S34-015	2/8/2006	7	0.0055 U	0.0055 U	0.0055 U	0.0028 U	0.0028 U	0.0028 U		0.0028 U	0.0028 U			0.0055 U		0.0028 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U	0.0055 U			0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U	0.0028 U		
DP06	105-S34-016	2/8/2006	0-0.5	0.037 U	0.037 U	0.037 U	0.019 U	0.019 U	0.019 U		0.019 U	0.019 U			0.037 U		0.019 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U		
DP06	105-S34-018	2/8/2006	1.5-2	0.039 U	0.039 U	0.039 U	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U			0.039 U		0.02 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
DP06	105-S34-019	2/8/2006	2-2.5	0.042 U	0.042 U	0.042 UJ	0.022 UJ	0.022 UJ	0.022 UJ		0.022 UJ	0.022 UJ			0.042 UJ		0.022 UJ	0.042 UJ	0.042 UJ	0.042 UJ	0.042 UJ	0.042 UJ			0.022 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.022 UJ	
DP07	105-S34-021	2/8/2006	0-0.5	0.019 U	0.019 U	0.019 U	0.0096 U	0.0096 U	0.0096 U		0.0096 U	0.0096 U			0.019 U		0.0096 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U			0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U		
DP07	105-S34-022	2/8/2006	1.5-2	0.0036 U	0.0036 U	0.0036 U	0.0019 U	0.0019 U	0.0019 U		0.0019 U	0.0019 U			0.0036 U		0.0019 U	0.0036 U	0.0036 U	0.0036 U	0.0036 U	0.0036 U			0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U		
DP07	105-S34-023	2/8/2006	7	0.004 U	0.004 U	0.004 U	0.0021 U	0.0021 U	0.0021 U		0.0021 U	0.0021 U			0.004 U		0.0021 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U			0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U		
DP08	105-S34-025	2/8/2006	0-0.5	0.036 U	0.036 U	0.036 U	0.019 U	0.019 U	0.019 U		0.019 U	0.019 U			0.036 U		0.019 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U			0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U		
DP08	105-S34-026	2/8/2006	1.5-2	0.0038 U	0.0038 U	0.0038 U	0.002 U	0.002 U	0.002 U		0.002 U	0.002 U			0.0038 U		0.002 U	0.0038 U																	

**TABLE D-8. HERBICIDES IN SOIL**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	2,4-DB	Dalapon
AA-IT001	AA-IT001-01+	11/22/1994		5.95 U	5.95 U	5.95 U	5.95 U	5.95 U
MW-20	105-S34-156	6/26/2006	2 - 2.5	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
MW-21	105-S34-158	6/23/2006	0 - 1	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
MW-22	105-S34-160	6/23/2006	0 - 1	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U
MW-24	105-S34-165	6/22/2006	3 - 4	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
MW-24	105-S34-168	6/22/2006	0 - 1	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Dicamba	Dichlorprop	Dinoseb	MCPA	MCPP
AA-IT001	AA-IT001-01+	11/22/1994		5.95 U	5.95 U	5.95 U	298 U	298 U
MW-20	105-S34-156	6/26/2006	2 - 2.5	0.048 U	0.048 U	0.048 U	9.5 U	9.5 UJ
MW-21	105-S34-158	6/23/2006	0 - 1	0.057 U	0.057 U	0.057 U	12 U	12 UJ
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.057 U	0.057 U	0.057 U	12 U	12 UJ
MW-22	105-S34-160	6/23/2006	0 - 1	0.066 U	0.066 U	0.066 U	14 U	14 UJ
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.062 U	0.062 U	0.062 U	13 U	13 UJ
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.036 U	0.036 U	0.036 U	7.1 U	7.1 U
MW-24	105-S34-165	6/22/2006	3 - 4	0.27 U	0.27 U	0.27 U	54 U	54 UJ
MW-24	105-S34-168	6/22/2006	0 - 1	0.26 U	0.26 U	0.26 U	51 U	51 UJ

Notes:

Concentrations in milligrams per kilogram

- + Sediment sample
- ft Foot below ground surface
- J Estimated concentration
- U Not detected

**TABLE D-9. POLYCHLORINATED BIPHENYLS IN SOIL**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1268
004-Z03-004	004-0004	4/27/1995	0.5 - 1	18 UJ	37 UJ	18 UJ	18 UJ	18 UJ	18 UJ	9.7 J	
004-Z03-005	004-0005	10/25/1995	0.5 - 1.5	0.035 U	0.071 U	0.035 U					
004-Z03-005	004-0017+	10/25/1995	0.5 - 1.5	0.035 U	0.07 U	0.035 U	0.035 U	0.035 U	0.035 U	0.035 U	
004-Z03-005	004-0006	10/25/1995	3 - 3.5	0.037 U	0.076 U	0.037 U					
004-Z03-006	004-0007	10/24/1995	0.5 - 1	0.035 U	0.071 U	0.035 U					
004-Z03-006	004-0008	10/24/1995	2.5 - 3	0.038 U	0.078 U	0.038 U					
004-Z03-007	004-0009	10/24/1995	0.5 - 1	0.034 U	0.07 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	
004-Z03-007	004-0010	10/24/1995	3.5 - 4	0.042 U	0.086 U	0.042 U					
018-Z03-027	018-0027	4/25/1995	0 - 0.5	0.17 U	0.34 U	0.17 U	0.17 U	0.17 U	0.26	0.1 J	
018-Z03-028	018-0028	4/25/1995	0 - 0.5	0.36 UJ	0.74 UJ	0.36 UJ	0.36 UJ	0.36 UJ	0.32 J	1.4 J	
018-Z03-029	018-0029	4/25/1995	0 - 0.5	0.067 U	0.14 U	0.067 U	0.067 U	0.067 U	0.11 PJ	0.14 J	
018-Z03-030	018-0030	4/26/1995	0 - 0.5	0.035 U	0.071 U	0.035 U					
018-Z03-030	018-0032+	4/26/1995	0 - 0.5	0.036 U	0.073 U	0.036 U					
018-Z03-031	018-0034	10/23/1995	0.5 - 1	0.037 U	0.075 U	0.037 U					
018-Z03-031	018-0035	10/23/1995	3 - 3.5	0.038 U	0.077 U	0.038 U					
018-Z03-032	018-0036	10/23/1995	0.5 - 1	0.036 UJ	0.072 UJ	0.036 UJ	0.036 UJ	0.036 UJ	0.036 PJ	0.036 UJ	
018-Z03-032	018-0037	10/23/1995	3 - 3.5	0.038 U	0.077 U	0.038 U					
AA-IT001	AA-IT001-01++	11/22/1994		0.39 U	0.8 U	0.39 U	0.39 U	0.39 U	0.39 U	0.22 J	
DP01	105-S34-001	2/8/2006	0 - 0.5	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.011 U	0.032	0.011 U
DP01	105-S34-002	2/8/2006	0.85 - 1.3	0.012 U	0.023 U	0.012 U	0.012 U	0.012 U	0.03	0.019	0.012 U
DP02	105-S34-005	2/8/2006	0 - 0.5	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.082 J	0.11 J	0.031 J
DP02	105-S34-006	2/8/2006	0.5 - 0.9	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.4 J	0.33 J	0.01 U
DP05	105-S34-013	2/8/2006	0 - 0.5	0.01 U	0.02 U	0.01 U					
DP05	105-S34-014	2/8/2006	1.5 - 2	0.011 U	0.021 U	0.011 U					
DP05	105-S34-015	2/8/2006	7	0.016 UJ	0.032 U	0.016 UJ	0.016 U				
DP06	105-S34-017	2/8/2006	0 - 0.5	0.021 U	0.041 U	0.021 U	0.021 U	0.021 U	0.021 U	0.95 J	0.021 U
DP06	105-S34-018	2/8/2006	1.5 - 2	0.011 U	0.023 U	0.011 U					
DP06	105-S34-019	2/8/2006	2 - 2.5	0.012 U	0.025 U	0.012 U					
DP07	105-S34-021	2/6/2006	0 - 0.5	0.011 U	0.022 U	0.011 U					
DP07	105-S34-022	2/6/2006	1.5 - 2	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DP07	105-S34-023	2/6/2006	7	0.012 U	0.023 U	0.012 U					
DP08	105-S34-025	2/6/2006	0 - 0.5	0.011 U	0.021 U	0.011 U					
DP08	105-S34-026	2/6/2006	1.5 - 2	0.011 U	0.022 U	0.011 U					
DP08	105-S34-027	2/6/2006	7	0.011 U	0.023 U	0.011 U					
DP10	105-S34-030	2/6/2006	0 - 0.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DP10	105-S34-031	2/6/2006	1.5 - 2	0.011 U	0.022 U	0.011 U					
DP10	105-S34-032	2/6/2006	7	0.014 U	0.028 U	0.014 U					
DP12	105-S34-035	2/7/2006	0 - 0.5	0.01 U	0.02 U	0.01 U					

**TABLE D-9. POLYCHLORINATED BIPHENYLS IN SOIL (continued)**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1268
DP12	105-S34-036	2/7/2006	1.5 - 2	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.011 U	0.01 J	0.011 U
DP13	105-S34-037	2/7/2006	0 - 1	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0076 J	0.011 J
DP13	105-S34-038	2/7/2006	1.5 - 2	0.011 U	0.023 U	0.011 U					
DP15	105-S34-042	2/7/2006	0 - 1	0.011 U	0.021 U	0.011 U					
DP15	105-S34-043	2/7/2006	1.5 - 2	0.011 U	0.022 U	0.011 U					
DP16	105-S34-046	2/7/2006	0 - 0.5	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.011 U	0.3	0.28
DP16	105-S34-047	2/7/2006	1.5 - 2	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.023	0.0083 J
DP17	105-S34-050	2/7/2006	0 - 0.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
DP17	105-S34-051	2/7/2006	1.5 - 2	0.012 U	0.023 U	0.012 U	0.012 U	0.012 U	0.012 U	0.047	0.02
DP18	105-S34-055	2/8/2006	0 - 0.5	0.01 UJ	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.018 J	0.01 U
DP18	105-S34-056	2/8/2006	1.5 - 2	0.011 UJ	0.023 U	0.011 UJ	0.011 U				
DP19	105-S34-060	2/8/2006	0 - 0.5	0.011 U	0.022 U	0.011 U	0.011 U	0.011 U	0.011 U	0.012	0.011 U
DP19	105-S34-061	2/8/2006	0.8 - 1.3	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.04	0.012	0.011 U
FS1	105-S34-064	2/13/2006	0 - 0.5	0.0098 U	0.02 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.061	0.019
FS10	105-S34-100	2/13/2006	0 - 0.5	0.17 U	0.34 U	0.17 U	0.17 U	0.17 U	11	1.5	0.17 U
FS10	105-S34-101	2/13/2006	1.5 - 2	0.011 U	0.022 U	0.011 U					
FS10A	105-S34-102	2/13/2006	0 - 0.5	0.013 U	0.026 U	0.013 U	0.013 U	0.013 U	0.64 J	0.28 J	0.013 U
FS10A	105-S34-103	2/13/2006	1.5 - 2	0.012 U	0.024 U	0.012 U	0.012 U	0.012 U	0.036	0.081	0.012 U
FS2	105-S34-068	2/13/2006	0 - 0.5	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.011 U	0.15	0.039
FS3	105-S34-072	2/13/2006	0 - 0.5	0.0098 U	0.02 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.04	0.011
FS4	105-S34-076	2/13/2006	0 - 0.5	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.074	0.12	0.011 U
FS5	105-S34-080	2/13/2006	0 - 0.5	0.0099 U	0.02 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.57	0.0099 U
FS5	105-S34-081	2/13/2006	1 - 2	0.011 U	0.022 U	0.011 U	0.011 U	0.011 U	0.011 U	0.019	0.011 U
FS5A	105-S34-082	2/13/2006	0 - 0.5	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.1	0.2	0.01 U
FS5A	105-S34-083	2/13/2006	1.5 - 2	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.13	0.01 U
FS6	105-S34-084	2/13/2006	0 - 0.5	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.13	0.071	0.011 U
FS7	105-S34-088	2/13/2006	0 - 0.5	0.05 U	0.099 U	0.05 U	0.05 U	0.05 U	2	0.43	0.05 U
FS7	105-S34-089	2/13/2006	1.5 - 2	0.011 U	0.021 U	0.011 U					
FS7A	105-S34-090	2/13/2006	0 - 0.5	0.021 U	0.041 U	0.021 U	0.021 U	0.021 U	0.69	0.021 U	0.021 U
FS7A	105-S34-091	2/13/2006	1.5 - 2	0.011 U	0.022 U	0.011 U					
FS8	105-S34-092	2/13/2006	0 - 0.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.19	0.13	0.01 U
FS9	105-S34-096	2/13/2006	0 - 0.5	0.21 U	0.43 U	0.21 U	0.21 U	0.21 U	8.6	0.21 U	0.21 U
HS1A	105-S34-104	2/15/2006	0 - 0.5	0.0099 U	0.02 U	0.0099 U	0.0099 U	0.0099 U	0.13	0.27	0.0099 U
HS1E	105-S34-110	2/15/2006	0 - 0.5	0.0099 U	0.02 U	0.0099 U	0.0099 U	0.0099 U	0.19	0.2	0.0099 U
HS1N	105-S34-113	2/15/2006	0 - 0.5	0.0099 U	0.02 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.21	0.05
HS1N	105-S34-114	2/15/2006	2 - 2.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.37	0.061
HS1W	105-S34-107	2/15/2006	0 - 0.5	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.34	0.21	0.011 U
HS1W	105-S34-109	2/15/2006	3.5 - 4	0.011 U	0.022 U	0.011 U	0.011 U	0.011 U	0.2	0.18	0.011 U

**TABLE D-9. POLYCHLORINATED BIPHENYLS IN SOIL (continued)**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1268
HS2A	105-S34-116	2/15/2006	0 - 0.5	0.0097 U	0.019 U	0.0097 U	0.0097 U	0.0097 U	0.0097 U	0.27	0.086
HS2W	105-S34-122	2/15/2006	0 - 0.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.24 J	0.26 J	0.06 J
HS2W	105-S34-123	2/15/2006	1 - 1.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0096 J	0.01 U
HS3A	105-S34-124	2/16/2006	0 - 0.5	0.0097 U	0.019 U	0.0097 U	0.0097 U	0.0097 U	0.0097 U	0.26 J	0.067 J
HS3A	105-S34-125	2/16/2006	1 - 1.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.018	0.012
HS3E	105-S34-126	2/16/2006	0 - 0.5	0.0096 U	0.019 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.16	0.0096 U
HS3E	105-S34-127	2/16/2006	1 - 1.5	0.01 UJ	0.021 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.027 J	0.01 UJ
HS3S	105-S34-128	2/16/2006	0 - 0.5	0.0098 U	0.02 U	0.0098 U	0.0098 U	0.0098 U	0.024	0.053	0.011
HS3SA	105-S34-318	2/17/2006	0 - 0.5	0.0096 U	0.019 U	0.0096 U	0.0096 U	0.0096 U	0.0096 U	0.42	0.0096 U
HS3W	105-S34-130	2/16/2006	0 - 0.5	0.01 U	0.02 U	0.01 U					
HS3W	105-S34-131	2/16/2006	1 - 1.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
HS4E	105-S34-132	2/16/2006	0 - 0.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.14	0.043
HS4W	105-S34-134	2/16/2006	0 - 0.5	0.0098 U	0.02 U	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.036	0.02
HS5E	105-S34-136	2/15/2006	0 - 0.5	0.011 U	0.023 U	0.011 U	0.011 U	0.056	0.088	0.25	0.011 U
HS5E	105-S34-137	2/15/2006	1 - 1.5	0.011 U	0.023 U	0.011 U	0.011 U	0.011 U	0.011 U	0.029	0.011 U
HS5S	105-S34-138	2/15/2006	0 - 0.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.18	0.11	0.01 U
HS6N	105-S34-144	2/15/2006	0 - 0.5	0.012 U	0.024 U	0.012 U	0.012 U	0.012 U	0.18	0.094	0.012 U
HS6S-5W	105-S34-146	2/15/2006	0 - 0.5	0.011 U	0.023 U	0.011 U	0.011 U	0.011 U	0.4	0.19	0.011 U
HS6S-5W	105-S34-147	2/15/2006	1 - 1.5	0.012 U	0.023 U	0.012 U					
HS7N	105-S34-150	2/15/2006	0 - 0.5	0.053 U	0.11 U	0.053 U	0.053 U	0.053 U	1.7	0.28	0.053 U
HS7N	105-S34-151	2/15/2006	1 - 1.5	0.012 U	0.023 U	0.012 U					
HS7S	105-S34-152	2/15/2006	0 - 0.5	0.011 U	0.022 U	0.011 U	0.011 U	0.011 U	0.16	0.083	0.011 U
HS7W	105-S34-154	2/15/2006	0 - 0.5	0.013 U	0.025 U	0.013 U	0.013 U	0.013 U	0.26	0.063	0.013 U
HS7W	105-S34-155	2/15/2006	1 - 1.5	0.011 U	0.023 U	0.011 U	0.011 U	0.011 U	0.061 J	0.055 J	0.011 U
MW-20	105-S34-156	6/26/2006	2 - 2.5	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.027	0.01 U
MW-21	105-S34-158	6/23/2006	0 - 1	0.011 U	0.021 U	0.011 U					
MW-21	105-S34-159	6/23/2006	2 - 2.5	0.011 U	0.022 U	0.011 U					
MW-22	105-S34-160	6/23/2006	0 - 1	0.01 U	0.02 U	0.01 U					
MW-22	105-S34-162	6/23/2006	2 - 2.5	0.011 U	0.023 U	0.011 U					
MW-23	105-S34-171	9/6/2006	0.5 - 2	0.013 U	0.026 U	0.013 U	0.013 U	0.013 U	0.013 U	0.014	0.013 U
MW-24	105-S34-165	6/22/2006	3 - 4	0.012 U	0.024 U	0.012 U	0.012 U	0.012 U	0.012 U	0.038	0.012 U
MW-24	105-S34-168	6/22/2006	0 - 1	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.13	0.01 U
OS1	105-S34-192	2/16/2006	0 - 0.5	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.55	0.12	0.01 U
OS1	105-S34-193	2/16/2006	1 - 1.5	0.011 U	0.022 U	0.011 U					
OS2	105-S34-194	2/16/2006	0 - 0.5	0.011 U	0.022 U	0.011 U	0.011 U	0.011 U	0.33	0.011 U	0.011 U
OS2	105-S34-195	2/16/2006	1 - 1.5	0.011 U	0.022 U	0.011 U					
PW1	105-S34-157	2/14/2006	1 - 1.5	0.014 U	0.028 U	0.014 U	0.014 U	0.014 U	0.014 UJ	0.014 U	0.014 U
PW10	105-S34-174	2/14/2006	0 - 0.5	0.013 U	0.025 U	0.013 U	0.013 U	0.013 U	0.013 U	0.1	0.013 U

**TABLE D-9. POLYCHLORINATED BIPHENYLS IN SOIL (continued)**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1268
PW10	105-S34-175	2/14/2006	1 - 1.5	0.013 U	0.027 U	0.013 U	0.013 U	0.013 U	0.013 U	0.0063 J	0.013 U
PW10	105-S34-313	2/16/2006	2 - 2.5	0.011 U	0.021 U	0.011 U					
PW11	105-S34-177	2/14/2006	1 - 1.5	0.013 U	0.026 U	0.013 U	0.013 U	0.013 U	0.013 U	0.029	0.013 U
PW12	105-S34-179	2/14/2006	1 - 1.5	0.013 U	0.027 U	0.013 U	0.013 U	0.013 U	0.013 U	0.0058 J	0.013 U
PW13	105-S34-180	2/14/2006	0 - 0.5	0.025 U	0.051 U	0.025 U	0.025 U	1.2	0.4	0.45	0.3
PW14	105-S34-182	2/14/2006	0 - 0.5	0.013 U	0.026 U	0.013 U	0.013 U	0.013 U	0.082	0.093	0.029
PW14	105-S34-183	2/14/2006	1 - 1.5	0.013 U	0.026 U	0.013 U	0.013 U	0.013 U	0.013 U	0.046	0.013 U
PW15	105-S34-184	2/14/2006	0 - 0.5	0.013 U	0.025 U	0.013 U	0.013 U	0.013 U	0.046	0.13	0.07
PW15	105-S34-185	2/14/2006	1 - 1.5	0.013 U	0.026 U	0.013 U					
PW16	105-S34-186	2/14/2006	0 - 0.5	0.012 U	0.025 U	0.012 U	0.012 U	0.012 U	0.057	0.085	0.054
PW16-17-18A	105-S34-321	2/17/2006	0 - 0.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.28	0.14
PW17	105-S34-189	2/14/2006	1 - 1.5	0.011 U	0.023 U	0.011 U					
PW18	105-S34-190	2/14/2006	0 - 0.5	0.014 U	0.027 U	0.014 U	0.014 U	0.28	0.17	0.22	0.16
PW1A	105-S34-331	2/16/2006	1 - 1.5	0.011 U	0.021 U	0.011 U					
PW3	105-S34-161	2/14/2006	1.5 - 2	0.014 U	0.028 U	0.014 U					
PW4	105-S34-163	2/14/2006	1 - 1.5	0.014 U	0.028 U	0.014 U	0.014 U	0.014 U	0.014 U	0.035	0.04
PW4A	105-S34-304	2/14/2006	2 - 2.5	0.014 U	0.027 U	0.014 U					
PW4A	105-S34-316	2/17/2006	1 - 1.5	0.012 U	0.023 U	0.012 U					
PW5	105-S34-164	2/14/2006	0 - 0.5	0.013 U	0.026 U	0.013 U	0.013 U	0.013 U	0.013 U	0.13	0.032
PW6	105-S34-166	2/14/2006	0 - 0.5	0.014 U	0.029 U	0.014 U	0.014 U	0.014 U	0.014 U	0.31	0.014 U
PW6	105-S34-167	2/14/2006	1 - 1.5	0.014 U	0.027 U	0.014 U					
PW7	105-S34-169	2/14/2006	1 - 1.5	0.013 U	0.027 U	0.013 U					
PW7	105-S34-170	2/14/2006	0 - 0.5	0.012 U	0.025 U	0.012 U					
PW7	105-S34-300	2/14/2006	0 - 0.5	0.015 U	0.03 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
PW7A	105-S34-325	2/16/2006	0.5 - 0.8	0.011 U	0.022 U	0.011 U					
PW8	105-S34-308	2/16/2006	2 - 2.5	0.011 U	0.023 U	0.011 U					
PW9	105-S34-172	2/14/2006	0 - 0.5	0.013 U	0.026 U	0.013 U					
PW9	105-S34-173	2/14/2006	1 - 1.5	0.014 U	0.028 U	0.014 U					
PW9-10-15A	105-S34-311	2/16/2006	0 - 0.5	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.028	0.0091 J
PW9-10-15A	105-S34-330	2/16/2006	1 - 1.5	0.01 U	0.021 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PW9-6A	105-S34-312	2/16/2006	0 - 0.5	0.011 U	0.021 U	0.011 U					

**TABLE D-9. POLYCHLORINATED BIPHENYLS IN SOIL (continued)**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1268
------------	-----------------------	-------------	-------------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------

Notes:

Concentrations in milligrams per kilogram

- + Duplicate of sample in previous row
- ++ Sediment sample
- ft Foot below ground surface
- J Estimated concentration
- P Greater than 25 percent difference between the two GC columns
- U Not detected

**TABLE D-10. TOTAL PETROLEUM HYDROCARBONS IN SOIL**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Oil and Grease	Diesel	Jet Fuel 5	Motor Oil	Gasoline
004-001-001	004-0001M	4/27/1995	0.5 - 1					0.6 U
004-001-002	004-0002	4/27/1995	0.5 - 1		54 U		770 YJ	0.5 U
004-001-002	004-0002M	4/27/1995	0.5 - 1		110 U		7,100	0.5 U
004-002-003	004-0003M	4/27/1995	0.3 - 0.8		18,000		3,000 U	20
004-003-008	004-0012	10/25/1995	5 - 6		30 U		30 U	
004-003-009	004-0015	10/25/1995	2.5 - 3.5		26 U		26 U	
018-001-001	018-0001M	4/26/1995	0 - 0.5		40		1,500	0.5 U
018-001-002	018-0002	4/26/1995	0 - 0.5		100 U		2,000 YJ	0.5 UJ
018-001-002	018-0002M	4/26/1995	0 - 0.5		880		9,600	0.5 U
018-001-005	018-0005M	4/27/1995	0 - 0.5		700		22,000	0.5 U
018-001-006	018-0006M	4/27/1995	0.5 - 1		1 U		100	0.6 U
018-001-007	018-0007	4/27/1995	0.5 - 1		54 U		1,200 YJ	90 ZJ
018-001-007	018-0007M	4/27/1995	0.5 - 1		8,900		2,700 U	34
018-001-008	018-0008M	4/27/1995	0.5 - 1		110 U		6,300	0.6 U
018-004-020	018-0020M	4/25/1995	0 - 0.5		32		1,200	0.5 U
018-004-021	018-0021	4/25/1995	0 - 0.5		11 U		150 YJ	0.5 U
018-004-021	018-0031+	4/25/1995	0 - 0.5		50 U		190 YJ	0.5 U
018-004-021	018-0021M	4/25/1995	0 - 0.5		20		140	0.6 U
018-004-022	018-0022M	4/25/1995	0 - 0.5		200		6,000	0.5 U
018-004-023	018-0023M	4/25/1995	0 - 0.5		1 U		27 U	0.5 U
018-005-024	018-0024	4/27/1995	0.5 - 1		11 U		25 YJ	0.6 U
018-005-024	018-0024M	4/27/1995	0.5 - 1		1 U		37	0.6 U
018-005-025	018-0025M	4/27/1995	0 - 0.5		1,600		47,000	0.6 U
018-007-033	018-0038	10/23/1995	2.5 - 3.5		29 U		29 U	0.58 U
018-007-035	018-0041	10/23/1995	0.5 - 1		26 U		51 J	0.53 U
018-007-035	018-0042	10/23/1995	3 - 4		28 U		28 U	0.58 U
018-007-036	018-0044	10/23/1995	3 - 4		28 U		28 U	0.58 U
018-007-038	018-0047	10/24/1995	4 - 5		27 U		27 U	0.55 UJ
018-007-039	018-0048	10/23/1995	0.5 - 1.5		25 U		25 U	0.52 U
018-007-039	018-0054+	10/23/1995	0.5 - 1.5		25 U		25 U	0.55 ZJ
018-007-039	018-0049	10/23/1995	2 - 3		28 U		28 U	0.59 U
018-007-041	018-0052	10/24/1995	3.5 - 4.5		35 U		35 U	0.72 UJ
030-FLI-122	030-FLI-122	12/4/1998	0 - 3		11 U	11 U	19	1.1 U
AA-IT001	AA-IT001-01++	11/22/1994		1,280	24 U		1,740 J	0.6 U

**TABLE D-10. TOTAL PETROLEUM HYDROCARBONS IN SOIL (continued)**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Oil and Grease	Diesel	Jet Fuel 5	Motor Oil	Gasoline
DP01	105-S34-002	2/8/2006	0.85 - 1.3		2 H		8 HM	0.27 U
DP02	105-S34-006	2/8/2006	0.5 - 0.9		93 H		480 HM	15 J
DP05	105-S34-014	2/8/2006	1.5 - 2		13 H		64 M	0.23 U
DP05	105-S34-015	2/8/2006	7		20 H		180 HM	0.48 U
DP06	105-S34-018	2/8/2006	1.5 - 2		19 H		140 HM	0.22 U
DP06	105-S34-019	2/8/2006	2 - 2.5		300 H		1,400 HM	0.28 U
DP07	105-S34-022	2/6/2006	1.5 - 2		1 J		10 M	0.2 U
DP07	105-S34-023	2/6/2006	7					0.24 U
DP08	105-S34-026	2/6/2006	1.5 - 2		1 J		3 J	0.2 U
DP08	105-S34-027	2/6/2006	7					0.23 U
DP10	105-S34-031	2/6/2006	1.5 - 2		13 H		48 M	0.23 U
DP10	105-S34-032	2/6/2006	7					0.26 U
DP12	105-S34-036	2/7/2006	1.5 - 2		21 H		55 M	0.19 U
DP12	105-S34-196	2/7/2006	7					0.29 U
DP13	105-S34-038	2/7/2006	1.5 - 2		0 J		6 U	0.24 U
DP13	105-S34-039	2/7/2006	7					0.35 U
DP15	105-S34-043	2/7/2006	1.5 - 2		28 H		89 M	0.22 U
DP15	105-S34-044	2/7/2006	7					0.44 U
DP16	105-S34-047	2/7/2006	1.5 - 2		430 HL		82 L	83 J
DP16	105-S34-048	2/7/2006	7					0.29 U
DP17	105-S34-051	2/7/2006	1.5 - 2		95 H		210 M	0.24 U
DP17	105-S34-052	2/7/2006	7					0.4 U
DP18	105-S34-056	2/8/2006	1.5 - 2		1 J		5 J	0.19 U
DP19	105-S34-061	2/8/2006	0.8 - 1.3		11 H		21 M	0.25 U
MW-20	105-S34-156	6/26/2006	2 - 2.5		14 H			0.21 UJ
MW-21	105-S34-158	6/23/2006	0 - 1		1 J			0.16 U
MW-21	105-S34-159	6/23/2006	2 - 2.5		1 J			0.19 U
MW-22	105-S34-160	6/23/2006	0 - 1		12 J			0.23 UJ
MW-22	105-S34-162	6/23/2006	2 - 2.5		0 J			0.23 UJ
MW-23	105-S34-171	9/6/2006	0.5 - 2		390 HLY			0.67 H
MW-24	105-S34-165	6/22/2006	3 - 4		2,200 J			0.2 UJ
MW-24	105-S34-168	6/22/2006	0 - 1		1 J			0.2 UJ

**TABLE D-10. TOTAL PETROLEUM HYDROCARBONS IN SOIL (continued)**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	Oil and Grease	Diesel	Jet Fuel 5	Motor Oil	Gasoline
------------	-----------------------	-------------	-------------------	----------------	--------	------------	-----------	----------

## Notes:

Concentrations in milligrams per kilogram

+	Duplicate of sample in previous row
++	Sediment sample
ft	Foot below ground surface
H	Pattern is in the heavier hydrocarbon end of the analyte's range in the standard
J	Estimated concentration
L	Pattern is in the lighter hydrocarbon end of the analyte's range in the standard
M	Pattern resembles motor oil
U	Not detected
Y	Resembles a fuel pattern but does not match the standards
Z	Pattern does not resemble total petroleum hydrocarbon pattern

**TABLE D-11. DIOXINS AND FURANS IN SOIL**

Appendix D, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	1,2,3,4,6,7,8-Heptachlorinated dibenzofuran	1,2,3,4,6,7,8-Heptachlorinated dibenzo-p-dioxin	1,2,3,4,7,8-Hexachlorinated dibenzofuran	1,2,3,4,7,8-Hexachlorinated dibenzo-p-dioxin	1,2,3,4,7,8,9-Heptachlorinated dibenzofuran	1,2,3,6,7,8-Hexachlorinated dibenzofuran	1,2,3,6,7,8-Hexachlorinated dibenzo-p-dioxin	1,2,3,7,8,9-Hexachlorinated dibenzofuran	1,2,3,7,8,9-Hexachlorinated dibenzo-p-dioxin	2,3,4,6,7,8-Hexachlorinated dibenzofuran	1,2,3,7,8-Pentachlorinated dibenzofuran	1,2,3,7,8-Pentachlorinated dibenzo-p-dioxin
018-003-016	018-0016	4/27/1995	1 - 1.5	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U
018-003-017	018-0017	4/27/1995	0.5 - 1	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U
018-003-018	018-0018	4/27/1995	0.5 - 1	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U
018-003-019	018-0019	4/27/1995	0.5 - 1	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U

Point Name	Sample Identification	Sample Date	Sample Depth (ft)	2,3,4,7,8-Pentachlorinated dibenzofuran	2,3,7,8-Tetrachlorinated dibenzofuran	2,3,7,8-Tetrachlorinated dibenzo-p-dioxin	Octachlorinated dibenzofuran	Octachlorinated dibenzo-p-dioxin	Total heptachlorinated dibenzofuran	Total heptachlorinated dibenzo-p-dioxin	Total hexachlorinated dibenzofuran	Total pentachlorinated dibenzofuran	Total pentachlorinated dibenzo-p-dioxin	Total tetrachlorinated dibenzofuran	Total tetrachlorinated dibenzo-p-dioxin
018-003-016	018-0016	4/27/1995	1 - 1.5	0.0025 U	0.001 U	0.001 U	0.005 U	0.005 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.001 U	0.001 U
018-003-017	018-0017	4/27/1995	0.5 - 1	0.0025 U	0.001 U	0.001 U	0.005 U	0.005 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.001 U	0.001 U
018-003-018	018-0018	4/27/1995	0.5 - 1	0.0025 U	0.001 U	0.001 U	0.0049 U	0.0049 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.001 U	0.001 U
018-003-019	018-0019	4/27/1995	0.5 - 1	0.0025 U	0.001 U	0.001 U	0.005 U	0.005 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.001 U	0.001 U

Notes:

Concentrations in milligrams per kilogram  
 ft Foot below ground surface  
 U Not detected

**APPENDIX E**  
**ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**

---

TABLE E-1. TOTAL AND DISSOLVED METALS IN GROUNDWATER  
Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CALCIUM	CADMIUM	CHROMIUM	COBALT	COPPER	IRON	LEAD	MAGNESIUM
018-007-035	018-0043	10/23/1995	435	1.6 U	4 B	87.4 B	0.3 U	49,000	2.1 U	3.1 U	6.5 U	4.1 B	3,320 J	1.3 U	26,300
DP01*	105-S34-004	2/9/2006	13 J	0.54 J	3.5	180	0.091 J	39,000	1 U	0.77 J	1	0.68 UJ	170	0.25 J	25,000
DP02*	105-S34-010	2/9/2006	9.5 J	0.17 J	11	140	1 U	17,000	1 U	0.99 J	0.19 J	0.69 UJ	290	0.32 J	10,000
DP03*	105-S34-011	2/9/2006	17 J	0.21 J	6.8	210	1 U	40,000	1 U	0.69 J	0.16 J	0.72 UJ	180	1 U	40,000
DP04*	105-S34-012	2/8/2006	9.9 J	0.28 J	4.3	61	1 U	13,000	1 U	0.58 J	0.3 J	0.41 UJ	54	1 U	8,600
DP05*	105-S34-016	2/8/2006	29 J	0.55 J	6.4	170	1 U	280,000	1 U	2.9	1.4	5	11,000	3.6	960,000
DP06*	105-S34-020	2/8/2006	10 J	0.33 J	15	170	1 U	160,000	1 U	1	0.69 J	0.91 J	22,000	1.3	69,000
DP07*	105-S34-024	2/6/2006	22 J	0.24 J	13	49	1 U	8,100	1 U	1.1	0.15 J	0.61 J	79	1 U	5,400
DP08*	105-S34-028	2/6/2006	16 J	0.25 J	12	56	0.073 J	15,000	1 U	1.4	0.41 J	0.78 J	120	1 U	6,900
DP09*	105-S34-029	2/6/2006	5.2 J	1.1	9.5	52	1 U	9,500	1 U	2.4	0.32 J	0.79 J	75	1 U	6,600
DP10*	105-S34-033	2/6/2006	24 J	0.45 J	2.5	42	0.085 J	27,000	1 U	1.9	1.8	1.1	570	0.64 J	12,000
DP11*	105-S34-034	2/7/2006	5.4 J	0.74 J	5.2	26	1 U	35,000	1 U	2.1	1	1.4	130	0.41 J	62,000
DP12*	105-S34-197	2/7/2006	7.1 J	1.7	3	60	1 U	37,000	0.62 J	1.1	0.88 J	4.5	140	1 U	26,000
DP13*	105-S34-040	2/7/2006	14 UJ	1.6	3	49	0.071 J	50,000	1 U	2.3 UJ	1.9	1.1	2,600	1 U	15,000
DP14*	105-S34-041	2/6/2006	20 J	0.2 J	7.9	180	0.082 J	43,000	1 U	1.2	1.3	1.6	190	1 U	24,000
DP15*	105-S34-045	2/7/2006	14 J	0.6 J	110	56	1 U	16,000	1 U	1 J	3.6	0.64 UJ	3,200	1 U	6,100
DP16*	105-S34-049	2/7/2006	12 UJ	0.38 UJ	5.9	240	1 U	310,000	1 U	1.1 UJ	1.1	2	7,900	2.6	740,000
DP16*	105-S34-200+	2/7/2006	5.9 UJ	0.25 UJ	5.9	230	1 U	300,000	1 U	1.1 UJ	0.87 J	3	8,100	2.8	730,000
DP17*	105-S34-054	2/8/2006	5.8 J	0.45 J	8.8	70	1 U	1,100,000	0.5 J	1.2	45	11	3,000	4.1	2,200,000
DP18*	105-S34-059	2/9/2006	74	2	11	70	1 U	1,100,000	1.5	2	33	12	8,100	0.31 J	2,100,000
DP19*	105-S34-063	2/9/2006	7.9 J	0.2 J	6.8	230	1 U	140,000	1 U	0.7 J	0.52 J	1.7 UJ	690	1 U	53,000
MW-20	105-S34-409	9/15/2006	130 J	0.16 UJ	10	20	1 U	8,000	1 U	2.2 UJ	0.33 J	0.97 UJ	180	0.088 J	12,000 J
MW-20	105-S34-420	3/1/2007	100 U	0.38 UJ	5.2	110	1 U	22,000 J	1 U	0.9 UJ	1.3 UJ	7.3	270	0.22 UJ	21,000
MW-21	105-S34-406	9/14/2006	1300 J	0.21 UJ	3.4	18	1 U	9,000	1 U	8.5	0.75 J	2.2 UJ	1,100	0.61 J	18,000 J
MW-21	105-S34-421	3/1/2007	44 UJ	0.31 UJ	5.7	37	1 U	11,000 J	1 U	1.2 UJ	0.35 UJ	1.3 UJ	44 UJ	0.2 UJ	9,600
MW-22	105-S34-407	9/15/2006	50 UJ	0.14 UJ	13	43	1 U	16,000	1 U	1.5 UJ	0.2 J	1.5 J	53	1 U	14,000 J
MW-22	105-S34-410+	9/15/2006	56 UJ	0.15 UJ	13	44	1 U	16,000	1 U	1.9 UJ	0.25 J	1.8 UJ	100	0.26 J	14,000 J
MW-22	105-S34-422	3/1/2007	100 U	0.21 UJ	7.2	65	1 U	19,000 J	1 U	0.68 UJ	0.26 UJ	1 UJ	97 UJ	0.25 UJ	16,000
MW-22	105-S34-423+	3/1/2007	13 UJ	0.26 UJ	8.2	68	1 U	20,000 J	0.12 UJ	0.5 UJ	0.2 UJ	10	110 UJ	0.64 UJ	16,000
MW-23	105-S34-408	9/15/2006	360 J	0.14 UJ	12	150	1 U	250,000 J	1 U	2.7 UJ	0.57 J	4	3,600	0.51 J	190,000 J
MW-23	105-S34-424	3/1/2007	11 UJ	0.23 UJ	15	210	1 U	320,000 J	0.13 UJ	0.78 UJ	0.94 J	3 UJ	630	0.22 UJ	170,000
MW-24	105-S34-405	9/14/2006	340 J	0.33 UJ	1 U	170	1 U	940,000 J	1 U	4.5	1.2	6.6	3,400 UJ	1.1	1,900,000 J
MW-24	105-S34-425	3/1/2007	190 UJ	0.2 UJ	4.7	150	1 U	1,200,000 J	1 U	3.9 UJ	0.18 J	7.5 UJ	560	0.49 UJ	2,000,000
MW7B	105-S34-401	2/14/2006	19 J	0.69 J	1.7	42	1 U	100,000	1 U	2.3	0.086 J	2.2	140	1 J	100,000
MW7C	105-S34-400	2/14/2006	9.2 J	0.098 J	0.83 J	190	1 U	19,000	1 U	0.69 J	0.056 J	1 U	72	0.75 J	790 UJ

Notes:  
Concentrations in micrograms per liter  
+ Duplicate of sample in previous row  
\* Dissolved metals  
B Reported value less than contract required detection limit, but greater than instrument detection limit  
J Estimated concentration  
U Not detected  
W Digestion spike out of control limits

TABLE E-1. TOTAL AND DISSOLVED METALS IN GROUNDWATER  
Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

MANGANESE	MERCURY	MOLYBDENUM	NICKEL	POTASSIUM	SELENIUM	SILVER	SODIUM	THALLIUM	VANADIUM	ZINC
463	0.2 U	9 U	7.1 B	19,000	2.3 B	1.9 U	424,000	1.3 UWJ	2.5 U	2.4 B
290	0.2 U	8.7	1 U	19,000	1.5 UJ	0.06 J	120,000	0.94 J	2.5	4.3
190	0.2 U	6.9	2.3	18,000	0.95 UJ	1 U	450,000	1 U	2	10
220	0.2 U	8.1	1.5	28,000	1.2 UJ	1 U	550,000	1 U	0.89 J	8.2
63	0.2 U	7.8	1.2	10,000	1 U	1 U	190,000	1 U	1.7	3.1 UJ
570	0.17 J	4.1	3.5	230,000	17	0.08 J	6,700,000	0.11 J	2.9	57
1,100	0.2 U	4.1	1.8	25,000	3.3	0.048 J	410,000	1 U	0.66 J	7.2
48	0.2 U	5.3	2.4	9,500	2.1 UJ	1 U	250,000	0.19 J	3.5	6.3
93	0.2 U	4.9	2	11,000	1.5 UJ	0.052 J	250,000	0.8 J	3.6	12
30	0.2 U	7.6	3	17,000	2.2 UJ	1 U	350,000	0.11 J	14	26
190	0.2 U	8.5	3.7	12,000	2.6 UJ	0.047 J	250,000	0.12 J	2.6	20
310	0.2 U	5	1.6	40,000	4.6	1 U	1,000,000	1 U	3.8	8.5
230	0.2 U	2.2	2.2	6,500	2.7 UJ	1 U	150,000	1 U	0.71 J	15
260	0.2 U	7.2	3.8	12,000	2.5 UJ	1 U	42,000	0.076 J	2.6	4
230	0.2 U	4.7	1.8	20,000	2.6 UJ	1 U	220,000	0.096 J	1.2	6.6
760	0.2 U	1.5	3.1	4,000	0.4 UJ	0.078 J	22,000	1 U	1.7	58
1,600	0.2 U	3.4	3.6	210,000	9.6	0.084 J	15,000,000	0.15 J	1.3	38
1,400	0.2 U	2	3.3	200,000	8.8	0.066 J	5,600,000	0.13 J	0.97 J	38
26,000	0.2 U	12	45	110,000	34	0.098 J	12,000,000	0.18 J	2.4	140
26,000	0.2 U	47	46	84,000	19	1 U	12,000,000	1 U	1.9	600
830	0.2 U	7.5	2.3	20,000	2.8 UJ	1 U	760,000	1 U	0.75 J	5.1
72	0.2 U	3.3	2.4	23,000 J	0.87 J	1 U	410,000 J	1 U	4.2	2.3 J
400	0.2 U	11	17	49,000	0.28 UJ	1 U	330,000	1 U	7.6 UJ	14 UJ
84	0.2 U	1.3 UJ	4.9	33,000 J	0.76 J	1 U	900,000 J	0.054 J	12	3.6 J
48	0.2 U	5	2.4 UJ	17,000	1 U	1 U	450,000	1 U	8.1 UJ	6.8 UJ
59	0.2 U	4.6	2.2	25,000 J	0.71 J	1 U	440,000 J	1 U	2.2	4.4 J
60	0.2 U	4.3	2.3	25,000 J	0.78 J	1 U	460,000 J	1 U	3.3	5.4
96	0.2 U	2.2 UJ	2.3 UJ	21,000	1 U	1 U	390,000	1 U	1.3 UJ	4.6 UJ
100	0.2 U	2.6 UJ	2.1 UJ	21,000	1 U	0.12 UJ	390,000	1 U	1.4 UJ	3.8 UJ
1,400 J	0.2 U	7.8	4.6	62,000 J	2.7	1 U	--	0.04 J	2.2	8.3
2,000	0.2 U	5.6	3 UJ	48,000	0.44 UJ	1 U	1,500,000	1 UJ	6.6 UJ	23 UJ
3,000 J	0.2 U	0.24 UJ	9.2	150,000 J	1 U	1 U	--	0.08 J	2.8	21
3,000	0.2 U	0.11 UJ	0.86 UJ	150,000	1.1 UJ	1 U	11,000,000	1 UJ	4.2 UJ	13 UJ
12	0.2 U	1.6	5.1	12,000	3.9	1 U	670,000	1 U	1.6	290
10	0.2 U	0.57 J	0.3 J	10,000	2.2	0.34 J	260,000	0.13 J	1 U	2.2

Notes:

Concentrations in micrograms per liter

- + Duplicate of sample in previous row
- \* Dissolved metals
- B Reported value less than contract required detection limit, but greater than instrument detection limit
- J Estimated concentration
- U Not detected
- W Digestion spike out of control limits

**TABLE E-2. SOLIDS IN GROUNDWATER**

Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identificaion	Sample Date	TDS
MW-20	105-S34-409	9/15/2006	1,120,000
MW-20	105-S34-420	3/1/2007	1,150,000 J
MW-21	105-S34-406	9/14/2006	2,240,000
MW-21	105-S34-421	3/1/2007	1,260,000 J
MW-22	105-S34-407	9/15/2006	1,320,000
MW-22	105-S34-410+	9/15/2006	1,320,000
MW-22	105-S34-422	3/1/2007	1,280,000 J
MW-22	105-S34-423+	3/1/2007	1,280,000 J
MW-23	105-S34-408	9/15/2006	6,010,000
MW-23	105-S34-424	3/1/2007	5,320,000 J
MW-24	105-S34-405	9/14/2006	39,000,000
MW-24	105-S34-425	3/1/2007	44,500,000 J

## Notes:

Concentrations in micrograms per liter

- + Duplicate of sample in previous row
- J Estimated concentration

**TABLE E-3. VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER**  
Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	1,1,1,2-TETRACHLOROETHANE	1,1,1-TRICHLOROETHANE	1,1,2,2-TETRACHLOROETHANE	1,1,2-TRICHLOROETHANE	1,1-DICHLOROETHANE	1,1-DICHLOROETHENE	1,1-DICHLOROPROPENE	1,2,3-TRICHLOROBENZENE	1,2,3-TRICHLOROPROPANE	1,2,4-TRICHLOROBENZENE	1,2,4-TRIMETHYLBENZENE	1,2-DIBROMO-3-CHLOROPROPANE	1,2-DICHLOROBENZENE	1,2-DICHLOROETHANE	1,2-DICHLOROPROPANE	1,3,5-TRIMETHYLBENZENE	1,3-DICHLOROBENZENE	1,3-DICHLOROPROPANE	
030-FLI-519	030-FLI-519	12/4/1998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
473-002	030-USTF-112	9/7/1999	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DP01	105-S34-004	2/9/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP02	105-S34-010	2/9/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.2 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP03	105-S34-011	2/9/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP04	105-S34-012	2/8/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP05	105-S34-016	2/8/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.3 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP06	105-S34-020	2/8/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP07	105-S34-024	2/6/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP08	105-S34-028	2/6/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP09	105-S34-029	2/6/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.3 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP10	105-S34-033	2/6/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP11	105-S34-034	2/7/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP12	105-S34-197	2/7/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP13	105-S34-040	2/7/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP14	105-S34-041	2/6/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP15	105-S34-045	2/7/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP16	105-S34-049	2/7/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	1.3	1.7	0.2 J	0.5 U	0.5 U	0.5 U	0.5 U
DP16	105-S34-200+	2/7/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	2 U	2.4	1.8	0.4 J	0.5 U	0.5 U	0.5 U	0.5 U
DP17	105-S34-054	2/8/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP18	105-S34-059	2/9/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DP19	105-S34-063	2/9/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-20	105-S34-409	9/15/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-20	105-S34-420	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-21	105-S34-406	9/14/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-21	105-S34-421	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-22	105-S34-407	9/15/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-22	105-S34-410+	9/15/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-22	105-S34-422	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-22	105-S34-423+	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-23	105-S34-408	9/15/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.06 J	0.5 U	0.5 U
MW-23	105-S34-424	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-24	105-S34-405	9/14/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-24	105-S34-425	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW7B	105-S34-401	2/14/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW7C	105-S34-400	2/14/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:  
Concentrations in micrograms per liter  
- Not analysed  
+ Duplicate of sample in previous row  
J Estimated concentration  
U Not detected

**TABLE E-3. VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (continued)**  
Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	1,4-DICHLOROBENZENE	2,2-DICHLOROPROPANE	2-BUTANONE	2-CHLOROTOLUENE	2-HEXANONE	4-CHLOROTOLUENE	4-METHYL-2-PENTANONE	ACETONE	BENZENE	BROMOBENZENE	BROMOCHLOROMETHANE	BROMODICHLOROMETHANE	BROMOFORM	BROMOMETHANE	CARBON DISULFIDE	CARBON TETRACHLORIDE	CHLOROBENZENE	CHLOROETHANE	
030-FLI-519	030-FLI-519	12/4/1998	-	-	-	-	-	-	-	-	0.5 U	-	-	-	-	-	-	-	-	-	
473-002	030-USTF-112	9/7/1999	5 U	5 U	100 U	5 U	-	5 U	50 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
DP01	105-S34-004	2/9/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.08 J	0.5 U	0.5 U	0.5 U	1 U	1 U	0.3 J	0.5 U	0.5 U	1 U	
DP02	105-S34-010	2/9/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.4 J	0.5 U	0.5 U	1 U	
DP03	105-S34-011	2/9/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.3 J	0.5 U	0.5 U	1 U	
DP04	105-S34-012	2/8/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.06 J	0.5 U	0.5 U	0.5 U	1 U	1 U	0.7	0.5 U	0.5 U	1 U	
DP05	105-S34-016	2/8/2006	0.5 U	0.5 UJ	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.4 J	0.5 U	0.5 U	1 U	
DP06	105-S34-020	2/8/2006	0.5 U	0.5 UJ	10 UJ	0.5 U	0.5 J	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.2 J	0.5 U	0.5 U	1 U	
DP07	105-S34-024	2/6/2006	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.2 J	0.5 U	0.5 U	1 U	
DP08	105-S34-028	2/6/2006	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.4 J	0.5 U	0.5 U	1 U	
DP09	105-S34-029	2/6/2006	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.1 J	0.5 U	0.5 U	1 U	
DP10	105-S34-033	2/6/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.4 J	0.5 U	0.5 U	1 U	
DP11	105-S34-034	2/7/2006	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 UJ	0.2 J	0.5 U	0.5 U	1 U	
DP12	105-S34-197	2/7/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.1 J	0.5 U	0.5 U	0.5 U	1 U	1 U	0.4 J	0.5 U	0.5 U	1 U	
DP13	105-S34-040	2/7/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.7	0.5 U	0.5 U	1 U	
DP14	105-S34-041	2/6/2006	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.1 J	0.5 U	0.5 U	1 U	
DP15	105-S34-045	2/7/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.08 J	0.5 U	0.5 U	1 U	
DP16	105-S34-049	2/7/2006	0.3 J	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.1 J	0.5 U	0.5 U	1 U	
DP16	105-S34-200+	2/7/2006	0.7	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.4 J	0.5 U	0.08 J	1 U	
DP17	105-S34-054	2/8/2006	0.5 U	0.5 U	10 UJ	0.5 U	0.3 J	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	1 UJ	0.5 U	0.5 U	0.5 U	1 U	
DP18	105-S34-059	2/9/2006	0.5 U	0.5 U	10 UJ	0.5 U	0.2 J	0.5 U	10 U	10 UJ	0.2 J	0.5 U	0.5 U	0.5 U	1 U	1 U	0.4 J	0.5 U	0.5 U	1 U	
DP19	105-S34-063	2/9/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.09 J	0.5 U	0.5 U	0.5 U	1 U	1 U	1.1	0.5 U	0.5 U	1 U	
MW-20	105-S34-409	9/15/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	1 U	0.5 U	0.5 U	0.5 U	1 U	
MW-20	105-S34-420	3/1/2007	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	
MW-21	105-S34-406	9/14/2006	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	
MW-21	105-S34-421	3/1/2007	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5 UJ	0.5 U	0.5 U	1 U	
MW-22	105-S34-407	9/15/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	
MW-22	105-S34-410+	9/15/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	
MW-22	105-S34-422	3/1/2007	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	
MW-22	105-S34-423+	3/1/2007	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	
MW-23	105-S34-408	9/15/2006	0.5 U	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U
MW-23	105-S34-424	3/1/2007	0.5 UJ	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.1 J	0.5 U	0.5 U	1 U	
MW-24	105-S34-405	9/14/2006	0.5 U	0.5 U	10 UJ	0.5 U	10 U	0.5 U	0.1 J	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5	0.5 U	0.5 U	1 U	
MW-24	105-S34-425	3/1/2007	0.5 UJ	0.5 U	10 U	0.5 U	10 U	0.5 U	10 U	10 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.8	0.5 U	0.5 U	1 U	
MW7B	105-S34-401	2/14/2006	0.5 U	0.5 UJ	10 U	0.5 U	10 U	0.5 U	10 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	
MW7C	105-S34-400	2/14/2006	0.5 U	0.5 UJ	10 U	0.5 U	10 U	0.5 U	10 U	3.7 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U	

Notes:  
Concentrations in micrograms per liter  
- Not analysed  
+ Duplicate of sample in previous row  
J Estimated concentration  
U Not detected

TABLE E-3. VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (continued)  
 Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	CHLOROFORM	CHLOROMETHANE	CIS-1,2-DICHLOROETHENE	CIS-1,3-DICHLOROPROPENE	DIBROMOCHLOROMETHANE	DIBROMOMETHANE	DICHLORODIFLUOROMETHANE	ETHYLBENZENE	ETHYLENE DIBROMIDE	HEXACHLOROBUTADIENE	ISOPROPYLBENZENE	M,P-XYLENE	METHYL-T-BUTYL ETHER	METHYLENE CHLORIDE	N-BUTYLBENZENE	N-PROPYLBENZENE	NAPHTHALENE	O-XYLENE
030-FLI-519	030-FLI-519	12/4/1998	-	-	-	-	-	-	-	1.2	-	-	-	-	5 U	-	-	-	-	-
473-002	030-USTF-112	9/7/1999	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	-	10 U	5 U	5 U	5 U	5 U	-
DP01	105-S34-004	2/9/2006	0.5 U	1 U	0.3 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.3 J	-	10 U	0.5 U	0.5 U	2 U	0.5 U
DP02	105-S34-010	2/9/2006	0.5 U	1 U	0.4 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
DP03	105-S34-011	2/9/2006	0.5 U	1 U	1.4	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
DP04	105-S34-012	2/8/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.07 J	0.5 U	0.5 U	0.5 U	0.2 J	-	10 U	0.5 U	0.5 U	2 U	0.5 U
DP05	105-S34-016	2/8/2006	0.5 U	1 U	0.2 J	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
DP06	105-S34-020	2/8/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 UJ	0.5 U
DP07	105-S34-024	2/6/2006	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 UJ	0.5 U
DP08	105-S34-028	2/6/2006	0.5 U	1 UJ	0.5	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 UJ	0.5 U
DP09	105-S34-029	2/6/2006	0.5 U	1 UJ	0.2 J	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 UJ	0.5 U
DP10	105-S34-033	2/6/2006	0.5 U	0.2 J	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 UJ	0.5 U
DP11	105-S34-034	2/7/2006	0.5 U	1 U	0.2 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
DP12	105-S34-197	2/7/2006	1.6	1 U	0.7	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 UJ	0.1 J	0.5 U	2 U	0.5 U
DP13	105-S34-040	2/7/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.1 J	0.5 U	0.5 U	0.5 U	0.4 J	-	10 U	0.5 U	0.5 U	2 U	0.5 U
DP14	105-S34-041	2/6/2006	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 UJ	0.5 U
DP15	105-S34-045	2/7/2006	0.5 U	1 U	0.2 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
DP16	105-S34-049	2/7/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.07 J	0.5 U	-	10 U	0.5 U	0.06 J	1 J	0.5 U
DP16	105-S34-200+	2/7/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.06 J	0.5 U	0.5 U	0.2 J	0.5 U	-	10 U	0.5 U	0.2 J	1.9 J	0.5 U
DP17	105-S34-054	2/8/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
DP18	105-S34-059	2/9/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 U	0.5 U
DP19	105-S34-063	2/9/2006	0.5 U	1 U	1.7	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
MW-20	105-S34-409	9/15/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 U	0.5 U
MW-20	105-S34-420	3/1/2007	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
MW-21	105-S34-406	9/14/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 U	0.5 U
MW-21	105-S34-421	3/1/2007	0.5 U	1 U	1	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
MW-22	105-S34-407	9/15/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 U	0.5 U
MW-22	105-S34-410+	9/15/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 U	0.5 U
MW-22	105-S34-422	3/1/2007	0.5 U	1 U	0.1 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
MW-22	105-S34-423+	3/1/2007	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
MW-23	105-S34-408	9/15/2006	0.5 U	1 U	0.4 J	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.04 J	0.09 J	0.5 U
MW-23	105-S34-424	3/1/2007	0.5 U	1 U	0.3 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
MW-24	105-S34-405	9/14/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	-	10 UJ	0.5 U	0.5 U	2 U	0.5 U
MW-24	105-S34-425	3/1/2007	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
MW7B	105-S34-401	2/14/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U
MW7C	105-S34-400	2/14/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	10 U	0.5 U	0.5 U	2 U	0.5 U

Notes:  
 Concentrations in micrograms per liter  
 - Not analysed  
 + Duplicate of sample in previous row  
 J Estimated concentration  
 U Not detected

**TABLE E-3. VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (continued)**  
Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	P-ISOPROPYLTOLUENE	SEC-BUTYLBENZENE	STYRENE	TERT-BUTYLBENZENE	TETRACHLOROETHENE	TOLUENE	TRANS-1,2-DICHLOROETHENE	TRANS-1,3-DICHLOROPROPENE	TRICHLOROETHENE	TRICHLOROFLUOROMETHANE	VINYL CHLORIDE	TOTAL XYLENE
030-FLI-519	030-FLI-519	12/4/1998	-	-	-	-	-	0.4 J	-	-	-	-	-	4.5 J
473-002	030-USTF-112	9/7/1999	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DP01	105-S34-004	2/9/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	0.5 U	0.5 U	0.3 J	1 U	0.5 U	-
DP02	105-S34-010	2/9/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
DP03	105-S34-011	2/9/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.08 J	0.4 J	0.5 U	0.6	1 U	0.5 U	-
DP04	105-S34-012	2/8/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.07 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
DP05	105-S34-016	2/8/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	-
DP06	105-S34-020	2/8/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	-
DP07	105-S34-024	2/6/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	-
DP08	105-S34-028	2/6/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	0.5 U	0.5 U	0.4 J	1 UJ	0.5 U	-
DP09	105-S34-029	2/6/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	1 UJ	0.5 U	-
DP10	105-S34-033	2/6/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	-
DP11	105-S34-034	2/7/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
DP12	105-S34-197	2/7/2006	0.5 U	0.3 J	0.5 U	0.4 J	0.5 U	0.1 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
DP13	105-S34-040	2/7/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.6	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
DP14	105-S34-041	2/6/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	-
DP15	105-S34-045	2/7/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
DP16	105-S34-049	2/7/2006	0.07 J	0.05 J	0.5 U	0.5 U	0.5 U	0.07 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
DP16	105-S34-200+	2/7/2006	0.2 J	0.2 J	0.5 U	0.5 U	0.5 U	0.1 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
DP17	105-S34-054	2/8/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
DP18	105-S34-059	2/9/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
DP19	105-S34-063	2/9/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.1 J	0.4 J	0.5 U	0.6	1 U	0.2 J	-
MW-20	105-S34-409	9/15/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
MW-20	105-S34-420	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
MW-21	105-S34-406	9/14/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
MW-21	105-S34-421	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	1 U	0.5 U	-
MW-22	105-S34-407	9/15/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	1 U	0.5 U	-
MW-22	105-S34-410+	9/15/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	1 U	0.5 U	-
MW-22	105-S34-422	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	1 U	0.5 U	-
MW-22	105-S34-423+	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	1 U	0.5 U	-
MW-23	105-S34-408	9/15/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	-
MW-23	105-S34-424	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
MW-24	105-S34-405	9/14/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
MW-24	105-S34-425	3/1/2007	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	-
MW7B	105-S34-401	2/14/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 J	1 UJ	0.5 U	-
MW7C	105-S34-400	2/14/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 UJ	0.5 U	-

Notes:  
Concentrations in micrograms per liter  
- Not analysed  
+ Duplicate of sample in previous row  
J Estimated concentration  
U Not detected

**TABLE E-4. POLYCYCLIC AROMATIC HYDROCARBONS IN GROUNDWATER**  
 Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	2-METHYLNAPHTHALENE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	BENZO(K)FLUORANTHENE	CHRYSENE	DIBENZO(A,H)ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-CD)PYRENE	NAPHTHALENE	PHENANTHRENE	PYRENE
DP01	105-S34-004	2/9/2006	0.1 U	0.057 J	0.096 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.045 J	0.1 U	0.11	0.039 J	0.016 J
DP02	105-S34-010	2/9/2006	0.095 U	0.017 J	0.011 J	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.054 J	0.095 U	0.095 U	0.01 J	0.021 J
DP03	105-S34-011	2/9/2006	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.012 J
DP04	105-S34-012	2/8/2006	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U
DP05	105-S34-016	2/8/2006	0.096 U	0.16	0.08 J	0.12	0.077 J	0.08 J	0.04 J	0.058 J	0.042 J	0.11	0.014 J	0.24	0.24	0.038 J	0.042 J	0.77	0.43
DP06	105-S34-020	2/8/2006	0.095 U	0.095 U	0.095 U	0.019 J	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
DP07	105-S34-024	2/6/2006	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.013 J
DP08	105-S34-028	2/6/2006	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.014 J
DP09	105-S34-029	2/6/2006	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U
DP10	105-S34-033	2/6/2006	0.097 U	0.097 U	0.097 U	0.019 J	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U
DP11	105-S34-034	2/7/2006	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.015 J
DP12	105-S34-197	2/7/2006	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.023 J	0.1 U	0.014 J
DP13	105-S34-040	2/7/2006	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U
DP14	105-S34-041	2/6/2006	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U
DP15	105-S34-045	2/7/2006	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.11	0.096 U	0.096 U	0.01 J	0.096 U
DP16	105-S34-049	2/7/2006	0.1 U	0.89	0.1 U	0.042 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.024 J	0.1 U	0.14 UJ	0.1 U	0.014 UJ
DP16	105-S34-200+	2/7/2006	0.098 U	3.9	0.037 J	0.077 J	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.067 J	0.098 U	0.15 UJ	0.098 UJ	0.098 U
DP17	105-S34-054	2/8/2006	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.027 J	0.095 U	0.095 U
DP18	105-S34-059	2/9/2006	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U
MW-20	105-S34-409	9/15/2006	0.1 U	0.1 U	0.01 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 J	0.1 U	0.1 U	0.1 UJ	0.02 J	0.1
MW-20	105-S34-420	3/1/2007	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.09 J
MW-21	105-S34-406	9/14/2006	0.1 U	0.01 J	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.007 J	0.1 U	0.1 U	0.2 J	0.1 U	0.02 J
MW-21	105-S34-421	3/1/2007	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.02 J
MW-22	105-S34-407	9/15/2006	0.09 U	0.09 U	0.005 J	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.007 J	0.09 U	0.09 U	0.09 U	0.008 J	0.01 J
MW-22	105-S34-410+	9/15/2006	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.008 J	0.1 U	0.1 U	0.1 UJ	0.007 J	0.01 J
MW-22	105-S34-422	3/1/2007	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.02 J	0.1 U	0.1 U	0.1 U	0.1 U	0.03 J
MW-22	105-S34-423+	3/1/2007	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
MW-23	105-S34-408	9/15/2006	0.01 J	0.1 U	0.1 U	0.01 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.008 J	0.1 U	0.1 U	0.1 U	0.1 U	0.008 J
MW-23	105-S34-424	3/1/2007	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.009 J	0.1 U
MW-24	105-S34-405	9/14/2006	0.008 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.008 J	0.1 U
MW-24	105-S34-425	3/1/2007	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.03 J	0.01 J	0.1 U
MW7B	105-S34-401	2/14/2006	0.1 U	0.2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW7C	105-S34-400	2/14/2006	0.1 U	0.05 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

Notes:  
 Concentrations in micrograms per liter  
 + Duplicate of sample in previous row  
 J Estimated concentration  
 U Not detected

TABLE E-5. SEMIVOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (continued)  
Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	BENZO(K)FLUORANTHENE	BENZOIC ACID	BENZYL ALCOHOL	BIS(2-CHLOROETHOXY)METHANE	BIS(2-CHLOROETHYL)ETHER	BIS(2-ETHYLHEXYL)PHTHALATE	BUTYLBENZYL PHTHALATE	CARBAZOLE	CHRYSENE	DI-N-BUTYL PHTHALATE	DI-N-OCTYL PHTHALATE	DIBENZO(A,H)ANTHRACENE	DIBENZOFURAN	DIETHYL PHTHALATE	DIMETHYL PHTHALATE	FLUORANTHENE	FLUORENE	HEXACHLOROBENZENE
004-003-008	004-0013	10/25/1995	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
004-003-009	004-0016	10/25/1995	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-035	018-0043	10/23/1995	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-036	018-0045	10/23/1995	10 U	-	-	10 U	10 U	3 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-039	018-0050	10/23/1995	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-041	018-0053	10/24/1995	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP01	105-S34-004	2/9/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
DP02	105-S34-010	2/9/2006	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP03	105-S34-011	2/9/2006	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP04	105-S34-012	2/8/2006	9.8 U	49 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	-	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U
DP05	105-S34-016	2/8/2006	9.5 U	48 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
DP06	105-S34-020	2/8/2006	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP07	105-S34-024	2/6/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
DP08	105-S34-028	2/6/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
DP09	105-S34-029	2/6/2006	10 U	50 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP10	105-S34-033	2/6/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
DP11	105-S34-034	2/7/2006	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP12	105-S34-197	2/7/2006	9.9 U	50 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	-	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
DP13	105-S34-040	2/7/2006	10 U	50 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP14	105-S34-041	2/6/2006	9.6 U	48 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U
DP15	105-S34-045	2/7/2006	28 U	140 U	28 U	28 U	28 U	28 U	28 U	-	28 U	28 U	28 U	28 U	28 U	28 U	28 U	28 U	28 U	28 U
DP16	105-S34-049	2/7/2006	10 U	50 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP16	105-S34-200+	2/7/2006	9.6 U	48 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U
DP17	105-S34-054	2/8/2006	9.9 U	50 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	-	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
DP18	105-S34-059	2/9/2006	9.5 U	48 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
DP19	105-S34-063	2/9/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
MW-20	105-S34-409	9/15/2006	9.5 U	48 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
MW-20	105-S34-420	3/1/2007	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
MW-21	105-S34-406	9/14/2006	9.9 U	50 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	-	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
MW-21	105-S34-421	3/1/2007	10 U	51 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
MW-22	105-S34-407	9/15/2006	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
MW-22	105-S34-410+	9/15/2006	9.6 U	48 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U
MW-22	105-S34-422	3/1/2007	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
MW-22	105-S34-423+	3/1/2007	9.5 U	48 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
MW-23	105-S34-408	9/15/2006	10 U	50 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
MW-23	105-S34-424	3/1/2007	9.8 U	49 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	-	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U
MW-24	105-S34-405	9/14/2006	10 U	50 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
MW-24	105-S34-425	3/1/2007	49 U	250 U	49 U	49 U	49 U	49 U	49 U	-	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U
MW7B	105-S34-401	2/14/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
MW7C	105-S34-400	2/14/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U

Notes:  
Concentrations in micrograms per liter  
- Not analysed  
+ Duplicate of sample in previous row  
J Estimated concentration  
U Not detected

**TABLE E-5. SEMIVOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (continued)**  
 Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	2-NITROPHENOL	3,3'-DICHLOROBENZIDINE	3-NITROANILINE	4,6-DINITRO-2-METHYLPHENOL	4-BROMOPHENYL-PHENYLETHER	4-CHLORO-3-METHYLPHENOL	4-CHLOROANILINE	4-CHLOROPHENYL-PHENYLETHER	4-METHYLPHENOL	4-NITROANILINE	4-NITROPHENOL	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE
004-003-008	004-0013	10/25/1995	10 U	10 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
004-003-009	004-0016	10/25/1995	10 U	10 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-035	018-0043	10/23/1995	10 U	10 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	25 U	25 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-036	018-0045	10/23/1995	10 U	10 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	25 U	25 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-039	018-0050	10/23/1995	10 U	10 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	25 U	25 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-041	018-0053	10/24/1995	10 U	10 U	25 U	25 U	10 U	10 U	10 U	10 U	10 U	25 U	25 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP01	105-S34-004	2/9/2006	19 U	19 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 UJ	19 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
DP02	105-S34-010	2/9/2006	19 U	19 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP03	105-S34-011	2/9/2006	19 U	19 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP04	105-S34-012	2/8/2006	20 U	20 U	20 U	20 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	20 U	20 UJ	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U
DP05	105-S34-016	2/8/2006	19 U	19 U	19 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	19 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
DP06	105-S34-020	2/8/2006	19 U	19 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP07	105-S34-024	2/6/2006	19 U	19 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ
DP08	105-S34-028	2/6/2006	19 U	19 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ
DP09	105-S34-029	2/6/2006	20 U	20 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	20 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP10	105-S34-033	2/6/2006	19 U	19 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ
DP11	105-S34-034	2/7/2006	19 U	19 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP12	105-S34-197	2/7/2006	20 U	20 U	20 U	20 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	20 U	20 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
DP13	105-S34-040	2/7/2006	20 U	20 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	20 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP14	105-S34-041	2/6/2006	19 U	19 U	19 U	19 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	19 U	19 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 UJ
DP15	105-S34-045	2/7/2006	56 U	56 U	56 U	56 U	28 U	28 U	28 U	28 U	28 U	56 U	56 UJ	28 U	28 U	28 U	28 U	28 U	28 U	28 U
DP16	105-S34-049	2/7/2006	20 U	20 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	20 UJ	1.4 J	10 U	10 U	10 U	10 U	10 U	10 U
DP16	105-S34-200+	2/7/2006	19 U	19 U	19 U	19 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	19 U	19 U	5.4 J	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U
DP17	105-S34-054	2/8/2006	20 U	20 U	20 U	20 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	20 U	20 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
DP18	105-S34-059	2/9/2006	19 U	19 U	19 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	19 U	19 UJ	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
DP19	105-S34-063	2/9/2006	19 U	19 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	19 U	2.4 J	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
MW-20	105-S34-409	9/15/2006	19 U	19 U	19 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	19 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
MW-20	105-S34-420	3/1/2007	19 U	19 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
MW-21	105-S34-406	9/14/2006	20 U	20 U	20 U	20 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	20 U	20 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
MW-21	105-S34-421	3/1/2007	21 U	21 U	21 U	21 U	10 U	10 U	10 U	10 U	10 U	21 U	21 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
MW-22	105-S34-407	9/15/2006	19 U	19 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
MW-22	105-S34-410+	9/15/2006	19 U	19 U	19 U	19 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	19 U	19 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U
MW-22	105-S34-422	3/1/2007	19 U	19 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
MW-22	105-S34-423+	3/1/2007	19 U	19 U	19 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	19 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
MW-23	105-S34-408	9/15/2006	20 U	20 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
MW-24	105-S34-424	3/1/2007	20 U	20 U	20 U	20 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	20 U	20 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U
MW-24	105-S34-405	9/14/2006	20 U	20 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	20 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
MW-24	105-S34-425	3/1/2007	98 U	98 U	98 U	98 U	49 U	49 U	49 U	49 U	49 U	98 U	98 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U
MW7B	105-S34-401	2/14/2006	19 UJ	19 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	19 UJ	0.35 J	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 UJ
MW7C	105-S34-400	2/14/2006	19 U	19 U	19 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	19 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U

Notes:  
 Concentrations in micrograms per liter  
 -- Not analysed  
 + Duplicate of sample in previous row  
 J Estimated concentration  
 U Not detected

TABLE E-5. SEMIVOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (continued)  
 Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	BENZO(K)FLUORANTHENE	BENZOIC ACID	BENZYL ALCOHOL	BIS(2-CHLOROETHOXY)METHANE	BIS(2-CHLOROETHYL)ETHER	BIS(2-ETHYLHEXYL)PHTHALATE	BUTYLBENZYLPHTHALATE	CARBAZOLE	CHRYSENE	DI-N-BUTYLPHTHALATE	DI-N-OCTYLPHTHALATE	DIBENZO(A,H)ANTHRACENE	DIBENZOFURAN	DIETHYLPHTHALATE	DIMETHYLPHTHALATE	FLUORANTHENE	FLUORENE	HEXACHLOROBENZENE
004-003-008	004-0013	10/25/1995	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
004-003-009	004-0016	10/25/1995	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-035	018-0043	10/23/1995	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-036	018-0045	10/23/1995	10 U	-	-	10 U	10 U	3 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-039	018-0050	10/23/1995	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
018-007-041	018-0053	10/24/1995	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP01	105-S34-004	2/9/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
DP02	105-S34-010	2/9/2006	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP03	105-S34-011	2/9/2006	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP04	105-S34-012	2/8/2006	9.8 U	49 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	-	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U
DP05	105-S34-016	2/8/2006	9.5 U	48 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
DP06	105-S34-020	2/8/2006	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP07	105-S34-024	2/6/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
DP08	105-S34-028	2/6/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
DP09	105-S34-029	2/6/2006	10 U	50 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP10	105-S34-033	2/6/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
DP11	105-S34-034	2/7/2006	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
DP12	105-S34-197	2/7/2006	9.9 U	50 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	-	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
DP13	105-S34-040	2/7/2006	10 U	50 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP14	105-S34-041	2/6/2006	9.6 U	48 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U
DP15	105-S34-045	2/7/2006	28 U	140 U	28 U	28 U	28 U	28 U	28 U	-	28 U	28 U	28 U	28 U	28 U	28 U	28 U	28 U	28 U	28 U
DP16	105-S34-049	2/7/2006	10 U	50 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DP16	105-S34-200+	2/7/2006	9.6 U	48 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U
DP17	105-S34-054	2/8/2006	9.9 U	50 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	-	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
DP18	105-S34-059	2/9/2006	9.5 U	48 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
DP19	105-S34-063	2/9/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
MW-20	105-S34-409	9/15/2006	9.5 U	48 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
MW-20	105-S34-420	3/1/2007	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
MW-21	105-S34-406	9/14/2006	9.9 U	50 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	-	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
MW-21	105-S34-421	3/1/2007	10 U	51 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
MW-22	105-S34-407	9/15/2006	9.4 U	47 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	-	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
MW-22	105-S34-410+	9/15/2006	9.6 U	48 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	-	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U
MW-22	105-S34-422	3/1/2007	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
MW-22	105-S34-423+	3/1/2007	9.5 U	48 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	-	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U
MW-23	105-S34-408	9/15/2006	10 U	50 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
MW-23	105-S34-424	3/1/2007	9.8 U	49 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	-	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U
MW-24	105-S34-405	9/14/2006	10 U	50 U	10 U	10 U	10 U	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
MW-24	105-S34-425	3/1/2007	49 U	250 U	49 U	49 U	49 U	49 U	49 U	-	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U
MW7B	105-S34-401	2/14/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U
MW7C	105-S34-400	2/14/2006	9.7 U	49 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	-	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U

Notes:  
 Concentrations in micrograms per liter  
 - Not analysed  
 + Duplicate of sample in previous row  
 J Estimated concentration  
 U Not detected

**TABLE E-5. SEMIVOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (continued)**  
Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	INDENO(1,2,3-CD)PYRENE	ISOPHORONE	N-NITROSO-DI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	NAPHTHALENE	NITROBENZENE	PENTACHLOROPHENOL	PHENANTHRENE	PHENOL	PYRENE
004-003-008	004-0013	10/25/1995	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U
004-003-009	004-0016	10/25/1995	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U
018-007-035	018-0043	10/23/1995	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U
018-007-036	018-0045	10/23/1995	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U
018-007-039	018-0050	10/23/1995	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U
018-007-041	018-0053	10/24/1995	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	25 U	10 U	10 U	10 U
DP01	105-S34-004	2/9/2006	9.7 U	19 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	9.7 U	9.7 U	9.7 U
DP02	105-S34-010	2/9/2006	9.4 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	9.4 U	9.4 U	9.4 U
DP03	105-S34-011	2/9/2006	9.4 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	9.4 U	9.4 U	9.4 U
DP04	105-S34-012	2/8/2006	9.8 U	20 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	20 U	9.8 U	9.8 U	9.8 U
DP05	105-S34-016	2/8/2006	9.5 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	19 U	9.5 U	0.62 J	9.5 U
DP06	105-S34-020	2/8/2006	9.4 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	9.4 U	9.4 U	9.4 U
DP07	105-S34-024	2/6/2006	9.7 U	19 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	9.7 U	9.7 U	9.7 U
DP08	105-S34-028	2/6/2006	9.7 U	19 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	9.7 U	9.7 U	9.7 U
DP09	105-S34-029	2/6/2006	10 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	10 U
DP10	105-S34-033	2/6/2006	9.7 U	19 U	9.7 U	9.7 UJ	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	9.7 U	9.7 U	9.7 U
DP11	105-S34-034	2/7/2006	9.4 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	9.4 U	9.4 U	9.4 U
DP12	105-S34-197	2/7/2006	9.9 U	20 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	20 U	9.9 U	9.9 U	9.9 U
DP13	105-S34-040	2/7/2006	10 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	10 U
DP14	105-S34-041	2/6/2006	9.6 U	19 U	9.6 U	9.6 UJ	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	19 U	9.6 U	9.6 U	9.6 U
DP15	105-S34-045	2/7/2006	28 U	56 U	28 U	28 U	28 U	28 U	28 U	28 U	28 U	56 U	28 U	31	28 U
DP16	105-S34-049	2/7/2006	10 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	10 U
DP16	105-S34-200+	2/7/2006	9.6 U	19 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	19 U	9.6 U	9.6 U	9.6 U
DP17	105-S34-054	2/8/2006	9.9 U	20 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 UJ	9.9 U	9.9 UJ	20 U	9.9 U	1.3 J	9.9 U
DP18	105-S34-059	2/9/2006	9.5 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	19 U	9.5 U	9.5 U	9.5 U
DP19	105-S34-063	2/9/2006	9.7 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	9.7 U	9.7 U	9.7 U
MW-20	105-S34-409	9/15/2006	9.5 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	19 U	9.5 U	9.5 U	9.5 U
MW-20	105-S34-420	3/1/2007	9.4 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	9.4 U	9.4 U	9.4 U
MW-21	105-S34-406	9/14/2006	9.9 U	20 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	20 U	9.9 U	9.9 U	9.9 U
MW-21	105-S34-421	3/1/2007	10 U	21 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	21 U	10 U	10 U	10 U
MW-22	105-S34-407	9/15/2006	9.4 U	19 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	19 U	9.4 U	9.4 U	9.4 U
MW-22	105-S34-410+	9/15/2006	9.6 U	19 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	9.6 U	19 U	9.6 U	9.6 U	9.6 U
MW-22	105-S34-422	3/1/2007	9.7 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	9.7 U	9.7 U	9.7 U
MW-22	105-S34-423+	3/1/2007	9.5 U	19 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	9.5 U	19 U	9.5 U	9.5 U	9.5 U
MW-23	105-S34-408	9/15/2006	10 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	10 U
MW-23	105-S34-424	3/1/2007	9.8 U	20 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	9.8 U	20 U	9.8 U	9.8 U	9.8 U
MW-24	105-S34-405	9/14/2006	10 U	20 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U	10 U
MW-24	105-S34-425	3/1/2007	49 U	98 U	49 U	49 U	49 U	49 U	49 U	49 U	49 U	98 U	49 U	49 U	49 U
MW7B	105-S34-401	2/14/2006	9.7 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	9.7 U	9.7 U	9.7 U
MW7C	105-S34-400	2/14/2006	9.7 U	19 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	9.7 U	19 U	9.7 U	1.1 J	9.7 U

Notes:  
Concentrations in micrograms per liter  
- Not analysed  
+ Duplicate of sample in previous row  
J Estimated concentration  
U Not detected

**TABLE E-6. POLYCHLORINATED BIPHENYLS IN GROUNDWATER**

Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	AROCLOR-1016	AROCLOR-1221	AROCLOR-1232	AROCLOR-1242	AROCLOR-1248	AROCLOR-1254	AROCLOR-1260	AROCLOR-1268
DP01	105-S34-004	2/9/2006	0.48 U	0.95 UJ	0.48 U					
DP02	105-S34-010	2/9/2006	0.48 U	0.95 UJ	0.48 U					
DP03	105-S34-011	2/9/2006	0.48 UJ	0.95 UJ	0.48 UJ					
DP04	105-S34-012	2/8/2006	0.49 U	0.98 UJ	0.49 U					
DP05	105-S34-016	2/8/2006	0.48 U	0.95 UJ	0.48 U					
DP06	105-S34-020	2/8/2006	0.4 U	0.8 U	0.4 U					
DP07	105-S34-024	2/6/2006	0.49 U	0.97 U	0.49 U					
DP08	105-S34-028	2/6/2006	0.49 U	0.97 U	0.49 U					
DP09	105-S34-029	2/6/2006	0.49 U	0.97 U	0.49 U					
DP10	105-S34-033	2/6/2006	0.49 U	0.98 U	0.49 U					
DP11	105-S34-034	2/7/2006	0.48 UJ	0.95 UJ	0.48 UJ					
DP12	105-S34-197	2/7/2006	0.48 U	0.96 UJ	0.48 U					
DP13	105-S34-040	2/7/2006	0.49 U	0.97 U	0.49 U					
DP14	105-S34-041	2/6/2006	0.48 U	0.96 U	0.48 U					
DP15	105-S34-045	2/7/2006	0.56 U	1.1 UJ	0.56 U					
DP16	105-S34-049	2/7/2006	0.48 U	0.96 U	0.48 U					
DP16	105-S34-200+	2/7/2006	0.49 U	0.97 U	0.49 U					
DP17	105-S34-054	2/8/2006	0.49 U	0.97 UJ	0.49 U					
DP18	105-S34-059	2/9/2006	0.49 U	0.98 UJ	0.49 U					
MW-20	105-S34-409	9/15/2006	0.48 U	0.95 U	0.48 U					
MW-20	105-S34-420	3/1/2007	0.2 U	0.4 U	0.2 U	-- --				
MW-21	105-S34-406	9/14/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-21	105-S34-421	3/1/2007	0.2 U	0.4 U	0.2 U	-- --				
MW-22	105-S34-407	9/15/2006	0.48 U	0.95 U	0.48 U					
MW-22	105-S34-410+	9/15/2006	0.47 U	0.94 U	0.47 U					
MW-22	105-S34-422	3/1/2007	0.2 U	0.4 U	0.2 U	-- --				
MW-22	105-S34-423+	3/1/2007	0.2 U	0.4 U	0.2 U	-- --				
MW-23	105-S34-408	9/15/2006	0.48 U	0.96 U	0.48 U					
MW-23	105-S34-424	3/1/2007	0.2 U	0.4 U	0.2 U	-- --				
MW-24	105-S34-405	9/14/2006	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
MW-24	105-S34-425	3/1/2007	0.2 U	0.4 U	0.2 U	-- --				
MW7B	105-S34-401	2/14/2006	0.5 UJ	0.99 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U
MW7C	105-S34-400	2/14/2006	0.49 UJ	0.97 U	0.49 UJ	0.49 U				

Notes:

Concentrations in micrograms per liter

- Not analyzed
- + Duplicate of sample in previous row
- J Estimated concentration
- U Not detected

**TABLE E-7. PESTICIDES IN GROUNDWATER**

Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	4_4_DDD	4_4_DDE	4_4_DDT	ALDRIN	ALPHA_BHC	ALPHA_CHLORDANE	BETA_BHC	DELTA_BHC	DIELDRIN	ENDOSULFAN_I	ENDOSULFAN_II	ENDOSULFAN_SULFATE	ENDRIN	ENDRIN_ALDEHYDE
DP01	105-S34-004	2/9/2006	0.0005 U	0.0005 U	0.0005 U	0.00015 J	0.0005 U	0.0005 U	0.0005	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
DP02	105-S34-010	2/9/2006	0.0012 U	0.0013 U	0.00049 U	0.00049 U	0.00049 U	0.00023 J	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.002 U	0.00049 U	0.00049 U	0.00049 U
DP03	105-S34-011	2/9/2006	0.00038 J	0.0005 U	0.0005 U	0.0002 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0013 U	0.0005 U	0.0005 U	0.0005 U
DP04	105-S34-012	2/8/2006	0.00053 U	0.00049 J	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.002 U	0.00053 U	0.00053 U	0.00053 U
DP05	105-S34-016	2/8/2006	0.00049 U	0.00049 U	0.00049 U	0.001	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.0021 UJ	0.00049 U	0.0006 U	0.0023 U	0.00049 U
DP06	105-S34-020	2/8/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 UJ	0.0017 U	0.00049 U	0.00049 U	0.00049 U
DP07	105-S34-024	2/6/2006	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.00019 J	0.0005 U	0.00058 U	0.0005 U	0.0005 U	0.002	0.0013 U	0.0005 U	0.0005 U	0.0005 U
DP08	105-S34-028	2/6/2006	0.00049 U	0.00049 U	0.00049 U	0.0005	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00067	0.0017 U	0.00049 U	0.00049 U	0.00049 U
DP09	105-S34-029	2/6/2006	0.0005 U	0.0005 U	0.0005 U	0.0011 J	0.0005 U	0.0005 U	0.00074 U	0.0005 U	0.0005 U	0.0014	0.0014 U	0.0005 U	0.0005 U	0.0005 U
DP10	105-S34-033	2/6/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00031 J	0.0021 U	0.00049 U	0.00049 U	0.00049 U
DP11	105-S34-034	2/7/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.0016 U	0.00049 U	0.00049 U	0.00049 U	0.0019 UJ	0.0018 U	0.00049 U	0.0013 U	0.00049 U
DP12	105-S34-197	2/7/2006	0.00049 U	0.00091 U	0.00069 U	0.0011 U	0.0023	0.0048 J	0.0014 U	0.00049 U	0.00049 U	0.0018 UJ	0.0026 U	0.00049 U	0.0017 U	0.00049 U
DP13	105-S34-040	2/7/2006	0.0005 U	0.0005 U	0.0005 U	0.00052 U	0.0005 U	0.0011	0.0005 U	0.0005 U	0.0005 U	0.0023 U	0.0014 U	0.0005 U	0.0005 U	0.0005 U
DP14	105-S34-041	2/6/2006	-	-	-	0.00011 J	-	-	-	-	-	0.0011 J	-	-	-	-
DP15	105-S34-045	2/7/2006	0.0005 U	0.00088 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0009 U	0.0005 U	0.0011 J	0.0018 U	0.0005 U	0.0027 U	0.0005 U
DP16	105-S34-049	2/7/2006	0.00049 U	0.00049 U	0.00081 U	0.00049 U	0.00049 U	0.0012 U	0.00049 U	0.00049 U	0.00049 U	0.00075	0.0034 U	0.0028 U	0.00011 J	0.0032
DP16	105-S34-200+	2/7/2006	0.0012 U	0.00049 U	0.0037 U	0.00049 U	0.00014 J	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00048 J	0.0023 U	0.0014 U	0.00049 U	0.0027
DP17	105-S34-054	2/8/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.0012 UJ	0.0016 U	0.00049 U	0.0012 U	0.00049 U
DP18	105-S34-059	2/9/2006	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U
DP19	105-S34-063	2/9/2006	0.0013 U	0.00085 J	0.0005 U	0.00047 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0013 U	0.0005 U	0.0005 U	0.00096 U
MW-20	105-S34-409	9/15/2006	0.0022 U	0.0018 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00062 U	0.00048 U	0.00048 U	0.00048 U	0.00023 J	0.00048 U	0.00048 U	0.0002 J
MW-20	105-S34-420	3/1/2007	0.00051 U	0.00048 U	0.00048 UJ	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00023 UJ	0.00048 U	0.00048 U	0.00048 U
MW-21	105-S34-406	9/14/2006	0.0016 U	0.0052 U	0.0005 U	0.0005 U	0.0001 J	0.00039 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.00039 J
MW-21	105-S34-421	3/1/2007	0.00048 U	0.00048 U	0.00048 UJ	0.00059 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U
MW-22	105-S34-407	9/15/2006	0.0014 U	0.0021 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.0006 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00026 J	0.00049 U
MW-22	105-S34-410+	9/15/2006	0.0029 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00088 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U
MW-22	105-S34-422	3/1/2007	0.00048 U	0.00048 U	0.00048 UJ	0.00047 J	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U
MW-22	105-S34-423+	3/1/2007	0.00069 U	0.00048 U	0.00048 UJ	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U
MW-23	105-S34-408	9/15/2006	0.0014 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00012 J	0.00053 U	0.00053 U	0.00053 U	0.00053 U
MW-23	105-S34-424	3/1/2007	0.0005 U	0.0005 U	0.0005 UJ	0.00017 UJ	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.00085
MW-24	105-S34-405	9/14/2006	0.006 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U
MW-24	105-S34-425	3/1/2007	0.00038 J	0.00041 J	0.00057 UJ	0.00023 UJ	0.00033 J	0.00037 J	0.0005 U	0.0005 U	0.00046 J	0.00032 J	0.00013 UJ	0.00029 UJ	0.0003 UJ	0.0005 U
MW7B	105-S34-401	2/14/2006	0.09 U	0.09 U	0.09 U	0.05 J	0.05 U	0.05 J	0.05 U	0.05 U	0.09 U	0.05 U	0.09 U	0.09 U	0.09 U	0.09 U
MW7C	105-S34-400	2/14/2006	0.1 U	0.1 UJ	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.05 U	0.1 U	0.1 U	0.1 U	0.01 U

Notes:

Concentrations in micrograms per liter

- Not analyzed
- + Duplicate of sample in previous row
- J Estimated concentration
- R Rejected result
- U Not detected

TABLE E-7. PESTICIDES IN GROUNDWATER (continued)

Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	ENDRIN_KETONE	GAMMA_BHC	GAMMA_CHLORDANE	HEPTACHLOR	HEPTACHLOR_EPOXIDE	METHOXYCHLOR	TECHNICAL_CHLORDANE	TOXAPHENE
DP01	105-S34-004	2/9/2006	0.0005 U	0.00058 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	--	--
DP02	105-S34-010	2/9/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	--	--
DP03	105-S34-011	2/9/2006	0.0005 U	0.0003 J	0.00062 U	0.0005 U	0.0005 U	0.0005 U	--	--
DP04	105-S34-012	2/8/2006	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	--	--
DP05	105-S34-016	2/8/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	--	--
DP06	105-S34-020	2/8/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	--	--
DP07	105-S34-024	2/6/2006	0.00052 U	0.0005 U	0.0005 U	0.0005 U	0.0015 U	0.0005 U	--	--
DP08	105-S34-028	2/6/2006	0.00049 U	0.00027 J	0.00049 U	0.00049 U	0.00049 U	0.00049 U	--	--
DP09	105-S34-029	2/6/2006	0.0005 U	0.0005 U	0.00088 U	0.0005 U	0.0036 U	0.0005 U	--	--
DP10	105-S34-033	2/6/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.0019 J	0.00049 U	--	--
DP11	105-S34-034	2/7/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	--	--
DP12	105-S34-197	2/7/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	--	--
DP13	105-S34-040	2/7/2006	0.0005 U	0.00051 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	--	--
DP14	105-S34-041	2/6/2006	--	0.00019 J	--	--	--	--	--	--
DP15	105-S34-045	2/7/2006	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0054 U	0.00054 U	--	--
DP16	105-S34-049	2/7/2006	0.00049 U	0.0017 J	0.00049 U	0.00049 U	0.00049 U	0.0012 U	--	--
DP16	105-S34-200+	2/7/2006	0.00049 U	0.00049 U	0.00098 U	0.00032 J	0.0011 U	0.00049 U	--	--
DP17	105-S34-054	2/8/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00084 U	0.00049 U	--	--
DP18	105-S34-059	2/9/2006	0.00063 U	0.00063 U	0.00095 U	0.0007 U	0.00026 J	0.00063 U	--	--
DP19	105-S34-063	2/9/2006	0.0006 U	0.00064 U	0.0005 U	0.0006 U	0.00075 U	0.00079 U	--	--
MW-20	105-S34-409	9/15/2006	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	0.00048 U	--	--
MW-20	105-S34-420	3/1/2007	0.00048 U	0.00012 UJ	0.00048 U	0.00048 U	0.00048 U	0.00048 U	--	--
MW-21	105-S34-406	9/14/2006	0.0005 U	0.00054	0.0005 U	0.0005 U	0.0013 U	0.00099 U	--	--
MW-21	105-S34-421	3/1/2007	0.00048 U	0.00042 UJ	0.00048 U	0.00048 U	0.00048 U	0.0013	--	--
MW-22	105-S34-407	9/15/2006	0.00049 U	0.0006 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	--	--
MW-22	105-S34-410+	9/15/2006	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	0.00049 U	--	--
MW-22	105-S34-422	3/1/2007	0.00048 U	0.00033 UJ	0.00048 U	0.00048 U	0.00048 U	0.00048 U	--	--
MW-22	105-S34-423+	3/1/2007	0.00048 U	0.00035 UJ	0.00048 U	0.00048 U	0.00048 U	0.00048 U	--	--
MW-23	105-S34-408	9/15/2006	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00053 U	--	--
MW-23	105-S34-424	3/1/2007	0.0005 U	0.00023 UJ	0.0005 U	0.0005 U	0.0005 U	0.0005 U	--	--
MW-24	105-S34-405	9/14/2006	0.00053 U	0.00053 U	0.00053 U	0.00053 U	0.00068 U	0.00053 U	--	--
MW-24	105-S34-425	3/1/2007	0.00022 UJ	0.00065 UJ	0.00041 J	0.00014 UJ	0.0005 U	0.00091 J	--	--
MW7B	105-S34-401	2/14/2006	0.09 U	0.05 U	0.05 U	0.05 U	0.05 U	0.5 UJ	0.5 U	0.9 U
MW7C	105-S34-400	2/14/2006	0.1 U	0.05 U	0.05 UJ	0.05 U	0.005 U	0.5 UJ	0.5 U	1 U

Notes:

Concentrations in micrograms per liter

- Not analyzed
- + Duplicate of sample in previous row
- J Estimated concentration
- R Rejected result
- U Not detected

**TABLE E-8. PETROLEUM HYDROCARBONS IN GROUNDWATER**

Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Point Name	Sample Identification	Sample Date	DIESEL	JET_FUEL_5	MOTOR_OIL	GASOLINE
004-003-008	004-0013	10/25/1995	0.1 JdY	-- --	0.2 U	-- --
004-003-009	004-0016	10/25/1995	1.3 JdY	-- --	0.2 U	-- --
018-007-033	018-0039	10/23/1995	0.1 U	-- --	0.2 U	0.096 ZdJ
018-007-033	018-0056+	10/23/1995	0.1 U	-- --	0.2 U	0.05 U
018-007-035	018-0043	10/23/1995	0.17 dYJ	-- --	0.2 U	0.05 U
018-007-036	018-0045	10/23/1995	0.1 U	-- --	0.43 dYJ	0.05 U
018-007-039	018-0050	10/23/1995	0.1 U	-- --	0.2 U	0.05 U
018-007-041	018-0053	10/24/1995	0.1 U	-- --	0.2 U	0.05 U
030-FLI-519	030-FLI-519	12/4/1998	1.1 UJ	0.5 U	0.5 U	0.12
DP01	105-S34-004	2/9/2006	0.15 H	-- --	0.18 J	0.05 UJ
DP02	105-S34-010	2/9/2006	0.36 H	-- --	0.45	0.017 UJ
DP03	105-S34-011	2/9/2006	0.16 H	-- --	0.22 J	0.016 UJ
DP04	105-S34-012	2/8/2006	0.16 H	-- --	0.2 J	0.05 UJ
DP05	105-S34-016	2/8/2006	0.22 H	-- --	0.12 J	0.05 UJ
DP06	105-S34-020	2/8/2006	0.41 H	-- --	0.4 M	0.05 UJ
DP07	105-S34-024	2/6/2006	0.53 HY	-- --	1	0.05 UJ
DP08	105-S34-028	2/6/2006	0.46 HY	-- --	0.8	0.05 UJ
DP09	105-S34-029	2/6/2006	0.47 HY	-- --	0.95	0.05 UJ
DP10	105-S34-033	2/6/2006	0.36 HY	-- --	0.79	0.05 UJ
DP11	105-S34-034	2/7/2006	0.12 H	-- --	0.1 J	0.05 UJ
DP12	105-S34-197	2/7/2006	54 HL	-- --	7.1 LM	1.1 J
DP13	105-S34-040	2/7/2006	0.32 H	-- --	0.64 M	0.05 UJ
DP14	105-S34-041	2/6/2006	0.27 HY	-- --	1.4 H	0.05 UJ
DP15	105-S34-045	2/7/2006	1.4 D	-- --	0.66 L	0.05 UJ
DP16	105-S34-049	2/7/2006	0.45	-- --	0.19 J	0.066
DP16	105-S34-200+	2/7/2006	0.54	-- --	0.25 J	0.067
DP17	105-S34-054	2/8/2006	0.087	-- --	0.037 J	0.018 UJ
DP18	105-S34-059	2/9/2006	0.39 Z	-- --	0.037 J	0.05 UJ
DP19	105-S34-063	2/9/2006	0.45 H	-- --	0.39	0.017 UJ
MW-20	105-S34-409	9/15/2006	0.35 HY	-- --	1	0.028 J
MW-20	105-S34-420	3/1/2007	0.05 UJ	-- --	0.3 UJ	0.05 UJ
MW-21	105-S34-406	9/14/2006	0.44 HY	-- --	1	0.05 U
MW-21	105-S34-421	3/1/2007	0.05 UJ	-- --	0.3 UJ	0.05 UJ
MW-22	105-S34-407	9/15/2006	0.33 HY	-- --	0.86	0.05 U
MW-22	105-S34-410+	9/15/2006	0.3 HY	-- --	0.89	0.05 U
MW-22	105-S34-422	3/1/2007	0.05 UJ	-- --	0.3 UJ	0.05 UJ
MW-22	105-S34-423+	3/1/2007	0.05 UJ	-- --	0.3 UJ	0.05 UJ
MW-23	105-S34-408	9/15/2006	0.42 HY	-- --	0.94	0.038 J
MW-23	105-S34-424	3/1/2007	0.05 UJ	-- --	0.3 UJ	0.05 U
MW-24	105-S34-405	9/14/2006	0.11 UJ	-- --	0.3 U	0.03 J
MW-24	105-S34-425	3/1/2007	0.05 UJ	-- --	0.3 UJ	0.05 UJ
MW7B	105-S34-401	2/14/2006	0.15 H	-- --	-- --	0.05 UJ
MW7C	105-S34-400	2/14/2006	0.38 L	-- --	-- --	0.05 UJ

**TABLE E-8. PETROLEUM HYDROCARBONS IN GROUNDWATER (continued)**

Appendix E, Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Notes:

Concentrations in milligrams per liter

--	Not analysed
+	Duplicate of sample in previous row
D	Pattern resembles diesel
H	Pattern is in the heavier hydrocarbon range
J	Estimated concentration
L	Pattern in the light hydrocarbon range
M	Pattern resembles motor oil
U	Not detected
Y	Petroleum fuel present
Z	Pattern does not suggest presence of petroleum fuel

**APPENDIX F**  
**DATA QUALITY CONTROL SUMMARY REPORT**

---

## **TABLE OF CONTENTS**

---

ACRONYMS AND ABBREVIATIONS .....	F-iii
F1.0 INTRODUCTION .....	F-1
F2.0 DATA VALIDATION METHODOLOGY.....	F-1
F3.0 CURSORY REVIEW .....	F-3
F3.1 HOLDING TIMES.....	F-4
F3.2 CALIBRATION.....	F-4
F3.2.1 Inorganic Analyses .....	F-5
F3.2.2 Organic Analyses.....	F-5
F3.3 LABORATORY AND FIELD BLANKS.....	F-6
F3.4 ACCURACY .....	F-7
F3.5 PRECISION.....	F-8
F3.6 ANALYTICAL AND MATRIX PERFORMANCE .....	F-9
F3.7 RESULTS BELOW THE CONTRACT-REQUIRED QUANTITATION AND DETECTION LIMITS .....	F-10
F4.0 FULL REVIEW .....	F-10
F4.1 ADDITIONAL ANALYTICAL AND MATRIX PERFORMANCE .....	F-11
F4.2 CHEMICAL IDENTIFICATION .....	F-12
F4.3 CHEMICAL QUANTITATION .....	F-13
F4.4 CHEMICAL REPORTING LIMITS .....	F-13
F5.0 EVALUATION SUMMARY.....	F-14
F5.1 PRECISION.....	F-14
F5.2 ACCURACY .....	F-14
F5.3 REPRESENTATIVENESS.....	F-15
F5.4 COMPLETENESS.....	F-15
F5.5 COMPARABILITY .....	F-16
F6.0 CONCLUSIONS FOR DATA QUALITY AND DATA USABILITY .....	F-16
F7.0 REFERENCES .....	F-17

## **TABLES**

---

- F-1 Analytical Methods, Sample Holding Times and Containers, and Preservation Requirements
- F-2 Holding Time Requirements
- F-3 Data Qualification: Holding Time Violations
- F-4 Calibration Requirements
- F-5 Data Qualification: Calibration Violations
- F-6 Data Qualification: Laboratory and Field Blank Contamination
- F-7 Accuracy Requirements
- F-8 Data Qualification: Surrogate Recovery Violations
- F-9 Data Qualification: Accuracy Violations
- F-10 Data Qualification: Laboratory Precision Violations
- F-11 Analytical and Matrix Performance Requirements
- F-12 Data Qualification: Internal Standard Performance Violations
- F-13 Data Qualification: Analytical and Matrix Performance Violations
- F-14 Data Qualification: Values Below the Contract Required Reporting Limit
- F-15 Data Evaluation: Reporting Limits

## ACRONYMS AND ABBREVIATIONS

---

%D	Percent difference
%R	Percent recovery
%RSD	Percent relative standard deviation
CCV	Continuing calibration verification
CLP	Contract Laboratory Program
CRDL	Contract-required detection limit
CRQL	Contract-required quantitation limit
EBS	Environmental baseline survey
EPA	U.S. Environmental Protection Agency
GC/MS	Gas chromatography and mass spectroscopy
GFAA	Graphite furnace atomic absorption
GPC	Gel-permeation chromatography
ICP	Inductively coupled plasma emission spectrophotometer
ICV	Initial calibration verification
IR	Installation Restoration
IT Corp.	IT Corporation
LCS	Laboratory control sample
LUFT	Leaking underground fuel tank
MS	Matrix spike
MSD	Matrix spike duplicate
NAS	Naval Air Station
PAH	Polycyclic aromatic hydrocarbon
PARCC	Precision, accuracy, representativeness, completeness, and comparability
PCB	Polychlorinated biphenyl
QA	Quality assurance
QC	Quality control
RAGS	Risk Assessment Guidance for Superfund
RI	Remedial Investigation
RPD	Relative percent difference
RRF	Relative response factor
SVOC	Semivolatile organic compound

***ACRONYMS AND ABBREVIATIONS (Continued)***

---

Tetra Tech	Tetra Tech EM Inc.
TPH	Total petroleum hydrocarbons
TPH-e	TPH-as-extractables
TPH-p	TPH-as-purgeables
VOC	Volatile organic compound

## **F1.0 INTRODUCTION**

This appendix summarizes the chemical and quality control (QC) data gathered during the Remedial Investigation (RI) for Installation Restoration (IR) Site 34, at the former Naval Air Station (NAS) Alameda located in Alameda, California. This appendix discusses QC results of soil, grab groundwater, and groundwater samples collected during the 2006 and 2007 RI sampling activities. Data collected before the RI sampling activities are discussed in the project-specific reports by investigation activity, which include a Phase 1 Environmental Baseline Survey (EBS) (Environmental Resources Management-West, Inc. 1994), removal of fuel lines (IT Corporation [IT Corp.] 1999), a Phase 2a and 2b EBS (IT Corp. 2001), and a site investigation (Bechtel Environmental, Inc. 2003).

The appendix consists of the following six sections, which follow this introduction:

- Section F2.0 provides an overview of the data validation methodology.
- Sections F3.0 and F4.0 present the validated results for cursory and full review.
- Section F5.0 summarizes the precision, accuracy, representativeness, completeness, and comparability (PARCC) evaluation.
- Section F6.0 presents conclusions on the overall evaluation of the chemical data.
- Section F7.0 lists the documents used to prepare this appendix.

Tables that provide supplementary information to this appendix are presented after Section F7.0.

## **F2.0 DATA VALIDATION METHODOLOGY**

Data validation is a systematic process for reviewing and qualifying data against a set of criteria to determine if they are adequate for their intended use. Reviewing and evaluating all analytical data for their PARCC parameters verifies adequacy. The laboratory analytical data were validated according to procedures outlined in the following documents:

- U.S. Environmental Protection Agency (EPA) Contract Laboratory Program (CLP) National Functional Guidelines for Organic and Inorganic Data Review (EPA 1999, 2004)
- Data Validation Statement of Work (Tetra Tech EM Inc. [Tetra Tech] 2001)
- Remedial Investigation Work Plan, IR Site 34 (SulTech 2006)
- Documentation associated with the analytical methods for each analysis

Data validation occurred in two stages: (1) a cursory review of the analytical reports and the quality assurance (QA) and QC information was conducted on 100 percent of the chemical data, and (2) a full review of the analytical reports, the QA and QC information, and the associated raw data was conducted on 10 percent of the chemical data (see Sections F3.0 and F4.0, respectively). The cursory review evaluated the effect of the most critical QA and QC information (such as holding times, calibration requirements, and spiking accuracy) on the data. The full review evaluated additional QA and QC criteria and used the raw data to check calculations and analyte identifications. At each stage of validation, qualifiers were assigned to the results in the electronic database in accordance with EPA guidelines (EPA 1999, 2004) and the RI Work Plan (SulTech 2006).

The overall objective of data validation was to determine if the quality of the chemical data set was adequate for its intended purpose, as defined by the PARCC parameters in EPA guidance (EPA 2002). The following tasks were completed to assess PARCC parameters:

- Review precision and accuracy of laboratory QC data
- Review precision and accuracy of field QC data
- Review the overall analytical process, including holding times, calibrations, analytical or matrix performance, and analyte identification and quantitation
- Assign qualifiers to data affected when QA and QC criteria were not achieved
- Review and summarize implications of the frequency and severity of qualifiers in the validated data

This appendix includes the validation findings for the following samples collected during the 2006 and 2007 RI sampling activities:

- 132 soil samples
- 19 grab groundwater samples
- 10 groundwater monitoring well samples

In addition to the soil and groundwater samples, QC samples were analyzed, including equipment rinsate blanks, source blanks, and trip blanks. Chemical analyses on all sample matrices were subjected to similar QA requirements and standardized methods.

The chemical analytical program for the 2006 and 2007 RI sampling activities included the following analyses and methods:

- Volatile organic compounds (VOC) by the SW-846 EPA Methods 5035 and 8260B (EPA 1996)
- Semivolatile organic compounds (SVOC) by the SW-846 EPA Method 8270C (EPA 1996)
- Polycyclic aromatic hydrocarbons (PAH) by SW-846 EPA Method 8270C Selective Ion Monitoring (EPA 1996)
- Organochlorine pesticides by SW-846 EPA Method 8081A (EPA 1996)
- Polychlorinated biphenyls (PCB) by SW-846 EPA Method 8082 (EPA 1996)
- Chlorinated herbicides by SW-846 EPA Method 8151A (EPA 1996)
- Total petroleum hydrocarbons (TPH) as purgeables (TPH-p) by the State of California Leaking Underground Fuel Tank (LUFT) Field Manual (State of California 1989) and by SW-846 Methods 5035 and 8015A (EPA 1996)
- TPH as extractables (TPH-e) according to the State of California LUFT Field Manual (State of California 1989) and by SW-846 EPA Method 8015A (EPA 1996)
- Metals by SW-846 EPA Method 6020/7470A&7471A (EPA 1996)
- Hexavalent chromium by EPA Method 7196A (EPA 1996)
- Total dissolved solids (TDS) by Methods for Chemical Analysis of Water and Wastes 160.1 (EPA 1983)

Analytical methods, sample holding times and containers, and preservation requirements are listed by sample matrix in Table F-1.

### **F3.0 CURSORY REVIEW**

Cursory review of the analytical reports for the methods included evaluating the following parameters, as applicable: holding times, initial and continuing calibrations, laboratory and field blanks, accuracy, laboratory precision, and analytical or matrix performance. An overall assessment of the data was also conducted. Cursory review components and the results of each specific review are discussed in Sections F3.1 through F3.6 of this appendix. Section F3.7 discusses results reported below the contract-required quantitation and detection limits (CRQL and CRDL, respectively). Tables summarizing the data validation criteria, findings, and evaluation follow Section F7.0 of this appendix. Only chemicals with qualified data are included in the tables that present data qualification findings.

### **F3.1 HOLDING TIMES**

One objective of data validation was to assess the validity of the chemical data set based on compliance with technical holding times: the maximum time allowable between sample collection and, as applicable, sample extraction, preparation, and analysis. The Clean Water Act of 1984 (Title 40 *Code of Federal Regulations* Part 136) established technical requirements for water holding times and preservation. For methods not covered by Title 40 *Code of Federal Regulations* Part 136, the holding times used for validation purposes were either recommended in the CLP guidelines for data review (EPA 1999, 2004) or were specified in the RI Work Plan (SulTech 2006). Table F-2 summarizes all applicable technical holding time requirements by analysis and matrix, and identifies criteria for estimating and rejecting analytical results.

For analytical methods with required holding times greater than 1 week, samples extracted, prepared, or analyzed outside of specified holding times were qualified as “Jh” (indicating the results were estimated values) (EPA 1999, 2004). When these holding times were grossly exceeded (more than double the specified holding time), nondetected results were qualified as “Rh” (indicating the results were rejected), while detected results were qualified as estimated (Jh). For analytical methods with required holding times of less than 1 week, samples extracted, prepared, or analyzed outside of specified holding times were again qualified as estimated (Jh). When these holding times were exceeded by more than 1 week (usually more than double the specified holding time), nondetected results were rejected (Rh) and detected results were estimated (Jh).

Table F-3 summarizes the holding time exceedances for the soil samples. Of all 2006 and 2007 analytical data from IR Site 34, 0.27 percent was qualified as estimated due to holding times outside of the specified criteria. The extraction holding time for one soil sample for pesticides and PCB analysis was exceeded. For groundwater analysis, the extraction holding time for analysis of five water samples for TPH-e was exceeded. No 2006 or 2007 data were qualified as rejected because of holding time exceedances.

### **F3.2 CALIBRATION**

Laboratory instrument calibration requirements were established to confirm the analytical instruments could produce acceptable qualitative and quantitative data for target chemicals. Initial calibration demonstrates the instrument is capable of acceptable performance at the beginning of an analytical run while producing a linear curve. Continuing calibration demonstrates the instrument is capable of repeating the performance established in the initial calibration (EPA 1999, 2004). Table F-4 summarizes all applicable calibration requirements by analysis and includes criteria for estimating and rejecting analytical results when calibration requirements are violated.

### **F3.2.1 Inorganic Analyses**

Initial calibration review for inorganic (metals) analyses included evaluating criteria for the curve's correlation coefficient and initial calibration verification (ICV) percent recoveries (%R). The ICV %R verifies the analytical system is operating within established calibration criteria at the beginning of an analytical run. Most metals were analyzed using an inductively coupled plasma (ICP) atomic emission spectrophotometer. The ICP atomic emission is inherently linear over a wide concentration range, thus it does not require multiple initial calibration standards (mandatory for most other methods). The continuing calibration review included an evaluation of the criteria for continuing calibration verification (CCV) %Rs. The CCV %R verifies the analytical system is operating within the established calibration throughout the analytical run.

Samples that were analyzed when the calibration requirements were not met were qualified as "Jc," indicating the results were estimated (EPA 2004). In general, inorganic data are not rejected because of calibration violations except in the professional judgment of the data reviewer. No 2006 or 2007 inorganic data were qualified because of calibration violations.

### **F3.2.2 Organic Analyses**

Initial calibration review for organic analyses included evaluating percent relative standard deviation (%RSD), relative response factors (RRF), and retention times. The %RSD indicates the analytical system's linearity over an established concentration range. The RRF identifies the sensitivity of the analytical system to a particular target chemical. Retention time reflects the analytical system's stability. Retention time stability is particularly important in analyses for pesticides and PCBs, for which positive identification is made when a peak falls within the specified retention time "windows" on two dissimilar columns. The continuing calibration review included an evaluation of percent difference (%D), RRFs, and retention times. The %D measures the analytical system's precision and was calculated by comparing the daily RRF with the RRF established in the initial calibration.

Samples analyzed when calibration requirements were not met were qualified as "Jc" (indicating the results were estimated) (EPA 1999). Samples with nondetected results that were analyzed when RRF requirements were not met were qualified as "Rc" (indicating the results were rejected), while detected results were "estimated Jc" (EPA 1999). Table F-5 summarizes organic and inorganic analytical data qualified because of calibration violations ("Jc" and "Rc"). Of all 2006 and 2007 organic analytical data from IR Site 34, 2.10 percent was qualified as estimated because of calibration violations. No 2006 or 2007 organic data were rejected because of calibration violations.

### F3.3

### LABORATORY AND FIELD BLANKS

Laboratory and field blank samples were analyzed to determine the existence and magnitude of contamination resulting from sample collection or laboratory activities (EPA 1999, 2004). Blanks prepared and analyzed in the laboratory consisted of calibration blanks and method and preparation blanks. Field blanks consisted of equipment rinsate blanks and source blanks. If a problem with any blank existed, all associated data were carefully evaluated to determine if the sample data were affected. The following table summarizes the purpose of each laboratory and field blank.

<b>Blank Type</b>	<b>Purpose of Blank</b>
Calibration blank	Evaluate analytical instruments for possible laboratory contamination
Method and preparation blank	Evaluate extraction or preparation procedures for possible laboratory contamination
Equipment blank	Evaluate decontamination procedures as a possible route for field contamination
Trip blank	Determine whether shipping the samples introduces contamination (for volatiles analyses)
Source blank	Evaluate source water used in equipment rinsate blanks for possible contamination

At a minimum, calibration and preparation blanks were analyzed once every analytical period for each instrument. Method and preparation blanks were extracted (or prepared) at a frequency of 1 per extraction or preparation batch per matrix or per 20 samples, whichever was greater (EPA 1999, 2004). Equipment rinsate blanks for a specified set of sample analyses were collected weekly for each sampling task because each sampling task used different sample collection devices. Equipment rinsate blanks were analyzed for the same chemicals as the samples collected with the equipment. Source blanks were collected for each new lot of water used for the equipment rinsate blanks. Trip blanks were shipped with each cooler containing water samples for VOC and TPH-purgeables analyses. Table F-6 summarizes the qualifications made to the data based on laboratory and field blanks.

When laboratory blank contamination was identified, sample results were compared with an action level of 5 times the highest level detected in the associated laboratory blank. Only detected results of less than the action level for the laboratory blank contaminant were considered nondetected either at the level of the original result or at the CRQL (organic samples only), whichever was higher (EPA 1999, 2004). The data were qualified as "UJb," indicating the results were nondetected and reflected a detection or quantitation limit that may have been raised because of low-level laboratory blank contamination. As shown in Table F-6, laboratory contamination was qualified in only 1.67 percent of the 2006 and 2007 data.

Some chemicals, including acetone, 2-butanone, methylene chloride, and phthalates, are identified as common laboratory contaminants (EPA 1999). These chemicals were qualified as “UJb,” indicating the result is considered nondetected in all samples, including field blanks, which contained levels less than 5 times the reporting limit for those chemicals (Tetra Tech 2001). As shown in Table F-6, acetone, 2-butanone, methylene chloride, bis(2-ethylhexyl)-phthalate, and di-n-butylphthalate, five common laboratory contaminants were found and qualified as nondetected in the samples.

After laboratory blank contamination was assessed, field blanks were evaluated. Where field blank contamination was identified, sample results were compared with an action level of 5 times the highest level found in the associated field blank, except for common laboratory contaminants, which were compared with an action level of 10 times the highest level found in the associated field blank. Only detected results less than the action level for the field blank contaminant were considered nondetected either at the level of the original result or at the CRQL (organic samples only), whichever was higher (EPA 1999, 2004). The data were qualified as “UJf,” indicating the results were considered nondetected and reflecting a detection or quantitation limit that may have been raised because of low-level field blank contamination.

Table F-6 summarizes analytical data qualified because of blank contamination (“UJb” and “UJf”). Of all 2006 and 2007 analytical data from IR Site 34, 1.67 percent was qualified as nondetected because of laboratory contamination and 0.05 percent was qualified as nondetected because of field contamination. Almost one half of the laboratory contamination was a result of common laboratory contaminant detections, while the remaining were mostly low-level metal detections above the method detection limit. The low percentage of chemicals qualified because of detections in field blanks indicates the field equipment decontamination procedures were effective.

### **F3.4 ACCURACY**

One objective of data validation was to assess the accuracy of the chemical data set. Laboratory accuracy was evaluated using recoveries of surrogate spikes, matrix spikes (MS), and laboratory control samples (LCS) or blank spikes. Table F-7 summarizes all applicable accuracy requirements by analysis and includes the criteria for estimating and rejecting analytical results when accuracy requirements are not met. Matrix effects frequently present unique problems in evaluating laboratory accuracy for organic analyses (EPA 1999). In some cases, professional judgment was used in qualifying the data. Any such decisions were clearly identified and documented in the data validation reports.

Organic data affected by surrogate recoveries outside QC limits were qualified as “Ja” (indicating the results were estimated), or in severe cases “Ra” (indicating the results were rejected) (EPA 1999). Table F-8 summarizes investigation analytical data qualified because of accuracy criteria violations in the surrogate spikes (“Ja” and “Ra”). Of the 2006 and 2007 organic analytical data from IR Site 34, 0.27 percent was qualified as estimated because of surrogate spike criteria violations and 0.12 percent was qualified as rejected because of surrogate

spike criteria violations. The rejected data were limited to nondetected chemical results in one pesticide sample.

Organic data affected by MS or blank spike problems were qualified “Je” (indicating the results were estimated), or “Re” (indicating severe matrix problems that resulted in rejected data). For inorganic analyses, laboratory accuracy was evaluated using LCS spike and MS recoveries. In general, data affected by LCS or MS recoveries outside QC limits were qualified as “Je” (indicating the results were estimated). In a few isolated cases where LCS or MS recoveries were very low (less than 50 and 30 percent, respectively), the affected nondetected data were qualified as “Re” (indicating the results were rejected) (EPA 2004).

Table F-9 summarizes analytical inorganic and organic data qualified because of accuracy criteria violations in MSs, LCSs, and blank spikes (“Je” and “Re”). Of all 2006 and 2007 analytical data from IR Site 34, 2.45 percent was qualified as estimated because of accuracy criteria violations. No 2006 or 2007 data were qualified as rejected due to accuracy criteria violations.

### **F3.5           PRECISION**

Another objective of data validation was to assess the precision of the chemical data set. Laboratory precision was evaluated by the relative percent differences (RPD) between the MSs and matrix spike duplicates (MSD) in organic analyses, and by the RPDs between the samples and the sample duplicates in inorganic analyses. For organic analyses, RPDs were used to evaluate overall precision and were not used specifically to qualify data. Precision goals for organic analyses can be found in the RI Work Plan (SulTech 2006). For inorganic analyses, sample and sample duplicate RPDs were used to indicate the laboratory’s analytical precision within a sample delivery group for that matrix. Inorganic sample and sample duplicates were reviewed according to the following criteria (EPA 2004):

- An RPD criterion of plus or minus 20 percent was used for aqueous sample values of greater than 5 times the reporting limit
- An RPD criterion of plus or minus 35 percent was used for nonaqueous sample values of greater than 5 times the reporting limit
- An absolute difference of plus or minus the reporting limit was used for aqueous sample values of less than 5 times the reporting limit
- An absolute difference of plus or minus 2 times the reporting limit was used for nonaqueous sample values of less than 5 times the reporting limit

Inorganic data affected by sample and sample duplicate RPDs outside QC limits were qualified as “Jd” (indicating the results were estimated) (EPA 2004). Data were not rejected based on precision criteria violations. Table F-10 summarizes analytical data qualified because of

precision criteria violations (“Jd”). Of all 2006 and 2007 analytical data from IR Site 34, 0.51 percent was qualified as estimated because of precision criteria violations.

### **F3.6 ANALYTICAL AND MATRIX PERFORMANCE**

In addition to the data quality requirements discussed, further laboratory QA and QC criteria were evaluated in the cursory review. These additional criteria were primarily related to analytical and matrix performance and are summarized in Table F-11.

For VOC and SVOC analyses, internal standard performance was evaluated. Internal standard performance criteria are used to determine if gas chromatography and mass spectroscopy (GC/MS) sensitivity and response are stable during every analytical run. Matrix effects, however, frequently present unique problems in evaluating analytical performance, and matrix effects may affect internal standard performance. Internal standard requirements are based on a comparison of the sample’s internal standard area with the same internal standard area found in the daily calibration standard. Internal standard area counts in the sample must be within 50 to 150 percent, and internal standard retention times must not vary by more than plus or minus 30 seconds from the internal standard in the associated daily calibration standard (EPA 1999).

Organic data affected by internal standard criteria violations were qualified as “Ji” (indicating the results were estimated). Organic data with any internal standard area(s) less than 10 percent of the internal standard’s area in the associated daily standard were qualified as “Ri” or “Ji.” “Ri” indicated nondetected results were rejected, and “Ji” indicated detected results were estimated. Table F-12 summarizes organic analytical data that were qualified because of internal standard performance criteria violations (“Ji” and “Ri”). Of all 2006 and 2007 analytical data from IR Site 34, 0.38 percent was qualified as estimated because of analytical or matrix performance violations. The matrix performance criteria violations were limited to low internal standard areas in seven PAH samples and two SVOC samples. Each of the samples were reanalyzed to confirm the initial result and verify matrix interference problems. No data were qualified as rejected because of analytical or matrix performance violations.

In addition to the analytical or matrix performance criteria outlined, some of the data were qualified with the general qualifiers (“Jj,” “UJj,” and “Rj”) for other analytical or matrix problems encountered, such as concentrations reported at a level slightly greater than the largest calibration standard. These results should be considered qualitatively and quantitatively reliable, even though the laboratory protocol requires sample dilution for results reported over the calibration range. The sample results were qualified during the data validation according to the professional judgment of the reviewer; these results are well documented in the validation reports.

For inorganic analysis, ICP serial dilutions were evaluated. ICP serial dilution analysis evaluated if matrix interference existed and if the accuracy of the analytical data was affected. The criterion for acceptability is a %D of less than 10 percent when the results of a five-fold dilution are compared with the results from the undiluted sample. This criterion applies only

when the concentration of the element in the undiluted sample is at least 50 times that of the instrument detection limit.

Inorganic data affected by any of the previously mentioned criteria violations were qualified as “Jj” (indicating the results were estimated). Table F-13 summarizes the inorganic and organic analytical data qualified because of analytical or matrix performance criteria violations (“Jj” and “Rj”). Of all 2006 and 2007 analytical data from IR Site 34, 0.89 percent was qualified as estimated because of analytical or matrix performance violations. No 2006 or 2007 analytical results were rejected because of analytical or matrix performance violations. Organic data qualified as “Jj” were limited to RPD exceedances in the results reported between two columns used during pesticide analysis. Inorganic data qualified as “Jj” were estimated because of metals ICP serial dilutions that exceeded QC limits. The serial dilution problems are attributed to matrix interference rather than analytical performance issues.

### **F3.7 RESULTS BELOW THE CONTRACT-REQUIRED QUANTITATION AND DETECTION LIMITS**

For organic analyses, the analytical instruments can make reliable qualitative identification of chemicals at concentrations below the CRQL. For CLP metals analysis, the ICP can make reliable qualitative identification of chemicals above the instrument detection limit but below the CRDL. Detected results below the CRQL and CRDL are considered quantitatively uncertain. Sample results below the CRQL and CRDL were reported by the laboratory with a “J” qualifier (for organic data) or a “B” qualifier (for inorganic data) and were subsequently qualified during the data validation process as “Jg” (indicating the results were estimated). Table F-14 summarizes data qualified as estimated because of results reported below the CRQL and CRDL. Of all 2006 and 2007 analytical data from IR Site 34, 4.33 percent was qualified as estimated because of detected results reported below the CRQL or CRDL.

### **F4.0 FULL REVIEW**

A full review was conducted on a random 10 percent of 2006 and 2007 chemical data for IR Site 34. Full review includes all the elements of a cursory review (see Section F3.0), plus the following additional items, as applicable:

- Method compliance, instrument performance check samples, cleanup performance, system performance check samples, system performance, ICP interference check samples, and overall assessment of the data
- Target chemical identification
- Chemical quantitation
- Detection and quantitation limit verification

Criteria for data qualification during the full review are listed in the EPA guidelines (EPA 1999, 2004), the RI Work Plan (SulTech 2006), and associated analytical methods. Sections F4.1 through F4.4 discuss the full review components and the results of each specific assessment.

#### **F4.1 ADDITIONAL ANALYTICAL AND MATRIX PERFORMANCE**

In addition to cursory review data quality requirements (see Section F3.0), full review includes additional verification of the data relative to the established QA and QC criteria. The additional full review requirements are primarily related to analytical and matrix performance. For organic analyses, the following requirements were evaluated, as applicable: instrument performance check samples and cleanup performance check samples for florisil cartridges and gel-permeation chromatography (GPC), as applicable to SVOCs, pesticides, PCBs, and TPH-extractables. Organic performance requirements are listed in Table F-11.

For VOCs and SVOCs analyses, GC/MS instrument performance check samples were analyzed to confirm mass resolution, identification, and, to some degree, sensitivity. Specifically, minimum and maximum ion abundance requirements must be met for decafluorotriphenylphosphine. Gas chromatography and electron capture detector instrument performance check samples (for pesticides and PCBs) were analyzed to verify adequate resolution and instrument sensitivity. Analytical requirements for the target chemicals and surrogates include the criteria for RPD (between the true and actual values), chromatographic resolution, and percent breakdown for 4,4'-dichlorodiphenyltrichlorethane and endrin (EPA 1996, 1999).

For SVOCs, pesticides, PCBs, and TPH-e analyses, cleanup check samples were analyzed to verify the recovery of the target chemicals through the cleanup processes. The GPC cleanup process removes matrix interferences from sample extracts before analysis. A blank spike is run through the GPC column, and the %R is calculated to check these processes. GPC is checked weekly (EPA 1996, 1999).

For inorganic analyses, the following requirements were evaluated, where applicable: ICP interference check samples, graphite furnace atomic absorption (GFAA) duplicate injections, GFAA analytical spikes, and GFAA method of standard additions. The ICP interference check sample verifies the validity of the laboratory's interelement and background correction factors. High concentrations of aluminum, iron, calcium, and magnesium can affect sample results if the interelement and background correction factors have not been optimized. Incorrect correction factors may result in false positives, false negatives, or biased results. GFAA duplicate injections and GFAA analytical spikes establish the precision and accuracy of the individual analytical determinations. Method of standard additions is used in instances where the GFAA analytical spike did not meet the required QC limits and the initial concentration of the target chemical is greater than 50 percent of the spike concentration. A linear curve is prepared using three injections of the sample plus increasing concentrations of spikes: 50 percent, 100 percent, and 150 percent of the sample's concentration. The absolute value of the x-intercept of the curve is reported as the sample concentration (EPA 1996).

In general, data affected by any of the previously mentioned criteria violations were qualified as "Jj" (indicating that the results were estimated). These data are included in Table F-13.

#### **F4.2 CHEMICAL IDENTIFICATION**

Qualitative criteria for chemical identification have been established to minimize erroneous identification of chemicals. An erroneous identification can be either a false positive (reporting a chemical present when it is not) or a false negative (not reporting a chemical that is present). For VOCs and SVOCs analyses, identification was achieved by comparing the sample's mass spectra and retention time to the standard's mass spectra and retention time. For positive identification, the chemical's mass spectra must contain all the standard's ions with relative intensities greater than 10 percent and agree within plus or minus 20 percent of the standard ion's relative intensities. In addition, the mass spectra must not contain any unaccounted ions with relative intensities greater than 10 percent. Moreover, the retention time must be within plus or minus 0.06 relative retention time units of the standard component's retention time (EPA 1996, 1999).

For pesticides, PCBs, and herbicides analyses, positive identification was made when a peak fell within the specified retention time "windows" on two dissimilar columns. Surrogates and MS/MSDs also were strictly evaluated to identify any retention time shifts. An RPD value between the two columns was calculated to verify quantitative agreement. Detected results with RPDs greater than 50 percent were qualified as "Jj" (indicating the results were estimated). Misidentified results below the CRQL were raised to the quantitation limit and considered nondetected. In some cases, professional judgment was used in qualifying the result as estimated ("Jj") or nondetected ("UJj"). Any such decisions were clearly identified and documented in the data validation reports.

For TPH-p and TPH-e, positive identification was made when a response was recorded in the appropriate retention time windows for the particular analysis. For TPH-p and TPH-e, a more definitive fingerprinting of the chromatographic peaks for the type of petroleum product was used to identify fuels. When the chromatographic peaks displayed a petroleum fuel product, such as gasoline, diesel, or motor oil, the data were qualified as "Y," indicating the results were a petroleum fuel. When a single peak or pattern was detected that did not resemble typical fuel patterns, the data were qualified as "Z." Additionally, the following qualifiers were used to identify the particular petroleum product results:

- "D," indicating a pattern resembling diesel
- "M," indicating a pattern resembling motor oil
- "G," indicating a pattern resembling gasoline

- “L,” indicating a pattern in the lighter hydrocarbon end of the chemical’s range in the standard
- “H,” indicating a pattern in the heavier hydrocarbon end of the chemical’s range in the standard

When a single peak or patterns were detected that did not resemble typical fuel patterns, the data were qualified as “Z,” indicating the results did not represent a typical fuel.

For TPH-e, diesel- and motor oil-ranges overlap. When both are present in a sample, a line is drawn between the two petroleum pattern baselines to perform quantitation. The area of each pattern is then quantitated for the particular fuel that it best represents.

For metals, hexavalent chromium, and TDS analyses, positive identification was made when the instrument registered a measurable response while operating under the method-specified analytical parameters. In these cases, the instrument’s accuracy in chemical identification is indirectly verified by assessing the instrument’s performance.

Table F-13 summarizes the analytical data qualified because of chemical identification violations (“Jj” and “UJj”) and analytical and matrix performance violations for inorganic and organic methods (see Section F3.6).

#### **F4.3 CHEMICAL QUANTITATION**

All applicable raw data were reviewed to verify positive results and the reported detection or quantitation limits. A minimum of 10 percent of the calculations were evaluated and recalculated for reproducibility. Raw data reviewed included the following sources, as applicable: extraction and preparation logbooks, cleanup logbooks, spike and standard preparation logbooks, instrument printouts, strip chart recordings, chromatograms, and quantitation reports. The following data sources also were evaluated, as applicable: sample dilutions, concentrations, analytical split samples, cleanup activities, and percent moisture. Review of the raw data showed that the chemical analytical results from 2006 and 2007 for IR Site 34 were properly quantitated.

#### **F4.4 CHEMICAL REPORTING LIMITS**

Chemical reporting limits are directly affected by dilutions and percent moisture. All soil sample results were reported with detection or quantitation limits slightly raised after correction for percent moisture. In addition, detection or quantitation limits for both soil and water samples were raised by the dilution factor when samples required dilution for analysis. Sample dilution was necessary when high levels of a chemical were present or when matrix problems occurred during sample extraction or analysis.

Review of this investigation chemical data set identified several soil samples for organic analyses requiring dilutions necessary to quantify chemicals within the calibration range of the analysis. Necessary sample dilutions increased the average soil sample quantitation limits above the reporting limit goals for metals, VOCs, SVOCs, PAHs, and pesticides, as well as SVOCs in water samples. Because these samples contained higher concentrations of chemicals, dilutions were necessary to quantitate chemical results; therefore, the data were not compromised by increased detection limits. Most of the other soil and water results did not require dilution for chemical quantitation; therefore, very few reporting detection or quantitation limits were raised for these analyses. Table F-15 summarizes the average reporting limits for this investigation and lists the reporting limits established in the RI Work Plan by matrix (SulTech 2006).

## **F5.0 EVALUATION SUMMARY**

PARCC parameters were reviewed to validate all analytical data. This section discusses the overall data quality, including the PARCC parameters, as determined by the data validation.

### **F5.1 PRECISION**

Precision is a measure of the reproducibility of an experimental value without regard to the true or reference value. The primary indicators of data precision were the RPDs between the MSs and the MSDs in organic analyses, and the RPDs between the samples and the sample duplicates in inorganic analyses. The following list summarizes the precision of the 2006 and 2007 data for IR Site 34:

- All organic MS/MSD and LCS/LCS duplicate RPDs were within QA and QC acceptance criteria, indicating that the methods were consistently sound.
- Sample and sample duplicate RPDs for metals and TDS analyses were within the QA and QC criteria for water samples. Sample and sample duplicate RPDs for hexavalent chromium were within the QA and QC criteria for soil samples. Five metals were qualified as estimated because sample duplicate RPD criteria were exceeded; however, because of the heterogeneity of soil samples and debris field samples these exceedances are not considered to have an affect on the data quality.

### **F5.2 ACCURACY**

Accuracy assesses the proximity of an experimental value to the true or reference value. The primary accuracy indicators were the recoveries of surrogate spikes, MS, and LCS spikes. The following list summarizes the accuracy of the 2006 and 2007 data for IR Site 34:

- For VOC, SVOC, PAH, herbicide, and TPH-e analyses, the surrogate spike recoveries were within QA and QC criteria. Several soil PCB and TPH-p samples were qualified as estimated because of surrogate recovery exceedances. Several groundwater pesticide, PCB, and TPH-p samples also were qualified as estimated because of surrogate recovery exceedances. The nondetected chemicals in one pesticide sample were rejected because of surrogate spike recovery violations. Only one sample was rejected for surrogate recovery exceedances, indicating the organic analyses were consistently precise.
- For VOC, PCB, pesticide, herbicide, TPH-p, and TPH-e analyses, the MS and LCS spike recoveries were within QA and QC criteria. One soil PAH sample was qualified as estimated because of MS recovery exceedances and one groundwater SVOC sample, 1-nitrophenol, was qualified as estimated because of MS recovery exceedances. Organic data were not rejected based on MS or LCS spike recovery violations, indicating the organic analyses were consistently precise.
- For inorganic analyses, several metals and TDS samples were qualified as estimated for MS or LCS spike recovery exceedances; the LCS spike and MS recoveries were generally within QA and QC criteria, indicating these methods were accurate. No inorganic data were rejected based on accuracy violations.

### **F5.3 REPRESENTATIVENESS**

Representativeness refers to the ability of sample data to reflect true environmental conditions. Determinants of representativeness include sampling locations, frequency, collection procedures, and possible compromises to sample integrity (such as cross-contamination) that can occur during collection, transport, and analysis of samples. Selection of representative sampling locations is important for obtaining samples that accurately show site conditions. Correct sample collection, transport, and analytical procedures are important to ensure the samples closely resemble the medium sampled and to minimize contamination.

For 2006 and 2007 sampling activities at IR Site 34, the sampling locations, frequency, and collection protocols were described in the RI Work Plan (SulTech 2006). The protocols followed standard accepted methods of site characterization and were approved by the regulatory agencies. Thus, with respect to accepted site characterization approaches, existing guidance, and regulatory compliance, the 2006 and 2007 sampling activities at IR Site 34 met all relevant requirements for data representativeness.

### **F5.4 COMPLETENESS**

Completeness is defined as the percentage of analytical results considered valid. Valid data are those identified as acceptable or qualified as estimated (J) during the data validation process. Data qualified as rejected (R) are considered unusable and not valid. For 2006 and 2007 data for

IR Site 34, only the nondetected results in one pesticide sample (0.12 percent of the data) was qualified as rejected during the cursory or full data validation review.

The assessment of completeness consisted of comparing the amount of acceptable and usable results with the total number of results. The data evaluated in this appendix indicate a completeness of 99.9 percent. The completeness goal of 90 percent for field samples and laboratory samples established in the RI Work Plan (SulTech 2006) was exceeded.

## **F5.5 COMPARABILITY**

Comparability is a qualitative assessment of how well one data set compares to another. The important determinants of comparability include the uniformity of sampling activities, analytical procedures, data reporting, and data validation. The use of EPA protocols, specific and well-documented analyses, approved laboratories, and the standardized process of data review and validation give the IR Site 34 data a high degree of analytical comparability. The use of well-established analytical protocols ensures the data are comparable.

## **F6.0 CONCLUSIONS FOR DATA QUALITY AND DATA USABILITY**

Although some qualifiers were added to the data, a final review of the data set with respect to the EPA data quality parameters (see Section F5.0) indicated the data are of high overall quality. The data meet all the requirements of the PARCC data quality indicators described in EPA guidance for quality assurance project plans (EPA 2002) and are usable for risk assessment. The overall assessment of the sampling program, QA and QC data, data review, and data validation results (see Sections F3.0 and F4.0) indicates that these investigation data are of acceptable PARCC. All supporting documentation and data are available upon request, including cursory and full validation reports and the database containing all sample results.

The EPA Risk Assessment Guidance for Superfund (RAGS) was used to determine the usability of the validated data (EPA 1989). Exhibit 5-5 in RAGS states that data qualified as estimated (J) based on data validation reports should be used in quantitative risk assessments. Although this guidance is specifically for human health risk assessments, the same usability criteria were used for all IR Site 34 data. Except for nondetected results in one pesticide groundwater sample that were qualified as rejected (R), all remaining data were appropriate for use in the RI Report for IR Site 34 and corresponding risk assessment.

## F7.0 REFERENCES

- Bechtel Environmental, Inc. 2003. "Draft Site Inspection Report Transfer Parcels PBC-1A and EDC-3, Alameda Point, Alameda, California" March.
- Environmental Management Resource-West, Inc. 1994. "Final Environmental Baseline Survey/Community Environmental Response Facilitation Act Report for NAS/NADEP Alameda." October 31.
- IT Corporation (IT Corp.). 1999. "As-Built Report, Removal of Fuel Lines and Underground Storage Tanks, Alameda Point, Alameda, California." Draft. December.
- IT Corp. 2001. "Final Environmental Baseline Survey Data Evaluation Summaries, Alameda Point, Alameda, California." Final. January.
- State of California. 1989. "Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure." Prepared by the Leaking Underground Fuel Tank Task Force. October.
- SulTech. 2006. "Remedial Investigation Work Plan, Installation Restoration Site 34, Alameda Point, Alameda, California." Final. January.
- Tetra Tech EM Inc. 2001. "Data Validation Statement of Work." August 1.
- U.S. Environmental Protection Agency (EPA). 1983. "Methods for Chemical Analysis of Water and Wastes." March. Available Online at:  
<http://yosemite.epa.gov/water/owrcatalog.nsf/1ffc8769fdecb48085256ad3006f39fa/f995d73aff8660085256b0600724015!OpenDocument>
- EPA. 1989. "Risk Assessment Guidance for Superfund. Volume I. Human Health Evaluation Manual, Part A." Interim Final. Office of Emergency and Remedial Response. EPA/540/1-89/002. December. Available Online at:  
<http://www.p2pays.org/ref/13/12026/> Guidance was supplemented by:  
<http://www.epa.gov/oswer/riskassessment/pdf/OSWERdirective9285.6-03.pdf>
- EPA. 1996. "Test Methods for Evaluating Solid Waste." Third Edition SW-846, as updated by Updates I, II, IIA, IIB, and III." December. Available Online at:  
<http://www.epa.gov/sw-846/main.htm>
- EPA. 2002. "Guidance for Quality Assurance Project Plans, EPA QA/G-5." EPA/240/R-02/009. December. Available Online at: <http://www.epa.gov/QUALITY/qs-docs/g5-final.pdf>
- EPA. 1999. "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review." EPA540/R-99-008 (PB99-963506). October. Available Online at:  
<http://www.epa.gov/superfund/programs/clp/download/fgorg.pdf>

EPA. 2004. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review." EPA-540-R-04-004. October. Available Online at: <http://www.epa.gov/superfund/programs/clp/download/inorgfg10-08-04.pdf>

**TABLES**

---

**TABLE F-1: ANALYTICAL METHODS, SAMPLE HOLDING TIMES AND CONTAINERS, AND PRESERVATION REQUIREMENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Parameter	Analytical Method (Ref.)/Technique	Matrix	Holding Time	Container	Preservation
Volatile Organic Compounds	EPA 8260B (EPA 1996)/GC/MS	Water	14 days; 7 days (for unpreserved)	Three × 40-mL vials with Teflon-lined septa caps	Cool to 4 °C ± 2 °C, HCl to pH<2
		Soil	48 hours (until preserved)	5 gram Encore™ Samplers	Cool to 4 °C ± 2 °C
Semivolatile Organic Compounds and PAHs	EPA 8270C (EPA 1996)/GC/MS with Selective Ion Monitoring	Water	7 days to extraction 40 days to analysis	Two 1-L amber glass jars with Teflon-lined lids	Cool to 4 °C ± 2 °C
		Soil	14 days to extraction 40 days to analysis	Glass jars with Teflon-lined lids or brass/acetate sleeves <sup>a</sup>	Cool to 4 °C ± 2 °C
Pesticides, PCBs, and Herbicides	EPA 8081A, 8082, and 8151A (EPA 1996)/GC/ECD	Water	7 days to extraction 40 days to analysis	Two 1-L amber glass jars with Teflon-lined lids	Cool to 4 °C ± 2 °C
		Soil	14 days to extraction 40 days to analysis	Glass jars with Teflon-lined lids or brass/acetate sleeves <sup>a</sup>	Cool to 4 °C ± 2 °C
TPH-p	EPA 8015A (EPA 1996)/LUFT Field Manual (State of California 1989)/GC/FID	Water	14 days	Three 40-mL vials with Teflon-lined septa caps	Cool to 4 °C ± 2 °C, HCl to pH<2
	EPA 5035/8015A and LUFT Field Manual (State of California 1989)/GC/FID	Soil	48 hours	Three EnCore™ Samplers	Cool to 4 °C ± 2 °C
TPH-e	EPA 8015 (EPA 1996)/LUFT Field Manual (State of California 1989)/GC/FID	Water	7 days to extraction 40 days to analysis	Two 1-L amber glass jars with Teflon-lined lids	Cool to 4 °C ± 2 °C
		Soil	14 days to extraction 40 days to analysis	Glass jars with Teflon-lined lids or brass/acetate sleeves <sup>a</sup>	Cool to 4 °C ± 2 °C
Metals	EPA 6010B and 7471A (EPA 1996)/ICPES, GFAA, and CVAA	Water	28 days for mercury 6 months for others	One 1-L polyethylene	HNO <sub>3</sub> to pH<2
		Soil	28 days for mercury 6 months for others	Glass jars with Teflon-lined lids or brass/acetate sleeves <sup>a</sup>	None
Hexavalent Chromium	EPA 7196A (EPA 1996)/Colormetric	Soil	3 days to extraction 24 hours to analysis	Glass jars with Teflon-lined lids or brass/acetate sleeves <sup>a</sup>	None
TDS	MCAWW 160.1 (EPA 1983)/Gravimetric	Water	7 days	One 1-L polyethylene	None

## TABLE F-1: ANALYTICAL METHODS, SAMPLE HOLDING TIMES AND CONTAINERS, AND PRESERVATION REQUIREMENTS (CONTINUED)

Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

### Notes:

a	When soil samples were collected in sleeves, the ends were covered with Teflon liners and hard plastic caps.
CVAA	Cold vapor atomic absorption
EPA	U.S. Environmental Protection Agency
GC/ECD	Gas chromatography/electron capture detector
GC/FID	Gas chromatography/flame ionization detector
GC/MS	Gas chromatography/mass spectroscopy
GFAA	Graphite furnace atomic absorption
HCl	Hydrochloric acid
HNO <sub>3</sub>	Nitric acid
ICPES	Inductively coupled plasma emission spectroscopy
L	Liter
LUFT	Leaking underground fuel tank
MCAWW	Methods for the Chemical Analysis of Water and Wastes
mL	Milliliter
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
TDS	Total dissolved solids
TPH-e	TPH-as-extractables
TPH-p	TPH-as-purgeables

### Sources:

- State of California. 1989. "LUFT Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure." LUFT Task Force. October.
- EPA. 1983. "Methods for Chemical Analysis of Water and Wastes." March. Available Online at: <http://yosemite.epa.gov/water/owrcatalog.nsf/1ffc8769fdecb48085256ad3006f39fa/f995d73aff86600085256b0600724015!OpenDocument>
- EPA. 1996. "Test Methods for Evaluating Solid Waste, Third Edition SW-846." Available Online at: <http://www.epa.gov/sw-846/main.htm>

**TABLE F-2: HOLDING TIME REQUIREMENTS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analysis	Matrix	Holding Time <sup>a</sup> Requirement	Data Qualified as Estimated (Jh)	Data Qualified as Estimated (Jh) and Nondetected Data Qualified as Rejected (Rh)
VOCs and TPH-p	Water	Analysis in 14 days	Exceeded by $\leq$ 14 days	Exceeded by > 14 days
	Soil	Analysis in 48 hours Analysis in 7 days (if preserved)	Exceeded by $\leq$ 7 days	Exceeded by > 7 days
VOCs and TPH-p	Unpreserved water	Analysis in 7 days	Exceeded by $\leq$ 7 days	Exceeded by > 7 days
Semivolatile Organic Compounds, PAHs, Pesticides, PCBs, Herbicides, and TPH-e	Water	Extraction in 7 days Analysis in 40 days	Exceeded by $\leq$ 7 days (E) Exceeded by $\leq$ 40 days (A)	Exceeded by > 17 days (E) Exceeded by > 40 days (A)
	Soil	Extraction in 14 days Analysis in 40 days	Exceeded by $\leq$ 14 days (E) Exceeded by $\leq$ 40 days (A)	Exceeded by > 14 days (E) Exceeded by > 40 days (A)
Metals	Water or Soil	Analysis in 28 days for Hg Analysis in 6 months (all others)	Exceeded by $\leq$ 28 days for Hg Exceeded by $\leq$ 6 months (all others)	Exceeded by > 28 days for Hg Exceeded by > 6 months (all others)
Hexavalent Chromium	Soil	Extraction in 3 days Analysis in 24 hours	Exceeded by $\leq$ 7 days	Exceeded by > 7 days
TDS	Water	Analysis in 7 days	Exceeded by $\leq$ 7 days	Exceeded by > 7 days

## Notes:

a Holding times are specified from the date of sample collection.

A Analysis

E Extraction

Hg Mercury

Jh Qualified as estimated because of holding time violations

PAH Polycyclic aromatic hydrocarbon

PCB Polychlorinated biphenyl

Rh Qualified as rejected because of holding time violations

TDS Total dissolved solids

TPH Total petroleum hydrocarbons

TPH-e TPH-as-extractables

TPH-p TPH-as-purgeables

VOC Volatile organic compound

Source:

Title 40 of the Code of Federal Regulations Part 136

**TABLE F-3: DATA QUALIFICATION: HOLDING TIME VIOLATIONS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Jh"	Number (percent) of Analytes Rejected As "Rh"
<b>PESTICIDES/PCBS</b>				
4,4'-DDD	SOIL	79	1	0
4,4'-DDE	SOIL	79	1	0
4,4'-DDT	SOIL	79	1	0
ALDRIN	SOIL	79	1	0
ALPHA-BHC	SOIL	79	1	0
ALPHA-CHLORDANE	SOIL	79	1	0
BETA-BHC	SOIL	79	1	0
DELTA-BHC	SOIL	79	1	0
DIELDRIN	SOIL	79	1	0
ENDOSULFAN I	SOIL	79	1	0
ENDOSULFAN II	SOIL	79	1	0
ENDOSULFAN SULFATE	SOIL	79	1	0
ENDRIN	SOIL	79	1	0
ENDRIN ALDEHYDE	SOIL	79	1	0
ENDRIN KETONE	SOIL	79	1	0
GAMMA-BHC (LINDANE)	SOIL	79	1	0
GAMMA-CHLORDANE	SOIL	79	1	0
HEPTACHLOR	SOIL	79	1	0
HEPTACHLOR EPOXIDE	SOIL	79	1	0
METHOXYCHLOR	SOIL	79	1	0
TECHNICAL CHLORDANE	SOIL	79	1	0
TOXAPHENE	SOIL	79	1	0
<b>Total</b>		<b>1,738</b>	<b>22 (1.27%)</b>	<b>0 (0.00%)</b>
<b>POLYCHLORINATED BIPHENYLS</b>				
AROCLOR-1016	SOIL	127	1	0
AROCLOR-1221	SOIL	127	1	0
AROCLOR-1232	SOIL	127	1	0
AROCLOR-1242	SOIL	127	1	0
AROCLOR-1248	SOIL	127	1	0
AROCLOR-1254	SOIL	127	1	0
AROCLOR-1260	SOIL	127	1	0
AROCLOR-1268	SOIL	127	1	0
<b>Total</b>		<b>1,016</b>	<b>8 (0.79%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - SOIL</b>		<b>8,830</b>	<b>30 (0.34%)</b>	<b>0 (0.00%)</b>
<b>TPH EXTRACTABLES (DIESEL)</b>				
DIESEL RANGE ORGANICS	WATER	29	5	0
MOTOR OIL RANGE ORGANICS	WATER	29	5	0
<b>Total</b>		<b>58</b>	<b>10 (17.24%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - WATER</b>		<b>5,807</b>	<b>10 (0.17%)</b>	<b>0 (0.00%)</b>

**TABLE F-3: DATA QUALIFICATION: HOLDING TIME VIOLATIONS (Continued)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Jh"	Number (percent) of Analytes Rejected As "Rh"
<b>Full Summary - All Matrices</b>		14,637	40 (0.27%)	0 (0.00%)

Notes:

- Jh Qualified as estimated because of holding time violations
- PCB Polychlorinated biphenyls
- Rh Qualified as rejected because of holding time violations

**TABLE F-4: CALIBRATION REQUIREMENTS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analysis	Calibration Requirements	Detected Data Qualified as Estimated (Jc)	Nondetected Data Qualified as Estimated (Jc)	Detected Data Qualified as Estimated (Jc) and Nondetected Data Qualified as Rejected (Rc.)
Volatile Organic and Semivolatile Organic Compounds	IC: %RSD $\leq$ 30.0% CC: %D $\leq$ $\pm$ 25.0%	IC: %RSD > 30.0% CC: %D > $\pm$ 25.0%	IC: %RSD > 30.0 % CC: %D > 25.0%	RRF < 0.05
PAHs	IC: %RSD $\leq$ 15.0% CC: %D $\leq$ $\pm$ 20.0%	IC: %RSD > 15.0% CC: %D > $\pm$ 20.0%	IC: %RSD > 15.0 % CC: %D > 20.0%	RRF < 0.05
Pesticides, PCBs, and Herbicides	IC <sup>a</sup> : %RSD $\leq$ 20.0% PEM/CC: %D $\leq$ $\pm$ 25.0%	IC <sup>a</sup> : %RSD > 20.0% PEM/CC: %D $\geq$ $\pm$ 25.0%	IC <sup>a</sup> : %RSD > 20.0% PEM/CC: %D > 25.0%	NA
Metals	IC: r $\geq$ 0.995 ICV/CCV: 90-110%	IC: r < 0.995 ICV/CCV: >110% ICV/CCV: <90%	IC: < 0.995 ICV/CCV: < 90%	NA
Mercury and Hexavalent Chromium	IC: r $\geq$ 0.995 ICV/CCV: 80-120%	IC: r < 0.995 ICV/CCV: >120% ICV/CCV: <80%	IC: < 0.995 ICV/CCV: < 80%	NA
TPH-p and TPH-e	IC: %RSD $\leq$ 20.0% CC: %D $\leq$ $\pm$ 15.0%	IC: %RSD > 20.0% CC: %D > $\pm$ 15.0%	IC: %RSD > 20.0% CC: %D > $\pm$ 15.0%	NA
TDS	1 gram $\pm$ 0.01 grams 50 grams $\pm$ 0.05 grams	1 gram $\geq$ 0.01 grams 50 grams $\geq$ 0.05 grams	NA	NA

Notes:

a IC criteria apply to single peak pesticides only.

%D	Percent difference	Jc	Qualified as estimated because of calibration violations	Rc	Qualified as rejected because of calibration violations
%RSD	Percent relative standard deviation	NA	No calibration criteria were used for the rejection of data verification	RRF	Relative response factor
CC	Continuing calibration	PAH	Polycyclic aromatic hydrocarbon	TDS	Total dissolved solids
CCV	Continuing calibration verification	PCB	Polychlorinated biphenyl	TPH	Total petroleum hydrocarbons
IC	Initial calibration	PEM	Performance evaluation mixture	TPH-e	TPH as extractables
ICV	Initial calibration verification	r	Correlation coefficient	TPH-p	TPH as purgeables

Sources:

EPA. 1983. "Methods for Chemical Analysis of Water and Wastes." March. Available Online at: <http://yosemite.epa.gov/water/owrcatalog.nsf/1ffc8769fdecb48085256ad3006f39fa/f995d73aff86600085256b0600724015!OpenDocument>

EPA. 1996. "Test Methods for Evaluating Solid Waste, Third Edition SW-846." Available Online at: <http://www.epa.gov/sw-846/main.htm>

**TABLE F-5: DATA QUALIFICATION: CALIBRATION VIOLATIONS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Jc"	Number (percent) of Analytes Rejected As "Rc"
<b>METALS (TOTAL)</b>				
ARSENIC	SOIL	72	1	0
NICKEL	SOIL	72	1	0
<b>Total</b>		<b>1,664</b>	<b>2 (0.12%)</b>	<b>0 (0.00%)</b>
<b>PESTICIDES/PCBS</b>				
4,4'-DDD	SOIL	79	15	0
4,4'-DDE	SOIL	79	2	0
4,4'-DDT	SOIL	79	5	0
ALDRIN	SOIL	79	2	0
ALPHA-CHLORDANE	SOIL	79	2	0
BETA-BHC	SOIL	79	2	0
DELTA-BHC	SOIL	79	2	0
DIELDRIN	SOIL	79	12	0
ENDRIN	SOIL	79	27	0
ENDRIN KETONE	SOIL	79	15	0
GAMMA-CHLORDANE	SOIL	79	2	0
HEPTACHLOR	SOIL	79	25	0
HEPTACHLOR EPOXIDE	SOIL	79	2	0
METHOXYCHLOR	SOIL	79	28	0
<b>Total</b>		<b>1,738</b>	<b>141 (8.11%)</b>	<b>0 (0.00%)</b>
<b>POLYCHLORINATED BIPHENYLS</b>				
AROCLOR-1016	SOIL	127	3	0
AROCLOR-1254	SOIL	127	5	0
AROCLOR-1260	SOIL	127	3	0
<b>Total</b>		<b>1,016</b>	<b>11 (1.08%)</b>	<b>0 (0.00%)</b>
<b>POLYCYCLIC AROMATIC HYDROCARBONS (LOW-LEVEL)</b>				
ACENAPHTHYLENE	SOIL	37	6	0
BENZO(K)FLUORANTHENE	SOIL	37	1	0
<b>Total</b>		<b>629</b>	<b>7 (1.11%)</b>	<b>0 (0.00%)</b>
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>				
2,4-DINITROPHENOL	SOIL	22	3	0
2-NITROANILINE	SOIL	22	1	0
4-NITROPHENOL	SOIL	22	2	0
BENZOIC ACID	SOIL	22	1	0
DIBENZO(A,H)ANTHRACENE	SOIL	22	3	0
INDENO(1,2,3-CD)PYRENE	SOIL	22	3	0
<b>Total</b>		<b>1,430</b>	<b>13 (0.91%)</b>	<b>0 (0.00%)</b>

**TABLE F-5: DATA QUALIFICATION: CALIBRATION VIOLATIONS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Jc"	Number (percent) of Analytes Rejected As "Rc"
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>				
ACETONE	SOIL	32	9	0
DICHLORODIFLUOROMETHANE	SOIL	32	3	0
<b>Total</b>		<b>2,048</b>	<b>12 (0.59%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - SOIL</b>		<b>8,830</b>	<b>186 (2.11%)</b>	<b>0 (0.00%)</b>
<b>METALS (TOTAL)</b>				
ALUMINUM	WATER	10	5	0
MAGNESIUM	WATER	10	5	0
POTASSIUM	WATER	10	5	0
SODIUM	WATER	8	3	0
<b>Total</b>		<b>238</b>	<b>18 (7.56%)</b>	<b>0 (0.00%)</b>
<b>PESTICIDES/PCBS</b>				
4,4'-DDT	WATER	29	5	0
ALPHA-BHC	WATER	29	1	0
GAMMA-BHC (LINDANE)	WATER	29	5	0
<b>Total</b>		<b>580</b>	<b>11 (1.90%)</b>	<b>0 (0.00%)</b>
<b>POLYCHLORINATED BIPHENYLS</b>				
AROCLOR-1221	WATER	28	9	0
<b>Total</b>		<b>219</b>	<b>9 (4.11%)</b>	<b>0 (0.00%)</b>
<b>POLYCYCLIC AROMATIC HYDROCARBONS (LOW-LEVEL)</b>				
BENZO(K)FLUORANTHENE	WATER	28	1	0
NAPHTHALENE	WATER	28	1	0
<b>Total</b>		<b>476</b>	<b>2 (0.42%)</b>	<b>0 (0.00%)</b>
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>				
2,2'-OXYBIS(2-CHLOROPROPANE)	WATER	29	1	0
2,4-DINITROPHENOL	WATER	29	2	0
2-METHYLNAPHTHALENE	WATER	29	1	0
2-NITROANILINE	WATER	29	4	0
4-NITROANILINE	WATER	29	1	0
4-NITROPHENOL	WATER	29	7	0
BENZO(G,H,I)PERYLENE	WATER	29	4	0
BENZOIC ACID	WATER	29	15	0
BIS(2-CHLOROETHYL)ETHER	WATER	29	1	0
DIBENZO(A,H)ANTHRACENE	WATER	29	1	0
INDENO(1,2,3-CD)PYRENE	WATER	29	5	0
N-NITROSODIPHENYLAMINE	WATER	29	1	0
NITROBENZENE	WATER	29	1	0

**TABLE F-5: DATA QUALIFICATION: CALIBRATION VIOLATIONS (Continued)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Jc"	Number (percent) of Analytes Rejected As "Rc"
<b>Total</b>		1,885	44 (2.33%)	0 (0.00%)
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>				
2,2-DICHLOROPROPANE	WATER	29	2	0
BROMOMETHANE	WATER	29	2	0
CHLOROMETHANE	WATER	29	4	0
DICHLORODIFLUOROMETHANE	WATER	29	9	0
HEXACHLOROBUTADIENE	WATER	29	6	0
NAPHTHALENE	WATER	29	6	0
TRICHLOROFLUOROMETHANE	WATER	29	8	0
<b>Total</b>		1,856	37 (1.99%)	0 (0.00%)
<b>Full Summary - WATER</b>		5,807	121 (2.08%)	0 (0.00%)
<b>Full Summary - All Matrices</b>		14,637	307 (2.10%)	0 (0.00%)

Notes:

- Jc Qualified as estimated because of calibration violations
- PCB Polychlorinated biphenyls
- rc Qualified as rejected because of calibration violations

**TABLE F-6: DATA QUALIFICATION: LABORATORY AND FIELD BLANK CONTAMINATION**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "UJb"	Number (percent) of Analytes Estimated As "UJf"
<b>METALS (TOTAL)</b>				
ANTIMONY	SOIL	72	9	0
LEAD	SOIL	72	1	0
MOLYBDENUM	SOIL	72	2	0
SELENIUM	SOIL	72	1	0
SODIUM	SOIL	64	7	0
THALLIUM	SOIL	72	12	0
<b>Total</b>		<b>1,664</b>	<b>32 (1.92%)</b>	<b>0 (0.00%)</b>
<b>PESTICIDES/PCBS</b>				
DELTA-BHC	SOIL	79	1	0
<b>Total</b>		<b>1,738</b>	<b>1 (0.06%)</b>	<b>0 (0.00%)</b>
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>				
BIS(2-ETHYLHEXYL)PHTHALATE	SOIL	22	2	0
DI-N-BUTYLPHthalate	SOIL	22	1	0
<b>Total</b>		<b>1,430</b>	<b>3 (0.21%)</b>	<b>0 (0.00%)</b>
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>				
2-BUTANONE	SOIL	32	4	0
ACETONE	SOIL	32	8	0
METHYLENE CHLORIDE	SOIL	32	5	0
<b>Total</b>		<b>2,048</b>	<b>17 (0.83%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - SOIL</b>		<b>8,830</b>	<b>53 (0.60%)</b>	<b>0 (0.00%)</b>
<b>METALS (DISSOLVED)</b>				
ALUMINUM	WATER	19	2	0
ANTIMONY	WATER	19	1	0
CHROMIUM	WATER	19	2	0
COPPER	WATER	19	6	0
SELENIUM	WATER	19	12	0
ZINC	WATER	19	1	0
<b>Total</b>		<b>456</b>	<b>24 (5.26%)</b>	<b>0 (0.00%)</b>
<b>METALS (TOTAL)</b>				
ALUMINUM	WATER	10	4	0
ANTIMONY	WATER	10	10	0
CADMIUM	WATER	10	1	0
CHROMIUM	WATER	10	8	0
COBALT	WATER	10	3	0
COPPER	WATER	10	6	0
IRON	WATER	10	3	0

**TABLE F-6: DATA QUALIFICATION: LABORATORY AND FIELD BLANK CONTAMINATION  
(Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "UJb"	Number (percent) of Analytes Estimated As "UJf"
<b>METALS (TOTAL)</b>				
LEAD	WATER	10	5	0
MOLYBDENUM	WATER	10	4	0
NICKEL	WATER	10	4	0
SELENIUM	WATER	10	3	0
VANADIUM	WATER	10	5	0
ZINC	WATER	10	5	0
<b>Total</b>		<b>238</b>	<b>61 (25.63%)</b>	<b>0 (0.00%)</b>
<b>PESTICIDES/PCBS</b>				
ENDOSULFAN I	WATER	29	0	5
GAMMA-BHC (LINDANE)	WATER	29	5	0
<b>Total</b>		<b>580</b>	<b>5 (0.86%)</b>	<b>5 (0.86%)</b>
<b>POLYCYCLIC AROMATIC HYDROCARBONS (LOW-LEVEL)</b>				
ACENAPHTHYLENE	WATER	28	1	0
NAPHTHALENE	WATER	28	3	2
PYRENE	WATER	28	1	0
<b>Total</b>		<b>476</b>	<b>5 (1.05%)</b>	<b>2 (0.42%)</b>
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>				
BIS(2-ETHYLHEXYL)PHTHALATE	WATER	29	16	0
DI-N-BUTYLPHTHALATE	WATER	29	1	0
<b>Total</b>		<b>1,885</b>	<b>17 (0.90%)</b>	<b>0 (0.00%)</b>
<b>TPH EXTRACTABLES (DIESEL)</b>				
DIESEL RANGE ORGANICS	WATER	29	1	0
<b>Total</b>		<b>58</b>	<b>1 (1.72%)</b>	<b>0 (0.00%)</b>
<b>TPH PURGEABLES (GASOLINE)</b>				
GASOLINE RANGE ORGANICS	WATER	29	21	0
<b>Total</b>		<b>29</b>	<b>21 (72.41%)</b>	<b>0 (0.00%)</b>
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>				
1,4-DICHLOROBENZENE	WATER	29	2	0
2-BUTANONE	WATER	29	16	0
ACETONE	WATER	29	28	0
BROMOFORM	WATER	29	1	0
CARBON DISULFIDE	WATER	29	0	1
METHYLENE CHLORIDE	WATER	29	11	0
<b>Total</b>		<b>1,856</b>	<b>58 (3.13%)</b>	<b>1 (0.05%)</b>

**TABLE F-6: DATA QUALIFICATION: LABORATORY AND FIELD BLANK CONTAMINATION  
(Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "UJb"	Number (percent) of Analytes Estimated As "UJf"
Full Summary - WATER		5,807	192 (3.31%)	8 (0.14%)
Full Summary - All Matrices		14,637	245 (1.67%)	8 (0.05%)

Notes:

PCB Polychlorinated biphenyls  
 UJb Results were nondetected and qualified as estimated because of laboratory contamination  
 UJf Results were nondetected and qualified as rejected because of laboratory contamination

**TABLE F-7: ACCURACY REQUIREMENTS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analytical Group	Matrix	Accuracy Requirements	Detected Data Qualified as Estimated (Ja)	Detected and Nondetected Data Qualified as Estimated (Ja)	Detected Data Qualified as Estimated (Ja) and Nondetected Data Qualified as Rejected (Ra)
Volatiles	Water	SMC1: 88-110%	SMC1: > 110%	SMC1: < 88%	Any SMC: < 10%
		SMC2: 86-115%	SMC2: > 115%	SMC2: < 86%	
		SMC3: 76-114%	SMC3: > 114%	SMC3: < 76%	
	Soil	SMC1: 84-138%	SMC1: > 138%	SMC1: < 84%	
		SMC2: 59-113%	SMC2: > 113%	SMC2: < 59%	
		SMC3: 70-121%	SMC3: > 121%	SMC3: < 70%	
Semivolatiles and PAHs (applicable SMCs)	Water	SMC1: 35-114%	SMC1: > 114%	SMC1: < 35%	Any SMC: < 10%
		SMC2: 43-116%	SMC2: > 116%	SMC2: < 43%	
		SMC3: 33-141%	SMC3: > 141%	SMC3: < 33%	
		SMC4: 10-110%	SMC4: > 110%	SMC4: < 10%	
		SMC5: 21-110%	SMC5: > 110%	SMC5: < 21%	
		SMC6: 10-123%	SMC6: > 123%	SMC6: < 10%	
		SMC7: 33-110%	SMC7: > 110%	SMC7: < 33%	
		SMC8: 16-110%	SMC8: > 110%	SMC8: < 16%	
	Soil	SMC1: 23-120%	SMC1: > 120%	SMC1: < 23%	
		SMC2: 30-115%	SMC2: > 115%	SMC2: < 30%	
		SMC3: 18-137%	SMC3: > 137%	SMC3: < 18%	
		SMC4: 24-113%	SMC4: > 113%	SMC4: < 24%	
		SMC5: 25-121%	SMC5: > 121%	SMC5: < 25%	
		SMC6: 19-122%	SMC6: > 122%	SMC6: < 19%	
Pesticides and PCBs	Soil or water	TCX: 30-150%	TCX or DCB: > 150% (two or more surrogates)	TCX or DCB: < 30% (two or more surrogates)	TCX or DCB: <10% (one or more surrogates)
		DCB: 30-150%			
Herbicides	Soil	DCAA: 30-150%	DCAA: > 150%	DCAA: < 30%	DCAA: < 10%
TPH-e	Soil or water	SMC: 60-140%	SMC: > 140%	SMC: < 60%	SMC: < 10%
TPH-p	Soil or water	SMC: 75-125%	SMC: > 125%	SMC: < 75%	SMC: < 10%

**TABLE F-7: ACCURACY REQUIREMENTS (CONTINUED)**

Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Notes:

DCAA	2,4-Dichlorophenylacetic acid
DCB	Dichlorobenzene
Ja	Qualified as estimated because of accuracy violations
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
Ra	Qualified as rejected because of accuracy violations
SMC	System monitoring compound
TCX	Tetrachloro-m-xylene
TPH	Total petroleum hydrocarbons
TPH-e	TPH as extractables
TPH-p	TPH as purgeables

Source:

EPA. 1996. "Test Methods for Evaluating Solid Waste, Third Edition SW-846." Available Online at: <http://www.epa.gov/sw-846/main.htm>



## TABLE F-8: DATA QUALIFICATION: SURROGATE RECOVERY VIOLATIONS

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Ja"	Number (percent) of Analytes Rejected As "Ra"
<b>POLYCHLORINATED BIPHENYLS</b>				
AROCLOR-1254	SOIL	127	5	0
AROCLOR-1260	SOIL	127	8	0
AROCLOR-1268	SOIL	127	4	0
<b>Total</b>		<b>1,016</b>	<b>17 (1.67%)</b>	<b>0 (0.00%)</b>
<b>TPH PURGEABLES (GASOLINE)</b>				
GASOLINE RANGE ORGANICS	SOIL	32	2	0
<b>Total</b>		<b>32</b>	<b>2 (6.25%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - SOIL</b>		<b>8,830</b>	<b>19 (0.22%)</b>	<b>0 (0.00%)</b>
<b>PESTICIDES/PCBS</b>				
4,4'-DDD	WATER	29	0	1
4,4'-DDE	WATER	29	0	1
4,4'-DDT	WATER	29	0	1
ALDRIN	WATER	29	1	0
ALPHA-BHC	WATER	29	0	1
ALPHA-CHLORDANE	WATER	29	0	1
BETA-BHC	WATER	29	0	1
DELTA-BHC	WATER	29	0	1
DIELDRIN	WATER	29	0	1
ENDOSULFAN I	WATER	29	1	0
ENDOSULFAN II	WATER	29	0	1
ENDOSULFAN SULFATE	WATER	29	0	1
ENDRIN	WATER	29	0	1
ENDRIN ALDEHYDE	WATER	29	0	1
ENDRIN KETONE	WATER	29	0	1
GAMMA-BHC (LINDANE)	WATER	29	1	0
GAMMA-CHLORDANE	WATER	29	0	1
HEPTACHLOR	WATER	29	0	1
HEPTACHLOR EPOXIDE	WATER	29	0	1
METHOXYCHLOR	WATER	29	0	1
<b>Total</b>		<b>580</b>	<b>3 (0.52%)</b>	<b>17 (2.93%)</b>
<b>POLYCHLORINATED BIPHENYLS</b>				
AROCLOR-1016	WATER	28	2	0
AROCLOR-1221	WATER	28	2	0
AROCLOR-1232	WATER	28	2	0
AROCLOR-1242	WATER	28	2	0
AROCLOR-1248	WATER	28	2	0
AROCLOR-1254	WATER	28	2	0
AROCLOR-1260	WATER	28	2	0

**TABLE F-8: DATA QUALIFICATION: SURROGATE RECOVERY VIOLATIONS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Ja"	Number (percent) of Analytes Rejected As "Ra"
<b>POLYCHLORINATED BIPHENYLS</b>				
AROCLOR-1268	WATER	23	2	0
<b>Total</b>		219	16 (7.31%)	0 (0.00%)
<b>TPH PURGEABLES (GASOLINE)</b>				
GASOLINE RANGE ORGANICS	WATER	29	1	0
<b>Total</b>		29	1 (3.45%)	0 (0.00%)
Full Summary - WATER		5,807	20 (0.34%)	17 (0.29%)
Full Summary - All Matrices		14,637	39 (0.27%)	17 (0.12%)

Notes:

- Ja Qualified as estimated because of surrogate recovery violations
- PCB Polychlorinated biphenyls
- Ra Qualified as rejected because of surrogate recovery violations

**TABLE F-9: DATA QUALIFICATION: ACCURACY VIOLATIONS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Je"	Number (percent) of Analytes Rejected As "Re"
<b>METALS (TOTAL)</b>				
ALUMINUM	SOIL	64	9	0
ANTIMONY	SOIL	72	61	0
ARSENIC	SOIL	72	17	0
BARIUM	SOIL	72	18	0
CALCIUM	SOIL	64	62	0
CHROMIUM	SOIL	72	14	0
COPPER	SOIL	72	8	0
MAGNESIUM	SOIL	64	33	0
MERCURY	SOIL	64	16	0
MOLYBDENUM	SOIL	72	26	0
NICKEL	SOIL	72	16	0
POTASSIUM	SOIL	64	22	0
SILVER	SOIL	72	18	0
VANADIUM	SOIL	72	18	0
ZINC	SOIL	72	2	0
<b>Total</b>		<b>1,664</b>	<b>340 (20.43%)</b>	<b>0 (0.00%)</b>
<b>POLYCYCLIC AROMATIC HYDROCARBONS (LOW-LEVEL)</b>				
ACENAPHTHENE	SOIL	37	1	0
ACENAPHTHYLENE	SOIL	37	1	0
ANTHRACENE	SOIL	37	1	0
BENZO(A)ANTHRACENE	SOIL	37	1	0
BENZO(B)FLUORANTHENE	SOIL	37	1	0
BENZO(G,H,I)PERYLENE	SOIL	37	1	0
BENZO(K)FLUORANTHENE	SOIL	37	1	0
CHRYSENE	SOIL	37	1	0
DIBENZO(A,H)ANTHRACENE	SOIL	37	1	0
FLUORENE	SOIL	37	1	0
INDENO(1,2,3-CD)PYRENE	SOIL	37	1	0
<b>Total</b>		<b>629</b>	<b>11 (1.75%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - SOIL</b>		<b>8,830</b>	<b>351 (3.98%)</b>	<b>0 (0.00%)</b>
<b>METALS (TOTAL)</b>				
THALLIUM	WATER	10	2	0
<b>Total</b>		<b>238</b>	<b>2 (0.84%)</b>	<b>0 (0.00%)</b>
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>				
4-NITROPHENOL	WATER	29	1	0
<b>Total</b>		<b>1,885</b>	<b>1 (0.05%)</b>	<b>0 (0.00%)</b>

**TABLE F-9: DATA QUALIFICATION: ACCURACY VIOLATIONS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Je"	Number (percent) of Analytes Rejected As "Re"
<b>TDS, TSS, TURBIDITY</b>				
TDS	WATER	10	5	0
<b>Total</b>		10	5 (50.00%)	0 (0.00%)
Full Summary - WATER		5,807	8 (0.14%)	0 (0.00%)
Full Summary - All Matrices		14,637	359 (2.45%)	0 (0.00%)

Notes:

- Je Qualified as estimated because of accuracy violations
- Re Qualified as rejected because of accuracy violations
- TDS Total dissolved solids
- TSS Total suspended solids

**TABLE F-10: DATA QUALIFICATION: LABORATORY PRECISION VIOLATIONS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Jd"	Number (percent) of Analytes Rejected As "Rd"
<b>METALS (TOTAL)</b>				
BARIUM	SOIL	72	18	0
CALCIUM	SOIL	64	12	0
MERCURY	SOIL	64	10	0
SILVER	SOIL	72	18	0
THALLIUM	SOIL	72	16	0
<b>Total</b>		1,664	74 (4.45%)	0 (0.00%)
Full Summary - SOIL		8,830	74 (0.84%)	0 (0.00%)
Full Summary - All Matrices		14,637	74 (0.51%)	0 (0.00%)

Notes:

Jd Qualified as estimated because of laboratory precision violations  
 Rd Qualified as rejected because of laboratory precision violations

**TABLE F-11: ANALYTICAL AND MATRIX PERFORMANCE REQUIREMENTS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analysis	Performance Requirements	Detected Data Qualified as Estimated (Ji or Jj)	Detected and Nondetected Data Qualified as Estimated (Ji or Jj)	Detected Data Qualified as Estimated (Ji or Jj) and Nondetected Data Qualified as Rejected (Ri or Rj)
Volatile Organic and Semivolatile Organic Compoundss	Sample IS: 50-150%	Sample IS: > 150%	Sample IS: < 50%	Sample IS: < 25%
	IPCS: meet all m/z criteria for volatiles <sup>a</sup> and for semivolatiles <sup>b</sup>	NA	Criteria met for critical abundances, but not for noncritical abundances <sup>a,b</sup>	Criteria not met for all critical abundances <sup>a,b</sup>
PAHs	Sample IS: 50-200%	Sample IS: >200%	Sample IS: <50%	Sample IS: <25%
Pesticides and PCBs	RCM and PEM: meet all criteria <sup>c</sup>	NA	PEM RPD: > ± 25%	RCM %res: <60% PEM %res: <100% PEM RT: > mRT ± 0.05 PEM %break: > 20% for each PEM %break: > 30% for both <sup>d</sup>
	GPC %R: 80-110% <sup>e</sup>	GPC %R: >110%	GPC %R: <80%	GPC %R: <10%
Metals	ICPES serial dilution: %D ≤ 10%	%D > 10% (Jj)	%D > 10% (Jj)	NA

Notes:

a Bromofluorobenzene (BFB)  
 m/z 50: 8.0-40.0% of m/z 95 \*  
 m/z 75: 30.0-66.0% of m/z 95 \*  
 m/z 95: Base peak, 100%  
 m/z 96: 5.0-9.0% of m/z 95  
 m/z 173: < 2.0% of m/z 174  
 m/z 174: 50.0-120.0% of m/z 95  
 m/z 175: 4.0-9.0% of m/z 174  
 m/z 176: 93.0-101.0% of m/z 174  
 m/z 177: 5.0-9.0% of m/z 176  
 \* noncritical abundances

b Decafluorotriphenylphosphine (DFTPP)  
 m/z 51: 30.0-80.0% of m/z 198 \*  
 m/z 68: Less than 2.0% of m/z 69  
 m/z 69: Present  
 m/z 70: Less than 2.0% of m/z 69  
 m/z 127: 25.0-75.0% of m/z 198 \*  
 m/z 197: Less than 1.0% of m/z 198  
 m/z 198: Base peak, 100% relative abundance  
 m/z 199: 5.0-9.0% of m/z 198  
 m/z 275: 10.0-30.0% of m/z 198 \*  
 m/z 365: Greater than 0.75% of m/z 198  
 m/z 441: Present, but less than m/z 443  
 m/z 442: 40.0-110.0% of m/z 198  
 m/z 443: 15.0-24.0% of m/z 442  
 \* noncritical abundances

c RCM % res: > 60.0%  
 PEM % res: = 100%  
 PEM RT: = mRT ± 0.05 minutes  
 PEM %RPD: < 25%  
 PEM %break: < 20.0% (4,4'-DDT and endrin singly)  
 PEM %break: < 30.0% (4,4'-DDT and endrin together)

d Only affected nondetected data are qualified (such as unresolved or degraded compounds).

e Both apply to cleanup performance check samples.

**TABLE F-11: ANALYTICAL AND MATRIX PERFORMANCE REQUIREMENTS (CONTINUED)**  
Remedial Investigation Report, Installation Restoration Site 34, Alameda Point, Alameda, California

Notes:

%break	Percent breakdown
%D	Percent difference
%R	Percent recovery
%res	Percent resolution
DDT	Dichlorodiphenyltrichloroethane
GPC	Gel permeation chromatography
ICPES	Inductively coupled plasma emission spectrophotometer
IPCS	Instrument performance check sample
IS	Internal standard
Ji	Qualified as estimated because of internal standard performance criteria violations
Jj	Qualified as estimated because of analytical or matrix performance criteria violations
m/z	Mass ratio of the specific ion to the base peak
mRT	Mean retention time
NA	Not applicable
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PEM	Performance evaluation mixture
RCM	Resolution check mixture
Ri	Qualified as rejected because of internal standard performance criteria violations
Rj	Qualified as rejected because of analytical or matrix performance criteria violations
RPD	Relative percent difference
RT	Retention time

Source:

EPA. 1996. "Test Methods for Evaluating Solid Waste, Third Edition SW-846." Available Online at: <http://www.epa.gov/sw-846/main.htm>



**TABLE F-12: DATA QUALIFICATION: INTERNAL STANDARD PERFORMANCE VIOLATIONS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Ji"	Number (percent) of Analytes Rejected As "Ri"
<b>POLYCYCLIC AROMATIC HYDROCARBONS (LOW-LEVEL)</b>				
BENZO(A)PYRENE	SOIL	37	7	0
BENZO(B)FLUORANTHENE	SOIL	37	7	0
BENZO(G,H,I)PERYLENE	SOIL	37	7	0
BENZO(K)FLUORANTHENE	SOIL	37	7	0
DIBENZO(A,H)ANTHRACENE	SOIL	37	7	0
INDENO(1,2,3-CD)PYRENE	SOIL	37	7	0
<b>Total</b>		<b>629</b>	<b>42 (6.68%)</b>	<b>0 (0.00%)</b>
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>				
BENZO(A)PYRENE	SOIL	22	2	0
BENZO(B)FLUORANTHENE	SOIL	22	2	0
BENZO(G,H,I)PERYLENE	SOIL	22	2	0
BENZO(K)FLUORANTHENE	SOIL	22	2	0
DI-N-OCTYLPHTHALATE	SOIL	22	2	0
DIBENZO(A,H)ANTHRACENE	SOIL	22	2	0
INDENO(1,2,3-CD)PYRENE	SOIL	22	2	0
<b>Total</b>		<b>1,430</b>	<b>14 (0.98%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - SOIL</b>		<b>8,830</b>	<b>56 (0.63%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - All Matrices</b>		<b>14,637</b>	<b>56 (0.38%)</b>	<b>0 (0.00%)</b>

Notes:

- Ji Qualified as estimated because of internal standard performance violations
- Ri Qualified as rejected because of internal standard performance violations

**TABLE F-13: DATA QUALIFICATION: ANALYTICAL AND MATRIX PERFORMANCE VIOLATIONS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Jj"	Number (percent) of Analytes Rejected As "Rj"
<b>METALS (TOTAL)</b>				
ANTIMONY	SOIL	72	19	0
CHROMIUM	SOIL	72	9	0
COBALT	SOIL	72	17	0
COPPER	SOIL	72	1	0
THALLIUM	SOIL	72	1	0
<b>Total</b>		<b>1,664</b>	<b>47 (2.82%)</b>	<b>0 (0.00%)</b>
<b>PESTICIDES/PCBS</b>				
4,4'-DDD	SOIL	79	1	0
4,4'-DDE	SOIL	79	2	0
4,4'-DDT	SOIL	79	12	0
ALPHA-BHC	SOIL	79	1	0
ALPHA-CHLORDANE	SOIL	79	5	0
DIELDRIN	SOIL	79	5	0
ENDOSULFAN I	SOIL	79	1	0
ENDOSULFAN II	SOIL	79	3	0
ENDOSULFAN SULFATE	SOIL	79	2	0
ENDRIN ALDEHYDE	SOIL	79	3	0
ENDRIN KETONE	SOIL	79	1	0
GAMMA-BHC (LINDANE)	SOIL	79	1	0
GAMMA-CHLORDANE	SOIL	79	3	0
HEPTACHLOR EPOXIDE	SOIL	79	3	0
METHOXYCHLOR	SOIL	79	1	0
<b>Total</b>		<b>1,738</b>	<b>44 (2.53%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - SOIL</b>		<b>8,830</b>	<b>91 (1.03%)</b>	<b>0 (0.00%)</b>
<b>METALS (TOTAL)</b>				
CALCIUM	WATER	10	7	0
MAGNESIUM	WATER	10	2	0
MANGANESE	WATER	10	2	0
POTASSIUM	WATER	10	4	0
SODIUM	WATER	8	2	0
<b>Total</b>		<b>238</b>	<b>17 (7.14%)</b>	<b>0 (0.00%)</b>
<b>PESTICIDES/PCBS</b>				
4,4'-DDD	WATER	29	1	0
4,4'-DDE	WATER	29	2	0
ALDRIN	WATER	29	7	0
ALPHA-CHLORDANE	WATER	29	2	0
ENDOSULFAN I	WATER	29	1	0
ENDOSULFAN II	WATER	29	2	0

**TABLE F-13: DATA QUALIFICATION: ANALYTICAL AND MATRIX PERFORMANCE VIOLATIONS  
(Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Estimated As "Jj"	Number (percent) of Analytes Rejected As "Rj"
<b>PESTICIDES/PCBS</b>				
ENDOSULFAN SULFATE	WATER	29	1	0
ENDRIN	WATER	29	1	0
ENDRIN KETONE	WATER	29	1	0
GAMMA-BHC (LINDANE)	WATER	29	2	0
HEPTACHLOR	WATER	29	1	0
HEPTACHLOR EPOXIDE	WATER	29	1	0
METHOXYCHLOR	WATER	29	1	0
<b>Total</b>		<b>580</b>	<b>23 (3.97%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - WATER</b>		<b>5,807</b>	<b>40 (0.69%)</b>	<b>0 (0.00%)</b>
<b>Full Summary - All Matrices</b>		<b>14,637</b>	<b>131 (0.89%)</b>	<b>0 (0.00%)</b>

Notes:

- Jj Qualified as estimated because of analytical and matrix performance violations
- PCB Polychlorinated biphenyls
- Rj Qualified as rejected because of analytical and matrix performance violations

**TABLE F-14: DATA QUALIFICATION: VALUES BELOW THE CONTRACT REQUIRED REPORTING LIMIT**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Reported As "Jg"
<b>METALS (TOTAL)</b>			
ANTIMONY	SOIL	72	15
BERYLLIUM	SOIL	72	11
CADMIUM	SOIL	72	24
MERCURY	SOIL	64	7
MOLYBDENUM	SOIL	72	29
SELENIUM	SOIL	72	5
THALLIUM	SOIL	72	19
<b>Total</b>		<b>1,664</b>	<b>110 (6.61%)</b>
<b>PESTICIDES/PCBS</b>			
4,4'-DDE	SOIL	79	2
4,4'-DDT	SOIL	79	5
ALPHA-CHLORDANE	SOIL	79	8
BETA-BHC	SOIL	79	1
DELTA-BHC	SOIL	79	1
DIELDRIN	SOIL	79	7
ENDOSULFAN II	SOIL	79	1
ENDOSULFAN SULFATE	SOIL	79	1
ENDRIN ALDEHYDE	SOIL	79	2
ENDRIN KETONE	SOIL	79	1
GAMMA-BHC (LINDANE)	SOIL	79	2
GAMMA-CHLORDANE	SOIL	79	10
HEPTACHLOR	SOIL	79	1
HEPTACHLOR EPOXIDE	SOIL	79	8
TECHNICAL CHLORDANE	SOIL	79	3
<b>Total</b>		<b>1,738</b>	<b>53 (3.05%)</b>
<b>POLYCHLORINATED BIPHENYLS</b>			
AROCLOR-1260	SOIL	127	5
AROCLOR-1268	SOIL	127	2
<b>Total</b>		<b>1,016</b>	<b>7 (0.69%)</b>

**TABLE F-14: DATA QUALIFICATION: VALUES BELOW THE CONTRACT REQUIRED REPORTING LIMIT (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Reported As "Jg"
<b>POLYCYCLIC AROMATIC HYDROCARBONS (LOW-LEVEL)</b>			
2-METHYLNAPHTHALENE	SOIL	37	5
ACENAPHTHENE	SOIL	37	2
ACENAPHTHYLENE	SOIL	37	8
ANTHRACENE	SOIL	37	7
BENZO(A)ANTHRACENE	SOIL	37	10
BENZO(A)PYRENE	SOIL	37	11
BENZO(B)FLUORANTHENE	SOIL	37	11
BENZO(G,H,I)PERYLENE	SOIL	37	16
BENZO(K)FLUORANTHENE	SOIL	37	7
CHRYSENE	SOIL	37	11
DIBENZO(A,H)ANTHRACENE	SOIL	37	9
FLUORANTHENE	SOIL	37	5
FLUORENE	SOIL	37	3
INDENO(1,2,3-CD)PYRENE	SOIL	37	8
NAPHTHALENE	SOIL	37	6
PHENANTHRENE	SOIL	37	11
PYRENE	SOIL	37	10
<b>Total</b>		<b>629</b>	<b>140 (22.26%)</b>
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>			
4-NITROANILINE	SOIL	22	1
4-NITROPHENOL	SOIL	22	1
ACENAPHTHYLENE	SOIL	22	1
ANTHRACENE	SOIL	22	1
BENZO(A)ANTHRACENE	SOIL	22	1
BENZO(A)PYRENE	SOIL	22	1
BENZO(B)FLUORANTHENE	SOIL	22	1
BENZO(G,H,I)PERYLENE	SOIL	22	1
BENZO(K)FLUORANTHENE	SOIL	22	1
CHRYSENE	SOIL	22	1
FLUORANTHENE	SOIL	22	1
ISOPHORONE	SOIL	22	1
NAPHTHALENE	SOIL	22	1
PHENANTHRENE	SOIL	22	2
PYRENE	SOIL	22	3
<b>Total</b>		<b>1,430</b>	<b>18 (1.26%)</b>

**TABLE F-14: DATA QUALIFICATION: VALUES BELOW THE CONTRACT REQUIRED REPORTING LIMIT (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Reported As "Jg"
<b>TPH EXTRACTABLES (DIESEL)</b>			
DIESEL RANGE ORGANICS	SOIL	24	4
MOTOR OIL RANGE ORGANICS	SOIL	16	2
<b>Total</b>		<b>40</b>	<b>6 (15.00%)</b>
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>			
1,2-DICHLOROPROPANE	SOIL	32	1
CARBON DISULFIDE	SOIL	32	1
CHLOROBENZENE	SOIL	32	1
CIS-1,2-DICHLOROETHENE	SOIL	32	1
P-ISOPROPYLTOLUENE	SOIL	32	1
SEC-BUTYLBENZENE	SOIL	32	1
<b>Total</b>		<b>2,048</b>	<b>6 (0.29%)</b>
<b>Full Summary - SOIL</b>		<b>8,830</b>	<b>340 (3.85%)</b>
<b>METALS (DISSOLVED)</b>			
ALUMINUM	WATER	19	16
ANTIMONY	WATER	19	14
BERYLLIUM	WATER	19	5
CADMIUM	WATER	19	2
CHROMIUM	WATER	19	6
COBALT	WATER	19	9
COPPER	WATER	19	4
LEAD	WATER	19	5
MERCURY	WATER	19	1
SILVER	WATER	19	8
THALLIUM	WATER	19	10
VANADIUM	WATER	19	4
<b>Total</b>		<b>456</b>	<b>84 (18.42%)</b>
<b>METALS (TOTAL)</b>			
ALUMINUM	WATER	10	2
ANTIMONY	WATER	10	5
CADMIUM	WATER	10	1
CHROMIUM	WATER	10	3
COBALT	WATER	10	8
COPPER	WATER	10	1
IRON	WATER	10	2
LEAD	WATER	10	8
MOLYBDENUM	WATER	10	1
NICKEL	WATER	10	1

**TABLE F-14: DATA QUALIFICATION: VALUES BELOW THE CONTRACT REQUIRED REPORTING LIMIT (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Reported As "Jg"
<b>METALS (TOTAL)</b>			
SELENIUM	WATER	10	5
THALLIUM	WATER	10	3
ZINC	WATER	10	4
<b>Total</b>		<b>238</b>	<b>44 (18.49%)</b>
<b>PESTICIDES/PCBS</b>			
4,4'-DDD	WATER	29	1
4,4'-DDE	WATER	29	1
ALDRIN	WATER	29	1
ALPHA-BHC	WATER	29	2
ALPHA-CHLORDANE	WATER	29	1
DIELDRIN	WATER	29	1
ENDOSULFAN I	WATER	29	2
ENDRIN	WATER	29	1
GAMMA-BHC (LINDANE)	WATER	29	2
GAMMA-CHLORDANE	WATER	29	1
HEPTACHLOR EPOXIDE	WATER	29	1
<b>Total</b>		<b>580</b>	<b>14 (2.41%)</b>
<b>POLYCYCLIC AROMATIC HYDROCARBONS (LOW-LEVEL)</b>			
2-METHYLNAPHTHALENE	WATER	28	2
ACENAPHTHENE	WATER	28	2
ACENAPHTHYLENE	WATER	28	5
ANTHRACENE	WATER	28	4
BENZO(A)ANTHRACENE	WATER	28	1
BENZO(A)PYRENE	WATER	28	1
BENZO(B)FLUORANTHENE	WATER	28	1
BENZO(G,H,I)PERYLENE	WATER	28	1
BENZO(K)FLUORANTHENE	WATER	28	1
DIBENZO(A,H)ANTHRACENE	WATER	28	1
FLUORANTHENE	WATER	28	5
FLUORENE	WATER	28	3
INDENO(1,2,3-CD)PYRENE	WATER	28	1
NAPHTHALENE	WATER	28	4
PHENANTHRENE	WATER	28	8
PYRENE	WATER	28	13
<b>Total</b>		<b>476</b>	<b>53 (11.13%)</b>

**TABLE F-14: DATA QUALIFICATION: VALUES BELOW THE CONTRACT REQUIRED REPORTING LIMIT (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Reported As "Jg"
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>			
ACENAPHTHENE	WATER	29	2
PHENOL	WATER	29	2
<b>Total</b>		<b>1,885</b>	<b>4 (0.21%)</b>
<b>TPH EXTRACTABLES (DIESEL)</b>			
MOTOR OIL RANGE ORGANICS	WATER	29	8
<b>Total</b>		<b>58</b>	<b>8 (13.79%)</b>
<b>TPH PURGEABLES (GASOLINE)</b>			
GASOLINE RANGE ORGANICS	WATER	29	3
<b>Total</b>		<b>29</b>	<b>3 (10.34%)</b>
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>			
1,1-DICHLOROETHANE	WATER	29	2
1,2,4-TRIMETHYLBENZENE	WATER	29	1
1,2-DICHLOROBENZENE	WATER	29	1
1,2-DICHLOROETHANE	WATER	29	1
1,2-DICHLOROPROPANE	WATER	29	1
1,3,5-TRIMETHYLBENZENE	WATER	29	1
1,4-DICHLOROBENZENE	WATER	29	1
2-HEXANONE	WATER	29	3
4-METHYL-2-PENTANONE	WATER	29	1
BENZENE	WATER	29	5
BROMOFORM	WATER	29	2
CARBON DISULFIDE	WATER	29	16
CHLOROMETHANE	WATER	29	1
CIS-1,2-DICHLOROETHENE	WATER	29	9
ETHYLBENZENE	WATER	29	2
ISOPROPYLBENZENE	WATER	29	1
M,P-XYLENE	WATER	29	3
N-BUTYLBENZENE	WATER	29	1
N-PROPYLBENZENE	WATER	29	2
NAPHTHALENE	WATER	29	2
P-ISOPROPYLTOLUENE	WATER	29	1
SEC-BUTYLBENZENE	WATER	29	2
TERT-BUTYLBENZENE	WATER	29	1
TOLUENE	WATER	29	15
TRANS-1,2-DICHLOROETHENE	WATER	29	2
TRICHLOROETHENE	WATER	29	6
VINYL CHLORIDE	WATER	29	1
<b>Total</b>		<b>1,856</b>	<b>84 (4.53%)</b>

**TABLE F-14: DATA QUALIFICATION: VALUES BELOW THE CONTRACT REQUIRED REPORTING LIMIT (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes Reported	Number (percent) of Analytes Reported As "Jg"
<b>Full Summary - WATER</b>		5,807	294 (5.06%)
<b>Full Summary - All Matrices</b>		14,637	634 (4.33%)

Notes:

Jg Qualified as estimated because of results reported below contract required reporting limit  
 PCB Polychlorinated biphenyls

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>CHLORINATED HERBICIDES</b>							
2,4,5-T	SOIL	8	0.004	0.02	0.007	NA	MG/KG
2,4,5-TP (SILVEX)	SOIL	8	0.003	0.02	0.007	NA	MG/KG
2,4-D	SOIL	8	0.004	0.02	0.009	NA	MG/KG
2,4-DB	SOIL	8	0.004	0.04	0.01	NA	MG/KG
DALAPON; 2,2-DICHLOROPROPANOIC	SOIL	8	0.02	0.08	0.04	NA	MG/KG
DICAMBA	SOIL	8	0.005	0.02	0.01	NA	MG/KG
DICHLORPROP	SOIL	8	0.003	0.02	0.007	NA	MG/KG
DINOSEB	SOIL	8	0.02	0.1	0.04	NA	MG/KG
MCPA	SOIL	8	3	15	6	NA	MG/KG
MCPP	SOIL	8	3	13	5	NA	MG/KG
<b>HEXAVALENT CHROMIUM</b>							
HEXAVALENT CHROMIUM	SOIL	24	0.05	0.06	0.05	NA	MG/KG
<b>METALS (TOTAL)</b>							
ALUMINUM	SOIL	64	3.8	74.0	41.2	12.0	MG/KG
ANTIMONY	SOIL	72	0.17	3.8	1.5	5.0	MG/KG
ARSENIC	SOIL	72	0.17	0.38	0.26	0.30	MG/KG
BARIUM	SOIL	72	0.34	0.76	0.51	1.0	MG/KG
BERYLLIUM	SOIL	72	0.068	0.15	0.10	1.0	MG/KG
CADMIUM	SOIL	72	0.17	0.38	0.26	1.0	MG/KG
CALCIUM	SOIL	64	19.0	310	74.1	100	MG/KG
CHROMIUM	SOIL	72	0.34	0.76	0.51	2.0	MG/KG
COBALT	SOIL	72	0.17	1.5	0.77	3.0	MG/KG
COPPER	SOIL	72	0.34	0.76	0.51	2.0	MG/KG
IRON	SOIL	64	36.0	470	67.7	20.0	MG/KG
LEAD	SOIL	72	0.11	15.0	0.61	10.0	MG/KG
MAGNESIUM	SOIL	64	17.0	370	69.2	40.0	MG/KG
MANGANESE	SOIL	64	0.36	5.1	1.0	1.0	MG/KG
MERCURY	SOIL	64	0.014	0.087	0.022	0.20	MG/KG
MOLYBDENUM	SOIL	72	0.19	3.4	0.82	3.0	MG/KG
NICKEL	SOIL	72	0.68	1.5	1.0	4.0	MG/KG
POTASSIUM	SOIL	64	17.0	38.0	25.5	200	MG/KG
SELENIUM	SOIL	72	0.17	0.38	0.26	20.0	MG/KG
SILVER	SOIL	72	0.17	0.38	0.26	2.0	MG/KG
SODIUM	SOIL	64	17.0	38.0	25.5	100	MG/KG
THALLIUM	SOIL	72	0.17	0.38	0.26	1.0	MG/KG
VANADIUM	SOIL	72	0.34	0.76	0.51	2.0	MG/KG

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>METALS (TOTAL)</b>							
ZINC	SOIL	72	0.73	12.0	2.1	4.0	MG/KG
<b>PERCENT MOISTURE</b>							
PERCENT MOISTURE	SOIL	137	0.0	0.0	0.0	NA	%
<b>PESTICIDES/PCBS</b>							
4,4'-DDD	SOIL	79	0.004	0.2	0.06	0.003	MG/KG
4,4'-DDE	SOIL	79	0.004	0.2	0.06	0.003	MG/KG
4,4'-DDT	SOIL	79	0.004	0.2	0.06	0.003	MG/KG
ALDRIN	SOIL	79	0.002	0.1	0.03	0.002	MG/KG
ALPHA-BHC	SOIL	79	0.002	0.1	0.03	0.002	MG/KG
ALPHA-CHLORDANE	SOIL	79	0.002	0.1	0.03	0.002	MG/KG
BETA-BHC	SOIL	79	0.002	0.1	0.03	0.002	MG/KG
DELTA-BHC	SOIL	79	0.002	0.1	0.03	0.002	MG/KG
DIELDRIN	SOIL	79	0.004	0.2	0.06	0.003	MG/KG
ENDOSULFAN I	SOIL	79	0.002	0.1	0.03	0.002	MG/KG
ENDOSULFAN II	SOIL	79	0.004	0.2	0.06	0.003	MG/KG
ENDOSULFAN SULFATE	SOIL	79	0.004	0.2	0.06	0.005	MG/KG
ENDRIN	SOIL	79	0.004	0.2	0.06	0.003	MG/KG
ENDRIN ALDEHYDE	SOIL	79	0.004	0.2	0.06	0.003	MG/KG
ENDRIN KETONE	SOIL	79	0.004	0.2	0.06	0.003	MG/KG
GAMMA-BHC (LINDANE)	SOIL	79	0.002	0.1	0.03	0.002	MG/KG
GAMMA-CHLORDANE	SOIL	79	0.002	0.1	0.03	0.002	MG/KG
HEPTACHLOR	SOIL	79	0.002	0.1	0.03	0.002	MG/KG
HEPTACHLOR EPOXIDE	SOIL	79	0.002	0.1	0.03	0.002	MG/KG
METHOXYCHLOR	SOIL	79	0.02	1	0.3	0.02	MG/KG
TECHNICAL CHLORDANE	SOIL	79	0.03	2	0.6	NA	MG/KG
TOXAPHENE	SOIL	79	0.07	4	1	NA	MG/KG
<b>POLYCHLORINATED BIPHENYLS</b>							
AROCLOR-1016	SOIL	127	0.01	0.2	0.01	0.03	MG/KG
AROCLOR-1221	SOIL	127	0.02	0.4	0.03	0.07	MG/KG
AROCLOR-1232	SOIL	127	0.01	0.2	0.01	0.03	MG/KG
AROCLOR-1242	SOIL	127	0.01	0.2	0.01	0.03	MG/KG
AROCLOR-1248	SOIL	127	0.01	0.2	0.01	0.03	MG/KG
AROCLOR-1254	SOIL	127	0.01	0.2	0.01	0.03	MG/KG
AROCLOR-1260	SOIL	127	0.01	0.2	0.01	0.03	MG/KG
AROCLOR-1268	SOIL	127	0.01	0.2	0.01	0.03	MG/KG

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>POLYCYCLIC AROMATIC HYDROCARBONS (LOW-LEVEL)</b>							
2-METHYLNAPHTHALENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
ACENAPHTHENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
ACENAPHTHYLENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
ANTHRACENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
BENZO(A)ANTHRACENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
BENZO(A)PYRENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
BENZO(B)FLUORANTHENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
BENZO(G,H,I)PERYLENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
BENZO(K)FLUORANTHENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
CHRYSENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
DIBENZO(A,H)ANTHRACENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
FLUORANTHENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
FLUORENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
INDENO(1,2,3-CD)PYRENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
NAPHTHALENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
PHENANTHRENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
PYRENE	SOIL	37	0.005	1	0.1	0.005	MG/KG
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>							
1,2,4-TRICHLOROENZENE	SOIL	22	0.4	70	7	0.5	MG/KG
1,2-DICHLOROENZENE	SOIL	22	0.4	70	7	0.5	MG/KG
1,3-DICHLOROENZENE	SOIL	22	0.4	70	7	0.5	MG/KG
1,4-DICHLOROENZENE	SOIL	22	0.4	70	7	0.5	MG/KG
2,2'-OXYBIS(2-CHLOROPROPANE)	SOIL	22	0.4	70	7	NA	MG/KG
2,4,5-TRICHLOROPHENOL	SOIL	22	0.4	70	7	2	MG/KG
2,4,6-TRICHLOROPHENOL	SOIL	22	0.4	70	7	0.5	MG/KG
2,4-DICHLOROPHENOL	SOIL	22	0.4	70	7	0.5	MG/KG
2,4-DIMETHYLPHENOL	SOIL	22	0.4	70	7	0.5	MG/KG
2,4-DINITROPHENOL	SOIL	22	0.7	140	13	3	MG/KG
2,4-DINITROTOLUENE	SOIL	22	0.4	70	7	0.5	MG/KG
2,6-DINITROTOLUENE	SOIL	22	0.4	70	7	0.5	MG/KG
2-CHLORONAPHTHALENE	SOIL	22	0.4	70	7	0.01	MG/KG
2-CHLOROPHENOL	SOIL	22	0.4	70	7	0.5	MG/KG
2-METHYLNAPHTHALENE	SOIL	22	0.07	14	1	0.5	MG/KG
2-METHYLPHENOL	SOIL	22	0.4	70	7	0.5	MG/KG
2-NITROANILINE	SOIL	22	0.7	140	13	3	MG/KG
2-NITROPHENOL	SOIL	22	0.7	140	13	0.5	MG/KG
3,3'-DICHLOROBENZIDINE	SOIL	22	0.7	140	13	1	MG/KG

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>							
3-NITROANILINE	SOIL	22	0.7	140	13	3	MG/KG
4,6-DINITRO-2-METHYLPHENOL	SOIL	22	0.7	140	13	3	MG/KG
4-BROMOPHENYL-PHENYLEETHER	SOIL	22	0.4	70	7	0.5	MG/KG
4-CHLORO-3-METHYLPHENOL	SOIL	22	0.4	70	7	0.5	MG/KG
4-CHLOROANILINE	SOIL	22	0.4	70	7	1	MG/KG
4-CHLOROPHENYL-PHENYLEETHER	SOIL	22	0.4	70	7	0.5	MG/KG
4-METHYLPHENOL	SOIL	22	0.4	70	7	0.5	MG/KG
4-NITROANILINE	SOIL	22	0.7	140	13	3	MG/KG
4-NITROPHENOL	SOIL	22	0.7	140	13	3	MG/KG
ACENAPHTHENE	SOIL	22	0.07	14	1	0.5	MG/KG
ACENAPHTHYLENE	SOIL	22	0.07	14	1	0.5	MG/KG
ANTHRACENE	SOIL	22	0.07	14	1	0.5	MG/KG
BENZO(A)ANTHRACENE	SOIL	22	0.07	14	1	0.5	MG/KG
BENZO(A)PYRENE	SOIL	22	0.07	14	1	0.5	MG/KG
BENZO(B)FLUORANTHENE	SOIL	22	0.07	14	1	0.5	MG/KG
BENZO(G,H,I)PERYLENE	SOIL	22	0.07	14	1	0.5	MG/KG
BENZO(K)FLUORANTHENE	SOIL	22	0.07	14	1	0.5	MG/KG
BENZOIC ACID	SOIL	22	2	350	33	3	MG/KG
BENZYL ALCOHOL	SOIL	22	0.4	70	7	0.5	MG/KG
BIS(2-CHLOROETHOXY)METHANE	SOIL	22	0.4	70	7	0.5	MG/KG
BIS(2-CHLOROETHYL)ETHER	SOIL	22	0.4	70	7	0.5	MG/KG
BIS(2-ETHYLHEXYL)PHTHALATE	SOIL	22	0.4	70	7	0.5	MG/KG
BUTYLBENZYLPHTHALATE	SOIL	22	0.4	70	7	0.5	MG/KG
CHRYSENE	SOIL	22	0.07	14	1	0.5	MG/KG
DI-N-BUTYLPHTHALATE	SOIL	22	0.4	70	7	0.5	MG/KG
DI-N-OCTYLPHTHALATE	SOIL	22	0.4	70	7	0.5	MG/KG
DIBENZO(A,H)ANTHRACENE	SOIL	22	0.07	14	1	0.5	MG/KG
DIBENZOFURAN	SOIL	22	0.4	70	7	0.5	MG/KG
DIETHYLPHTHALATE	SOIL	22	0.4	70	7	0.5	MG/KG
DIMETHYLPHTHALATE	SOIL	22	0.4	70	7	0.5	MG/KG
FLUORANTHENE	SOIL	22	0.07	14	1	0.5	MG/KG
FLUORENE	SOIL	22	0.07	14	1	0.5	MG/KG
HEXACHLOROENZENE	SOIL	22	0.4	70	7	0.5	MG/KG
HEXACHLOROBUTADIENE	SOIL	22	0.4	70	7	0.5	MG/KG
HEXACHLOROCYCLOPENTADIENE	SOIL	22	0.7	140	13	0.5	MG/KG
HEXACHLOROETHANE	SOIL	22	0.4	70	7	0.5	MG/KG
INDENO(1,2,3-CD)PYRENE	SOIL	22	0.07	14	1	0.5	MG/KG
ISOPHORONE	SOIL	22	0.4	70	7	0.5	MG/KG

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>							
N-NITROSO-DI-N-PROPYLAMINE	SOIL	22	0.4	70	7	0.5	MG/KG
N-NITROSODIPHENYLAMINE	SOIL	22	0.4	70	7	0.5	MG/KG
NAPHTHALENE	SOIL	22	0.07	14	1	0.5	MG/KG
NITROBENZENE	SOIL	22	0.4	70	7	0.5	MG/KG
PENTACHLOROPHENOL	SOIL	22	0.7	140	13	3	MG/KG
PHENANTHRENE	SOIL	22	0.07	14	1	0.5	MG/KG
PHENOL	SOIL	22	0.4	70	7	0.5	MG/KG
PYRENE	SOIL	22	0.07	14	1	0.5	MG/KG
<b>TPH EXTRACTABLES (DIESEL)</b>							
DIESEL RANGE ORGANICS	SOIL	24	1	25	3	10	MG/KG
MOTOR OIL RANGE ORGANICS	SOIL	16	6	63	13	10	MG/KG
<b>TPH PURGEABLES (GASOLINE)</b>							
GASOLINE RANGE ORGANICS	SOIL	32	0.2	5	0.4	1	MG/KG
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>							
1,1,1,2-TETRACHLOROETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,1,1-TRICHLOROETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,1,2,2-TETRACHLOROETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,1,2-TRICHLOROETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,1-DICHLOROETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,1-DICHLOROETHENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,1-DICHLOROPROPENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,2,3-TRICHLOROENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,2,3-TRICHLOROPROPANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,2,4-TRICHLOROENZENE	SOIL	32	0.004	1	0.05	0.005	MG/KG
1,2,4-TRIMETHYLBENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,2-DIBROMO-3-CHLOROPROPANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,2-DICHLOROENZENE	SOIL	32	0.004	1	0.05	0.005	MG/KG
1,2-DICHLOROETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,2-DICHLOROPROPANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,3,5-TRIMETHYLBENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,3-DICHLOROENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,3-DICHLOROPROPANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
1,4-DICHLOROENZENE	SOIL	32	0.004	1	0.05	0.005	MG/KG
2,2-DICHLOROPROPANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
2-BUTANONE	SOIL	32	0.008	0.3	0.02	0.1	MG/KG
2-CHLOROTOLUENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>							
2-HEXANONE	SOIL	32	0.008	0.3	0.02	0.05	MG/KG
4-CHLOROTOLUENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
4-METHYL-2-PENTANONE	SOIL	32	0.008	0.3	0.02	0.05	MG/KG
ACETONE	SOIL	32	0.02	0.6	0.04	0.05	MG/KG
BENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
BROMOBENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
BROMOCHLOROMETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
BROMODICHLOROMETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
BROMOFORM	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
BROMOMETHANE	SOIL	32	0.008	0.3	0.02	0.005	MG/KG
CARBON DISULFIDE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
CARBON TETRACHLORIDE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
CHLOROBENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
CHLOROETHANE	SOIL	32	0.008	0.3	0.02	0.005	MG/KG
CHLOROFORM	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
CHLOROMETHANE	SOIL	32	0.008	0.3	0.02	0.005	MG/KG
CIS-1,2-DICHLOROETHENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
CIS-1,3-DICHLOROPROPENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
DIBROMOCHLOROMETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
DIBROMOMETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
DICHLORODIFLUOROMETHANE	SOIL	32	0.008	0.3	0.02	0.005	MG/KG
ETHYLBENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
ETHYLENE DIBROMIDE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
HEXACHLOROBUTADIENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
ISOPROPYLBENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
M,P-XYLENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
METHYLENE CHLORIDE	SOIL	32	0.02	0.6	0.04	0.005	MG/KG
N-BUTYLBENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
N-PROPYLBENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
NAPHTHALENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
O-XYLENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
P-ISOPROPYLTOLUENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
SEC-BUTYLBENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
STYRENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
TERT-BUTYLBENZENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
TETRACHLOROETHENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
TOLUENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
TRANS-1,2-DICHLOROETHENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>							
TRANS-1,3-DICHLOROPROPENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
TRICHLOROETHENE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
TRICHLOROFLUOROMETHANE	SOIL	32	0.004	0.1	0.01	0.005	MG/KG
VINYL CHLORIDE	SOIL	32	0.008	0.3	0.02	0.005	MG/KG
<b>METALS (DISSOLVED)</b>							
ALUMINUM	WATER	19	50.0	50.0	50.0	100	UG/L
ANTIMONY	WATER	19	1.0	1.0	1.0	10.0	UG/L
ARSENIC	WATER	19	1.0	1.0	1.0	5.0	UG/L
BARIUM	WATER	19	1.0	10.0	1.6	10.0	UG/L
BERYLLIUM	WATER	19	1.0	1.0	1.0	5.0	UG/L
CADMIUM	WATER	19	1.0	1.0	1.0	5.0	UG/L
CALCIUM	WATER	19	50.0	10,000	2,150	500	UG/L
CHROMIUM	WATER	19	1.0	1.0	1.0	10.0	UG/L
COBALT	WATER	19	1.0	1.0	1.0	15.0	UG/L
COPPER	WATER	19	1.0	1.0	1.0	10.0	UG/L
IRON	WATER	19	50.0	1,000	100	100	UG/L
LEAD	WATER	19	1.0	1.0	1.0	5.0	UG/L
MAGNESIUM	WATER	19	50.0	10,000	2,140	200	UG/L
MANGANESE	WATER	19	1.0	200	33.1	5.0	UG/L
MERCURY	WATER	19	0.20	0.20	0.20	0.50	UG/L
MOLYBDENUM	WATER	19	1.0	1.0	1.0	15.0	UG/L
NICKEL	WATER	19	1.0	1.0	1.0	20.0	UG/L
POTASSIUM	WATER	19	50.0	10,000	1,060	1,000	UG/L
SELENIUM	WATER	19	1.0	10.0	1.5	10.0	UG/L
SILVER	WATER	19	1.0	1.0	1.0	10.0	UG/L
SODIUM	WATER	19	250	50,000	13,000	500	UG/L
THALLIUM	WATER	19	1.0	1.0	1.0	10.0	UG/L
VANADIUM	WATER	19	1.0	1.0	1.0	10.0	UG/L
ZINC	WATER	19	1.0	10.0	1.5	20.0	UG/L
<b>METALS (TOTAL)</b>							
ALUMINUM	WATER	6	50.0	100	91.7	100	UG/L
ANTIMONY	WATER	10	1.0	1.0	1.0	10.0	UG/L
ARSENIC	WATER	10	1.0	1.0	1.0	5.0	UG/L
BARIUM	WATER	10	1.0	1.0	1.0	10.0	UG/L
BERYLLIUM	WATER	10	1.0	1.0	1.0	5.0	UG/L
CADMIUM	WATER	10	1.0	1.0	1.0	5.0	UG/L

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>METALS (TOTAL)</b>							
CALCIUM	WATER	5	100	1,000	460	500	UG/L
CHROMIUM	WATER	10	1.0	1.0	1.0	10.0	UG/L
COBALT	WATER	10	1.0	1.0	1.0	15.0	UG/L
COPPER	WATER	10	1.0	5.0	1.4	10.0	UG/L
IRON	WATER	6	100	3,400	650	100	UG/L
LEAD	WATER	10	1.0	1.0	1.0	5.0	UG/L
MAGNESIUM	WATER	5	100	10,000	2,080	200	UG/L
MANGANESE	WATER	5	1.0	10.0	2.8	5.0	UG/L
MERCURY	WATER	10	0.20	0.20	0.20	0.50	UG/L
MOLYBDENUM	WATER	10	1.0	1.0	1.0	15.0	UG/L
NICKEL	WATER	10	1.0	1.0	1.0	20.0	UG/L
POTASSIUM	WATER	5	100	100	100	1,000	UG/L
SELENIUM	WATER	10	1.0	1.0	1.0	10.0	UG/L
SILVER	WATER	10	1.0	1.0	1.0	10.0	UG/L
SODIUM	WATER	5	500	50,000	11,300	500	UG/L
THALLIUM	WATER	10	1.0	1.0	1.0	10.0	UG/L
VANADIUM	WATER	10	1.0	1.0	1.0	10.0	UG/L
ZINC	WATER	10	5.0	5.0	5.0	20.0	UG/L
<b>PESTICIDES/PCBS</b>							
4,4'-DDD	WATER	29	0.0001	0.006	0.0007	0.1	UG/L
4,4'-DDE	WATER	29	0.0002	0.005	0.0007	0.1	UG/L
4,4'-DDT	WATER	29	0.0003	0.0008	0.0004	0.1	UG/L
ALDRIN	WATER	29	0.00005	0.001	0.0002	0.05	UG/L
ALPHA-BHC	WATER	29	0.00006	0.0005	0.0002	0.05	UG/L
ALPHA-CHLORDANE	WATER	29	0.00007	0.002	0.0002	0.05	UG/L
BETA-BHC	WATER	29	0.0004	0.001	0.0005	0.05	UG/L
DELTA-BHC	WATER	29	0.0002	0.0009	0.0002	0.05	UG/L
DIELDRIN	WATER	29	0.0004	0.0005	0.0004	0.1	UG/L
ENDOSULFAN I	WATER	29	0.00005	0.002	0.0002	0.05	UG/L
ENDOSULFAN II	WATER	29	0.00009	0.003	0.001	0.1	UG/L
ENDOSULFAN SULFATE	WATER	29	0.00006	0.003	0.0003	0.5	UG/L
ENDRIN	WATER	29	0.00008	0.003	0.0005	0.01	UG/L
ENDRIN ALDEHYDE	WATER	29	0.0001	0.001	0.0003	0.1	UG/L
ENDRIN KETONE	WATER	29	0.0002	0.0006	0.0003	0.1	UG/L
GAMMA-BHC (LINDANE)	WATER	29	0.00009	0.0006	0.0002	0.05	UG/L
GAMMA-CHLORDANE	WATER	29	0.0002	0.001	0.0003	0.05	UG/L
HEPTACHLOR	WATER	29	0.0001	0.0007	0.0003	0.05	UG/L

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>PESTICIDES/PCBS</b>							
HEPTACHLOR EPOXIDE	WATER	29	0.00005	0.005	0.0008	0.05	UG/L
METHOXYCHLOR	WATER	29	0.0002	0.001	0.0003	0.5	UG/L
<b>POLYCHLORINATED BIPHENYLS</b>							
AROCLOR-1016	WATER	28	0.03	0.6	0.4	1	UG/L
AROCLOR-1221	WATER	28	0.05	1	0.8	2	UG/L
AROCLOR-1232	WATER	28	0.05	0.6	0.4	1	UG/L
AROCLOR-1242	WATER	28	0.008	0.6	0.4	1	UG/L
AROCLOR-1248	WATER	28	0.009	0.6	0.4	1	UG/L
AROCLOR-1254	WATER	28	0.01	0.6	0.4	1	UG/L
AROCLOR-1260	WATER	28	0.02	0.6	0.4	1	UG/L
AROCLOR-1268	WATER	23	0.4	0.6	0.5	1	UG/L
<b>POLYCYCLIC AROMATIC HYDROCARBONS (LOW-LEVEL)</b>							
2-METHYLNAPHTHALENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
ACENAPHTHENE	WATER	28	0.09	0.1	0.1	0.2	UG/L
ACENAPHTHYLENE	WATER	28	0.09	0.1	0.1	0.2	UG/L
ANTHRACENE	WATER	28	0.09	0.1	0.1	0.2	UG/L
BENZO(A)ANTHRACENE	WATER	28	0.09	0.1	0.1	0.2	UG/L
BENZO(A)PYRENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
BENZO(B)FLUORANTHENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
BENZO(G,H,I)PERYLENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
BENZO(K)FLUORANTHENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
CHRYSENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
DIBENZO(A,H)ANTHRACENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
FLUORANTHENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
FLUORENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
INDENO(1,2,3-CD)PYRENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
NAPHTHALENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
PHENANTHRENE	WATER	28	0.09	0.1	0.1	0.1	UG/L
PYRENE	WATER	28	0.09	0.1	0.1	0.2	UG/L
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>							
1,2,4-TRICHLOROENZENE	WATER	29	9	49	12	10	UG/L
1,2-DICHLOROENZENE	WATER	29	9	49	12	10	UG/L
1,3-DICHLOROENZENE	WATER	29	9	49	12	10	UG/L
1,4-DICHLOROENZENE	WATER	29	9	49	12	10	UG/L
2,2'-OXYBIS(2-CHLOROPROPANE)	WATER	29	9	49	12	NA	UG/L
2,4,5-TRICHLOROPHENOL	WATER	29	9	49	12	50	UG/L

## TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>							
2,4,6-TRICHLOROPHENOL	WATER	29	9	49	12	10	UG/L
2,4-DICHLOROPHENOL	WATER	29	9	49	12	10	UG/L
2,4-DIMETHYLPHENOL	WATER	29	9	49	12	10	UG/L
2,4-DINITROPHENOL	WATER	29	19	98	23	50	UG/L
2,4-DINITROTOLUENE	WATER	29	9	49	12	10	UG/L
2,6-DINITROTOLUENE	WATER	29	9	49	12	10	UG/L
2-CHLORONAPHTHALENE	WATER	29	9	49	12	10	UG/L
2-CHLOROPHENOL	WATER	29	9	49	12	10	UG/L
2-METHYLNAPHTHALENE	WATER	29	9	49	12	10	UG/L
2-METHYLPHENOL	WATER	29	9	49	12	10	UG/L
2-NITROANILINE	WATER	29	19	98	23	50	UG/L
2-NITROPHENOL	WATER	29	19	98	23	10	UG/L
3,3'-DICHLOROBENZIDINE	WATER	29	19	98	23	20	UG/L
3-NITROANILINE	WATER	29	19	98	23	50	UG/L
4,6-DINITRO-2-METHYLPHENOL	WATER	29	19	98	23	50	UG/L
4-BROMOPHENYL-PHENYLETHER	WATER	29	9	49	12	10	UG/L
4-CHLORO-3-METHYLPHENOL	WATER	29	9	49	12	10	UG/L
4-CHLOROANILINE	WATER	29	9	49	12	20	UG/L
4-CHLOROPHENYL-PHENYLETHER	WATER	29	9	49	12	10	UG/L
4-METHYLPHENOL	WATER	29	9	49	12	10	UG/L
4-NITROANILINE	WATER	29	19	98	23	50	UG/L
4-NITROPHENOL	WATER	29	19	98	23	50	UG/L
ACENAPHTHENE	WATER	29	9	49	12	10	UG/L
ACENAPHTHYLENE	WATER	29	9	49	12	10	UG/L
ANTHRACENE	WATER	29	9	49	12	10	UG/L
BENZO(A)ANTHRACENE	WATER	29	9	49	12	10	UG/L
BENZO(A)PYRENE	WATER	29	9	49	12	10	UG/L
BENZO(B)FLUORANTHENE	WATER	29	9	49	12	10	UG/L
BENZO(G,H,I)PERYLENE	WATER	29	9	49	12	10	UG/L
BENZO(K)FLUORANTHENE	WATER	29	9	49	12	10	UG/L
BENZOIC ACID	WATER	29	47	250	59	50	UG/L
BENZYL ALCOHOL	WATER	29	9	49	12	10	UG/L
BIS(2-CHLOROETHOXY)METHANE	WATER	29	9	49	12	10	UG/L
BIS(2-CHLOROETHYL)ETHER	WATER	29	9	49	12	10	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	WATER	29	9	49	12	10	UG/L
BUTYLBENZYLPHTHALATE	WATER	29	9	49	12	10	UG/L
CHRYSENE	WATER	29	9	49	12	10	UG/L
DI-N-BUTYLPHTHALATE	WATER	29	9	49	12	10	UG/L

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>SEMIVOLATILE ORGANIC ANALYSIS</b>							
DI-N-OCTYLPHTHALATE	WATER	29	9	49	12	10	UG/L
DIBENZO(A,H)ANTHRACENE	WATER	29	9	49	12	10	UG/L
DIBENZOFURAN	WATER	29	9	49	12	10	UG/L
DIETHYLPHTHALATE	WATER	29	9	49	12	10	UG/L
DIMETHYLPHTHALATE	WATER	29	9	49	12	10	UG/L
FLUORANTHENE	WATER	29	9	49	12	10	UG/L
FLUORENE	WATER	29	9	49	12	10	UG/L
HEXACHLOROBENZENE	WATER	29	9	49	12	10	UG/L
HEXACHLOROBUTADIENE	WATER	29	9	49	12	10	UG/L
HEXACHLOROCYCLOPENTADIENE	WATER	29	19	98	23	10	UG/L
HEXACHLOROETHANE	WATER	29	9	49	12	10	UG/L
INDENO(1,2,3-CD)PYRENE	WATER	29	9	49	12	10	UG/L
ISOPHORONE	WATER	29	9	49	12	10	UG/L
N-NITROSO-DI-N-PROPYLAMINE	WATER	29	9	49	12	10	UG/L
N-NITROSODIPHENYLAMINE	WATER	29	9	49	12	10	UG/L
NAPHTHALENE	WATER	29	9	49	12	10	UG/L
NITROBENZENE	WATER	29	9	49	12	10	UG/L
PENTACHLOROPHENOL	WATER	29	19	98	23	50	UG/L
PHENANTHRENE	WATER	29	9	49	12	10	UG/L
PHENOL	WATER	29	9	49	12	10	UG/L
PYRENE	WATER	29	9	49	12	0.2	UG/L
<b>TDS, TSS, TURBIDITY</b>							
TDS	WATER	10	10,000	500,000	71,000	NA	UG/L
<b>TPH EXTRACTABLES (DIESEL)</b>							
DIESEL RANGE ORGANICS	WATER	29	0.04	0.3	0.06	50	MG/L
MOTOR OIL RANGE ORGANICS	WATER	25	0.3	2	0.4	50	MG/L
<b>TPH PURGEABLES (GASOLINE)</b>							
GASOLINE RANGE ORGANICS	WATER	29	0.05	0.05	0.05	50	MG/L
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>							
1,1,1,2-TETRACHLOROETHANE	WATER	29	0.5	0.5	0.5	1	UG/L
1,1,1-TRICHLOROETHANE	WATER	29	0.5	0.5	0.5	1	UG/L
1,1,2,2-TETRACHLOROETHANE	WATER	29	0.5	0.5	0.5	1	UG/L
1,1,2-TRICHLOROETHANE	WATER	29	0.5	0.5	0.5	1	UG/L
1,1-DICHLOROETHANE	WATER	29	0.5	0.5	0.5	1	UG/L
1,1-DICHLOROETHENE	WATER	29	0.5	0.5	0.5	1	UG/L

## TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>							
1,1-DICHLOROPROPENE	WATER	29	0.5	0.5	0.5	1	UG/L
1,2,3-TRICHLOROBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
1,2,3-TRICHLOROPROPANE	WATER	29	0.5	0.5	0.5	1	UG/L
1,2,4-TRICHLOROBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
1,2,4-TRIMETHYLBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
1,2-DIBROMO-3-CHLOROPROPANE	WATER	29	2	2	2	5	UG/L
1,2-DICHLOROBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
1,2-DICHLOROETHANE	WATER	29	0.5	0.5	0.5	1	UG/L
1,2-DICHLOROPROPANE	WATER	29	0.5	0.5	0.5	1	UG/L
1,3,5-TRIMETHYLBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
1,3-DICHLOROBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
1,3-DICHLOROPROPANE	WATER	29	0.5	0.5	0.5	1	UG/L
1,4-DICHLOROBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
2,2-DICHLOROPROPANE	WATER	29	0.5	0.5	0.5	1	UG/L
2-BUTANONE	WATER	29	10	10	10	100	UG/L
2-CHLOROTOLUENE	WATER	29	0.5	0.5	0.5	1	UG/L
2-HEXANONE	WATER	29	10	10	10	50	UG/L
4-CHLOROTOLUENE	WATER	29	0.5	0.5	0.5	1	UG/L
4-METHYL-2-PENTANONE	WATER	29	10	10	10	50	UG/L
ACETONE	WATER	29	10	10	10	50	UG/L
BENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
BROMOBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
BROMOCHLOROMETHANE	WATER	29	0.5	0.5	0.5	1	UG/L
BROMODICHLOROMETHANE	WATER	29	0.5	0.5	0.5	1	UG/L
BROMOFORM	WATER	29	1	1	1	1	UG/L
BROMOMETHANE	WATER	29	1	1	1	1	UG/L
CARBON DISULFIDE	WATER	29	0.5	0.5	0.5	5	UG/L
CARBON TETRACHLORIDE	WATER	29	0.5	0.5	0.5	1	UG/L
CHLOROBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
CHLOROETHANE	WATER	29	1	1	1	1	UG/L
CHLOROFORM	WATER	29	0.5	0.5	0.5	1	UG/L
CHLOROMETHANE	WATER	29	1	1	1	1	UG/L
CIS-1,2-DICHLOROETHENE	WATER	29	0.5	0.5	0.5	1	UG/L
CIS-1,3-DICHLOROPROPENE	WATER	29	0.5	0.5	0.5	1	UG/L
DIBROMOCHLOROMETHANE	WATER	29	0.5	0.5	0.5	1	UG/L
DIBROMOMETHANE	WATER	29	0.5	0.5	0.5	1	UG/L
DICHLORODIFLUOROMETHANE	WATER	29	1	1	1	1	UG/L
ETHYLBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Analyses	Matrix	Number of Analytes	Minimum Reporting Limits	Maximum Reporting Limits	Average Reporting Limits	QAPP Reporting Goals <sup>a</sup>	Units
<b>VOLATILE ORGANIC ANALYSIS (8260)</b>							
ETHYLENE DIBROMIDE	WATER	29	0.5	0.5	0.5	1	UG/L
HEXACHLOROBUTADIENE	WATER	29	0.5	0.5	0.5	1	UG/L
ISOPROPYLBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
M,P-XYLENE	WATER	29	0.5	0.5	0.5	1	UG/L
METHYLENE CHLORIDE	WATER	29	10	10	10	1	UG/L
N-BUTYLBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
N-PROPYLBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
NAPHTHALENE	WATER	29	2	2	2	1	UG/L
O-XYLENE	WATER	29	0.5	0.5	0.5	1	UG/L
P-ISOPROPYLTOLUENE	WATER	29	0.5	0.5	0.5	1	UG/L
SEC-BUTYLBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
STYRENE	WATER	29	0.5	0.5	0.5	1	UG/L
TERT-BUTYLBENZENE	WATER	29	0.5	0.5	0.5	1	UG/L
TETRACHLOROETHENE	WATER	29	0.5	0.5	0.5	1	UG/L
TOLUENE	WATER	29	0.5	0.5	0.5	1	UG/L
TRANS-1,2-DICHLOROETHENE	WATER	29	0.5	0.5	0.5	1	UG/L
TRANS-1,3-DICHLOROPROPENE	WATER	29	0.5	0.5	0.5	1	UG/L
TRICHLOROETHENE	WATER	29	0.5	0.5	0.5	1	UG/L
TRICHLOROFLUOROMETHANE	WATER	29	1	1	1	1	UG/L
VINYL CHLORIDE	WATER	29	0.5	0.5	0.5	1	UG/L

**TABLE F-15: DATA EVALUATION: REPORTING LIMITS (Continued)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Remarks:

**Notes:**

%	Percent
BHC	Benzene hexachloride
DDD	Dichlorodipenyldichloroethane
DDE	Dichlorodipenyldichloroethene
DDT	Dichlorodipenyltrichloroethane
MG/KG	Milligrams per kilogram
MG/L	Milligrams per liter
NA	Not applicable
PCB	Polychlorinated biphenyls
TDS	Total dissolved solids
TSS	Total suspended solids
UG/L	Micrograms per liter

**APPENDIX G**  
**METHODS FOR CALCULATING EXPOSURE POINT CONCENTRATIONS AND**  
**CONDUCTING BACKGROUND SCREENING OF SOIL AND GROUNDWATER**

---

**TABLE OF CONTENTS**

---

ACRONYMS AND ABBREVIATIONS ..... G-iii

GLOSSARY OF TERMS ..... G-iv

G1.0 INTRODUCTION ..... G-1

G2.0 CALCULATION OF DESCRIPTIVE STATISTICS AND EXPOSURE POINT  
CONCENTRATIONS ..... G-1

    G2.1 CALCULATIONS FOR SAMPLES WITH DETECTED RESULTS ONLY ..... G-2

    G2.2 CALCULATIONS FOR SAMPLES WITH DETECTED AND CENSORED RESULTS..... G-5

    G2.3 DISTRIBUTION TESTING ..... G-7

G3.0 BACKGROUND SCREENING PROCESS FOR METALS IN SOIL AND  
GROUNDWATER ..... G-9

G4.0 REFERENCES ..... G-13

**FIGURE**

---

- G-1 Flow Chart for Selecting Methods for Calculating EPCs
- G-2 Examples of Plots and Goodness-of-Fit Tests Used to Determine if Chemicals Follow a Normal, Lognormal, or Gamma Distribution
- G-3 Flowchart Showing Background Screening Process for Metals in Soil and Groundwater

**TABLES**

---

- G-1 EPA Recommendations for Calculating a UCL for Gamma Distributions
- G-2 EPA Recommendations for Calculating a UCL for Lognormal Distributions
- G-3 EPA Recommendations for Calculating a UCL for Nonparametric Distributions

## **ACRONYMS AND ABBREVIATIONS**

---

BCa	Bias-corrected accelerated
bgs	Below ground surface
CDF	Cumulative distribution function
COPC	Chemical of potential concern
EDF	Empirical distribution function
EPA	U.S. Environmental Protection Agency
EPC	Exposure point concentration
GOF	Goodness-of-fit
$H_0$	Null hypothesis
$H_A$	Alternative hypothesis
HHRA	Human health risk assessment
IR	Installation Restoration
K-M	Kaplan-Meier product limit estimator
MLE	Maximum likelihood estimate
MVUE	Minimum variance unbiased estimate (or estimator)
ND	Nondetect (synonym for censored)
RAN	Randomization
RI	Remedial investigation
SE	Standard error
SLERA	Screening-level ecological risk assessment
UCL	One-sided upper confidence limit of the mean
WRS	Wilcoxon rank sum
WRS(G)	Gehan's modification to the WRS test

## **GLOSSARY OF TERMS**

---

**Cumulative Distribution Function (CDF)/Empirical Distribution Function (EDF).** The CDF of a set of numerical data is, for each real value of  $x$ , the fraction of observations that are less than or equal to  $x$ . Stated more formally, the CDF gives the probability that a random variable  $X$  is less than or equal to  $x$ , for every value of  $x$ . This function is expressed in mathematical notation as  $F(x) = \text{Prob}(X \leq x)$  for  $-\infty < x < \infty$ . For continuous random variables, the CDF is the integral of its probability density function, and a plot of the CDF resembles an uneven set of stairs. The width of the stairs is the spacing between adjacent data; the height of the stairs depends on how many data have exactly the same value. When the CDF is derived from the observed measurements, it is commonly referred to as the EDF.

**Exposure Point Concentration (EPC).** An estimate of the average concentration of a chemical within a specified area (the exposure unit); also referred to as the concentration term. Because of the inherent uncertainty in estimating the true, but unknown, average concentration at a site, a UCL of the sample mean is used as the EPC in risk assessments.

**Left Censored.** Censoring occurs when data are reported only as being less than a fixed value (usually a detection or reporting limit for environmental data). Data are said to be left censored if the censoring limit is an upper threshold, and the censored values are reported as “less than” the censoring limit. Censored data are also commonly referred to as “nondetect” or “ND” data. Censoring can occur at a single reporting limit or at multiple reporting (or detection) limits.

**Quantile.** Quantiles are a set of “cut points” that divide rank-ordered data into groups of equal numbers of observations. An individual quantile defines a cut point below which a certain number or percentage of the data are found (for example, 90 percent of the measurements in a set lie below the 90th quantile).

**Standard Deviation.** A measure of the spread or dispersion of a set of data. The sample standard deviation is an estimator of the population standard deviation based on a random sample from the population.

**Type I Error.** The probability that a given null hypothesis ( $H_0$ ) will be incorrectly rejected when it is true. The Type I error is represented by the symbol alpha ( $\alpha$ ).

**Upper confidence limit of the mean (UCL).** The one-sided upper confidence limit of the mean. This limit is an upper bound for a random interval and indicates that there is a fixed probability that the true population mean is no larger than this value. Following current U.S. Environmental Protection Agency guidance, the UCL can be either a 95, 97.5, or 99 percent UCL of the sample mean.

## G1.0 INTRODUCTION

This appendix summarizes the methods used for calculating descriptive statistics and **exposure point concentrations (EPC)** and for conducting background screening of soil and groundwater in support of the human health risk assessment (HHRA) and screening-level ecological risk assessment (SLERA) for Installation Restoration (IR) Site 34 at Alameda Point, Alameda, California.

Details of the HHRA and SLERA and presentation of the statistical results for the EPC calculations are provided in Appendices H and I to the IR Site 34 Remedial Investigation (RI) Report. Background screening results are provided in Table 4-2 in the IR Site 34 RI Report. Soil calculations were conducted for two depth intervals: 0 to 2 feet below ground surface [bgs], and 0 to 4 feet bgs. The approach and calculations described in this appendix follow U.S. Environmental Protection Agency (EPA) and U.S. Department of the Navy guidance (EPA 2000, 2002b, 2006, 2007a, 2007b; Navy 1998, 1999, 2002).

Section G2.0 describes the approach used for calculating descriptive statistics and EPCs, and Section G3.0 describes the approach for screening site soil and groundwater against background concentrations of metals. The Glossary of Terms before this introduction defines terms that are presented in **bold text** when they are first mentioned in the appendix. References are provided in Section G4.0, and figures and tables may be found immediately after the references.

## G2.0 CALCULATION OF DESCRIPTIVE STATISTICS AND EXPOSURE POINT CONCENTRATIONS

Initial selection of an approach for calculating descriptive statistics and EPCs was based on the relative sample size, detection frequency, and determination of the best-fit model for describing the underlying distribution of analytical results for each chemical, as shown on Figure G-1. Calculations were only performed for chemicals with a least one detected result. The EPC defaulted to the maximum detected concentration for chemicals with less than four detected results. Quality control field duplicate samples were treated following the approach described in the RI Work Plan (SulTech 2006). Censored measurements that exceeded the maximum detected concentration for each chemical were excluded from all analyses.

The approach used for calculating EPCs for chemicals with all detected results followed EPA (2002b) and recommendations provided in EPA's ProUCL 4 Technical and User Guides (EPA 2007a, 2007b). For chemicals with one or more nondetect results, the approach followed EPA's research on censored data methods (EPA 2006), as well as the updated recommendations provided in the ProUCL 4 software package (EPA 2007a, 2007b).

Section G2.1 provides details of the approach used for detected results only, and Section G2.2 describes the approach used for chemicals with both detected and censored results. Details of the approach used for distribution testing are provided in Section G2.3.

## G2.1

## CALCULATIONS FOR SAMPLES WITH DETECTED RESULTS ONLY

Summary statistics and EPCs for chemicals with detected results only were calculated following EPA (2002b) and recommendations in the ProUCL 4 Technical and User Guides (EPA 2007a, 2007b). Recommendations in ProUCL 4 are based on the results of simulation experiments conducted to determine the relative coverage probabilities (that is, likelihood that the true mean is bounded by the **upper confidence limit of the mean [UCL]**) for different mathematical models used to calculate a one-sided UCL of the mean (EPA 1997, 2002a; Singh and Nocerino 2002). In this approach, each method is applied to a series of synthetic data sets drawn from different known theoretical distributions or mixtures of distributions. Both the skewness of the underlying distributions for the parent data sets and the size of the samples drawn from each data set are manipulated as part of the experimental design. An optimal method for calculating a UCL is selected based on the overall performance of each analytical method over the range of conditions evaluated. ProUCL implements a series of decision rules to select an optimal method based on three sample properties: (1) best-fit distribution, (2) relative degree of skewness, and (3) relative sample size.

The ProUCL approach depends heavily on estimating the underlying distribution of a sample. An important update incorporated in ProUCL Version 3 is the inclusion of models to calculate a UCL based on the gamma distribution. EPA (1997) reported that UCLs calculated for data following a lognormal distribution using Land's method (EPA 1992; Gilbert 1987; Land 1975) are often inappropriately high for use in risk assessments. Other investigators have also studied alternative methods for calculating the UCL when data are skewed (Chen 1995; Schultz and Griffin 1999). EPA (2002a, 2007a, 2007b) suggests that UCL calculations based on a gamma model are more appropriate for skewed distributions that can be fit to either a gamma or lognormal model. Details of the approach used for testing the underlying distribution of analytical results for each chemical are provided in Section G2.3.

The optimal method for estimating an EPC was selected based on the recommendations provided in EPA (2007a,b), as shown on Figure G-1. Tables G-1, G-2, and G-3 provide detailed decision rules for selecting a method for calculating an appropriate UCL to represent the EPC. After a chemical-by-chemical evaluation of the sample size, underlying distribution, and degree of skewness, a UCL was calculated based on one of the parametric or nonparametric methods listed below (all methods from EPA [2007a, 2007b]).

### Parametric Methods

- Student's *t* UCL
- Approximate gamma UCL
- Adjusted gamma UCL
- Land's H-Statistic UCL
- Minimum variance unbiased estimate (MVUE)
- Chebyshev UCL

### Nonparametric Methods

- Nonparametric Chebyshev UCL
- Bootstrap *t* UCL
- Hall's bootstrap UCL

UCLs can be based on a one-sided 95, 97.5, or 99 percent UCL for EPCs calculated using the MVUE and nonparametric Chebyshev methods following EPA (2007a, 2007b). EPCs calculated using Student's *t* statistic or bootstrap approaches were based on a one-sided 95 percent UCL. The maximum detected concentration was used as the EPC for chemicals with fewer than four samples. The maximum detected concentration was also the default EPC when a particular estimate calculated using one of the methods described above exceeded the maximum detected concentration.

The following equations were used to calculate the mean, **standard deviations**, and UCL for the methods listed above. All terms in the equations below are defined on first use only. When the definition of a term is equation-specific, separate definitions are provided under each equation.

#### Equation 1 – Arithmetic Mean

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

where

$\bar{x}$	=	Sample arithmetic mean
$n$	=	Sample size
$x_i$	=	$i^{\text{th}}$ measurement in the sample

#### Equation 2 – Sample Standard Deviation

$$s = \frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2$$

where

$s$	=	Sample standard deviation
-----	---	---------------------------

#### Equation 3 – MVUE for the Lognormal Mean

$$\hat{\mu} = [e(\bar{y})] \psi_n \left( \frac{s_y^2}{2} \right)$$

where

$\hat{\mu}$	=	MVUE for the lognormal mean
$e$	=	Euler's constant
$\bar{y}$	=	Mean of the natural logarithms of the sample data
$s_y^2$	=	Variance of the natural logarithms of the sample data
$\psi_n(t)$	=	Infinite series, calculated as follows:

$$\psi_n(t) = 1 + \frac{(n-1)t}{n} + \frac{(n-1)^3 t^2}{2! n^2 (n+1)} + \frac{(n-1)^5 t^3}{3! n^3 (n+1)(n+3)} + \frac{(n-1)^7 t^4}{4! n^4 (n+1)(n+3)(n+5)} + \dots$$

$$\text{where } t = \frac{s_y^2}{2}$$

**Equation 4 – MVUE for the Standard Deviation of the Lognormal Mean**

$$s = \sqrt{e^{(2\bar{y})} \left\{ \psi_n(2s_y^2) - \psi_n \left[ \frac{s_y^2 (n-2)}{n-1} \right] \right\}}$$

where

$$s(\hat{\mu}) = \text{MVUE for the standard deviation of the lognormal mean}$$

**Equation 5 – UCL Calculated Using Student's *t* Statistic Method**

$$UCL_{1-\alpha} = \bar{x} + t_{1-\alpha, n-1} \frac{s}{\sqrt{n}}$$

where

- $UCL_{1-\alpha}$  = 1- $\alpha$  UCL calculated using Student's *t* statistic
- $\alpha$  = Type I error rate
- $t_{1-\alpha, n-1}$  = 1- $\alpha$  quantile of Student's *t* distribution with n-1 degrees of freedom

**Equation 6 – UCL Calculated Using Land's H-Statistic Method**

$$UCL_{1-\alpha} = e \left( \bar{y} + 0.5s_y^2 + \frac{s_y H_{1-\alpha}}{\sqrt{n-1}} \right)$$

where

- $UCL_{1-\alpha}$  = 1- $\alpha$  UCL calculated using Land's H-statistic
- $s_y$  = Standard deviation of the natural logarithms of the sample data
- H = Land's H-statistic obtained from published tables (Land 1975)

**Equation 7 – UCL Calculated Using Nonparametric Chebyshev Method**

$$UCL_{1-\alpha} = \bar{x} + \sqrt{\frac{1}{\alpha} - 1} \left( \frac{s}{\sqrt{n}} \right)$$

where

- $UCL_{1-\alpha}$  = 1- $\alpha$  UCL calculated using the nonparametric Chebyshev method

**Equation 8 – UCL Calculated Using MVUE Chebyshev Method**

$$UCL_{1-\alpha} = \bar{y} + \sqrt{\left(\frac{1}{\alpha} - 1\right) s^2(\hat{\mu})}$$

where

$UCL_{1-\alpha}$  = 1- $\alpha$  UCL calculated using the MVUE Chebyshev method

**Equation 9 – UCL Calculated Using Approximate Gamma Method**

$$UCL_{1-\alpha} = \frac{2n\hat{k}^*\bar{x}}{\chi_{2n\hat{k}^*}^2(\alpha)}$$

where

$UCL_{1-\alpha}$  = 1- $\alpha$  UCL calculated using the approximate gamma method  
 $\hat{k}^*$  = Bias-corrected maximum likelihood estimate (MLE) of the shape parameter for a gamma distribution, calculated as

$$\hat{k}^* = \frac{(n-3)\hat{k}}{n} + \frac{2}{n}$$

where

$\hat{k}$  = MLE of the shape parameter  
 $\chi_{2n\hat{k}^*}^2$  = Quantile of the Chi-square distribution with  $2n\hat{k}^*$  degrees of freedom

**Equation 10 – UCL Calculated Using Adjusted Gamma Method**

$$UCL_{1-\alpha} = \frac{2n\hat{k}^*\bar{x}}{\chi_{2n\hat{k}^*}^2(\beta)}, \text{ where}$$

$UCL_{1-\alpha}$  = 1- $\alpha$  UCL calculated using the adjusted gamma method  
 $\beta$  = Adjusted value of  $\alpha$ , the Type I error rate, from the table provided in Grice and Bain (1980) and reproduced in EPA (2007a)

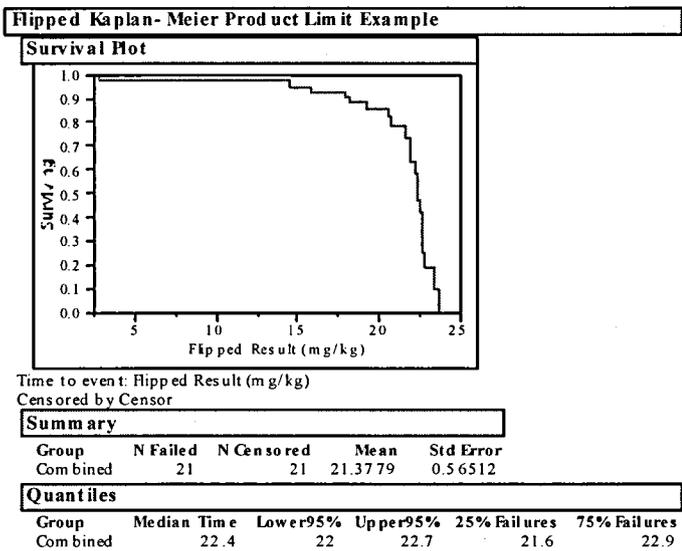
**G2.2 CALCULATIONS FOR SAMPLES WITH DETECTED AND CENSORED RESULTS**

A number of proposals have appeared in both the guidance and scientific literature for calculating a UCL of the mean when data are left censored (Helsel and Cohn 1988; Schultz and Griffin 1999; Helsel 1990, 2005a, 2005b; Ginevan and Splitstone 2002; EPA 2002b). EPA (2006) provides results of extensive Monte Carlo experiments conducted to determine the optimal model for calculating a UCL based on the relative sample size, underlying distribution (degree of skewness), and frequency of censored measurements. The recommendations provided in EPA (2006) have been incorporated in the ProUCL 4 software package (2007a, 2007b).

For IR Site 34 at Alameda, recommendations in EPA (2006, 2007a, 2007b) were followed for calculating UCLs for all chemicals with one or more censored results. The decision rules followed for selecting methods based on sample size, degree of skewness, and frequency of censorship are provided in Tables G-1, G-2, and G-3. The algorithms and numerical models used for these calculations are described in EPA (2006, 2007a) and Helsel (2005a).

All of the recommended censored UCL methods in EPA (2006) are based on the nonparametric Kaplan-Meier (K-M) product limit estimator. The K-M approach employs a well-studied method that has been used in the field of causal analysis for more than 40 years (Kaplan and Meier 1958). The K-M model is still widely used today in medical research for calculating survivorship in clinical studies and is a principal tool for conducting failure analysis in many industrial fields (Meeker and Escobar 1998). Helsel (2005a, 2005b) has proposed using a modification of the K-M estimator for treating samples with **left-censored** data. Helsel's proposed approach, termed the "flipped K-M model," uses a simple technique (subtraction of each measurement from a constant that is greater than the largest measurement) to convert left-censored data to right-censored data before the K-M model is run. Because the K-M model is a well-studied and proven technique for working with censored data, it is incorporated in most commercial statistical software packages that have platforms for calculating survival curves or for conducting failure analysis. Flipping the data is required for the analysis using software designed for right-censored data.

The K-M estimator is an empirical, nonparametric procedure that can be applied to data with multiple censoring limits (reporting or detection limits in environmental applications). Details of the underlying mathematics of the K-M model are available from a number of sources (Kaplan and Meier 1958; Meeker and Escobar 1998; Klein and Moeschberger 2003; Lee and Wang 2003). K-M results are typically presented graphically in the form of a survival curve (or conversely, as a failure curve). Survival curves generated using the K-M model follow a staircase pattern, as shown below in the example output from a popular commercial software package (JMP from SAS Institute).



All of the recommended censored UCL methods in EPA (2006, 2007a, 2007b) use the K-M approach to calculate the sample mean. The UCL of the mean is then calculated using one of the following four methods: (1) Student's *t* cutoff, (2) nonparametric Chebyshev method, (3) percentile bootstrap, or (4) bias-corrected accelerated (BCa) bootstrap. Additional details for each of these methods are provided in EPA (2006, 2007a, 2007b). It should be noted that the approach employing the K-M model and nonparametric Chebyshev method is used to calculate either a 95, 97.5, or 99 percent UCL, depending on the sample size and degree of skewness in the data (see Tables G-1, G-2, and G-3).

### G2.3 DISTRIBUTION TESTING

Both graphical methods and statistical goodness-of-fit (GOF) tests were used to assign a best-fit distribution for each chemical. Graphical methods included the preparation of **quantile** probability plots, outlier box plots, and frequency histograms for four potential fits: normal, lognormal, gamma, and nonparametric.

Distribution testing was only conducted for chemicals with at least eight detected results. Statistical GOF tests were conducted using the detected data only, although graphical presentations of the combined detected and censored results were also evaluated as an additional aid for assigning a best-fit distribution.

Formal tests were conducted using two well-established GOF tests: the Shapiro-Wilk *W* test (for normal and lognormal distributions) and the Cramer von Mises *W*<sup>2</sup> test (for gamma distributions). Figure G-3 provides examples of the graphical plots and presentation of the GOF test results used to evaluate the distribution of each data set. The statistical GOF tests are described below.

The Shapiro-Wilk W test is one of the most powerful GOF tests for evaluating whether a set of measurements follows a normal or lognormal distribution. The test relies on computing a correlation between the quantiles of the standard normal distribution and the ordered values of the observed data. When the Shapiro-Wilk W statistic is close to 1.0, the observed data will follow an essentially straight line when they are displayed using a normal probability plot. The following null ( $H_0$ ) and alternative ( $H_A$ ) hypotheses were tested using the Shapiro-Wilk W test:

$H_0$ : The data follow a normal distribution.

$H_A$ : The data do not follow a normal distribution.

Tests are conducted sequentially on data in original and natural-log transformed units. A **Type I error rate** ( $\alpha$ ) of 0.05 (equivalent to 5 percent) was used to interpret the significance of each test. A Type I error rate of 0.05 means there is a 5 percent chance that the  $H_0$  will be rejected when it is true (that is, the data are normally distributed), leading to the false conclusion that the underlying distribution is not normal. When the test is conducted using log-transformed data, failure to reject the  $H_0$  leads to the conclusion that the data follow a lognormal distribution. (Rejection of  $H_0$  indicates that the data are not lognormally distributed.)

The Cramer von Mises  $W^2$  test belongs to the quadratic class of **empirical distribution function (EDF)** statistics and is based on evaluating the squared difference between the EDF and the proposed **cumulative distribution function (CDF)**. The test statistic evaluated for the Cramer von Mises test is the  $W^2$ . When the probability of calculating a  $W^2$  greater than that shown for the observed data is less than some nominal probability (that is, 0.05), then the  $H_0$  that the data follow a gamma distribution is rejected. If the test fails to reject  $H_0$ , then it is concluded that the data follow a gamma distribution.

Final determination of the best-fit distribution was made using the results of the statistical GOF tests, as well as through examination of probability plots, outlier box plots, and frequency histograms. Best professional judgment was required to make the final determination because the power of the GOF tests is strongly affected by sample size, as well as the presence of outliers and censored measurements. Additional decision criteria were applied in cases where GOF testing indicated that a chemical followed more than one distribution. A normal distribution was selected by default in cases where the data could be fit to a normal, lognormal, or gamma distribution. If the data were not normal and could be fit to either a lognormal or gamma distribution, then the best-fit distribution was selected based on further examination of the quantile probability plots for each distribution. In this case, two criteria were evaluated in selecting the best-fit distribution: the number of measurements that depart from the linear fit of the observed data to the theoretical quantiles, and the magnitude of departure of each measurement from the linear fit. The distribution with the fewest number and smallest magnitude of departure from the fitted line in the quantile probability plots was selected as the best-fit distribution.

### G3.0 BACKGROUND SCREENING PROCESS FOR METALS IN SOIL AND GROUNDWATER

Two-population statistical tests were used to compare metal concentrations in soil and groundwater at IR Site 34 with background data sets developed for Alameda Point (PRC Environmental Management, Inc. [PRC] 1997). All methods followed Navy and EPA statistical guidance for evaluating background concentrations of chemicals in soil (Navy 1998, 1999, 2002; EPA 2002b). Results of the statistical comparison of metals concentrations in IR Site 34 soil with background are provided in (Table 4-2). Details of the background screening approach are summarized on Figure G-3 and described below.

As shown on Figure G-3, a tiered approach employing one or more statistical methods was used to conduct two-population tests. The first tier in this approach compares the median concentrations between the site and background populations using either the Wilcoxon rank sum (WRS) test, Gehan's modification to the WRS test (WRS[G]), randomization (RAN) test, or test of proportions. Selection of the specific tests depends on the relative detection frequency and sample size of each of the populations being compared. A second tier of testing is contingent on the results of the first tier tests. Second tier testing is designed to compare the right-hand tails or upper quantiles of the site and background populations using the quantile test. One-sided statistical tests are used in all cases and employ a Type I error rate of 0.05 (5 percent).

**WRS and WRS(G) tests:** Testing was performed using either the nonparametric WRS or WRS(G) test (Navy 1999, 2002) for metals with at least 60 percent detected data and at least 10 measurements in both the site and background populations.

The following  $H_0$  and  $H_A$  hypotheses were tested:

- $H_0$ : the median metal concentration for the site is less than or equal to the median concentration in the background population
- $H_A$ : the median metal concentration for the site is greater than the median concentration in the background population

The WRS test was used for samples with a single detection limit, and the WRS(G) test was used for samples with multiple detection limits, as described in Navy (1999, 2002). All censored measurements were set to a concentration slightly below the minimum detected concentration (that is, censored measurements were tied at a rank of 1) for the WRS test. The reporting limit was substituted for all censored data analyzed using the WRS(G) test. The WRS[G] test makes specific adjustments in the calculation of the rank scores to account for data with multiple detection limits. A RAN test of the medians was performed instead of the WRS or WRS(G) test for cases where either the site or background population contained fewer than 10 measurements. Details of the approach for implementing a RAN test of the median concentrations are provided in numerous technical sources on resampling (Noreen 1989; Todman 2001; Edgington 1995).

Two additional tests, the test of proportions and the quantile test, were performed in cases where the detection frequency in the site or background population was less than 60 percent. The quantile test was also performed in cases where the WRS, WRS(G), or RAN tests concluded that the site median concentration did not exceed the background median concentration (see Figure G-3). Each of these tests is described below.

**Test of Proportions:** The detection frequencies in the site and background populations were compared using the test of proportions for metals with fewer than 60 percent detected data. The test of proportions used a contingency table approach, and the significance of the test was determined using the Fisher exact test. (Note that Navy [1999, 2002] describe an approach for conducting the test of proportions using a normal approximation to the binomial distribution, which can also be used if software is not available for implementing the Fisher exact test.) Details on the Fisher exact test can be found in standard textbooks on statistics, such as Zar (1996).

The following  $H_0$  and  $H_A$  hypotheses were tested using the test of proportions:

- $H_0$ : the proportion of detected measurements greater than C at the site is less than or equal to the proportion of measurements greater than C in the background population
- $H_A$ : the proportion of detected measurements greater than C at the site is greater than the proportion of measurements greater than C in the background population

In the  $H_0$  and  $H_A$  statements above, C is defined as a concentration that is slightly larger than the maximum censored datum in the background data set.

**Quantile Test:** The quantile test (Johnson and others 1987; EPA 1994, 2000, 2002b, 2007a, 2007b; Navy 1998, 1999, 2002) was conducted for all metals with less than 60 percent detected data and for all cases where either the WRS, WRS(G), or RAN test did not reject  $H_0$ ; that is, when it was concluded that the median site and background concentrations were not significantly different.

The quantile test is a nonparametric two-population test developed for comparing the right-hand tails or upper quantiles of two distributions. The quantile test can be used when some proportion of high-value measurements (rather than the entire distribution) of one population has shifted relative to a second population. The quantile test is not as powerful as the WRS test when the distribution of site concentrations is shifted in its entirety to the right of the background distribution. However, the quantile test is more powerful than the WRS test for detecting cases where only a small number of high-value measurements are present in the upper quantile of the site distribution. For this reason, EPA and Navy guidance recommends that the quantile test be used in conjunction with the WRS test (EPA 1994, 2002b, 2007a, 2007b; Navy 1999, 2002). When applied together, these tests have more power to detect true differences between two population distributions.

The quantile test is easy to apply and consists of looking at the largest  $r$  measurements in the pooled (and ordered) site and background data sets and counting the number of  $r$  measurements that are from the site. If  $k$  or more of the  $r$  measurements are site measurements, the quantile test declares that the upper range of concentrations at the site is elevated relative to the background population. The  $H_0$  addressed by the quantile test is that  $\varepsilon \leq 0$  and  $\Delta/\sigma \leq 0$ , where  $\varepsilon$  is the proportion of site measurements that have shifted to the right and  $\Delta/\sigma$  is the magnitude (in units of standard deviation,  $\sigma$ ) of the shift.

It should be noted that the guidance for conducting the quantile test seems to present several alternatives for the treatment of nondetect or censored values when tabulating  $k$  and  $r$ . For example, EPA (1994) states that “if measurements less than the limit of detection are present in either data set, assume their value is less than the  $r^{\text{th}}$  largest measured value in the combined data set of  $N$  measurements.” This effectively ignores censored measurements, and allows conduct of the test as long as at least  $r$  detected measurements are present in the combined site and background data set. This is the approach that was used for conducting site versus background comparisons for Site 34 soil in the draft RI. The Navy’s soil background guidance (Navy 2002) states that “test may be inconclusive if less-than values are present among the largest  $r$  data values” and provides an additional note stating “ignore any less-than values when determining the largest detected  $r$  measurements.” However, release 4 of EPA’s ProUCL software package (EPA 2007a, 2007b) now includes a platform for conducting the quantile test, and takes a more conservative position with regard to the handling of nondetects. That is, ProUCL 4 takes the position that the presence of nondetects among the largest  $r$  detected measurements compromises the validity of the test, and issues a warning that the test cannot be conducted when this occurs. ProUCL 4 was released after the soil background comparisons were conducted for Site 34, but was available at the time the groundwater comparisons were being conducted. The procedure for treating nondetects from ProUCL 4 was used for conducting site versus background comparisons for Site 34 groundwater. This decision was made because ProUCL has been released as a tool for use with several EPA statistical guidance documents, and there was interest in providing test results for the quantile test that could be reproduced independently by the regulatory agencies and other reviewers.

EPA and Navy guidance provide critical values for the quantile test (EPA 1994, 2000; Navy 1999, 2002). The critical probabilities were derived using Monte Carlo simulation for cases where the sample sizes for the site or background populations exceeded the range of values provided in these tables (that is, either the site or background sample size exceeded 100) or the paired values for the site and background population did not exactly match the tabulated values. The stochastic model developed for calculating critical values of the quantile test was validated by successfully reproducing the published critical values for site and background population sizes in the range of 5 to 100.

Again, it should be noted that the WRS (or WRS[G] or RAN) test, the quantile test, and the test of proportions are applied sequentially. The quantile test and the test of proportions are also conditional tests in this scheme (see Figure G-3). That is, if  $H_0$  (site median concentration is less than or equal to background) is rejected under the WRS (or WRS[G] or RAN) test, then no further testing is necessary and the chemical is treated as a chemical of potential concern

(COPC). Failure to reject  $H_0$  triggers implementation of the quantile test. In cases where the detection frequency is less than 60 percent, both the test of proportions and quantile test are applied. Independent conclusions are reported for both the quantile test and the test of proportions, so rejection of  $H_0$  for either test can result in a conclusion that the site population exceeds background. However, in cases where the only difference between the site and background populations is based on the test of proportions, site-specific information and professional judgment are used in a weight-of-evidence process to ultimately determine whether treating a chemical as a COPC was justified. A qualifier is entered in the background screening tables and a footnote is used to indicate that caution should be exercised in cases where a chemical is determined to exceed background based only on a comparison of detection frequencies. Conclusions for the background screen are listed as "EQUIVOCAL" in the summary tables for all cases where both the WRS (or WRS[G]) and quantile tests could not be applied, and where the test of proportions indicated no significant difference between the detection frequencies. In these cases, professional judgment and examination of outlier box plots and the range of detected measurements were used to determine if a chemical should be treated as a COPC.

## G4.0 REFERENCES

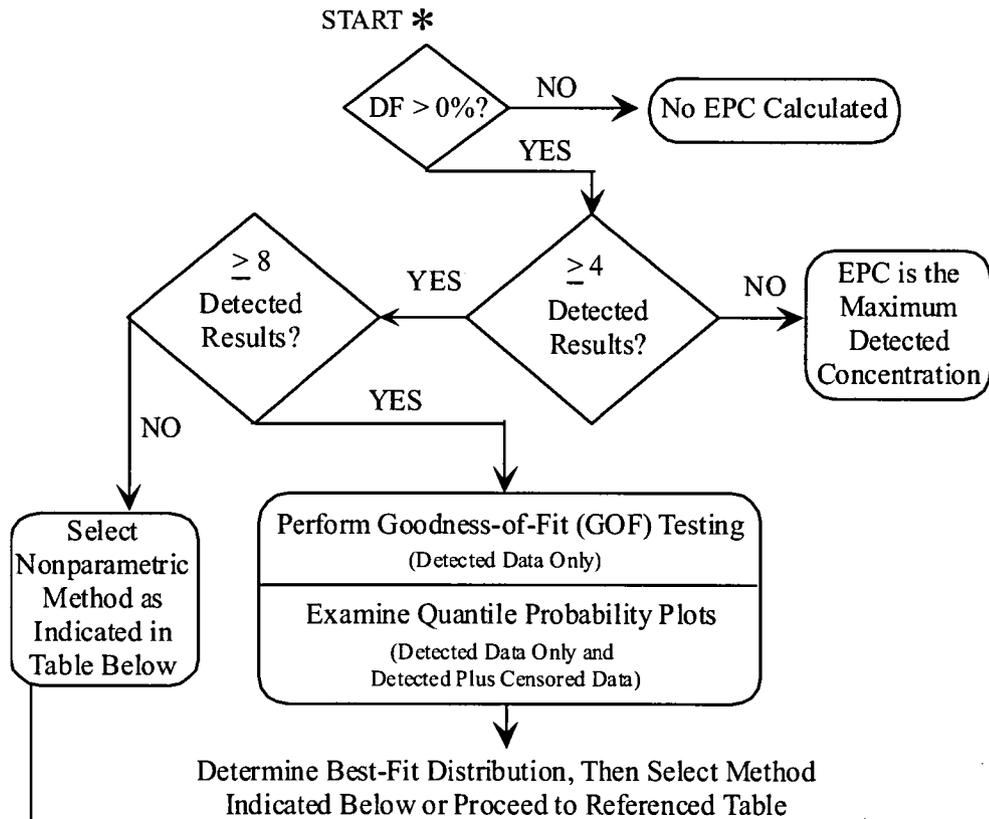
- Chen, L. 1995. "Testing the Mean of Skewed Distributions." *Journal of the American Statistical Association*. Volume 90, No. 430. Pages 767-772.
- Edgington, E.S. 1995. *Randomization Tests*. 3rd Edition. M. Dekker. New York, New York.
- Gilbert, R.O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. John Wiley & Sons, Inc. New York, New York.
- Ginevan, M.E., and D.E. Splitstone. 2002. "Bootstrap Upper Bounds for the Arithmetic Mean of Right-skewed Data, and the Use of Censored Data." *Environmetrics*. Volume 13. Pages 453-464.
- Grice, J.V., and L.J. Bain. 1980. "Inferences Concerning the Mean of the Gamma Distribution." *Journal of the American Statistical Association*. Volume 75, No. 372. Pages 929-933.
- Helsel, D.R. 1990. "Less than Obvious, Statistical Treatment of Data Below the Detection Limit." *Environmental Science and Technology*. Volume 24, No. 12. Pages 1,767-1,774.
- Helsel, D. 2005a. *Nondetects and Data Analysis: Statistics for Censored Environmental Data*. John Wiley & Sons, Inc. New York, New York. 250 p.
- Helsel, D.R. 2005b. "More than Obvious: Better Methods for Interpreting Nondetect Data." *Environmental Science and Technology*. Volume 39, No. 20. Pages 419A-423A.
- Helsel, D.R., and T. Cohn. 1988. "Estimation of the Descriptive Statistics for Multiply Censored Water Quality Data." *Water Resources Research*. Volume 24, No. 12. Pages 1,997-2,004.
- Johnson, R.A., S. Verrill, and D.H. Moore II. 1987. "Two-Sample Rank Tests for Detecting Changes that Occur in a Small Proportion of the Treated Population." *Biometrics*. Volume 43. Pages 641-655.
- Kaplan, E.L., and P. Meier. 1958. "Nonparametric Estimator From Incomplete Observations." *Journal of the American Statistical Association*. Volume 53. Pages 457-481.
- Klein, J.P., and M.L. Moeschberger. 2003. *Survival Analysis – Techniques for Censored and Truncated Data*. 2nd Edition. Statistics for Biology and Health, Springer Verlag. 560 p.
- Land, C.E. 1975. "Tables of Confidence Limits for Linear Functions of the Normal Mean and Variance." *Selected Tables in Mathematical Statistics, Volume III*. American Mathematical Society. Providence, Rhode Island.
- Lee, E.T., and J.W. Wang. 2003. *Statistical Methods for Survival Data Analysis*. Wiley Series in Probability and Statistics. John Wiley & Sons, Inc. New York, New York. 534 p.

- Meeker, W.Q., and L.A. Escobar. 1998. *Statistical Methods for Reliability Data*. Wiley Series in Probability and Statistics. John Wiley & Sons, Inc. New York, New York. 712 p.
- Noreen, E.W. 1989. *Computer-Intensive Methods for Testing Hypotheses: An Introduction*. John Wiley & Sons, Inc. New York, New York.
- PRC Environmental Management, Inc. (PRC). 1997. Final Statistical Methodology for Background Comparisons. Naval Air Station Alameda, Alameda, California. March 14.
- Schultz, T.W., and S. Griffin. 1999. "Estimating Risk Assessment Exposure Point Concentrations When the Data Are not Normal or Lognormal." *Risk Analysis*. Volume 19, No. 4. Pages 577-584.
- Singh, A., and J. Nocerino. 2002. "Robust Estimation of the Mean and Variance Using Environmental Data Sets with Below Detection Limit Observations." *Chemometrics and Intelligent Laboratory Systems*. Volume 60. Pages 69-86.
- SulTech. 2006. Remedial Investigation Work Plan, Installation Restoration Site 34. Alameda Point, Alameda, California. Final. January.
- Todman, J. 2001. *Single-case and Small-n Experimental Design: A Practical Guide to Randomization Tests*. Lawrence Erlbaum Associates, Inc. Mahway, New Jersey.
- U.S. Department of the Navy. 1998. "Procedural Guidance for Statistically Analyzing Environmental Background Data." Prepared by Naval Facilities Engineering Command, Southwest Division and Engineering Field Activity West. September.
- Navy. 1999. *Handbook for Statistical Analysis of Environmental Background Data*. Prepared by Naval Facilities Engineering Command, Southwest Division and Engineering Field Activity West. April.
- Navy. 2002. "Guidance for Environmental Background Analysis. Volume I: Soil, NFESC User's Guide." UG-2049-ENV. Washington, D.C. April.
- U.S. Environmental Protection Agency (EPA). 1992. Supplemental Guidance to RAGS: Calculating the Concentration Term. Intermittent Bulletin, Volume 1, Number 1. Publication 9285.7-081.
- EPA. 1994. "Statistical methods for Evaluating the Attainment of Cleanup Standards, Volume 3: Reference-Based Standards for Soils and Solid Media." EPA 230-R-94-004. U.S. Environmental Protection Agency, Office of Policy, Planning and Evaluation. Washington, DC. June.
- EPA. 1997. "The Lognormal Distribution in Environmental Applications." Prepared by Singh, A.K., A. Singh, and M. Engelhardt. EPA/600/R-97/006. December.
- EPA. 2000. "Guidance for Data Quality Assessment: Practical Methods for Data Analysis: EPA QA/G-9, QA97 Version." EPA/600/R-96/084. Office of Research and Development. Washington, D.C. July.

- EPA. 2002a. "Estimation of Exposure Point Concentration Term Using a Gamma Distribution." Prepared by Singh, A., A.K. Singh, and R.J. Iaci. EPA/600/R-02/084. October.
- EPA. 2002b. "Calculating Exposure Point Concentrations at Hazardous Waste Sites." Office of Solid Waste and Emergency Response 9285.6-10. Office of Emergency and Remedial Response. Washington, DC. December.
- EPA. 2006. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.
- EPA. 2007a. "ProUCL Version 4.0 Technical Guide." Prepared by Singh, A. and A.K. Singh. EPA/600/R-07/041. April.
- EPA. 2007b. "ProUCL Version 4.0 User Guide." Prepared by Singh, A., Maichle, R., Singh, A.K., and S.E. Lee. EPA/600/R-07/038. April.
- Zar, J.H. 1996. *Biostatistical Analysis*. Third Edition. Prentice Hall. Upper Saddle River, New Jersey.

**FIGURES**

---



**Determine Best-Fit Distribution, Then Select Method Indicated Below or Proceed to Referenced Table**

Best-Fit Distribution	DF = 100%	DF < 100%
	Approach Follows EPA (2004)	Approach Follows EPA (2006)
Normal	UCL <sub>95</sub> (Student's <i>t</i> )	UCL <sub>95</sub> , KM ( <i>t</i> )
Gamma	Table G-1 (Part A)	Table G-1 (Part B)
Lognormal	Table G-2 (Part A)	Table G-2 (Part B)
Nonparametric	Table G-3 (Part A)	Table G-3 (Part B)

**Notes:**

- DF     Detection frequency
- EPA    U.S. Environmental Protection Agency
- EPC    Exposure point concentration
- KM     Kaplan-Meier product limit estimator
- UCL<sub>95</sub> One-side 95 percent upper confidence limit of the mean
- ≥      Greater than or equal to
- <      Less than

**Sources:**

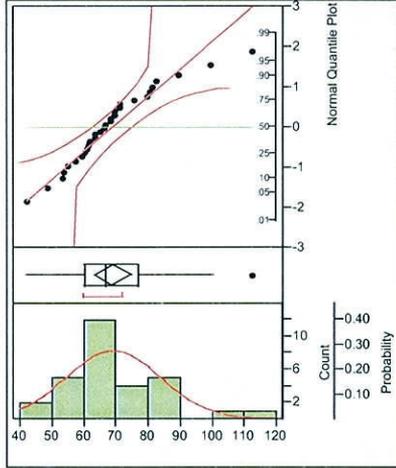
- EPA. 2004. "ProUCL Version 3.0 User Guide." Prepared by Singh, A., Singh, A.K., and R.W. Maichle. Technical Support Center. Las Vegas, Nevada. April.
- EPA. 2006. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.

**SuTech**

**Alameda Point, Alameda, California**  
U.S. Department of the Navy, BRAC PMO West, San Diego, California

**FIGURE G-1**  
**FLOW CHART FOR SELECTING METHODS**  
**FOR CALCULATING EPCs**

Site = Example (0-10 ft bgs) -- Metals -- Vanadium -- mg/kg -- Normal Fit



Quantiles		
100.0%	maximum	113.00
99.5%		113.00
97.5%		113.00
90.0%		89.20
75.0%	quartile	77.15
50.0%	median	67.05
25.0%	quartile	60.55
10.0%		54.11
2.5%		42.50
0.5%		42.50
0.0%	minimum	42.50

Fitted Normal

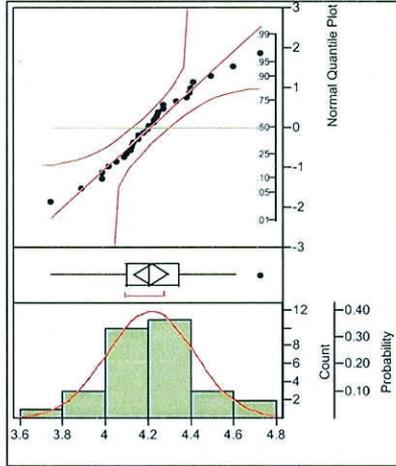
Parameter Estimates

Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	69.17333	63.69826	74.64841
Dispersion	Sigma	14.66252	11.67734	19.71105

Goodness-of-Fit Test

Shapiro-Wilk W Test		
W	Prob<W	
0.936976	0.0754	

Site = Example (0-10 ft bgs) -- Metals -- Vanadium -- ln(mg/kg) -- Lognormal Fit



Quantiles		
100.0%	maximum	4.7274
99.5%		4.7274
97.5%		4.7274
90.0%		4.4906
75.0%	quartile	4.3455
50.0%	median	4.2054
25.0%	quartile	4.1034
10.0%		3.9910
2.5%		3.7495
0.5%		3.7495
0.0%	minimum	3.7495

Fitted Normal

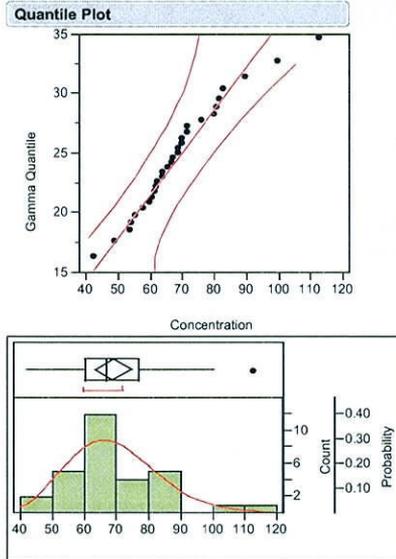
Parameter Estimates

Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	4.216267	4.140415	4.292119
Dispersion	Sigma	0.203136	0.161779	0.273078

Goodness-of-Fit Test

Shapiro-Wilk W Test		
W	Prob<W	
0.981295	0.8589	

Site = Example (0-10 ft bgs) -- Metals -- Vanadium -- mg/kg -- Gamma Fit



Fixed Parameters

Parameter	Value	Fixed	Lower 95%	Upper 95%
Alpha	24.73764	*		
Sigma	2.79628	*		
Theta	0.00000			

Adequacy LR Test

ChiSquare	p-Value
0.00000	1.000000

Note: H0=New restricted parameterization adequately describes data. Small p-values are evidence against new parameterization.

Goodness-of-Fit Test

Cramer-von Mises W Test		
W-Square	Prob>W^2	
0.060196	>	0.2500

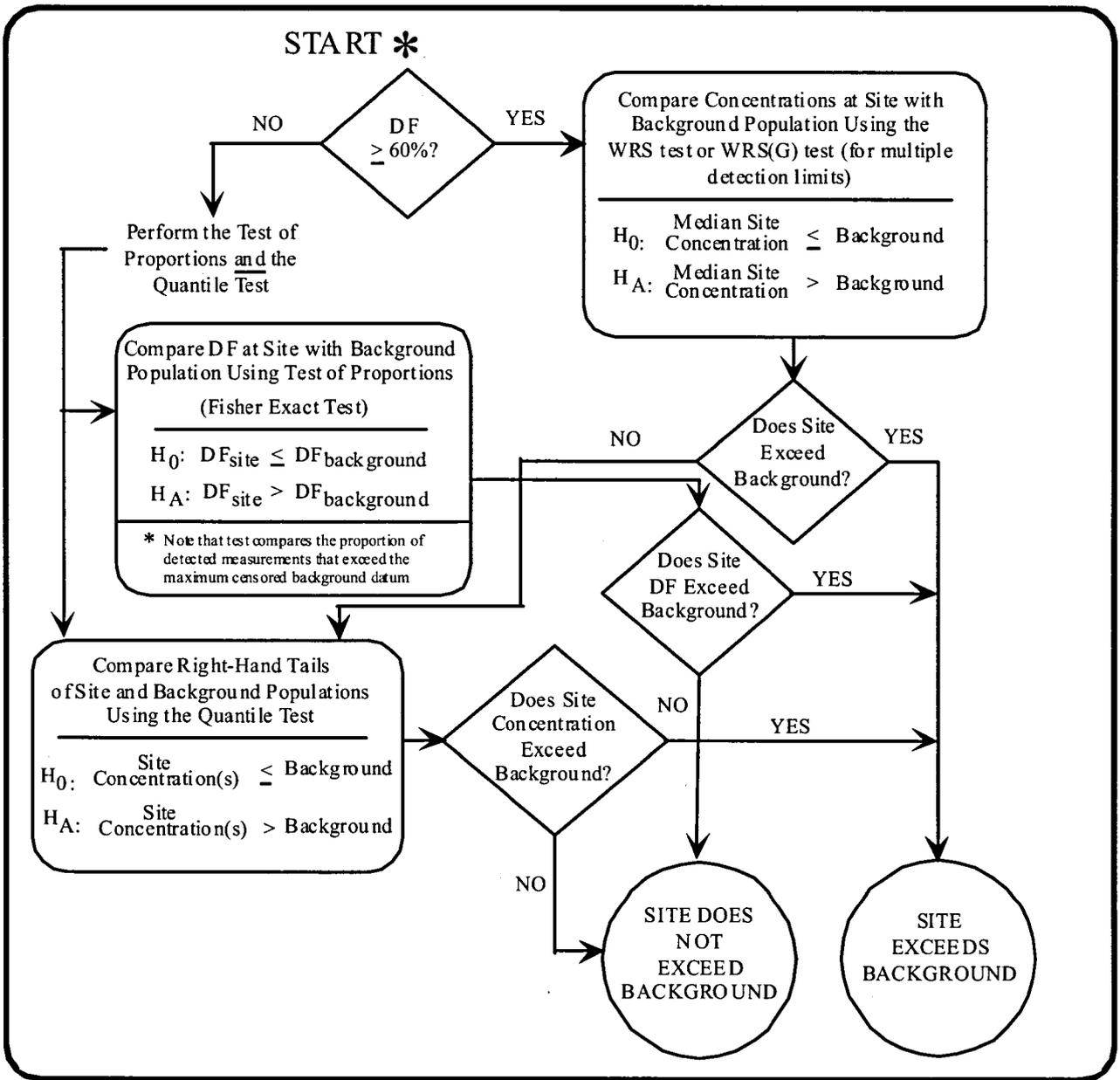


Alameda Point, Alameda, California  
U.S. Department of the Navy, BRAC PMO West, San Diego, California

FIGURE G-2

EXAMPLES OF PLOTS AND GOODNESS-OF-FIT TESTS USED TO DETERMINE IF CHEMICALS FOLLOW A NORMAL, LOGNORMAL, OR GAMMA DISTRIBUTION

Remedial Investigation Report for IR Site 34



Notes:  
 $H_0$  Null hypothesis  
 $H_A$  Alternative hypothesis  
 DF Detection frequency  
 WRS Wilcoxon rank sum test  
 WRS(G) Gehan-Wilcoxon rank sum test

**SulTech**

Alameda Point, Alameda, California  
 U.S. Department of the Navy, BRAC PMO West, San Diego, California

**FIGURE G-3**

**FLOW CHART SHOWING BACKGROUND SCREENING PROCESS FOR METALS IN SOIL AND GROUNDWATER**  
 Remedial Investigation Report for IR Site 34

**TABLES**

---

**TABLE G-1: EPA RECOMMENDATIONS FOR CALCULATING A UCL FOR GAMMA DISTRIBUTIONS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Part A – All Results Detected (EPA 2007a, 2007b)		
$\hat{k}$	n	Recommended Method
$\hat{k} \geq 0.50$	All n	UCL <sub>95</sub> , Approximate Gamma
$0.10 \leq \hat{k} < 0.50$	All n	UCL <sub>95</sub> , Adjusted Gamma
$\hat{k} < 0.10$	n < 15	UCL <sub>95</sub> , Bootstrap t or Hall's Bootstrap (Adjusted Gamma if estimates too high)
$\hat{k} < 0.10$	n ≥ 15	UCL <sub>95</sub> , Adjusted Gamma (or Approximate Gamma)
Part B – Detected and Censored Results (EPA 2006, 2007a, 2007b)		
$\hat{k}$	DF	Recommended Method
$\hat{k} > 2$	DF > 80	UCL <sub>95</sub> , KM (BCa bootstrap)
	$60 \leq DF \leq 80$	UCL <sub>95</sub> , KM (percentile bootstrap)
	DF < 60	UCL <sub>95</sub> , KM (Student's t cutoff)
$1 < \hat{k} \leq 2$	DF > 90	UCL <sub>95</sub> , KM (Chebyshev)
	$75 \leq DF \leq 90$	UCL <sub>95</sub> , KM (BCa bootstrap)
	$60 \leq DF < 75$	UCL <sub>95</sub> , KM (percentile bootstrap)
	DF < 60	UCL <sub>95</sub> , KM (Student's t cutoff)
$\hat{k} \leq 1$	DF ≥ 70	UCL <sub>95</sub> , KM (Chebyshev)
	$50 < DF < 70$	UCL <sub>95</sub> , KM (BCa bootstrap)
	DF ≤ 50	UCL <sub>95</sub> , KM (Student's t cutoff)

Notes:

- ≥ Greater than or equal to
- < Less than
- ≤ Less than or equal to

- $\hat{k}$  Maximum likelihood estimator for the shape parameter of a gamma distribution
- BCa Bias-corrected accelerated
- EPA U.S. Environmental Protection Agency
- DF Detection frequency (percent)
- KM Kaplan-Meier product limit
- n Sample size
- UCL One-sided upper confidence limit of the mean

Sources:

- EPA. 2006. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.
- EPA. 2007a. "ProUCL Version 4.0 Technical Guide." Prepared by Singh, A. and A.K. Singh. EPA/600/R-07/041. April.
- EPA. 2007b. "ProUCL Version 4.0 User Guide." Prepared by Singh, A., Maichle, R., Singh, A.K., and S.E. Lee. EPA/600/R-07/038. April.

**TABLE G-2: EPA RECOMMENDATIONS FOR CALCULATING A UCL FOR LOGNORMAL DISTRIBUTIONS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

<b>Part A – All Results Detected (EPA 2007a, 2007b)</b>		
$\hat{\sigma}$	n	Recommended Method
$\hat{\sigma} < 0.50$	All n	UCL <sub>95</sub> , Student's <i>t</i>
$0.50 \leq \hat{\sigma} < 1$	All n	UCL <sub>95</sub> , Land's (H-Statistic)
$1 \leq \hat{\sigma} < 1.5$	n < 25	UCL <sub>95</sub> , MVUE Chebyshev
	n ≥ 25	UCL <sub>95</sub> , Land's (H-Statistic)
$1.5 \leq \hat{\sigma} < 2$	n < 20	UCL <sub>99</sub> , MVUE Chebyshev
	20 ≤ n < 50	UCL <sub>95</sub> , MVUE Chebyshev
	n ≥ 50	UCL <sub>95</sub> , Land's (H-Statistic)
$2 \leq \hat{\sigma} < 2.5$	n < 20	UCL <sub>99</sub> , MVUE Chebyshev
	20 ≤ n < 50	UCL <sub>97.5</sub> , MVUE Chebyshev
	50 ≤ n < 70	UCL <sub>95</sub> , MVUE Chebyshev
	n ≥ 70	UCL <sub>95</sub> , Land's (H-Statistic)
$2.5 \leq \hat{\sigma} < 3$	n < 30	Larger of UCL <sub>99</sub> , MVUE Chebyshev and UCL <sub>99</sub> , Chebyshev (nonparametric)
	30 ≤ n < 70	UCL <sub>97.5</sub> , MVUE Chebyshev
	70 ≤ n < 100	UCL <sub>95</sub> , MVUE Chebyshev
	n ≥ 100	UCL <sub>95</sub> , Land's (H-Statistic)
$3 \leq \hat{\sigma} \leq 3.5$	n < 15	Hall's Bootstrap (or UCL <sub>99</sub> , MVUE Chebyshev)
	15 ≤ n < 50	Larger of UCL <sub>99</sub> , MVUE Chebyshev and UCL <sub>99</sub> , Chebyshev (nonparametric)
	50 ≤ n < 100	UCL <sub>97.5</sub> , MVUE Chebyshev
	100 ≤ n < 150	UCL <sub>95</sub> , MVUE Chebyshev
	n ≥ 150	UCL <sub>95</sub> , Land's (H-Statistic)
$\hat{\sigma} > 3.5$	All n	Use nonparametric methods
<b>Part B – Detected and Censored Results (EPA 2006, 2007a, 2007b)</b>		
$\hat{\sigma}$	DF and n	Recommended Method
$\hat{\sigma} \leq 1.0$	DF > 80, n ≤ 70	UCL <sub>95</sub> , KM (Chebyshev)
	DF > 80, n > 70	UCL <sub>95</sub> , KM (BCa bootstrap)
	60 ≤ DF ≤ 80, All n	UCL <sub>95</sub> , KM (BCa bootstrap)
	DF < 60, All n	UCL <sub>95</sub> , KM (percentile bootstrap)
$1 < \hat{\sigma} \leq 1.5$	DF > 50, n < 40	UCL <sub>97.5</sub> , KM (Chebyshev)
	DF > 50, n ≥ 40	UCL <sub>95</sub> , KM (Chebyshev)
	DF ≤ 50, All n	UCL <sub>95</sub> , KM (BCa bootstrap)
$1.5 < \hat{\sigma} \leq 2$	DF > 50, n < 40	UCL <sub>99</sub> , KM (Chebyshev)
	DF > 50, n ≥ 40	UCL <sub>97.5</sub> , KM (Chebyshev)

**TABLE G-2: EPA RECOMMENDATIONS FOR CALCULATING A UCL FOR LOGNORMAL DISTRIBUTIONS (CONTINUED)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

<b>Part B – Detected and Censored Results (EPA 2006, 2007a, 2007b)</b>		
$\hat{\sigma}$	DF and n	Recommended Method
	DF $\leq$ 50, n < 40	UCL <sub>97.5</sub> , KM (Chebyshev)
	DF $\leq$ 50, n $\geq$ 40	UCL <sub>95</sub> , KM (Chebyshev)
$\hat{\sigma} > 2$	All DF, n $\leq$ 60	UCL <sub>99</sub> , KM (Chebyshev)
	All DF, n > 60	UCL <sub>97.5</sub> , KM (Chebyshev)

Notes:

- > Greater than
- $\geq$  Greater than or equal to
- < Less than
- $\leq$  Less than or equal to
- $\hat{\sigma}$  Standard deviation of the natural logarithms of the data
- BCa Bias-corrected accelerated
- EPA U.S. Environmental Protection Agency
- DF Detection frequency (percent)
- KM Kaplan-Meier product limit
- MVUE Minimum variance unbiased estimate
- n Sample size
- UCL One-sided upper confidence limit of the mean

Sources:

- EPA. 2006. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.
- EPA. 2007a. "ProUCL Version 4.0 Technical Guide." Prepared by Singh, A. and A.K. Singh. EPA/600/R-07/041. April.
- EPA. 2007b. "ProUCL Version 4.0 User Guide." Prepared by Singh, A., Maichle, R., Singh, A.K., and S.E. Lee. EPA/600/R-07/038. April.

**TABLE G-3: EPA RECOMMENDATIONS FOR CALCULATING A UCL FOR NONPARAMETRIC DISTRIBUTIONS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

<b>Part A – All Results Detected (EPA 2007a, 2007b)</b>		
$\hat{\sigma}$	n	Recommended Method
$\hat{\sigma} \leq 0.50$	All n	UCL <sub>95</sub> , Student's <i>t</i>
$0.50 < \hat{\sigma} \leq 1.0$	All n	UCL <sub>95</sub> , Chebyshev (nonparametric)
$1.0 < \hat{\sigma} \leq 2.0$	n < 50	UCL <sub>99</sub> , Chebyshev (nonparametric)
	n ≥ 50	UCL <sub>97.5</sub> , Chebyshev (nonparametric)
$2.0 < \hat{\sigma} \leq 3.0$	n < 10	Hall's Bootstrap (or UCL <sub>99</sub> , Chebyshev [nonparametric])
	n ≥ 10	UCL <sub>99</sub> , Chebyshev (nonparametric)
$3.0 < \hat{\sigma} \leq 3.5$	n < 30	Hall's Bootstrap (or UCL <sub>99</sub> , Chebyshev [nonparametric])
	n ≥ 30	UCL <sub>99</sub> , Chebyshev (nonparametric)
$\hat{\sigma} > 3.5$	n < 100	Hall's Bootstrap (or UCL <sub>99</sub> , Chebyshev [nonparametric])
	n ≥ 100	UCL <sub>99</sub> , Chebyshev (nonparametric)

**Part B – Detected and Censored Results (EPA 2006, 2007a, 2007b)**

Follow recommendations for lognormal distributions in Table G-2 (Part B), with the following exception:  
For  $\hat{\sigma} < 0.50$  and fewer than 8 detected measurements use UCL<sub>95</sub>, KM (Student's *t* cutoff)

Notes:

- > Greater than
- ≥ Greater than or equal to
- < Less than
- ≤ Less than or equal to
- $\hat{\sigma}$  Standard deviation of the natural logarithms of the data
- EPA U.S. Environmental Protection Agency
- UCL One-sided upper confidence limit of the mean

Sources:

- EPA. 2006. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.
- EPA. 2007a. "ProUCL Version 4.0 Technical Guide." Prepared by Singh, A. and A.K. Singh. EPA/600/R-07/041. April.
- EPA. 2007b. "ProUCL Version 4.0 User Guide." Prepared by Singh, A., Maichle, R., Singh, A.K., and S.E. Lee. EPA/600/R-07/038. April.

**APPENDIX H**  
**BASELINE HUMAN HEALTH RISK ASSESSMENT**

---

**TABLE OF CONTENTS**

---

ACRONYMS AND ABBREVIATIONS ..... H-xii

H1.0 INTRODUCTION ..... H-1

H2.0 SITE DESCRIPTION AND BACKGROUND ..... H-1

H3.0 RISK ASSESSMENT GUIDELINES AND TECHNICAL APPROACH ..... H-2

H4.0 DATA EVALUATION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN ..... H-2

    H4.1 DATA VALIDATION ..... H-3

    H4.2 SOIL DATA ..... H-3

    H4.3 GROUNDWATER DATA ..... H-4

    H4.4 SELECTION OF CHEMICALS OF POTENTIAL CONCERN ..... H-4

H5.0 EXPOSURE ASSESSMENT ..... H-5

    H5.1 EXPOSURE SETTING AND POTENTIAL RECEPTORS..... H-5

    H5.2 POTENTIAL SOURCES OF SITE CHEMICALS..... H-6

    H5.3 IDENTIFICATION OF EXPOSURE PATHWAYS..... H-6

        H5.3.1 Commercial/Industrial Worker Exposure Pathways..... H-6

        H5.3.2 Construction Worker Exposure Pathways ..... H-6

        H5.3.3 Residential Exposure Pathways ..... H-7

        H5.3.4 Recreational User Exposure Pathways ..... H-8

    H5.4 EXPOSURE POINT CONCENTRATIONS ..... H-8

        H5.4.1 Exposure Point Concentrations in Soil and Groundwater ..... H-9

        H5.4.2 Exposure Point Concentrations in Indoor Air..... H-10

        H5.4.3 Outdoor Air – Chemicals in Particulates Released from Soil..... H-13

        H5.4.4 Outdoor Air – Volatile Chemicals Released from Soil ..... H-13

        H5.4.5 Outdoor Air – Volatile Chemicals Released from Groundwater..... H-13

    H5.5 CHEMICAL INTAKES AND EXPOSURE PARAMETERS ..... H-14

        H5.5.1 General Exposure Assumptions..... H-15

        H5.5.2 Pathway-Specific Exposure Factors ..... H-15

H6.0 TOXICITY ASSESSMENT ..... H-18

    H6.1 REFERENCE DOSES ..... H-19

    H6.2 SLOPE FACTORS..... H-21

    H6.3 ROUTE-TO-ROUTE EXTRAPOLATION..... H-22

**TABLE OF CONTENTS (Continued)**

H6.4	SURROGATES .....	H-22
H6.5	LEAD.....	H-22
H7.0	RISK CHARACTERIZATION METHODS.....	H-23
H7.1	CHARACTERIZATION OF CANCER RISKS.....	H-23
H7.2	CHARACTERIZATION OF NONCANCER HAZARDS.....	H-24
H7.3	HEALTH EFFECTS ASSOCIATED WITH EXPOSURE TO LEAD .....	H-24
H8.0	RESULTS OF THE HUMAN HEALTH RISK ASSESSMENT .....	H-25
H8.1	CANCER RISK ESTIMATES.....	H-26
	H8.1.1 Future Commercial/Industrial Worker.....	H-26
	H8.1.2 Future Construction Worker .....	H-27
	H8.1.3 Future Resident .....	H-28
	H8.1.4 Future Recreational User .....	H-30
H8.2	NONCANCER HAZARD ESTIMATES.....	H-31
	H8.2.1 Future Commercial/Industrial Worker.....	H-31
	H8.2.2 Future Construction Worker .....	H-32
	H8.2.3 Future Resident .....	H-33
	H8.2.4 Future Recreational User .....	H-34
H8.3	LEAD RESULTS .....	H-34
H8.4	INCREMENTAL RISKS .....	H-35
H9.0	UNCERTAINTY ANALYSIS .....	H-35
H9.1	DATA EVALUATION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN.	H-36
H9.2	EXPOSURE ASSESSMENT.....	H-36
	H9.2.1 Exposure Scenarios.....	H-36
	H9.2.2 Selecting Exposure Pathways .....	H-36
	H9.2.3 Estimating Exposure Point Concentrations .....	H-36
	H9.2.4 Selecting Exposure Variables .....	H-37
	H9.2.5 Applying the Vapor Intrusion Model.....	<del>H-37</del> H-38
H9.3	TOXICITY ASSESSMENT .....	H-39
	H9.3.1 Chemical Surrogates for Toxicity Criteria.....	H-40
	H9.3.2 Provisional Peer-Reviewed Toxicity Values .....	H-40
	H9.3.3 Trichloroethene .....	H-40
H9.4	RISK CHARACTERIZATION .....	H-41
H10.0	REFERENCES .....	H-42

**TABLE OF CONTENTS (Continued)**

---

**Attachments**

- H1 Indoor Air Vapor Intrusion Modeling Calculations
- H2 Cancer Risk and Noncancer Hazard Estimates (Method 1), Central Tendency Exposure
- H3 Cancer Risk and Noncancer Hazard Estimates (Method 2), Central Tendency Exposure
- H4 Cancer Risk and Noncancer Hazard Estimates, Incremental Risk

## ***LIST OF FIGURES***

---

H-1 Human Health Conceptual Site Model for Site 34

## ***LIST OF TABLES***

---

### **Selection of Exposure Pathways**

H-1 EPA RAGS Part D Table 1, Selection of Exposure Pathways, Commercial/Industrial Workers, Construction Workers, Residents, and Recreational Users

### **Occurrence, Distribution, and Selection of COPCs**

H-2.1 EPA RAGS Part D Table 2, Occurrence, Distribution, and Selection of Chemicals of Potential Concern, Surface Soil (0 to 2 feet bgs)

H-2.2 EPA RAGS Part D Table 2, Occurrence, Distribution, and Selection of Chemicals of Potential Concern, Surface and Subsurface Soil (0 to 4 feet bgs)

H-2.3 EPA RAGS Part D Table 2, Occurrence, Distribution, and Selection of Chemicals of Potential Concern, Groundwater

### **Exposure Point Concentration Summaries**

H-3.1 EPA RAGS Part D Table 3, Exposure Point Concentration Summary, Surface Soil (0 to 2 feet bgs)

H-3.2 EPA RAGS Part D Table 3, Exposure Point Concentration Summary, Method 1, Surface and Subsurface Soil (0 to 4 feet bgs)

H-3.3 EPA RAGS Part D Table 3, Exposure Point Concentration Summary, Groundwater

H-3.4 Exposure Point Concentration Summary, Ambient Air Concentrations via Volatilization in Surface Soil (0 to 2 feet bgs)

H-3.5 Exposure Point Concentration Summary, Ambient Air Concentrations via Volatilization in Surface and Subsurface Soil (0 to 4 feet bgs)

H-3.6 Exposure Point Concentration Summary, Ambient Air Concentrations via Volatilization in Groundwater

### **Values Used for Daily Intake**

H-4.1 EPA RAGS Part D Table 4, Values Used for Daily Intake, RME Soil Exposures

H-4.2 EPA RAGS Part D Table 4, Values Used for Daily Intake, RME Groundwater Exposures

H-4.3 EPA RAGS Part D Table 4, Values Used for Daily Intake, CTE Soil Exposures

H-4.4 EPA RAGS Part D Table 4, Values Used for Daily Intake, CTE Groundwater Exposures

### **Chemical-Specific Factors**

H-5.1 Dermal Absorption Factors

H-5.2 Chemical Data and Uptake Factors for Ingestion of Homegrown Produce Pathway

## **LIST OF TABLE (Continued)**

---

### **Toxicity Data**

#### **METHOD 1**

- H-6.1 EPA RAGS Part D Table 6.1, Noncancer Toxicity Data – Oral/Dermal, Method 1 Values (EPA Sources)
- H-6.2 EPA RAGS Part D Table 6.2, Noncancer Toxicity Data – Inhalation, Method 1 Values (EPA Sources)
- H-6.3 EPA RAGS Part D Table 6.3, Cancer Toxicity Data – Oral/Dermal, Method 1 Values (EPA Sources)
- H-6.4 EPA RAGS Part D Table 6.4, Cancer Toxicity Data – Inhalation, Method 1 Values (EPA Sources)

#### **METHOD 2**

- H-6.5 EPA RAGS Part D Table 6.5, Noncancer Toxicity Data – Oral/Dermal, Method 2 Values (DTSC-Preferred Sources)
- H-6.6 EPA RAGS Part D Table 6.6, Noncancer Toxicity Data – Inhalation, Method 2 Values (DTSC-Preferred Sources)
- H-6.7 EPA RAGS Part D Table 6.7, Cancer Toxicity Data – Oral/Dermal, Method 2 Values (DTSC-Preferred Sources)
- H-6.8 EPA RAGS Part D Table 6.8, Cancer Toxicity Data – Inhalation, Method 2 Values (DTSC-Preferred Sources)

### **RME Cancer Risks and Noncancer Hazards**

#### **METHOD 1**

- H-7.1 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H-7.2 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-7.3 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H-7.4 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-7.5 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-7.6 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)

## ***LIST OF TABLE (Continued)***

---

- H-7.7 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface Soil (0 to 2 feet bgs)
- H-7.8 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-7.9 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-7.10 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-7.11 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H-7.12 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H-7.13 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

### **METHOD 2**

- H-7.14 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H-7.15 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-7.16 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H-7.17 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-7.18 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-7.19 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)

## **LIST OF TABLE (Continued)**

---

- H-7.20 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface Soil (0 to 2 feet bgs)
- H-7.21 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-7.22 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-7.23 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-7.24 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H-7.25 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H-7.26 EPA RAGS Part D Table 7a-b, Calculation of RME Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

### **Summaries of RME Receptor Risks and Hazards for COPCs**

#### **METHOD 1**

- H-8.1 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H-8.2 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-8.3 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H-8.4 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-8.5 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-8.6 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)

## ***LIST OF TABLE (Continued)***

---

- H-8.7 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface Soil (0 to 2 feet bgs)
- H-8.8 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-8.9 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-8.10 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-8.11 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H-8.12 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H-8.13 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

### **METHOD 2**

- H-8.14 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H-8.15 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-8.16 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H-8.17 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-8.18 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-8.19 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)

## ***LIST OF TABLE (Continued)***

---

- H-8.20 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface Soil (0 to 2 feet bgs)
- H-8.21 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-8.22 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-8.23 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-8.24 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H-8.25 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H-8.26 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

### **RME Risk Assessment Summaries**

#### **METHOD 1**

- H-9.1 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H-9.2 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-9.3 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H-9.4 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-9.5 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-9.6 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-9.7 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface Soil (0 to 2 feet bgs)

***LIST OF TABLE (Continued)***

---

- H-9.8 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-9.9 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-9.10 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-9.11 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H-9.12 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H-9.13 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

**METHOD 2**

- H-9.14 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H-9.15 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-9.16 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H-9.17 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-9.18 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-9.19 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-9.20 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface Soil (0 to 2 feet bgs)
- H-9.21 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)

***LIST OF TABLE (Continued)***

---

- H-9.22 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H-9.23 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H-9.24 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H-9.25 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H-9.26 EPA RAGS Part D Table 10, RME Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

**Lead Risk Assessment Results Using LeadSpread**

- H-10.1 Lead Risk Assessment Results Using LeadSpread, Residents, Surface Soil (0 to 4 feet bgs)
- H-10.2 Lead Risk Assessment Results Using LeadSpread, Residents, Surface and Subsurface Soil (0 to 4 feet bgs)

## ACRONYMS AND ABBREVIATIONS

---

$\mu\text{g/dL}$	Microgram per deciliter
$\mu\text{g/m}^3$	Microgram per cubic meter
95UCL	95 percent upper confidence limit of the mean
97.5UCL	97.5 percent upper confidence limit of the mean
99UCL	99 percent upper confidence limit of the mean
ABS	Dermal absorption fraction
AST	Aboveground storage tank
$\text{atm}\cdot\text{m}^3/\text{mol}$	Atmosphere-cubic meter per mole
bgs	Below ground surface
Cal/EPA	California Environmental Protection Agency
$\text{cm}^2$	Square centimeter
COPC	Chemical of potential concern
CSM	Conceptual site model
CTE	Central tendency exposure
dP	Pressure differences
DTSC	Department of Toxic Substances Control
EBS	Environmental Baseline Survey
EFH	Exposure Factors Handbook
EPA	U.S. Environmental Protection Agency
EPC	Exposure point concentration
$F_{oc}$	Fraction of organic carbon
$\text{g/cm}\cdot\text{s}^2$	Gram per centimeter per square second
$\text{g/day}$	Gram per day
$\text{g/kg}\cdot\text{day}$	Gram per kilogram per day
GAP	Generator Accumulation Point
GOF	Goodness-of-fit
HEAST	Health Effects Assessment Summary Tables
HHRA	Human Health Risk Assessment
HI	Hazard index
HQ	Hazard quotient
IR	Installation Restoration
IRIS	Integrated Risk Information System

## **ACRONYMS AND ABBREVIATIONS (Continued)**

---

K <sub>oc</sub>	Organic carbon-water partition coefficient
K <sub>ow</sub>	Octanol-water partition coefficient
L/min	Liter per minute
LOAEL	Lowest observed adverse effect level
m <sup>3</sup> /day	Cubic meter per day
m <sup>3</sup> /hr	Cubic meter per hour
mg/cm <sup>2</sup>	Milligram per square centimeter
mg/day	Milligram per day
mg/kg	Milligram per kilogram
NARF	Naval Air Rework Facility
NAS	Naval Air Station
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NOAEL	No observed adverse effect level
OEHHA	Office of Environmental Health Hazard Assessment
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PEF	Particulate emission factor
PPRTV	Provisional Peer-Reviewed Toxicity Values
PRG	Preliminary remediation goal
RAGS	Risk Assessment Guidance for Superfund
REL	Reference exposure level
RfC	Reference concentration
RfD	Reference dose
RI	Remedial Investigation
RME	Reasonable maximum exposure
SF	Slope factor
SI	Site Inspection
SVOC	Semivolatile organic compound
VF	Volatilization factor
VOC	Volatile organic compound

## H1.0 INTRODUCTION

This appendix presents the methods and the results of the baseline Human Health Risk Assessment (HHRA) conducted as part of the Remedial Investigation (RI) for Installation Restoration (IR) Site 34 (Site 34), at the former Naval Air Station (NAS) Alameda in Alameda, California. NAS Alameda is now known as Alameda Point. The HHRA has been prepared to help fulfill the objectives of the RI and incorporates guidance issued by the U.S. Department of the Navy, the U.S. Environmental Protection Agency (EPA), and the California Environmental Protection Agency's (Cal/EPA) Department of Toxic Substances Control (DTSC). The RI Report contains background information on the history of the facility and other operations conducted at IR Site 34, the physical characteristics of the area, the results of previous investigations conducted at IR Site 34, and the conceptual framework used to implement and document the RI.

HHRAs are prepared to evaluate potential health risks under current and potential future land use conditions. The specific objectives of this HHRA are presented below.

- Estimate the magnitude of potential human health risks associated with current site conditions and potential future land use scenarios.
- Identify the environmental media and chemicals that pose the primary health concerns.
- Identify the environmental media and chemicals that pose little or no threat to human health.
- Provide a foundation for assessing the need for further response actions.

## H2.0 SITE DESCRIPTION AND BACKGROUND

IR Site 34 is located in the north-central portion of Alameda Point, adjacent to the Oakland Inner Harbor (see Figure 1-2 of the RI Report). The boundary of IR Site 34 was identified during the 2003 Site Inspection (SI) in which site risks were identified based on the results of samples collected during the Environmental Baseline Survey (EBS) (Bechtel Environmental, Inc. 2003). IR Site 34 is a 4.18-acre area that is a partially paved, relatively flat open space. IR Site 34 was a Naval Air Rework Facility (NARF) used to maintain base equipment such as scaffolding and other apparatus. The site was used primarily for painting services, storage, wood and metal shop activities, and sandblasting activities. IR Site 34 formerly contained several structures, including 12 buildings (331, 330, 343, 475, 344, 510, 474, 477, 604, 476, 479, and 472) and intervening open areas; 7 aboveground storage tanks (AST) (330A, 330B, 344A, 344B, 344C, 344D, and 331); Generator Accumulation Points (GAP) 78 and 79; 15 transformers; and an aviation gasoline fuel line. All buildings, ASTs, GAPs, transformers, and fuel lines were removed between 1996 and 2000, except for concrete pads. Figure 1-3 of the RI Report shows the historical and existing site features at IR Site 34.

### **H3.0 RISK ASSESSMENT GUIDELINES AND TECHNICAL APPROACH**

This HHRA used methods based on the risk assessment framework developed by EPA and DTSC, as documented in “Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final” (EPA 1989) and “Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities” (DTSC 1992). In addition, the risk assessment approach was developed to satisfy Navy requirements as defined in the “Memorandum Regarding Conducting Human Health Risk Assessments under the Environmental Restoration Program” (Navy 2001).

A dual-tracking approach was used to consider both EPA and DTSC toxicity values. To satisfy federal (Navy and EPA) and state (DTSC) requirements, this HHRA prepared a set of risk assessment results using EPA toxicity values, referred to as Method 1, and a separate set of risk assessment results using DTSC toxicity values, referred to as Method 2. Section H6.0 discusses EPA and DTSC toxicity values.

This HHRA also calculated total risks, which include risks from background concentrations of metals, and incremental risks, which exclude risks from background concentrations of metals. Total and incremental risks were prepared using both EPA (Method 1) and DTSC toxicity values (Method 2).

### **H4.0 DATA EVALUATION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN**

The objective of data evaluation is to develop a list of chemicals of potential concern (COPC) for risk assessment purposes. COPCs are defined as the subset of chemicals at a site most likely to present a potential health risk. A limited COPC list is desirable when the list of detected chemicals (1) exceeds 80 detected chemicals as suggested in EPA’s “Risk Assessment Guidance for Superfund” (RAGS) (EPA 2001b) or (2) requires intensive modeling. However, based on agreement with the regulatory agencies, the HHRA quantitatively evaluated all chemicals detected in soil and groundwater, except for essential nutrients (calcium, magnesium, potassium, and sodium).

This section presents the methods used to evaluate data for inclusion in the risk assessment and the methods used to identify COPCs. Data were considered to be appropriate for use in the HHRA if they (1) were validated, (2) were not qualified as rejected (“R”), (3) met the data quality objectives for the RI described in the IR Site 34 RI Work Plan (SulTech 2006), and (4) reflect current site conditions. Section 1.3.4 of the RI Report provides a summary of the data collected during previous investigations and the RI sampling activities at IR Site 34. In general, the HHRA did not use field screening data, such as organic vapor readings measured with a photoionization detector or lead and chromium concentrations measured using a portable x-ray fluorescence unit. In addition, the HHRA did not use data collected to characterize potential historical releases physically present in paved structures such as sediment from drain piping or oil-water separators.

#### **H4.1 DATA VALIDATION**

As part of the data evaluation process, all analytical data were reviewed to verify that they meet EPA data quality criteria for use in risk assessment (EPA 1992). An independent validation contractor evaluated the data collected during the RI using EPA's Contract Laboratory Program National Functional Guidelines for Inorganic and Organic Data Review (EPA 1999, 2002a). As part of the data evaluation process, 90 percent of the analytical data underwent cursory validation, and 10 percent of the data underwent full validation to verify that they met EPA data quality criteria for use in risk assessment (EPA 1992). The Quality Control Summary Report presented in Appendix F provides the results of the data validation process.

Data used in this HHRA included data without qualifiers, data qualified as estimated (J), and data qualified as not detected (U). Section H5.4 describes the methods used to incorporate detection limits when estimating exposure point concentrations (EPC).

#### **H4.2 SOIL DATA**

This HHRA used soil data collected in 1995 as part of the EBS and in 2006 as part of the RI sampling activities. The HHRA excluded the volatile organic compound (VOC) data collected in 1995 because it was considered too old to be representative of current conditions and also the VOC data exceeded project-required reporting limits listed for the VOCs in the RI Work Plan (SulTech 2006). The only VOCs detected in the 1995 data were the common laboratory contaminants 2-butanone and methylene chloride at estimated concentrations. The HHRA also excluded the 1995 data for nondetected polycyclic aromatic hydrocarbon (PAH) results because the 1995 data exceeded the project-required reporting limits listed for PAHs in the RI Work Plan (SulTech 2006). Incorporation of these detection limits in the HHRA would have resulted in elevated risk estimates.

For several VOCs, semivolatile organic compounds (SVOC), and PAHs, analytical results were sometimes available for more than one analytical method for the same sample. For example, soil sample 105-S34-006 has naphthalene results using EPA analytical methods 8260B, 8270C, and 8270C-SIM. When more than one analytical method is available for a specific chemical for a specific sample, the Navy retained the result from the analytical method with the lowest detection limit. However, an exception was made for the naphthalene result for one sample (105-S34-047). The naphthalene concentration in this sample was 4.8 milligrams per kilogram (mg/kg) using EPA analytical method 8270C-SIM, 13 mg/kg using EPA analytical method 8270C, and it was not detected using EPA analytical method 8260 with a detection limit of 0.0047 mg/kg. The difference in concentrations is probably related to the heterogeneity of the soil sample. Thus, the maximum detected concentration of naphthalene (13 mg/kg) for sample 105-S34-047 was retained for this HHRA.

The HHRA applied the following rules whenever there were data from duplicate analyses.

- When both the original and duplicate measurement are either detected or censored (nondetect) and the results are in agreement (relative percent difference of concentrations is less than or equal to 50 percent), the original sample result will be retained and the duplicate result will be excluded.
- When one replicate measurement is detected and the other is a nondetect, the detected measurement will be retained and the nondetect result will be excluded.
- When both the original and duplicate measurements are detected or censored and the results are not in agreement, the maximum detected concentration will be used in the HHRA. The lower reporting limit will be used in the event of two censored measurements.

Validated soil analytical data were aggregated into the following subsets, corresponding to depth intervals deemed relevant for potential exposures:

- Surface soils, represented by soil samples collected from 0 to 2 feet below ground surface (bgs).
- Combined surface and subsurface soils, represented by all soil samples collected above 4 feet bgs (depth to groundwater).

### **H4.3 GROUNDWATER DATA**

This HHRA used groundwater data collected from sampling in 2006 during the RI from temporary probes DP1 through DP19 and from monitoring wells MW20 through MW24. The HHRA grouped all of the groundwater samples collected from these locations into a single data set. The HHRA excluded data collected before 2000 because it was considered too old to be representative of current site conditions. This includes the data from groundwater samples collected using a Hydropunch® in 1995 and a Geoprobe® in 1999. This HHRA applied the same rules used for soil data to address chemicals in groundwater analyzed by more than one analytical method and to address duplicate groundwater samples (see Section H4.2).

### **H4.4 SELECTION OF CHEMICALS OF POTENTIAL CONCERN**

COPCs are defined as the subset of chemicals at a site most likely to present a potential health risk. Tables H-2.1 and H-2.2 present the COPCs identified in soil, and Table H-2.3 presents the COPCs identified in groundwater. If a chemical was not detected in any of the data identified in Section H4.2 or H4.3, it was excluded as a COPC. The HHRA did not exclude any chemicals based on the frequency of detection or a comparison with screening criteria or background concentrations. Calcium, magnesium, potassium, and sodium, which are considered essential human nutrients, were excluded as COPCs. Based on the conceptual site model (CSM) for IR Site 34 and the potentially complete exposure pathways identified in Section H5.3, this HHRA only identified a chemical considered to be volatile as a COPC in groundwater.

Two-population statistical tests were used to compare metals concentrations in Site 34 soil samples with background concentrations determined for Alameda Point. The background comparison procedures are described in greater detail in Appendix G of the RI Report. The statistical tests determined that beryllium, mercury, and silver were below background concentrations and all other detected metals were above background concentrations. To evaluate the contribution of background risks to the total risk estimates, the HHRA estimated incremental risks by calculating the risks from background concentrations of metals in soil and subtracting the background risks from the total risk estimates. Section H8.4 discusses incremental risks.

## **H5.0 EXPOSURE ASSESSMENT**

The exposure assessment evaluates the nature and magnitude of potential exposures associated with IR Site 34. This assessment includes a description of the exposure setting and potential receptors, an identification of potential exposure pathways, and an estimation of EPCs and chemical intakes. The exposure assessment is based on the CSM. Figure H-1 presents the CSM for IR Site 34. The CSM summarizes information on sources of COPCs, affected environmental media, COPC release and transport mechanisms that may occur, potentially exposed receptors, and potential exposure pathways for each receptor. Sections H5.1, H5.2, and H5.3 further describe these components of the CSM.

### **H5.1 EXPOSURE SETTING AND POTENTIAL RECEPTORS**

IR Site 34 is a 4.18-acre area that is a partially paved, relatively flat open space. Except for the concrete pads, the Navy had all buildings, ASTs, GAPSs, transformers, and fuel lines removed from IR Site 34 between 1996 and 2000. IR Site 34 is currently unoccupied land. The planned reuse of this area is recreational and includes the development of a golf course. The CSM shown in Figure H-1 identifies the potential receptors evaluated in this HHRA. As described previously, recreational use is the planned reuse of the site and so future recreational users are potential receptors at IR Site 34. Although future development of the site for residential or industrial use may be unlikely, evaluation of these scenarios provides alternative risk estimates for unrestricted reuse of the site and supports risk management decisions for the site. As a conservative assumption, this HHRA also identified construction workers to be future receptors if the site is redeveloped.

Groundwater across Alameda Point is first encountered at depths between 3 to 8 feet bgs. Section 2.5 of the RI Report provides an evaluation of the groundwater use and the potential beneficial uses of groundwater beneath IR Site 34. Drinking water is currently supplied to Alameda Point by the East Bay Municipal Utilities District (Tetra Tech EM Inc. 2003). Groundwater beneath the central portions of Alameda Point (including IR Site 34) is not currently used for drinking water, irrigation, or industrial supply; and meets State Water Resources Control Board exemption criteria to de-designate the municipal supply beneficial use for portions of Alameda Point (Tetra Tech EM Inc. 2003). An evaluation of the potential beneficial uses of groundwater beneath IR Site 34 concluded groundwater beneath IR Site 34 is unlikely to be used as a potential drinking water source (see Section 2.5 of the RI Report). The EPA stated that based on (1) the shallow depth of the aquifer in this area, (2) the likelihood of

saltwater intrusion (based on directions of groundwater flow) if any significant pumping takes place, and (3) the fact that no wells currently exist within or close to this area, it seems unlikely that groundwater in this area will be a potential source of drinking water in the future (EPA 2000).

## **H5.2 POTENTIAL SOURCES OF SITE CHEMICALS**

Based on the results of previous investigations (Environmental Management Resources West, Inc. 1994; International Technology Corp. 2001; Bechtel Environmental, Inc. 2003), the most likely sources of chemicals detected at IR Site 34 are from the disposal of used sandblasting and paint grit; painting activities; chemical storage; sheet metal fabrication; spills near the GAP; leaks from ASTs; and the application of chemicals for weed control.

## **H5.3 IDENTIFICATION OF EXPOSURE PATHWAYS**

An exposure pathway is the means by which a chemical moves through the environment from the source to a receptor. Because the site is not currently used, no current receptors are present at the site. The following sections describe potentially complete exposure pathways associated with potential future receptors at IR Site 34. The CSM shown on Figure H-1 further illustrates the potentially complete exposure pathways identified for IR Site 34. Table H-1 also identifies the potentially complete exposure pathways.

### **H5.3.1 Future Commercial/Industrial Worker Exposure Pathways**

This HHRA conservatively assumed IR Site 34 may be redeveloped for commercial/industrial use in the future. This scenario assumes intrusive development of the existing site will occur and that excavation, construction, or regrading of the site may occur. Based on these conservative assumptions, the HHRA considered the following exposure pathways to be potentially complete:

- Soil ingestion
- Dermal contact with soil
- Inhalation of nonvolatile chemicals bound to airborne soil particulates
- Inhalation of volatile chemicals in indoor air that migrate from soil and/or groundwater in the vapor phase

### **H5.3.2 Future Construction Worker Exposure Pathways**

The HHRA considered the following exposure pathways to be potentially complete for future construction workers:

- Soil ingestion
- Dermal contact with soil
- Inhalation of nonvolatile chemicals bound to airborne soil particulates
- Inhalation of volatile chemicals in outdoor air from soil

Although it is acknowledged that construction workers also may have dermal contact with groundwater during excavation activities that intercept the shallow water table (located at about 3 to 8 feet bgs across the site), construction in saturated trench conditions is generally avoided and dewatering is quickly implemented for effective construction activities. Therefore, groundwater-related pathways of exposure for a construction worker are potentially complete, but are expected to be quantitatively negligible relative to all other pathways. Thus, the HHRA did not quantitatively evaluate these exposure pathways.

### **H5.3.3 Future Residential Exposure Pathways**

This HHRA conservatively assumed IR Site 34 may be redeveloped for residential use in the future. Although future development of the site for residential use may be unlikely, evaluation of this scenario will provide alternative risk estimates for unrestricted reuse of the site and will support risk management decisions for the site. This scenario assumes intrusive development of the site will occur and that excavation, construction, or regrading may occur. Based on these conservative assumptions, this HHRA considered the following exposure pathways to be potentially complete:

- Soil ingestion
- Dermal contact with soil
- Inhalation of nonvolatile chemicals bound to airborne soil particulates
- Inhalation of volatile chemicals in outdoor air
- Inhalation of volatile chemicals in indoor air that migrate from soil and/or groundwater in the vapor phase
- Ingestion of homegrown produce

Volatilization of chemicals in soil and groundwater, and the subsequent mass transport of these vapors into indoor spaces, may result in potential exposure via inhalation for residents in a future hypothetical residence. This HHRA identified volatile chemicals as those chemicals having a Henry's Law constant greater than  $10^{-5}$  (atmospheres-cubic meters per mole [atm·m<sup>3</sup>/mol]). In addition, Table 1 of DTSC guidance (2005a) lists chemicals that should be considered for the vapor intrusion pathway. As discussed in Section H5.1, groundwater at Site IR 34 is not

reasonably anticipated to serve as a public drinking water supply. Accordingly, this HHRA did not quantitatively evaluate domestic groundwater pathways because it considers groundwater ingestion and inhalation of volatiles during domestic use of groundwater to be incomplete exposure pathways.

### **H5.3.4 Future Recreational User Exposure Pathways**

Although IR Site 34 is currently vacant, the planned reuse of this area is recreational and includes the development of a golf course. The HHRA considered the following exposure pathways to be potentially complete for future recreational users:

- Soil ingestion
- Dermal contact with soil
- Inhalation of nonvolatile chemicals bound to airborne soil particulates
- Inhalation of volatile chemicals in outdoor air from soil

### **H5.4 EXPOSURE POINT CONCENTRATIONS**

Potential exposure points are identified on the basis of present and anticipated future population activity patterns and the relationship of the activities to the presence of contaminated media. A location is identified as an exposure point if a human might contact (for example, ingest) a contaminated medium (for example, soil) at that location. The chemical concentration in the medium (for example, subsurface soil) to which a receptor may be exposed is called the EPC. The HHRA calculated EPCs in soil based on data segregated into the following data sets:

- Surface Soil Data (0 to 2 feet bgs): Soil data from this depth interval were applied to commercial/industrial workers, construction workers, residents, and recreational users.
- Subsurface Soil Data (0 to 4 feet bgs): Because shallow groundwater is present at IR Site 34, soil data from the ground surface to the water table (located at approximately 4 feet bgs) were evaluated. Soil data from this depth interval were applied to commercial/industrial workers, construction workers, and residents.

EPCs were also calculated for COPCs in groundwater, outdoor air, and indoor air. The following sections describe the methods used to calculate EPCs in these media. Tables H-3.1 through H-3.6 also summarize the EPCs calculated for each medium and identify the specific methods used to calculate the EPC for each COPC.

## H5.4.1 Exposure Point Concentrations in Soil and Groundwater

This section describes the methods used to estimate EPCs in soil and groundwater. Tables H-3.1 and H-3.2 summarize the EPCs calculated for soil, and Table H-3.3 summarizes the EPCs calculated for groundwater. These tables also identify the specific methods used to calculate the EPC for each COPC. Calculations of EPCs in this HHRA followed methods recommended in EPA guidance (EPA 2004d, 2006a), as well as both standard texts on environmental statistics (Gilbert 1987) and more specialized sources dealing with the treatment of censored (nondetect) data (Helsel 2005). Appendix G provides additional detail on the equations and statistical tests used to estimate EPCs in soil and groundwater.

Initial selection of an approach for calculating descriptive statistics and EPCs was based on the relative sample size, detection frequency, and determination of the best-fit model for describing the underlying distribution of analytical results for each chemical. This HHRA used the following rules to estimate EPCs in soil and groundwater:

1. Detection frequencies were calculated for chemicals in individual data sets, and chemicals with no detected measurements were excluded from analysis. For chemicals with fewer than four detected measurements, the 95 percent upper confidence limit of the mean (95UCL) defaulted to the maximum detected concentration.
2. This HHRA did not use the laboratory detection limits to estimate EPCs if a detection limit exceeded the maximum detected concentration. Chapter 5 (Data Evaluation) in RAGS Volume I, Part A (EPA 1989), provides detailed guidelines for evaluating data usability for risk assessments, and recommends that unusually high quantification limits be removed in cases where they would cause the estimated EPCs to exceed the maximum detected datum in a sample. Helsel (2005) evaluates alternative methods for treating censored data in many routine calculations used in risk assessments, and states that these high censored measurements provide no useful information for estimating population parameters, and should always be eliminated. Tables H-2.1, H-2.2, and H-2.3 summarize the number of nondetected data that exceeded maximum detected concentrations.
3. Formal goodness-of-fit (GOF) tests were used to determine the underlying distribution for each chemical. The Shapiro-Wilk  $W$  test was used for normal and lognormal distributions, and the Cramer von Mises  $W^2$  test was used for gamma distributions. GOF tests were used only for chemicals with at least eight detected measurements. For chemicals with censored measurements, testing was conducted using detected data only. Distributions for chemicals not following a normal, lognormal, or gamma distribution, or having fewer than eight detected measurements, were treated as nonparametric. All GOF tests were evaluated at the 0.05 (5 percent) significance level.

4. For chemicals with detection frequencies of 100 percent, EPC methods were selected following recommendations in ProUCL 3.0 (EPA 2004c). In EPA (2004c), methods are selected based on the relative sample size and degree of skewness for each chemical distribution. The specific decision rules used to select the optimal method for calculating the 95UCL for normal, lognormal, gamma, and nonparametric distributions are provided in Section 5 of Appendix A (see Tables A1-A3) in EPA (2004c). Methods for calculating the 95UCL in accordance with EPA (2004c) include:

Parametric Methods

- Student's *t* UCL
- Approximate gamma UCL
- Adjusted gamma UCL
- Land's H-Statistic UCL
- Minimum variance unbiased estimate Chebyshev UCL

Nonparametric Methods

- Nonparametric Chebyshev UCL
- Bootstrap *t* UCL
- Hall's bootstrap UCL

5. For chemicals with one or more censored measurements, methods were selected following the recommendations in EPA (2006a). All methods following EPA (2006a) used the nonparametric Kaplan-Meier product limit estimator to calculate the mean. Confidence limits for the 95UCL were then estimated using one of the following methods:

- Student's *t* cutoff
- Chebyshev theorem
- Percentile bootstrap
- Bias-corrected accelerated bootstrap

6. The EPC was selected as the lesser of the 95UCL and the maximum detected concentration. It should be noted that following EPA (2004d, 2006a), the estimated 95UCL will not provide 95 percent coverage for the mean in all cases, especially for highly skewed distributions. For this reason, EPA (2004d, 2006a) suggests using estimates for the 97.5 percent upper confidence limit of the mean (97.5UCL) or 99 percent upper confidence limit of the mean (99UCL) in selected cases to ensure that the coverage is at least 95 percent. Cases where the 97.5UCL or 99UCL is more appropriate are discussed in EPA (2004d, 2006a).

#### **H5.4.2 Exposure Point Concentrations in Indoor Air**

This HHRA used EPA's vapor intrusion model for soil (EPA 2004a) and groundwater (EPA 2004b) to estimate indoor air concentrations in a future hypothetical commercial/industrial or residential building. EPA's vapor intrusion models are one-dimensional models based on the Johnson and Ettinger (1991) model that estimate convective and diffusive transport of chemical

vapors emanating from soil and groundwater into indoor spaces located directly above or near the source of contamination. The Johnson and Ettinger model assumes that all vapors from the underlying contaminated soil and groundwater have migrated vertically upward and are entering buildings through gaps and openings at seams between the subgrade walls and concrete slabs (or foundations). The model refers to these gaps as “floor-wall seam crack” (EPA 2004a, 2004b). The model ignores attenuating factors, such as biological degradation. Many of the exposure assumptions used to estimate risks from the indoor air pathway are highly conservative and may have overestimated risks. For these reasons, it is a conservative screening tool to estimate maximum indoor air concentrations and risks. Guidance by EPA (2002c, 2004d) and DTSC (2005a) provide additional details on the modeling equations and input parameters used in the vapor intrusion model. Section H9.2.5 discusses uncertainties associated with the vapor intrusion model.

Input parameters applied to the vapor intrusion models include chemical properties of the contaminant, soil and groundwater properties, and structural/dimensional properties of the buildings evaluated (EPA 2002c). The HHRA modified EPA vapor intrusion models (EPA 2004a, 2004b) by replacing the default input parameters in EPA’s vapor intrusion models with California-specific input parameters listed in DTSC’s vapor intrusion model (DTSC 2005a). Attachment H1 provides the spreadsheets of the vapor intrusion models used to calculate indoor air concentrations. Table H1-1 in Attachment H1 summarizes the input parameters used in the vapor intrusion models. Table H1-2 of Attachment H1 presents the indoor air concentrations estimated for volatile COPCs in soil, and Table H1-3 of Attachment H1 presents the indoor air concentrations estimated for volatile COPCs in groundwater. The following sections discuss the input parameters used in the vapor intrusion models.

#### **H5.4.2.1      *Chemical Properties***

This HHRA identified volatile chemicals as those chemicals having a Henry’s Law constant greater than  $10^{-5}$  atm·m<sup>3</sup>/mol. In addition, Table 1 of DTSC guidance (2005a) lists chemicals that should be considered for the vapor intrusion pathway. The EPCs estimated for volatile COPCs in subsurface soil (0 to 4 feet bgs) and groundwater were applied to the vapor intrusion models to estimate indoor air concentrations. Table H1-2 of Attachment H1 includes the EPCs for volatile COPCs in subsurface soil (0 to 4 feet bgs), and Table H1-3 of Attachment H1 includes the EPCs for volatile COPCs in groundwater.

#### **H5.4.2.2      *Soil and Groundwater Properties***

Soil and groundwater properties used in the vapor intrusion models include average soil and groundwater temperature, thickness of soil stratum evaluated, depth to groundwater, soil type, organic carbon content in soil, soil density, and total porosity. Table H1-1 of Attachment H1 presents the source and the basis for selecting the input parameters used to evaluate the vapor intrusion pathway. Soil at IR Site 34 primarily consists of poorly sorted sand. The selection of the soil type at IR Site 34 for use in the vapor modeling was based on a comparison of lithologic data, including boring logs, for IR Site 34. This HHRA used default parameters for dry bulk density, total porosity, and vadose zone soil-water filled porosity based on the soil type (sand).

For the evaluation of vapors from bulk soil sources, the soil depth below grade to the top of soil contamination for IR Site 34 was assumed to be directly under the slab, since the shallowest detected chemical is near ground surface (15 centimeters bgs). Additionally, the soil depth below grade to the bottom of contamination was assumed to be the average depth to groundwater at IR Site 34. The vapor intrusion model for soil is based on a finite source. The model is constructed in a manner that evaluates a finite source since soil contamination was assumed to extend from the surface to the soil-groundwater interface. The vapor intrusion model for groundwater is based on an infinite chemical source.

#### **H5.4.2.3 Building Properties**

For the evaluation of the future commercial/industrial worker the building dimensions of a hypothetical future building were used. The building size for the hypothetical future commercial/industrial building was based on the upper end of the range for residential structures because no default commercial/industrial values were available (EPA 2002c). Use of this building size will present a conservative exposure scenario for the future commercial/industrial worker because residences are typically smaller than most commercial/industrial buildings.

For the evaluation of the future resident the building size of a hypothetical future residence was used. The building size for the hypothetical future residence is conservative; it is based on the lower end of the range (most protective default) for residential structures (EPA 2002c). Table H1-1 in Attachment H1 presents the dimensions of the future hypothetical buildings used to evaluate the vapor intrusion pathway.

The evaluation was based on buildings with slab-on-grade construction (no basements or crawlspaces) because of the shallow depth to groundwater. The foundation was assumed to be 15 centimeters thick for the hypothetical future commercial/industrial building and 10 centimeters thick for the hypothetical future residence. The vapor intrusion model assumes that vapor infiltration is through cracks in the foundation and below-grade walls, if any exist (EPA 2002c). The area of cracks through which vapors can pass was assumed to be equal to a 0.1-centimeter-wide crack for both the hypothetical future commercial/industrial building and residence.

The building ventilation rate is another characteristic used in the vapor intrusion model. The building ventilation rates for a hypothetical future commercial/industrial building (1.0 air changes per hour) and for the hypothetical future residence (0.5 air changes per hour) were adapted from "Guidance for the Evaluation and Migration of Subsurface Vapor Intrusion to Indoor Air" (DTSC 2005a).

Buildings can develop negative pressures relative to ambient pressure as a result of temperature gradients and wind effects. These pressure differences (dP) affect contaminant flux into buildings and are considered in the vapor intrusion model. Typical dP values are 10 to 100 grams per centimeter per second squared ( $\text{g}/\text{cm}\cdot\text{s}^2$ ). The soil-building pressure differential used in this evaluation ( $40 \text{ g}/\text{cm}\cdot\text{s}^2$ ) is the recommended value from DTSC's guidance (2005a) and EPA's guidance (2002c).

The average vapor flow rate into the building (referred to as  $Q_{\text{soil}}$  in the model) is set to the model default of 10 liters per meter (L/m) for hypothetical future commercial/industrial buildings and 5 L/m for hypothetical future residences. The residential rate is recommended by EPA guidance (2002c) and DTSC guidance (2005a) for small buildings, which was proportionally increased based on building dimensions for the hypothetical future commercial/industrial buildings.

#### **H5.4.3 Outdoor Air – Chemicals in Particulates Released from Soil**

EPCs of particulates released from soil to outdoor air were estimated using soil EPCs as the source term and the methodology provided by EPA Region 9 describing the derivation of preliminary remediation goals (PRG) (EPA 2004e). To derive the EPCs in outdoor air, the soil EPC was multiplied by the reciprocal of the derived particulate emission factor (PEF). The PEF is a nonchemical-specific value that relates chemical concentrations in soil to airborne concentrations that may be inhaled. The PEF value used for commercial/industrial workers and residents was  $1.32 \times 10^9$  cubic meters per kilogram and the construction worker PEF value was  $1.00 \times 10^6$  cubic meters per kilogram. These values were based on the default value recommended by DTSC for use in risk assessments at California military facilities (DTSC 2005c). EPCs for particulate chemicals released from surface soil and subsurface to outdoor air are calculated within the intake equation shown in Table H-4.1. Therefore, a separate set of RAGS Part D standard Table 3s is not presented for outdoor air for chemicals in particulates released from soil.

#### **H5.4.4 Outdoor Air – Volatile Chemicals Released from Soil**

Chemical-specific volatilization factors (VF), which relate concentrations of volatile chemicals in soil or groundwater to airborne concentrations, were used to estimate concentrations in outdoor air from volatile COPCs released from soil. The HHRA calculated site-specific VFs using the equation provided in the EPA Region 9 PRGs (EPA 2004e). Tables H-3.4 and H-3.5 present the EPCs for ambient air for volatile chemicals released from surface soil (0 to 2 feet bgs) and subsurface soil (0 to 4 feet bgs), respectively. These tables also provide the input parameters used to estimate these EPCs. To estimate EPCs in outdoor air, the soil EPC was multiplied by the reciprocal of the VF.

#### **H5.4.5 Outdoor Air – Volatile Chemicals Released from Groundwater**

Chemical-specific VFs also were used to estimate concentrations in outdoor air from volatile COPCs released from groundwater. The HHRA calculated site-specific VFs using the equation provided in an ASTM International (1995) emission model. Table H-3.6 presents the EPCs for ambient air for volatile chemicals released from groundwater. This table also provides the equations and the input parameters used to estimate these EPCs.

## H5.5

### CHEMICAL INTAKES AND EXPOSURE PARAMETERS

Consistent with EPA guidance (1995), the HHRA calculated exposure intake estimates for central tendency exposure (CTE) and reasonable maximum exposure (RME) for commercial/industrial workers, construction workers, residents, and recreational users at IR Site 34. As indicated by EPA (1989), "actions at Superfund sites should be based on an estimate of the reasonable maximum exposure expected to occur under both current and future land-use conditions." The average exposure is the most likely exposure expected to occur at the site and is calculated using the EPC and CTE exposure parameters. This HHRA calculated chemical intakes using the EPCs described in Section H5.4 and scenario-specific assumptions and intake parameters.

EPA-derived exposure algorithms were used to estimate the chemical intakes for each route of exposure. Equation H-1 is a generic equation for calculating chemical intake (EPA 1989):

$$I = \frac{C \times CR \times EF \times ED}{BW \times AT} \quad (H-1)$$

where

- I = Intake (the amount of chemical at the exchange boundary in milligrams per kilogram per day [mg/kg-day])
- C = Chemical concentration (such as the EPC in mg/kg for soil, micrograms per liter [ $\mu\text{g/L}$ ] for groundwater, and milligrams per cubic meter [ $\text{mg/m}^3$ ] for air)
- CR = Contact rate (the amount of contaminated medium contacted per unit of time or event; may be the ingestion rate, inhalation rate, or dermal contact rate; for example, milligrams per day [mg/day] for the ingestion rate of soil)
- EF = Exposure frequency (how often the exposure occurs in days per year)
- ED = Exposure duration (the number of years in which a receptor comes in contact with the contaminated medium)
- BW = Body weight (the average body weight of the receptor over the exposure period in kilograms)
- AT = Averaging time (the period in days over which exposure is averaged; for carcinogens, the averaging time is 25,550 days on the basis of a lifetime exposure of 70 years [average life expectancy], and for noncarcinogens, the averaging time is equal to the exposure duration multiplied by the number of days in a year [365 days])

Pathway-specific variations of Equation H-1 were used to calculate intakes of COPCs. Section H5.5.1 discusses the exposure parameters common to all equations, and Section H5.5.2 discusses pathway-specific equations and exposure parameters.

### **H5.5.1 General Exposure Assumptions**

The equations and values used to calculate daily intake are summarized in RAGS Part D Standard Tables (see Tables H-4.1 through H-4.4). Exposure parameters common to all intake equations include exposure time, exposure frequency, exposure duration, body weight, and averaging time. As shown in Tables H-4.1 through H-4.4, standard EPA and Cal/EPA default exposure factors were used for exposure time, exposure frequency, exposure duration, averaging time, and body weight for future commercial/industrial workers, construction workers, and residents at Site 34 (EPA 1991; DTSC 1992, 2005c).

Currently, a golf course is the planned reuse of the IR Site 34 area. Recreational RME scenario assumptions included use of the golf course for 4.1 hours per day, 75 days a year and CTE assumptions of 3.85 hour per day, 75 days per year. RME exposure durations were based on the 95UCL time spent in active leisure (5.9 hours per week) in the Western region as cited in Table 15-153 in EPA's Exposure Factors Handbook (EPA 1997a). The RME exposure assumption for an adult would equate to a little more than 1 round of golf every week. The HHRA conservatively assumed IR Site 34 also could be developed as a park and a recreational child could spend 1 hour per day, 75 days per year at a park at IR Site 34.

### **H5.5.2 Pathway-Specific Exposure Factors**

This section summarizes the exposure factors unique to each of the exposure pathways quantified in this HHRA. Tables H-4.1 through H-4.4 also present the pathway-specific exposure factors used to quantify exposure for each receptor.

#### ***H5.5.2.1 Exposure Parameters for Inhalation of Volatile and Particulate Chemicals***

The exposure parameter specific to the assessment of the inhalation pathway is the inhalation rate. A residential inhalation rate of 0.42 cubic meters per hour ( $\text{m}^3/\text{hr}$ ) was used for the child resident and 0.83  $\text{m}^3/\text{hr}$  was used to evaluate the adult resident (EPA 1991). To estimate chemical intake from inhalation of volatile and particulate chemicals, a default value of 1.75 cubic meters per hour ( $\text{m}^3/\text{hr}$ ) (corresponding to 14 cubic meters per day [ $\text{m}^3/\text{day}$ ] for an 8-hour workday) was used for the inhalation rate for a commercial/industrial worker and a default value of 2.5  $\text{m}^3/\text{hr}$  (corresponding to 20  $\text{m}^3/\text{day}$  for an 8-hour workday) was used for the inhalation rate for a construction worker (EPA 1991; DTSC 2005c). The residential inhalation rates were used for recreational users.

#### **H5.5.2.2 Exposure Parameters for Incidental Ingestion of Soil**

Exposure parameters specific to the ingestion of soil pathway are the soil ingestion rate and the fraction of the ingested soil assumed to be contaminated. This HHRA conservatively assumed all soil contacted is contaminated (that is, the fraction ingested was set equal to 1). Estimated soil ingestion rates were 200 mg/day for the child and 100 mg/day for the adult resident. Different ingestion rates were necessitated, given children's mouthing habits, which are assumed to result in greater incidental soil intakes during the preschool years (EPA 1991, 2001c). Default soil ingestion rates were used for the workers: 100 mg/day for the commercial/industrial worker and 330 mg/day for the construction worker (EPA 1991, 2002d). The residential ingestion rates were assumed for recreational users.

#### **H5.5.2.3 Exposure Parameters for Dermal Contact with Soil**

Exposure parameters specific to the assessment of the dermal pathway are the skin surface area (the amount of skin in contact with soil), the amount of soil adhering to the skin (adherence factor), and the chemical-specific dermal absorption fraction (ABS) (that is, the fraction of chemical in contact with the skin that actually crosses the skin barrier). ABS factors are taken from DTSC (1994). In the absence of a chemical-specific ABS, a default ABS of 0.1 is assumed for SVOCs, and a default ABS of 0.01 is assumed for inorganic chemicals (DTSC 1994). Table H-5.1 presents the ABS values.

Receptor-specific values for the dermal adherence factor were provided by DTSC (2000): 0.2 milligrams per square centimeter ( $\text{mg}/\text{cm}^2$ ) for the commercial/industrial worker; 0.8  $\text{mg}/\text{cm}^2$  for the construction worker, 0.2  $\text{mg}/\text{cm}^2$  for the resident child, and 0.07  $\text{mg}/\text{cm}^2$  for resident adult.

Values for body surface area were taken from DTSC (2000): 5,700 square centimeters ( $\text{cm}^2$ ) for commercial/industrial and construction workers, 2,900  $\text{cm}^2$  for child residents, 5,700  $\text{cm}^2$  for adult residents.

In accordance with EPA guidance, the daily dermal absorption factor was not adjusted for the length of time because of a lack of scientific information on the absorption of chemicals over shorter periods than a day (EPA 2001b). Therefore, the same amount of dermal absorption is assumed for the residential and recreational scenarios.

#### **H5.5.2.4 Ingestion of Homegrown Produce**

Ingestion of COPCs that are transferred from soil to homegrown produce via uptake through plant roots was evaluated for the residential exposure scenario. Direct measurements of chemical concentrations in homegrown produce are not available for IR Site 34 because homegrown produce is not currently grown at Alameda Point. EPCs for homegrown produce were calculated based on EPCs for COPCs in soil and soil-to-plant uptake factors that estimate the root uptake of inorganic and organic chemicals in soil and translocation of chemicals to

edible plant parts (U.S. Department of Energy 1984). Table H-5.2 lists the uptake factors for each COPC in soil.

Uptake factors for inorganic COPCs were obtained from (U.S. Department of Energy 1984). The EPC for soil was multiplied by the uptake factor to estimate EPCs in homegrown produce from inorganic COPCs.

Equations from Cal/EPA were used to derive the uptake factors for nonvolatile organic COPCs (Cal/EPA 2003). These equations relate the octanol-water partition coefficient ( $K_{ow}$ ) and the organic carbon-water partition coefficient ( $K_{oc}$ ) of the contaminant and the fraction of organic carbon ( $F_{oc}$ ) in the soil to calculate the uptake factor. The equation used to calculate the uptake factor is as follows:

$$UF = \frac{(0.03 \times K_{ow}^{0.77}) + 0.82}{(K_{oc})(F_{oc})} \quad (H-2)$$

where

- $UF$  = Soil-to-plant uptake factor
- $K_{ow}$  = Octanol-water partition coefficient (cubic centimeters per gram)
- $K_{oc}$  = Organic carbon-water partition coefficient (cubic centimeters per gram)
- $F_{oc}$  = Fraction organic carbon in soil (unitless)

$F_{oc}$  was assumed to be 0.1, a value appropriate to soil used for the production of food crops (Cal/EPA 2003). If  $K_{oc}$  values are unavailable, they were estimated based on chemical-specific  $K_{ow}$  values using the following equation (Lyman and others 1990):

$$\log K_{oc} = \log K_{ow} - 0.21 \quad (H-3)$$

Consistent with EPA guidance, a correction factor was applied to lipophilic COPCs (EPA 1998). Lipophilic chemicals were defined for this HHRA as polychlorinated biphenyls (PCB), PAHs, pesticides, and SVOCs. EPA (1998) recommends a correction factor of 0.01 for lipophilic COPCs ( $\log K_{ow}$  greater than 4); that is, the uptake factor calculated for lipophilic COPCs using Equation H-2 should be multiplied by the correction factor of 0.01 to calculate a corrected uptake factor. EPA does not recommend use of a correction factor for COPCs with a  $\log K_{ow}$  less than 4. Table H-5.2 lists the uptake factors for nonvolatile organic COPCs derived using the above equations and the values and sources of the chemical data used to derive the uptake factors.

Risks associated with VOCs were not evaluated in the homegrown produce pathway. VOCs are typically low-molecular-weight chemicals that do not persist or bioaccumulate in the

environment (EPA 1994a). In addition, VOCs are expected to be lost during soil tilling, planting, and food preparation, such as peeling, cleaning, and cooking.

EPA estimates that homegrown fruits and vegetables account for 4 percent and 6.8 percent, respectively, of receptor diets (EPA 1997a). Using the 95th percentile of fruit and vegetable intakes (12 grams per kilogram per day [g/kg-day] and 10 g/kg-day, respectively) to estimate the RME homegrown produce consumption rates, a 70 kilogram adult would ingest 33.6 grams per day (g/day) of homegrown fruits and 47.6 g/day of homegrown vegetables. A child weighing 15 kilograms would ingest 7.2 and 10.2 grams per day of homegrown fruits and vegetables, respectively. Accordingly, the corresponding RME homegrown produce consumption rates (the total of fruit and vegetable consumption rates) are 81.2 g/day for the adult resident and 17.4 g/day for the child resident. To evaluate the CTE scenario, EPA recommends intake rates of 3.4 g/kg-day for fruits and 4.3 g/kg-day for vegetables. Applying the same fraction of 4 percent and 6.8 percent of homegrown fruits and vegetables, respectively, in a typical receptor diet as assumed in the RME scenario, an adult resident in a CTE scenario would ingest 9.5 g/day of fruits and 20.5 g/day of vegetables, for a total of 30 g/day. A child resident in a CTE scenario would ingest 2 g/day of fruits and 4.4 g/day of vegetables, for a total of 6.4 g/day.

## H6.0 TOXICITY ASSESSMENT

The objective of the toxicity assessment for IR Site 34 is to evaluate the relationship between dose and toxic response for each COPC identified in the COPC selection process. The toxicity assessment identifies toxicity criteria (values) for each chemical chosen for inclusion in the risk assessment and the kind of effect each chemical could produce. The toxicity values used in the HHRA are cancer slope factors (SF) (in units of [mg/kg-day]<sup>-1</sup>) for cancer effects and reference doses (RfD) (in units of mg/kg-day) for chronic exposures associated with noncancer effects.

The HHRA used a dual-tracking approach to take into consideration both EPA and DTSC toxicity values. To satisfy federal (Navy and EPA) and state (DTSC) requirements, this HHRA prepared a set of risk assessment results using EPA toxicity values, referred to as Method 1, and a separate set of risk assessment results using DTSC toxicity values, referred to as Method 2.

Toxicity factors for Method 1 were compiled from EPA-approved sources using the following hierarchy:

- EPA's Integrated Risk Information System (IRIS) Values: IRIS is an on-line database that contains EPA-approved RfDs and SFs (or reference concentrations [RfC] and unit risk factors converted to RfDs and SFs) (EPA 2007). The RfDs and SFs have undergone extensive review and have agency-wide consensus.
- EPA's Provisional Peer-Reviewed Toxicity Values (PPRTV): PPRTVs are presented in the EPA Region 9 PRG table (EPA 2004e). PPRTVs were developed by the Office of Research and Development/National Center for Environmental Assessment, and Superfund Health Risk Technical Support Center when requested by EPA's Superfund program (EPA 2004f).

- Other EPA Sources: These sources include provisional values from the National Center for Environmental Assessment as presented in the EPA Region 9 PRG table (EPA 2004e), and EPA's Health Effects Assessment Summary Tables (EPA 1997b).

Toxicity factors for Method 2 used State of California SFs developed by the Office of Environmental Health Hazard Assessment (OEHHA). These SFs are available from the "Toxicity Criteria Database" (OEHHA 2007). If an OEHHA SF was not available, the EPA hierarchy was followed to select SFs. In addition to SFs, OEHHA has developed reference exposure levels (REL) to assess noncancer endpoints of inhalation exposures (OEHHA 2005); however, RELs have not been subject to as stringent a peer review as federal RfCs available from IRIS. As a result, the HHRA used the prioritization summarized below for inhalation noncancer toxicity values in the risk characterization of COPCs selected under Method 2:

- The EPA IRIS RfC or inhalation RfD will be used if the value is based on an inhalation study.
- The OEHHA REL will be used if the EPA IRIS inhalation RfD has been extrapolated from an oral study.
- The OEHHA REL will be used if no EPA IRIS RfC or inhalation RfD value is available.
- An alternative source (such as PPRTVs, HEAST, route-extrapolated values) will be used if no EPA IRIS RfC or inhalation RfD value is available and no OEHHA REL is available.

Finally, because OEHHA has not developed its own set of toxicity values for assessing noncancer endpoints for oral or dermal exposures, the EPA hierarchy was followed to select noncancer oral and dermal toxicity values for risk characterization of the COPCs identified under Method 2.

## **H6.1 REFERENCE DOSES**

The potential for adverse noncancer health effects to result from exposure to chemicals was characterized by comparing an exposure estimate (intake) with an RfD. EPA (1989, 2006a) defines an RfD as an estimate (with uncertainty that spans perhaps an order of magnitude or more) of a daily exposure level for the human population, including sensitive subpopulations, who are likely to be without an appreciable risk of harmful effects. The RfDs are expressed as mg/kg-day and are specific to the chemical, exposure route (for example, ingestion or inhalation), and exposure duration (chronic or subchronic).

RfDs to assess oral exposures and RfCs to assess inhalation exposure are provided in the various sources for toxicity values identified in Section H6.0. The RfCs are concentrations in air expressed as mg/m<sup>3</sup> and were converted to RfDs using the following equation:

$$RfD = \frac{RfC \times IR}{BW} \quad (H-4)$$

where

RfD	=	Reference dose (mg/kg)
RfC	=	Reference concentration (mg/m <sup>3</sup> )
IR	=	Inhalation rate assumption (20 m <sup>3</sup> /day)
BW	=	Body weight assumption (70 kilograms)

Consistent with guidance from DTSC (1992), oral RfDs were used to assess dermal exposure in the absence of route-specific dermal RfDs, as detailed in Section H6.3. Chronic RfDs are developed for evaluating exposures that occur over periods of more than 7 years, and subchronic RfDs are for exposures of less than 7 years. Although the potential exposures considered in this HHRA are for periods of from 1 to 30 years, chronic RfDs were used to evaluate both chronic and subchronic exposures.

RfDs and RfCs are derived by EPA work groups. The EPA work groups review all relevant human and animal studies for each chemical and select the study (or studies) pertinent to deriving the specific RfD. RfDs are often derived from a measured or estimated no observed adverse effect level (NOAEL). The NOAEL corresponds to the dose, in mg/kg-day, that can be administered without inducing observable adverse effects. If a NOAEL cannot be established, the lowest observed adverse effect level (LOAEL) is used. The LOAEL corresponds to the lowest daily dose administered that induces an observable adverse effect. The toxic effect characterized by the LOAEL is referred to as the “critical effect.”

NOAELs are most often based on data from experimental studies in animals. Both the experimental parameters and the extrapolation of animal data to humans are potential sources of uncertainty; therefore, the NOAEL or LOAEL is divided by uncertainty factors in deriving an RfD to ensure that the RfD will be protective of human health. The uncertainty factors usually occur in multiples of 10, and each factor represents a specific area of uncertainty inherent in the extrapolation from available data. Uncertainty factors account for the following:

- Extrapolation of data from animals to humans (interspecies extrapolation)
- Variation in human sensitivity to the toxic effects of a chemical (intraspecies differences)
- Derivation of a chronic RfD based on a subchronic rather than a chronic study
- Derivation of a RfD based on a LOAEL rather than a NOAEL

Modifying factors between 0 and 10 also may be applied to accommodate other factors or additional uncertainty associated with the data. The modifying factor is 1 for most chemicals. Tables H-6.1 and H-6.2 present the Method 1 RfDs used in this HHRA, and Tables H-6.5 and H-6.6 present the Method 2 RfDs used in this HHRA.

## H6.2 SLOPE FACTORS

The toxicity information considered in the assessment of potential cancer risks includes a weight-of-evidence classification and a SF. The weight-of-evidence classification qualitatively describes the likelihood that a chemical is a human carcinogen and is based on an evaluation of the available data from human and animal studies. The EPA guidelines in "Proposed Guidelines for Carcinogen Risk Assessment" (EPA 1996b) were used to evaluate the chemicals. These chemicals were classified using an alphanumeric system in which the chemical was assigned to one of the following groups: Group A, a known human carcinogen; Groups B1 and B2, a probable human carcinogen; and Group C, a possible human carcinogen. Chemicals that could not be classified as human carcinogens because of lack of data were categorized in Group D, and chemicals for which there was evidence of noncarcinogenicity in humans were categorized in Group E. After the publication of the 1996 EPA guidelines, the chemicals evaluated by EPA were addressed using a weight-of-evidence narrative and one of the following descriptors for classifying potential carcinogenicity to humans: "known/likely," "cannot be determined," and "not likely."

A SF is an upper-bound estimate, approximating a 95UCL on the increased cancer risk from lifetime exposure to a chemical (EPA 1989). The SFs used to assess cancer risk were obtained from the sources identified in Section H6.0.

Similar to RfDs, SFs are specific to the chemical and route of exposure and are available for oral and inhalation exposures. EPA typically publishes inhalation unit risks instead of inhalation SFs. The unit risks were converted to inhalation SFs using the following equation:

$$SF = \frac{UR \times BW \times UCF}{IR} \quad (H-5)$$

where

SF	=	Slope factor (mg/kg-day) <sup>-1</sup>
UR	=	Unit risk (mg/m <sup>3</sup> )
BW	=	Body weight assumption (70 kilograms)
UCF	=	Unit conversion factor (1,000 micrograms per milligram)
IR	=	Inhalation rate assumption (20 m <sup>3</sup> /day)

As with RfDs, oral SFs were used to estimate cancer risks for exposures via the dermal route because no dermal SFs were available, as detailed in Section H6.3. Tables H-6.3 and H-6.4 present the Method 1 SFs used in this HHRA, and Tables H-6.7 and H-6.8 present the Method 2 SFs used in this HHRA.

### **H6.3 ROUTE-TO-ROUTE EXTRAPOLATION**

Toxicity values are available for only one route of exposure (that is, for only the inhalation or the oral exposure routes) for some chemicals. In some of these cases, route-to-route extrapolations were conducted so that toxicity values developed for one route of exposure (for example, the oral route) were applied to another (for example, the inhalation route). This approach assumes that toxicity is identical regardless of the route of exposure. Route-to-route extrapolations are recommended for organic chemicals by the State of California (DTSC 1992) and are used by EPA Region 9 to develop PRGs (EPA 2002b).

In this HHRA, route-to-route extrapolations were used for organic COPCs in the following cases:

- If an oral toxicity value (RfD or SF) had been assigned for an organic chemical but no inhalation toxicity value was available, the oral toxicity value also was used as the inhalation toxicity value.
- If an inhalation toxicity value had been assigned for an organic chemical but no oral toxicity value was available, the inhalation toxicity value also was used as the oral toxicity value.

These route-to-route extrapolations were not used for metals because their toxicological endpoints depend heavily on the exposure route (EPA 2004f). Route-to-route extrapolations for the RfDs and SFs used in the HHRA are denoted with an "R" (for route extrapolated) in Tables H-6.1 through H-6.8.

Oral absorption efficiency was assumed to be 100 percent for all COPCs; that is, oral toxicity values were not adjusted for absorption efficiency to evaluate the dermal pathway.

### **H6.4 SURROGATES**

Because of a lack of toxicity values for some COPCs, chemical surrogates were used to avoid data gaps in the HHRA. Chemical surrogates were selected based on similar chemical structure and are identified in Tables H-6.1 through H-6.8.

### **H6.5 LEAD**

Lead is a chemical of particular toxicological concern wherever child receptors and other sensitive subpopulations may be exposed to lead-contaminated media. However, no accepted

toxicity values are available for lead. Evaluation of lead in the HHRA is based on cancer effects. The potential for human health effects caused by lead was estimated through blood-lead concentration modeling. DTSC's LeadSpread Version 7 model (DTSC 1999) was used to estimate blood-lead concentrations in residential adults and children, and the resulting blood-lead concentrations were compared with target blood-lead levels established by DTSC.

## H7.0 RISK CHARACTERIZATION METHODS

The final step in the HHRA is the characterization of the potential risks associated with exposure to detected chemicals. Cancer risks and noncancer health hazards are characterized separately. Sections H7.1 and H7.2 present the general methodology for characterizing cancer risks and noncancer hazards. Section H7.3 presents the methodology for evaluating lead.

### H7.1 CHARACTERIZATION OF CANCER RISKS

Risks associated with exposure to chemicals classified as carcinogens are estimated as the incremental probability that an individual will develop cancer over a lifetime as a direct result of an exposure (EPA 1989). The estimated risk is expressed as a unitless probability.

In the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), EPA defined general remedial action goals for sites in the National Priorities List (Title 40 of the *Code of Federal Regulations* Part 300.430). The goals included a range for residual cancer risk, which is "an excess upper bound life-time cancer risk to an individual of between  $10^{-4}$  and  $10^{-6}$ ," or 1 in 10,000 to 1 in 1,000,000. The NCP states "the  $10^{-6}$  risk level shall be used as the point of departure for determining remediation goals." Using this criteria as a general guide, the HHRA called a COPC a "risk driver" when the COPC-specific cancer risk exceeds  $1 \times 10^{-6}$  or the COPC-specific hazard quotient (HQ) exceeds 1.

For chemicals classified as carcinogens, three steps are used in estimating cancer risks. First, to derive a cancer risk estimate for a single chemical and pathway, the chemical intake is multiplied by the chemical-specific SF. The calculation is based on the following relationship:

$$\text{Chemical-Specific Cancer Risk} = \text{Intake (mg/kg-day)} \times \text{SF (mg/kg-day)}^{-1} \quad (\text{H-7})$$

Second, to estimate the cancer risk associated with exposure to multiple carcinogens for a single exposure pathway, the individual chemical cancer risks are assumed to be additive, as follows:

$$\text{Pathway-Specific Cancer Risk} = \sum \text{Chemical-Specific Cancer Risk} \quad (\text{H-8})$$

Third, pathway-specific risks are summed to estimate the total cancer risk.

## H7.2 CHARACTERIZATION OF NONCANCER HAZARDS

For chemicals that are not classified as carcinogens and for those carcinogens known to cause adverse health effects other than cancer, the potential for exposure to result in adverse health effects other than cancer is evaluated by comparing the intake with an RfD. When calculated for a single chemical, the comparison yields a ratio termed the HQ:

$$HQ = \frac{\text{Intake (mg/kg-day)}}{\text{RfD (mg/kg-day)}} \quad (\text{H-9})$$

To evaluate the potential for adverse health effects other than cancer from simultaneous exposure to multiple chemicals, the HQs for all chemicals are summed, yielding a hazard index (HI) as follows:

$$HI = \sum HQ \quad (\text{H-10})$$

Pathway-specific HIs are then summed to estimate a total HI for each receptor. An HI of less than 1 indicates that adverse noncancer health effects are not expected. If the total HI exceeds 1, further evaluation in the form of a segregation of the HI via a target organ analysis may be performed to assess whether the noncancer HIs are a concern (EPA 1989). Target organ HIs greater than 1 may indicate a potential adverse effect. In cases where the total HI exceeded 1 and the HQ for an individual COPC also exceeded 1, a target organ analysis was not conducted because the HQ results for the individual COPC already indicate concern may be warranted.

## H7.3 HEALTH EFFECTS ASSOCIATED WITH EXPOSURE TO LEAD

No consensus-based toxicity values are available for lead, which is a chemical of particular toxicological concern wherever child receptors and other sensitive subpopulations may come into contact with lead-contaminated media. The potential for human health effects caused by lead is typically estimated on the basis of blood-lead concentrations. Mathematical models have been developed to estimate blood-lead levels on the basis of total lead uptake from exposures by diet, drinking water, air, and soil. In this case, DTSC's LeadSpread model (Version 7.0) was used to calculate blood-lead levels for a future adult and child resident at IR Site 34 (DTSC 1999). In addition to the soil EPCs for lead in soil, this HHRA used default values recommended in the DTSC Leadsread model to estimate blood lead concentrations for a resident child and adult. Default values used included the DTSC MCL of 15 µg/L in drinking water; the highest monthly average value from a California monitoring station of 0.028 micrograms per cubic meter (µg/m<sup>3</sup>) for ambient air; and a respirable dust concentration of 1.5 µg/m<sup>3</sup>, based on soil screening guidance (EPA 1996a). The homegrown produce contribution was set to the default value for residential scenarios (7 percent). It is assumed that 7 percent of the diet consists of homegrown produce, based on the Exposure Factors Handbook (EPA 1997a).

Section H8.3 presents the results of the blood lead modeling. The estimated blood-lead levels were compared with benchmark blood-lead levels established by the DTSC. DTSC recommends

using a blood-lead level of 10 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ) as a benchmark to be protective of the general population (DTSC 1999). This HHRA used the current EPA Region 9 PRG for lead of 800 mg/kg for industrial soil as a benchmark for evaluating commercial/industrial workers. Although LeadSpread was also designed to estimate blood-lead levels for occupational exposures, DTSC is not currently recommending the use of this model for assessment of exposure to lead under an occupational setting (DTSC 2005b). The lead EPCs for surface soil (0 to 2 feet bgs) and subsurface soil (0 to 4 feet bgs) were compared with the PRG of 800 mg/kg for industrial soil.

## **H8.0 RESULTS OF THE HUMAN HEALTH RISK ASSESSMENT**

This section summarizes the potential risks estimated for future commercial/industrial workers, construction workers, residents, and recreational users at IR Site 34. This HHRA used a dual-tracking approach to consider both EPA and DTSC toxicity values. To satisfy federal (Navy and EPA) and state (DTSC) requirements, the HHRA prepared a set of risk assessment results using EPA toxicity values, referred to as Method 1, and a separate set of risk assessment results using DTSC toxicity values, referred to as Method 2. This section summarizes both the Method 1 and Method 2 cancer risks and noncancer hazards for the RME scenario.

Tables H-7.1 through H-7.26; H-8.1 through H-8.26; and H-9.1 through H-9.26 provide the supporting calculations for the Method 1 and Method 2 cancer risks and HI estimates for the RME scenario (including background concentrations of metals) in formal RAGS Part D Standard Tables. Attachment H2 presents the risk estimate results in formal RAGS Part D Standard Tables for the CTE scenario for Method 1, and Attachment H3 presents the risk estimate results for the CTE scenario for Method 2. Attachment H4 presents the Method 1 and Method 2 incremental risks for the RME scenario (excluding background concentrations of metals).

In this discussion, a COPC is termed a "risk driver" when the COPC-specific cancer risk exceeds  $1 \times 10^{-6}$  or the COPC-specific HQ exceeds 1. For the commercial/industrial workers, construction workers, and residents, the HHRA evaluated risks assuming both minimal soil disturbance, in which exposures could occur only in the first 2 feet of soil, and intrusive soil development, in which exposures could occur within the first 4 feet of soil. For both the minimal disturbance and intrusive development scenarios, potential risks estimated for the vapor intrusion and groundwater exposure pathways are the same.

Section H8.1 presents the RME cancer risks, and Section H8.2 presents the RME noncancer HI estimates. Section H8.3 presents the results of the blood-lead modeling, and Section H8.4 presents the RME incremental risks (excluding background concentrations of metals). EPA guidance recommends presenting cancer risk and HI estimates to only one significant figure (EPA 1989). However, Tables H-7.1 through H-9.26 present chemical-specific risk results to two significant figures to aid review of the risk calculations. Likewise, this section discusses risks using two significant figures, so the discussion can be easily matched with the calculations presented in Tables H-7.1 through H-9.26.

## H8.1 CANCER RISK ESTIMATES

This section summarizes the RME cancer risks for future commercial/industrial workers, construction workers, residents, and recreational users at IR Site 34. The cancer risks presented in this section are total risk estimates (including background concentrations of metals) using both EPA toxicity values (Method 1) and DTSC toxicity values (Method 2). In this discussion, a COPC is termed a “risk driver” when the COPC-specific cancer risk exceeds  $1 \times 10^{-6}$ .

### H8.1.1 Future Commercial/Industrial Worker

The table below presents the exposure pathways and potential RME cancer risks for the future commercial/industrial worker. Tables H-7.1, H-7.2, H-7.14, and H-7.15 present the estimated RME risks for each COPC for the commercial/industrial worker in formal RAGS Part D Standard Tables.

Commercial/Industrial Worker Exposure Pathways	RME Cancer Risk Estimates (0 to 2 feet bgs)		RME Cancer Risk Estimates (0 to 4 feet bgs)	
	Method 1	Method 2	Method 1	Method 2
Soil Ingestion	1.3E-05	3.7E-05	1.3E-05	4.5E-05
Dermal Contact with Soil	1.5E-05	2.8E-05	1.3E-05	2.9E-05
Inhalation of Particulates and Volatiles Released from Soil to Outdoor Air	1.9E-06	7.4E-06	1.9E-06	7.4E-06
Inhalation of Volatiles Released from Soil to Indoor Air (vapor intrusion)	2.0E-05	1.9E-04	2.0E-05	1.9E-04
<b>Soil Total</b>	<b>4.9E-05</b>	<b>2.6E-04</b>	<b>4.8E-05</b>	<b>2.7E-04</b>
Inhalation of Volatiles Released from Groundwater to Outdoor Air	4.0E-08	3.9E-08	4.0E-08	3.9E-08
Inhalation of Volatiles Released from Groundwater to Indoor Air (vapor intrusion)	7.8E-07	8.2E-07	7.8E-07	8.2E-07
<b>Groundwater Total</b>	<b>8.2E-07</b>	<b>8.6E-07</b>	<b>8.2E-07</b>	<b>8.6E-07</b>
<b>Total Risk</b>	<b>5E-05</b>	<b>3E-04</b>	<b>5E-05</b>	<b>3E-04</b>

**Method 1 (EPA) Cancer Risk Estimates.** The total cancer risk from exposure to surface soil is  $4.9 \times 10^{-5}$  and from subsurface soil is  $4.8 \times 10^{-5}$ , which are within the  $10^{-4}$  and  $10^{-6}$  range. The total cancer risk from exposure to volatiles in groundwater is  $8.2 \times 10^{-7}$ . Cancer risk drivers in soil include 1,4-dichlorobenzene, Aroclor-1248, arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene.

**Method 2 (DTSC) Cancer Risk Estimates.** The total cancer risk from exposure to surface soil is  $2.6 \times 10^{-4}$  and from subsurface soil is  $2.7 \times 10^{-4}$ , which exceed the  $10^{-4}$  and  $10^{-6}$  range for carcinogens. The total cancer risk from exposure to volatiles in groundwater is  $8.6 \times 10^{-7}$ . Cancer risk drivers in soil include 1,4-dichlorobenzene, Aroclor-1248, arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, cadmium, dibenz(a,h)anthracene, and naphthalene.

The PAHs and metals identified as risk drivers using EPA (Method 1) and DTSC (Method 2) toxicity values were all detected in more than 40 percent of the samples, and the EPCs for these risk drivers are all based on the 95UCL. The other risk drivers, however, were all detected in less than 4 percent of the samples and the EPCs are based on the maximum detected concentrations. The detection frequencies for these less frequently detected risk drivers in soil samples collected from 0 to 4 feet bgs are 1 of 37 for 1,4-dichlorobenzene and 3 of 138 for Aroclor-1248 (see Table H-2.2). Detection limits for these risk drivers met project-required reporting limits listed in the RI Work Plan (SulTech 2006) and were less than EPA Region 9 PRGs (EPA 2004e).

One of the primary differences between the Method 1 and Method 2 results is due to naphthalene. Although Cal/EPA considers naphthalene to be carcinogenic, the EPA currently does not. The EPA IRIS (2007) website states for naphthalene:

Using the 1996 Proposed Guidelines for Carcinogen Risk Assessment, the human carcinogenic potential of naphthalene via the oral or inhalation routes "cannot be determined" at this time based on human and animal data; however, there is suggestive evidence (observations of benign respiratory tumors and one carcinoma in female mice only exposed to naphthalene by inhalation [NTP 1992a]). Additional support includes increase in respiratory tumors associated with exposure to 1-methylnaphthalene.

### H8.1.2 Future Construction Worker

The table below presents the exposure pathways and potential RME cancer risks for the future construction worker. Tables H-7.3, H-7.4, H-7.16, and H-7.17 present the estimated RME risks for each COPC for the construction worker in formal RAGS Part D Standard Tables.

Construction Worker Exposure Pathways	RME Cancer Risk Estimates (0 to 2 feet bgs)		RME Cancer Risk Estimates (0 to 4 feet bgs)	
	Method 1	Method 2	Method 1	Method 2
Soil Ingestion	1.7E-06	4.8E-06	1.7E-06	6.0E-06
Dermal Contact with Soil	2.3E-06	4.6E-06	2.2E-06	4.7E-06
Inhalation of Particulates and Volatiles Released from Soil to Outdoor Air	8.1E-07	1.4E-06	9.3E-07	1.5E-06
<b>Soil Total</b>	<b>4.8E-06</b>	<b>1.1E-05</b>	<b>4.8E-06</b>	<b>1.2E-05</b>
Inhalation of Volatiles Released from Groundwater to Outdoor Air	2.3E-09	2.2E-09	2.3E-09	2.2E-09
<b>Groundwater Total</b>	<b>2.3E-09</b>	<b>2.2E-09</b>	<b>2.3E-09</b>	<b>2.2E-09</b>
<b>Total Risk</b>	<b>5E-06</b>	<b>1E-05</b>	<b>5E-06</b>	<b>1E-05</b>

**Method 1 (EPA) Cancer Risk Estimates.** The total cancer risk from exposure to surface and subsurface soil is  $4.8 \times 10^{-6}$ , which is within the  $10^{-4}$  and  $10^{-6}$  range. The total cancer risk from exposure to volatiles in groundwater is  $2.3 \times 10^{-9}$ . Cancer risk drivers in soil include arsenic and benzo(a)pyrene.

**Method 2 (DTSC) Cancer Risk Estimates.** The total cancer risk from exposure to surface soil is  $1.1 \times 10^{-5}$  and from subsurface soil is  $1.2 \times 10^{-5}$ , which is within the  $10^{-4}$  and  $10^{-6}$  range for carcinogens. The total cancer risk from exposure to volatiles in groundwater is  $2.2 \times 10^{-9}$ . Cancer risk drivers in soil include arsenic and benzo(a)pyrene .

The PAHs and metals identified as risk drivers using EPA (Method 1) and DTSC (Method 2) toxicity values were all detected in more than 50 percent of the samples, and the EPCs for these risk drivers are all based on the 95UCL. Arsenic is considered to be above background concentrations based on two-population statistical tests (see Table 4-2 of the RI Report).

### H8.1.3 Future Resident

The table below presents the exposure pathways and potential RME cancer risks for the future resident. The potential cancer risks presented below for the child/adult resident are the combined potential cancer risks for the resident child and adult. Tables H-7.5 through H-7.10, and H-7.18 through H-7.23 present the estimated RME risks for each COPC for the future resident child and adult in formal RAGS Part D Standard Tables.

Resident Child/Adult Exposure Pathways	RME Cancer Risk Estimates (0 to 2 feet bgs)		RME Cancer Risk Estimates (0 to 4 feet bgs)	
	Method 1	Method 2	Method 1	Method 2
Soil Ingestion	5.7E-05	1.6E-04	5.9E-05	2.0E-04
Dermal Contact with Soil	1.9E-05	3.6E-05	1.7E-05	3.7E-05
Ingestion of Homegrown Produce	6.1E-05	5.0E-05 1.2E-04	5.7E-05	1.3E-04
Inhalation of Particulates and Volatiles Released from Soil to Outdoor Air	5.8E-06	2.2E-05	5.8E-06	2.2E-05
Inhalation of Volatiles Released from Soil to Indoor Air (vapor intrusion)	1.3E-04	1.4E-03	1.3E-04	1.4E-03
<b>Soil Total</b>	<b>2.8E-04</b>	<b>1.7E-03</b>	<b>2.7E-04</b>	<b>1.8E-03</b>
Inhalation of Volatiles Released from Groundwater to Outdoor Air	1.2E-07	1.2E-07	1.2E-07	1.2E-07
Inhalation of Volatiles Released from Groundwater to Indoor Air (vapor intrusion)	5.1E-06	5.9E-06	5.1E-06	5.9E-06
<b>Groundwater Total</b>	<b>5.2E-06</b>	<b>6.0E-06</b>	<b>5.2E-06</b>	<b>6.0E-06</b>
<b>Total Risk</b>	<b>3E-04</b>	<b>2E-03</b>	<b>3E-04</b>	<b>2E-03</b>

**Method 1 (EPA) Cancer Risk Estimates.** The total cancer risk from exposure to surface soil is  $2.8 \times 10^{-4}$  and from subsurface soil is  $2.7 \times 10^{-4}$ , which exceeds the  $10^{-4}$  and  $10^{-6}$  range. The total cancer risk from exposure to volatiles in groundwater is  $5.2 \times 10^{-6}$ . Trichloroethene via vapor intrusion was the only COPC in groundwater with a COPC-specific cancer risk greater than  $1 \times 10^{-6}$ . Cancer risk drivers in soil include 1,4-dichlorobenzene, 4-nitroaniline, Aroclor-1248, Aroclor-1254, Aroclor-1260, arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, bis(2-ethylhexyl)phthalate, dibenzo(a,h)anthracene, dieldrin, heptachlor epoxide, and indeno(1,2,3-cd)pyrene.

**Method 2 (DTSC) Cancer Risk Estimates.** The total cancer risk from exposure to surface soil is  $1.7 \times 10^{-3}$  and from subsurface soil is  $1.8 \times 10^{-3}$ , which exceeds the  $10^{-4}$  and  $10^{-6}$  range for carcinogens. The total cancer risk from exposure to volatiles in groundwater is  $6.0 \times 10^{-6}$ , which is within the risk  $10^{-4}$  and  $10^{-6}$  for carcinogens. Vinyl chloride was the only COPC in groundwater with a COPC-specific cancer risk greater than  $1 \times 10^{-6}$ . Vapor intrusion of vinyl chloride ( $5.2 \times 10^{-6}$ ) accounted for most of the cancer risk from groundwater. Cancer risk drivers in soil include 1,4-dichlorobenzene, 4-nitroaniline, Aroclor-1248, Aroclor-1254, Aroclor-1260, arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, cadmium, chrysene, dibenzo(a,h)anthracene, dieldrin, heptachlor epoxide, indeno(1,2,3-cd)pyrene, naphthalene, and technical chlordane.

The PAHs, metals, and two of the PCBs (Aroclor-1254 and Aroclor-1260) identified as risk drivers in soil using EPA (Method 1) and DTSC (Method 2) toxicity values were all detected in more than 25 percent of the samples, and the EPCs for these risk drivers are all based on the 95UCL. The EPCs for three of the pesticides identified as risk drivers (dieldrin, heptachlor epoxide, and technical chlordane) are based on the 95UCL. Dieldrin was detected in 14 of 90 soil samples, heptachlor epoxide in 13 of 90 soil samples, and technical chlordane in 4 of 75 soil samples collected from 0 to 4 feet bgs (see Table H-2.2). The other risk drivers were detected in less than 4 percent of the samples, and the EPCs are based on the maximum detected concentrations. The detection frequencies for the less frequently detected risk drivers in soil samples collected from 0 to 4 feet bgs are 1 of 37 for 1,4-dichlorobenzene, 1 of 35 for 4-nitroaniline, and 3 of 138 for Aroclor-1248 (see Table H-2.2).

TCE and vinyl chloride were the only risk drivers in groundwater. Vinyl chloride was only detected in 1 in 29 groundwater samples (see Table H-2.3). Vinyl chloride was detected in a groundwater sample collected using direct-push technologies, but was not detected in any of the monitoring wells. Trichloroethene was detected in 8 of 29 groundwater samples (see Table H-2.3). Trichloroethene was a risk driver using EPA toxicity values but not when using DTSC toxicity values. The HHRA used an EPA oral and inhalation SF of  $0.4 \text{ (mg/kg-day)}^{-1}$ , which is a provisional values from the National Center for Environmental Assessment as presented in the EPA Region 9 PRG table (EPA 2004e). OEHHA has established an oral SF of  $1.3 \times 10^{-2} \text{ (mg/kg-day)}^{-1}$  and an inhalation SF of  $7 \times 10^{-3} \text{ per (mg/kg-day)}^{-1}$ . EPA's SFs are more than an order of magnitude more conservative than DTSCs SFs. Section H9.3.3 further discusses uncertainties associated with trichloroethene toxicity values.

The vapor intrusion pathway contributed more than 45 percent to the potential cancer risks in soil and groundwater using EPA and DTSC toxicity values. Many of the exposure assumptions used to estimate risks from the indoor air pathway are highly conservative and may have overestimated risks to a resident in a hypothetical residence. The vapor intrusion models, for example, assumed steady-state concentrations of volatile COPCs in the subsurface for the entire duration of exposure (30 years for residents). It is much more likely that concentrations would decrease over time as chemicals move from one medium to another and from location to location within a particular medium. In addition, concentrations are likely to decrease as the chemical is lost through transformation or degradation processes, such as hydrolysis, photolysis, and

biodegradation. Section H9.0 provides additional detail on the uncertainties associated with risk estimates in this HHRA.

#### H8.1.4 Future Recreational User

The table below presents the exposure pathways and potential RME cancer risks for the future recreational user. The potential cancer risks presented below for the child/adult recreational user are the combined potential cancer risks for the recreational child and adult. Tables H-7.11 through H-7.13, and H-7.24 through H-7.26 present the estimated RME risks for each COPC for the future recreational child and adult in formal RAGS Part D Standard Tables. The HHRA evaluated risks for the future recreational user assuming minimal soil disturbance, in which exposures could occur only in the first 2 feet of soil.

Recreational Child/Adult Exposure Pathways	RME Cancer Risk Estimates (0 to 2 feet bgs)	
	Method 1	Method 2
Soil Ingestion	1.2E-05	3.5E-05
Dermal Contact with Soil	1.9E-05	3.6E-05
Inhalation of Particulates and Volatiles Released from Soil to Outdoor Air	7.1E-07	2.8E-06
<b>Soil Total</b>	<b>3.2E-05</b>	<b>7.4E-05</b>
Inhalation of Volatiles Released from Groundwater to Outdoor Air	1.5E-08	1.4E-08
<b>Groundwater Total</b>	<b>1.5E-08</b>	<b>1.4E-08</b>
<b>Total Risk</b>	<b>3E-05</b>	<b>7E-05</b>

**Method 1 (EPA) Cancer Risk Estimates.** The total cancer risk from exposure to surface soil is  $3.2 \times 10^{-5}$ , which is within the  $10^{-4}$  to  $1 \times 10^{-6}$  range for carcinogens. The total cancer risk from exposure to volatiles in groundwater is  $1.5 \times 10^{-8}$ , which is less than  $1 \times 10^{-6}$ . Cancer risk drivers in soil include Aroclor-1248, Aroclor-1260, arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene.

**Method 2 (DTSC) Cancer Risk Estimates.** The total cancer risk from exposure to surface soil is  $7.4 \times 10^{-5}$ , which is within the  $10^{-4}$  and  $10^{-6}$  for carcinogens. The total cancer risk from exposure to volatiles in groundwater is  $1.4 \times 10^{-8}$ . Cancer risk drivers in soil include Aroclor-1248, arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene.

The PAHs and metals identified as risk drivers using EPA (Method 1) and DTSC (Method 2) toxicity values were all detected in more than 40 percent of the samples, and the EPCs for these risk drivers are all based on the 95UCL. Aroclor-1248, however, was only detected in 3 of 138 soil samples collected from 0 to 4 feet bgs (see Table H-2.2), and the EPC is based on the maximum detected concentration (see Table H-3.2).

## H8.2 NONCANCER HAZARD ESTIMATES

This section summarizes the RME HI estimates for future commercial/industrial workers, construction workers, residents, and recreational users at IR Site 34. The HI estimates presented in this section are total risk estimates (including background concentrations of metals) using both EPA toxicity values (Method 1) and DTSC toxicity values (Method 2). Noncancer HIs are evaluated in conjunction with the threshold of 1 for noncarcinogens. A target organ analysis is only conducted if the noncancer HI is greater than 1 and there are no COPC-specific HQs exceeding 1; otherwise, a target organ analysis would not further characterize the health hazard.

### H8.2.1 Future Commercial/Industrial Worker

The table below presents the exposure pathways and potential RME HI estimates for the future commercial/industrial worker. Tables H-7.1, H-7.2, H-7.14, and H-7.15 present the estimated RME risks for each COPC for the commercial/industrial worker in formal RAGS Part D Standard Tables.

Commercial/Industrial Worker Exposure Pathways	RME HI (0 to 2 feet bgs)		RME HI (0 to 4 feet bgs)	
	Method 1	Method 2	Method 1	Method 2
Soil Ingestion	0.38	0.37	0.36	0.36
Dermal Contact with Soil	0.19	0.19	0.19	0.19
Inhalation of Particulates and Volatiles Released from Soil to Outdoor Air	0.20	0.20	0.20	0.20
Inhalation of Volatiles Released from Soil to Indoor Air (vapor intrusion)	6.6	6.6	6.6	6.6
<b>Soil Total</b>	<b>7.4</b>	<b>7.4</b>	<b>7.4</b>	<b>7.4</b>
Inhalation of Volatiles Released from Groundwater to Outdoor Air	0.00033	0.00030	0.00033	0.00030
Inhalation of Volatiles Released from Groundwater to Indoor Air (vapor intrusion)	0.0067	0.0061	0.0067	0.0061
<b>Groundwater Total</b>	<b>0.0071</b>	<b>0.0064</b>	<b>0.0071</b>	<b>0.0064</b>
<b>Total Risk</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>

**Method 1 (EPA) and Method 2 (DTSC) Noncancer HI Estimates.** For both the Method 1 and Method 2 HI estimates, the total HI from exposure to surface and subsurface soil is 7.4, which is greater than the threshold HI of 1 for noncarcinogens. The HI from exposure to groundwater is less than 1 using both EPA (Method 1) and DTSC (Method 2) toxicity values. Vapor intrusion of naphthalene (4.2) and 1,2,4-trichlorobenzene (1.7) accounts for most of the HI. Naphthalene and 1,2,4-Trichlorobenzene are the only hazard drivers with a COPC-specific HQ exceeding 1. The EPCs for naphthalene and 1,2,4-trichlorobenzene are based on the maximum detected concentration. Naphthalene was only detected in 2 of 37 soil samples collected from 0 to 4 feet bgs and 1,2,4-trichlorobenzene was only detected in 1 of 37 soil samples collected from 0 to 4 feet bgs (see Table H-2.2).

## H8.2.2 Future Construction Worker

The table below presents the exposure pathways and potential RME HI estimates for the future construction worker. Tables H-7.3, H-7.4, H-7.16, and H-7.17 present the estimated RME risks for each COPC for the construction worker in formal RAGS Part D Standard Tables.

Construction Worker Exposure Pathways	RME HI (0 to 2 feet bgs)		RME HI (0 to 4 feet bgs)	
	Method 1	Method 2	Method 1	Method 2
Soil Ingestion	1.2	1.2	1.2	1.2
Dermal Contact with Soil	0.76	0.76	0.75	0.75
Inhalation of Particulates and Volatiles Released from Soil to Outdoor Air	6.4	7.4	6.1	7.1
<b>Soil Total</b>	<b>8.4</b>	<b>9.4</b>	<b>8.0</b>	<b>9.1</b>
Inhalation of Volatiles Released from Groundwater to Outdoor Air	0.00047	0.00043	0.00047	0.00043
<b>Groundwater Total</b>	<b>0.00047</b>	<b>0.00043</b>	<b>0.00047</b>	<b>0.00043</b>
<b>Total Risk</b>	<b>8</b>	<b>9</b>	<b>8</b>	<b>9</b>

**Method 1 (EPA) Noncancer HI Estimates.** The total HI from exposure to surface soil is 8.4 and from exposure to subsurface soil is 8.0, which are both greater than the threshold HI of 1 for noncarcinogens. The total HI from exposure to volatile chemicals in groundwater is 0.00047, which is less than the threshold HI of 1 for noncarcinogens. The HQ from exposure to subsurface soil (0 to 4 feet bgs) is 1.3 for aluminum and 4.2 for manganese. COPCs with an HQ of less than 1 contribute to the rest of the total HI of 8. Aluminum and manganese in soil are the only risk drivers with a COPC-specific HQ exceeding 1. Inhalation of fugitive dust by a future construction worker accounts for more than 85 percent of the total HI of aluminum and manganese.

**Method 2 (DTSC) Noncancer HI Estimates.** The total HI from exposure to surface soil is 9.4 and from exposure to subsurface soil is 9.1, which are both greater than the threshold HI of 1 for noncarcinogens. The total HI from exposure to volatile chemicals in groundwater is 0.00043, which is less than the threshold HI of 1 for noncarcinogens. Aluminum and manganese in soil are the only risk drivers with a COPC-specific HQ exceeding 1. The HQ from exposure to subsurface soil (0 to 4 feet bgs) is 1.2 for aluminum and 4.2 for manganese.

Aluminum and manganese were both detected in all 71 soil samples collected from 0 to 4 feet bgs (see Table H-2.2). Two-population statistical tests determined that these metals are present above background concentrations (see Table 4-2 of the RI Report). The RfD for aluminum is based on a provisional value developed by EPA's National Center of Environmental Assessment for the Superfund program (EPA 2004d). Provisional values do not receive the same multiprogram consensus review provided by the IRIS program. Section H-9.0 provides additional detail on the uncertainties associated with risk estimates in this HHRA.

### H8.2.3 Future Resident

The table below presents the exposure pathways and potential RME HI estimates for the future resident. The potential HI estimates presented below for the child/adult resident are those estimated for the child receptor because HIs are higher for child residents than those estimated for the adult. Tables H-7.5 through H-7.10, and H-7.18 through H-7.23 present the estimated RME risks for each COPC for the future resident child and adult in formal RAGS Part D Standard Tables.

Resident Child/Adult Exposure Pathways	RME HI (0 to 2 feet bgs)		RME HI (0 to 4 feet bgs)	
	Method 1	Method 2	Method 1	Method 2
Soil Ingestion	4.9	4.9	4.8	4.7
Dermal Contact with Soil	0.63	0.63	0.62	0.62
Ingestion of Homegrown Produce	2.1	2.1	1.9	1.9
Inhalation of Particulates and Volatiles Released from Soil to Outdoor Air	0.96	0.96	0.96	0.96
Inhalation of Volatiles Released from Soil to Indoor Air (vapor intrusion)	74	74	74	74
<b>Soil Total</b>	<b>82</b>	<b>82</b>	<b>82</b>	<b>82</b>
Inhalation of Volatiles Released from Groundwater to Outdoor Air	0.0015	0.0014	0.0015	0.0014
Inhalation of Volatiles Released from Groundwater to Indoor Air (vapor intrusion)	0.064	0.058	0.064	0.058
<b>Groundwater Total</b>	<b>0.065</b>	<b>0.059</b>	<b>0.065</b>	<b>0.059</b>
<b>Total Risk</b>	<b>82</b>	<b>82</b>	<b>82</b>	<b>82</b>

**Method 1 (EPA) and Method 2 Noncancer HI Estimates.** Using both the EPA and DTSC toxicity values, the total HI from exposure to surface and subsurface soil is 82, which is greater than the threshold HI of 1 for noncarcinogens. The HI from exposure to groundwater is less than 1 using both EPA (Method 1) and DTSC (Method 2) toxicity values. Hazard risk drivers in soil include 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-dichlorobenzene, Aroclor-1248, iron, and naphthalene. The four VOCs (1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-dichlorobenzene) were all detected only once and at the same location (DP2). Vapor intrusion of 1,2,4-trichlorobenzene (18) and naphthalene (47) accounts for more than 85 percent of the estimated HI. 1,2,4-Trichlorobenzene was only detected in 1 of 37 soil samples collected from 0 to 4 feet bgs and naphthalene was only detected in 2 of 37 soil samples collected from 0 to 4 feet bgs (see Table H-2.2). Aroclor-1248 was only detected in 3 of 138 soil samples collected from 0 to 4 feet bgs.

Iron was detected in all 71 soil samples. Although both EPA (1989) and DTSC (1992) classify iron as an essential nutrient, it has been shown to be toxic at high doses, thus iron was considered for COPC selection in this HHRA. The EPA Region 9 PRGs for iron were derived from a provisional reference RfD developed by National Center for Environmental Assessment in 1996 for a specific metabolic disorder (EPA 2004e). Incorporation of this reference dose into the

characterization of noncancer hazards resulted in a chemical-specific HQ exceeding 1. The significance of these results is dubious because ongoing debate over this provisional reference dose has not resulted in its incorporation into IRIS (EPA 2007). Section H-9.0 provides additional detail on the uncertainties associated with risk estimates in this HHRA.

### H8.2.4 Future Recreational User

The table below presents the exposure pathways and potential RME HI estimates for the future recreational user. The potential HI estimates presented below for the child/adult recreational user are those estimated for the child receptor because HIs are higher for child residents than those estimated for the adult. Tables H-7.11 through H-7.13, and H-7.24 through H-7.26 present the estimated RME risks for each COPC for the future recreational child and adult in formal RAGS Part D Standard Tables. The HHRA evaluated risks for the future recreational user assuming minimal soil disturbance, in which exposures could occur only in the first 2 feet of soil.

Recreational Child/Adult Exposure Pathways	RME HI (0 to 2 feet bgs)	
	Method 1	Method 2
Soil Ingestion	1.1	1.0
Dermal Contact with Soil	0.63	0.63
Inhalation of Particulates and Volatiles Released from Soil to Outdoor Air	0.040	0.040
<b>Soil Total</b>	<b>1.7</b>	<b>1.7</b>
Inhalation of Volatiles Released from Groundwater to Outdoor Air	0.000064	0.000059
<b>Groundwater Total</b>	<b>0.000064</b>	<b>0.000059</b>
<b>Total Risk</b>	<b>2</b>	<b>2</b>

**Method 1 (EPA) and Method 2 Noncancer HI Estimates.** Using both the EPA (Method 1) and DTSC (Method 2) toxicity values, the total HI from exposure to surface soil is 1.7, which is greater than the threshold HI of 1 for noncarcinogens. The HI from exposure to groundwater is less than 1 using EPA (Method 1) and DTSC (Method 2) toxicity values. Although the total HI is greater than the noncancer hazard threshold of 1 for exposure to surface soil, there are no chemicals with a calculated individual HI greater than 1. Thus, there are no noncancer risk drivers identified for the recreational user.

### H8.3 LEAD RESULTS

The potential for human health effects caused by lead is typically estimated on the basis of blood-lead concentrations. The table below presents the estimated blood-lead concentrations.

Exposure Area	Lead EPC (mg/kg)	Predicted 99th Percentile Blood-Lead Concentration (µg/dL)	
		Adult Resident	Child Resident
Surface Soil (0 to 2 feet bgs)	2,900	29.5	111

Subsurface Soil (0 to 4 feet bgs)	2,390	24.5	92
-----------------------------------	-------	------	----

Blood-lead modeling resulted in 99th percentile concentrations greater than 10 µg/dL for the adult and child residents. Because blood-lead modeling results exceed 10 µg/dL there is a potential for unacceptable deleterious effects from exposure to lead. Tables H-10.1 and H-10.2 present the blood-lead modeling results in DTSC LeadSpread templates.

Lead was detected in 92 of 94 soil samples collected from 0 to 4 feet bgs (see Table H-2.2). Two-population statistical tests determined that lead is greater than background concentrations (see Table 4-2 of the RI Report). Lead concentrations were greater than the background concentration of 24 mg/kg in 51 soil samples. Lead concentrations ranged from 2.1 mg/kg to 21,000 mg/kg and the average was 566 mg/kg. Lead concentrations exceeded the California-modified residential PRG of 150 mg/kg in 29 soil samples and the EPA industrial PRG of 800 mg/kg in seven soil samples.

#### **H8.4 INCREMENTAL RISKS**

Two-population statistical tests were used to compare metals concentrations in IR Site 34 soil samples with background concentrations determined for Alameda Point. Appendix G of the RI Report describes the background comparison procedures in greater detail. Statistical tests determined that beryllium, mercury, and silver are less than background concentrations and that all other detected metals are greater than background concentrations. To evaluate the contribution of background risks to the total risk estimates, the HHRA estimated incremental risks by calculating the risks from background concentrations of metals in soil and subtracting the background risks from the total risk estimates. Attachment H4 presents the incremental risks. Except for the construction worker, the incremental risks were identical to the total risks. Subtracting the contribution of background concentrations of manganese and chromium reduced the risks for the construction worker. However, the incremental cancer risk was still within the  $10^{-4}$  and  $10^{-6}$  range, and noncancer HI estimate is still greater than the threshold HI of 1 for noncarcinogens.

#### **H9.0 UNCERTAINTY ANALYSIS**

Varying degrees of uncertainty at each stage of the HHRA arise from assumptions made in the risk assessment and the limitations of the data used to calculate risks. Uncertainty and variability also are inherent in the exposure assessment, toxicity values, and risk characterization. The uncertainties fall into two categories: uncertainties associated with the general risk assessment methodologies, and site-specific uncertainties associated with this HHRA. The following subsections further discuss these uncertainties.

The effect of these uncertainties is to overestimate or underestimate the actual cancer risk or HI, depending on the specific factor. In general, the risk assessment process uses conservative (health-protective) assumptions that, when combined, are intended to overestimate the actual risk.

## **H9.1 DATA EVALUATION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN**

The adequacy of site characterization data was reviewed and a structured COPC selection process was used to identify COPCs for the HHRA. Selecting representative sampling locations and collecting a sufficient number of samples determines the success of characterizing a contaminated site. The primary uncertainty associated with the COPC selection process is the possibility that a chemical may be inappropriately selected or excluded as a COPC in the risk assessment. The HHRA only excluded a chemical as a COPC when (1) a chemical was not detected, and (2) a metal is considered an essential nutrient (such as calcium, magnesium, potassium, and sodium). In addition, based on the CSM for IR Site 34 and the potentially complete exposure pathways identified in Section H5.3, this HHRA only identified a chemical considered to be volatile as a COPC in groundwater. Overall, this was a conservative approach that resulted in 50 COPCs in groundwater and more than 80 COPCs in soil.

## **H9.2 EXPOSURE ASSESSMENT**

Uncertainties were identified in association with four areas of the exposure assessment process: (1) the selection of exposure scenarios, (2) the selection of exposure pathways, (3) the estimation of EPCs, and (4) the selection of exposure variables used to estimate chemical intake. The following sections discuss uncertainties associated with each of these areas.

### **H9.2.1 Exposure Scenarios**

IR Site 34 is currently unoccupied land. The planned reuse of this area is recreational and includes the development of a golf course. Although future development of IR Site 34 for commercial/industrial or residential use may be unlikely, the HHRA evaluated these scenarios to provide alternative risk estimates for unrestricted reuse of the site and to support risk management decisions for the site. Construction workers are potential receptors if the site is redeveloped.

### **H9.2.2 Selecting Exposure Pathways**

The exposure pathways quantified in this HHRA were identified on the basis of the CSM, relevant site characterization data, and chemical fate and transport considerations. Uncertainty is introduced into the exposure assessment to the extent that these factors may not accurately predict the migration of chemicals within and from the area. For example, the vapor intrusion pathway assumes buildings will be constructed on a concrete slab and cracks in the floor or the walls will allow vapor intrusion of VOCs into homes or businesses.

### **H9.2.3 Estimating Exposure Point Concentrations**

For many sampling locations, the collection of samples was biased toward areas with known or suspected contamination, rather than collecting samples at equidistant intervals throughout the site. EPCs based on these biased soil and groundwater samples are likely to overestimate the

concentrations at the exposure point. In addition, the maximum detected concentrations were used as EPCs for data sets with fewer than four detected concentrations. For example, five of the VOCs (1,4-dichlorobenzene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, and 1,2-dichlorobenzene) that are risk drivers for the residential scenario were detected only once and at the same location (DP2). This may overestimate the risks because the HHRA assumes a potential receptor will be exposed to all localized hot spots even though the maximum detected concentrations are not all collocated.

#### **H9.2.4 Selecting Exposure Variables**

Most of the exposure variables used to estimate chemical intake are standard EPA default upper-bound estimates. Default exposure parameters are intended to be conservative so human health risks are not under-predicted. In general, considerable variation may occur in the activity patterns and physiological response of individuals. It is possible that the exposure variables used in this evaluation do not represent actual exposure conditions.

Variability in exposure duration and frequency, as well as breathing rates, soil ingestion rates, and amount of dermal contact with soil, can be substantial. In this risk assessment, RME scenarios were characterized for each receptor, which adds to the conservative assumptions that likely overestimate risk. Many of the default exposure parameters were selected to be representative of the 95 percentile level of exposure or higher for each exposure pathway, but they do not necessarily denote likely exposure. For example, it is unlikely that a 95 percentile level of exposure would occur concurrently for all of the potentially complete exposure pathways combined.

Variability of exposure assumptions can affect the results of a risk assessment. In this risk assessment, exposure assumptions were based on several sources, including the EPA (1997) "Exposure Factors Handbook" that provides recommended exposure assumptions for receptors of all ages. However, the EPA more recently released an external review draft of the "Child-Specific Exposure Factors Handbook [Child EFH]" (EPA 2006b) that presents exposure assumptions specific to children between 0 and 21 years old. Because the handbook is in the draft (external review) stage of development, the assumptions recommended in the Child EFH (EPA 2006b) were not used in this HHRA. When the Child EFH is finalized, exposure assumptions provided in the Child EFH will replace several child-specific assumptions used in this HHRA, which are based on EPA's (1997) "Exposure Factors Handbook".

This child exposure factor uncertainty analysis compared the exposure assumptions presented in the Child EFH (EPA 2006b) to the assumptions listed in EPA's (1997) "Exposure Factors Handbook." This risk assessment used two exposure assumptions for the child resident from EPA (1997): child produce intake rate of homegrown fruits and vegetables and the child inhalation rate. The HHRA estimated risks for RME and CTE scenarios; thus, exposure assumptions such as produce intake or inhalation rates were based on an RME (95<sup>th</sup> percentile) or CTE (50<sup>th</sup> percentile) scenario. To compare the differences between exposure assumptions used for evaluating child consumption of homegrown produce, an age-weighted homegrown produce intake rate (in units of grams per kilogram per day [g/kg-day]) was first calculated based

on Table 3-47 of EPA (2006b) for an RME (95<sup>th</sup> percentile) and CTE (50<sup>th</sup> percentile) scenario for a child aged 1 to 6 years old. The age-weighted average produce intake rate was then adjusted using equation 3-3 and Table 3-48 of the Child EFH (EPA 2006b) to determine the actual amount of homegrown produce consumed after cooking, preparation, and post-cooking losses. The produce intake rate was then multiplied by the weight of a child (15 kg) and a weight conversion factor (1E-03) to calculate the amount of produce consumed by a child in a day (kg/day). A comparison of the RME child produce intake rate from EPA (1997) to the rate derived from the draft Child EFH (EPA 2006b) shows that the produce intake rate would increase by a factor of 20.5 (0.0174 kg/day to 0.357 kg/day). The increase translates to an increase in the cancer risk and noncancer hazard for a residential child by a factor of 20.5 for the homegrown produce ingestion pathway. Using the draft Child EFH (EPA 2006b) produce intake rate, the risk associated with residential consumption of homegrown produce would exceed the risk management range of 1E-06 to 1E-04 (risks calculated using produce intake rates based on EPA [1997] were within the risk management range) and the noncancer hazard would continue to exceed 1.0. For the CTE scenario (50<sup>th</sup> percentile), the child produce intake rate would increase by a factor of 6.3 (0.0064 kg/day to 0.040 kg/day). The increase translates to an increase in the cancer risks and noncancer hazard for a residential child by a factor of 6.3. Using the Child EFH (EPA 2006b) produce intake rate, the risk associated with residential consumption of homegrown produce would continue to be within the risk management range of 1E-06 to 1E-04 and the noncancer hazard would continue to exceed 1.0.

To compare the differences between exposure assumptions used for evaluating the inhalation rate of a child, an age-weighted average inhalation rate (in units of m<sup>3</sup>/day) was calculated for a child aged 0 to 6 years old from rates presented in Table 7-17 (males) and Table 7-18 (females) of the Child EFH (EPA 2006b) for an RME (95<sup>th</sup> percentile) and CTE (50<sup>th</sup> percentile) scenario. The age-weighted average inhalation rates derived for males and females were averaged to determine a non-gender-specific inhalation rate. A comparison of the RME child inhalation rate from EPA (1997) to the rate derived from the draft Child EFH (EPA 2006b) shows that the child inhalation rate would increase by a factor of 1.54 (0.42 m<sup>3</sup>/hr to 0.645 m<sup>3</sup>/hr). The increase translates to an increase in the inhalation cancer risk and noncancer hazard for a residential child by a factor of 1.54. Using the draft Child EFH (EPA 2006b) inhalation rate, the risk associated with child inhalation pathways would continue to exceed both the risk management range of 1E-06 to 1E-04 and the noncancer hazard threshold of 1.0. For the CTE scenario, the child inhalation rate would increase by a factor of 1.5 (from 0.33 m<sup>3</sup>/hr to 0.495 m<sup>3</sup>/hr). The increase translates to an increase in the inhalation cancer risk and noncancer hazard for a residential child by a factor of 1.5. Using the draft Child EFH (EPA 2006b) inhalation rate, the risk associated with child inhalation pathways would continue to be within the risk management range of 1E-06 to 1E-04 and would continue to exceed the noncancer hazard threshold of 1.0.

## **H9.2.5 Applying the Vapor Intrusion Model**

This HHRA used the EPA's advanced vapor intrusion models for soil (EPA 2004a) and groundwater (EPA 2004b) to estimate indoor air concentrations from concentrations of volatile COPCs in soil and groundwater. These advanced versions, based on Johnson and Ettinger (1991), present more rigorous estimates by using site-specific input parameters. Exposure

assumptions used in the vapor intrusion model are conservative and may overestimate risks. For example, the HHRA used the maximum detected concentrations for many VOCs as EPCs, and assumed that a future building would be constructed at the location where the maximum concentrations of volatile COPCs in soil and groundwater were detected and that exposure to all volatile COPCs from vapor intrusion occurs concurrently, even though maximum concentrations are not collocated. In addition, the vapor intrusion models assumed steady-state concentrations of volatile COPCs in the subsurface for the entire duration of exposure (25 years for commercial/industrial workers and 30 years for residents). The assumption of steady-state concentrations for extended durations is conservative because, over time, chemicals may migrate from one medium to another or from one location to another within a particular medium. In addition, the assumption of steady-state concentrations for the entire duration of exposure assumes that reductions in concentrations that would likely occur through transformation or degradation processes—such as hydrolysis, photolysis, and biodegradation—do not occur. Evans and Bedient (1995) concluded that the use of steady-state methods may over predict risk by as much as two orders of magnitude.

Use of hypothetical building parameters in the vapor intrusion model may result in an overestimation of vapor emissions and higher indoor air concentrations because default building parameters tend to be conservative to ensure protection of all exposure scenarios. The assumption that buildings are continuously underpressurized neglects significant periods where neutral or positively pressurized conditions exist, thereby overestimating advective transport of contaminated vapors to indoor air and yielding higher indoor air concentrations.

### **H9.3 TOXICITY ASSESSMENT**

The primary uncertainties associated with the toxicity assessment are related to derivation of toxicity values for COPCs. Standard RfDs and SFs developed by EPA were used to estimate potential cancer and noncancer health effects from exposure to COPCs at the site. These values are derived by applying conservative (health-protective) assumptions and are intended to protect the most sensitive potentially exposed individuals.

EPA makes several assumptions to derive the toxicity values that tend to overestimate the actual risk or hazard to human health. The RfDs are typically derived from animal studies because data from human studies are generally unavailable. Uncertainty factors and modifying factors are then applied to the data from animal studies to ensure the RfDs are adequately protective of human health. This approach is anticipated to result in an overestimated potential for noncancer adverse health effects for many chemicals.

SFs used to estimate cancer risk also are typically derived based on data from animal studies. These data are from studies in which high doses of a test chemical were administered to laboratory animals, and the reported response is extrapolated to the much lower doses to which humans are likely to be subjected. Few experimental data are available on the nature of the dose-response relationship at low doses. (For example, a threshold may exist or the dose-response curve may pass through the origin.) Because of this uncertainty, EPA has selected a conservative model to estimate the low-dose relationship and uses an upper-bound estimate

(typically a 95UCL of the slope predicted by the extrapolation model) as the SF. An upper-bound estimate of potential cancer risks is obtained with this SF.

Route-to-route extrapolations were made for organic COPCs for which a SF or an RfD was available for only one route of exposure. These extrapolations will introduce some uncertainty into the risk and hazard estimates.

### **H9.3.1 Chemical Surrogates for Toxicity Criteria**

Tables H-6.1 through H-6.8 identify chemical surrogates used to evaluate chemicals that lack toxicity criteria. Since the relative toxicity of the chemical surrogates compared with the COPCs they represent is unknown, the degree of uncertainty contributed by the use of chemical surrogates is likewise unknown. Although selection and use of chemical surrogates for toxicity criteria adds uncertainty to the risk assessment, a lack of a toxicity criterion would otherwise remain a data gap. The surrogates selected for use in the HHRA were all closely structurally related to the COPCs that they were chosen to represent. Thus, the use of chemical surrogates may under- or overestimate risk.

### **H9.3.2 Provisional Peer-Reviewed Toxicity Values**

The EPA's National Center of Environmental Assessment has developed PPRTVs for chemicals that lack toxicity values (EPA 2004f). These values do not receive the same multi-program consensus review provided by the IRIS program; as a result, more uncertainty is associated with these values compared with the toxicity values provided in IRIS. Tables H-6.1 through H-6.8 identify the chemicals based on PPRTVs for chemicals that lack toxicity values (EPA 2004f). This includes COPCs identified as risk drivers such as 1,2,4-trimethylbenzene and aluminum.

### **H9.3.3 Trichloroethene**

Trichloroethene was a cancer risk driver using EPA toxicity values but not when using DTSC toxicity values. The EPA SFs used in the risk assessment for trichloroethene are more than an order of magnitude more conservative than DTSC SFs for trichloroethene. DTSC has established an oral SF of  $1.3 \times 10^{-2} \text{ (mg/kg-day)}^{-1}$  and an inhalation SF of  $7 \times 10^{-3} \text{ per (mg/kg-day)}^{-1}$ . This risk assessment used an EPA oral and inhalation SF of  $0.4 \text{ (mg/kg-day)}^{-1}$ , which is a provisional values from the National Center for Environmental Assessment as presented in the EPA Region 9 PRG table (EPA 2004e). EPA withdrew its previously published toxicity values from EPA's IRIS database in 1988 and has not published finalized toxicity values for trichloroethene since the original values were withdrawn because of uncertainties relating to the science of trichloroethene toxicity. In 2001, EPA's Office of Research and Development completed a preliminary draft reassessment of health risks posed by trichloroethene (EPA 2001a). This preliminary draft reassessment proposes toxicity values that are much more conservative than the values withdrawn by EPA, and these suggested toxicity values are now the subject of much debate. As such, the scientific community is divided on whether to use the withdrawn values, the new suggested values, or some other values for calculating risks. EPA's

National Center for Environmental Assessment has recommended several SFs for trichloroethene, with most between  $2 \times 10^{-2}$  and  $4 \times 10^{-1}$  per mg/kg-day. The range of SFs has not been reduced to a single number, but EPA's National Center for Environmental Assessment recommends that risk assessors use the upper-end of the SF range (that is,  $4 \times 10^{-1}$  per mg/kg-day) to emphasize the possibility that different risks may exist under different circumstances. The use of the upper end of the range of SFs is conservative and may result in an overestimation of risks.

#### **H9.4 RISK CHARACTERIZATION**

Standard EPA methods estimate the total cancer risk associated with a site by adding the exposure risks for multiple carcinogens. According to EPA guidance (EPA 1989),

“...uncertainties associated with summing risks or hazard indices for several substances are of particular concern in the risk characterization step. The assumption of dose additivity ignores possible synergisms or antagonisms among chemicals, and assumes similarity in mechanisms of action and metabolism. Unfortunately, data to assess interactions quantitatively are lacking.”

Despite these concerns, EPA guidance recommends summing the risks and HIs to avoid underestimating cancer risk or potential noncancer health effects at a site (EPA 1989). Summing the risks and HIs may overestimate results because mechanisms of action and metabolism are assumed to be similar and potential antagonistic effects are ignored. It also is possible that total risks and HIs may be underestimated because potential synergistic effects are ignored.

## H10.0 REFERENCES

- ASTM International. 1995. "Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites." ASTM E 1739-95. West Conshohocken, Pennsylvania.
- Bechtel Environmental, Inc. 2003. "Draft Site Inspection Report Transfer Parcels PBC-1A and EDC-3, Alameda Point, Alameda, California." March.
- California Environmental Protection Agency (Cal/EPA). 2003a. "The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments." Office of Environmental and Health Hazard Assessment. August.
- Department of Toxic Substances Control (DTSC). 1992. "Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities." Office of the Science Advisor. July.
- DTSC. 1994. "Preliminary Endangerment Assessment Guidance Manual." January.
- DTSC. 1999. "Lead Risk Assessment Spreadsheet." Version 7.0. Microsoft™ Excel platform. Available Online at: <http://www.dtsc.ca.gov/ScienceTechnology/ledspred.html>.
- DTSC. 2000. Draft Memorandum Regarding the Guidance for the Dermal Exposure Pathway. From Stephen M. DiZio, Ph.D., Michael J. Wade, Ph.D., DABT, and Deborah J. Oudiz, Ph.D. To Human and Ecological Risk Division, Department of Toxic Substances Control. January 7.
- DTSC. 2005a. "Guidance for the Evaluation and Migration of Subsurface Vapor Intrusion to Indoor Air." Final. February.
- DTSC. 2005b. E-mail Message Regarding Use of LeadSpread. Between Brian Davis, DTSC, and Todd Bernhardt, Tetra Tech. February 1.
- DTSC. 2005c. "HERD Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities." Human and Ecological Risk Division. October 27. Available Online at: <http://www.dtsc.ca.gov/AssessingRisk/upload/HHRA%20Note1.pdf>
- Environmental Management Resource-West, Inc. 1994. "Final Environmental Baseline Survey/Community Environmental Response Facilitation Act Report for NAS/NADEP Alameda." October 31.
- Evans, K.L., and Bedient, P.B. 1995. "A Transient Methodology for Assessing Risk: Development and Comparison with the Conventional Approach." *The Proceedings of the 1995 Petroleum Hydrocarbons and Organic Chemicals in Groundwater: Prevention, Detection, and Remediation, Conference and Exposition*. Houston, Texas. Pages 111 through 125.

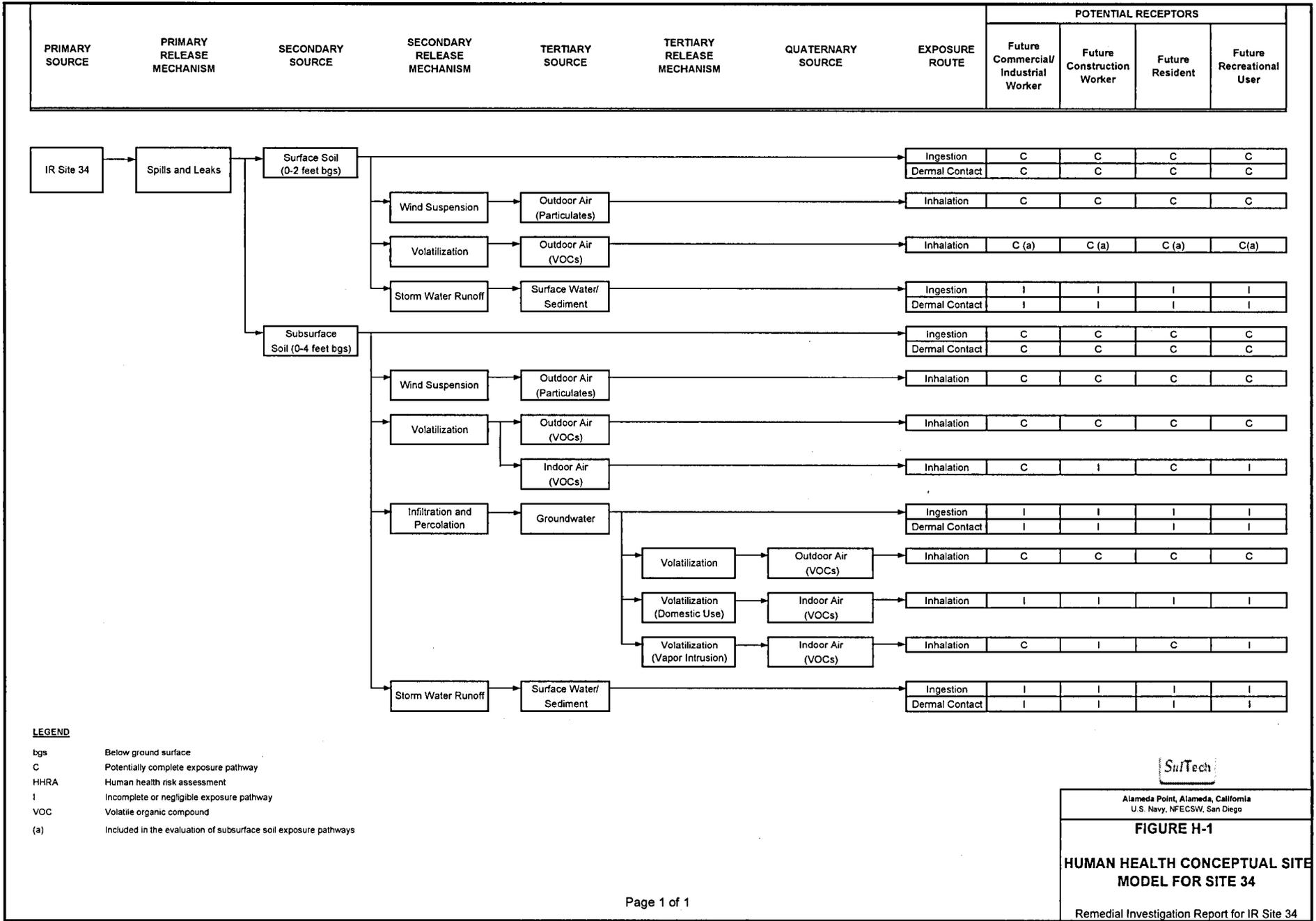
- Gilbert, R.O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. John Wiley & Sons, Inc. New York, New York.
- Helsel, D.R. 2005. *Nondetects and Data Analysis*. Statistics for Censored Environmental Data. John Wiley and Sons, Inc. Hoboken, New Jersey. 250 p.
- International Technology Corporation. 2001. "Final Environmental Baseline Survey Data Evaluation Summaries, Alameda Point, Alameda, California." January.
- Johnson, P.C., and R.A. Ettinger. 1991. "Heuristic Model for Predicting the Intrusion Rate of Contaminant Vapors into Buildings." *Environmental Science and Technology*. Volume 25, 1445-ccology VII. Seattle, Washington.
- Lyman, W.J, W.F. Rheel, and D.H. Rosenblatt. 1990. *Handbook of Chemical Property Estimation Methods*. American Chemical Society. Washington, D.C.
- Office of Environmental Health Hazard Assessment (OEHHA). 2005. "Chronic Reference Exposure Levels." February. Available Online at:  
[http://www.oehha.ca.gov/air/chronic\\_rels/AllChrels.html](http://www.oehha.ca.gov/air/chronic_rels/AllChrels.html)
- OEHHA. 2007. "Toxicity Criteria Database." February. Available Online at:  
<http://www.oehha.ca.gov/risk/ChemicalDB/index.asp>. Accessed March 31.
- SulTech. 2006. "Final Remedial Investigation Work Plan, Installation Restoration Site 34, Alameda Point, Alameda, California." January.
- Tetra Tech EM Inc. 2003. "Revised Draft Final Feasibility Study for Site 14, Alameda Point, Alameda, California." Volumes 1 and 2. Prepared for Department of the Navy, Naval Facilities Engineering Command, Southwest Division. March
- U.S. Department of Energy. 1984. "A Review and Analysis of Parameters Assessing Transport of Environmentally Released Radionuclides through Agriculture." Prepared by C.F. Baes, II, and others. Oak Ridge National Laboratory. September.
- U.S. Department of the Navy (Navy). 2001. Memorandum Regarding Conducting Human Health Risk Assessments Under the Environmental Restoration Program. From William G. Mattheis, Deputy Director, Environmental Protection, Safety and Occupational Health Division. To Commander, Naval Facilities Engineering Command. February 12.
- U.S. Environmental Protection Agency (EPA). 1989. "Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final." Office of Emergency and Remedial Response (OERR). EPA/540/1-89/002. December.
- EPA. 1991. Memorandum Regarding the "Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors." From Timothy Fields, Jr., Acting Director, Office of Solid Waste and Emergency Response (OSWER). To Distribution. March 25.

- EPA. 1992. "Guidance for Data Usability in Risk Assessment (Part A)." Publication 9285.7-09A. OERR. Washington, D.C. PB-92-963356. April.
- EPA. 1994. "Revised Draft Guidance for Performing Screening Risk Analyses at Combustion Facilities Burning Hazardous Wastes." Attachment C, Draft Exposure Assessment Guidance for RCRA Hazardous Wastes. Office of Emergency and Remedial Response. Office of Solid Waste. December 14.
- EPA. 1995. "Guidance for Risk Characterization." Science Policy Council. On-Line Address: <http://www.epa.gov/osa/spc/pdfs/rcguide.pdf>
- EPA. 1996a. "Soil Screening Guidance: Technical Background Document," EPA/540/R-95/128, Office of Solid Waste and Emergency Response, Appendix D, Table 3. May
- EPA. 1996b. "Proposed Guidelines for Carcinogen Risk Assessment." EPA/600/P-92/003C.
- EPA. 1997a. "Exposure Factors Handbook." Volume I. EPA/600/P-95/002Fa. ORD. August.
- EPA. 1997b. "Health Effects Assessment Summary Tables." Office of Research and Development (ORD).
- EPA. 1998. "Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, Volume I." EPA/530-D-98/001A. Office of Solid Waste and Emergency Response. July.
- EPA. 1999. "Contract Laboratory Program National Functional Guidelines for Organic Data Review." October.
- EPA. 2000. "Letter Regarding the Revised Draft Determination of the Beneficial Uses of Groundwater at Alameda Point, Alameda." From Anna-Marie Cook, EPA. To Patricia McFadden, Department of the Navy. January 3.
- EPA. 2001a. "Trichloroethylene Health Risk Assessment: Synthesis and Characterization." External Review Draft. August.
- EPA. 2001b. "Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments)." Final. December. Publication 9285-7-47.
- EPA. 2001c. "Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites." OSWER. March.
- EPA. 2002a. "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review." EPA 540-R-01-008. July.

- EPA. 2002b. Memorandum Regarding Region 9 PRGs Table 2002 Update. From Stanford J. Smucker, Ph.D., Regional Toxicologist, Technical Support Team. To PRG Table Users. October 1. Available Online at:  
<http://www.epa.gov/region09/waste/sfund/prg/files/02userguide.pdf>
- EPA. 2002c. "Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Soils (Subsurface Vapor Intrusion Guidance)." Draft *Federal Register*. Volume 67. Number 230. Pages 71,169 through 71,172. November 29. Available Online at:  
<http://www.epa.gov/correctiveaction/eis/vapor.htm>
- EPA. 2002d. "Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites, Interim Guidance." OSWER 9355.4-24. December.
- EPA. 2004a. EPA Vapor Intrusion Model for Soil, based on Johnson and Ettinger (1991). Version 3.0. March 14.
- EPA. 2004b. EPA Vapor Intrusion Model for Groundwater, based on Johnson and Ettinger (1991). Version 3.0. March 14.
- EPA. 2004c. "ProUCL Version 3.0 User Guide." Prepared by Singh, A., Singh, A.K., and R.W. Maichle. For Technical Support Center. Las Vegas, Nevada. April. Available Online at: <http://www.epa.gov/nerlesd1/tsc/images/proucl3apr04.pdf>
- EPA. 2004d. "Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment)." Final. EPA/540/R/99/005. Office of Superfund Remediation and Technology Innovation. July. Available Online at:  
[http://www.epa.gov/oswer/riskassessment/ragse/pdf/2004\\_1101\\_part\\_e.pdf](http://www.epa.gov/oswer/riskassessment/ragse/pdf/2004_1101_part_e.pdf)
- EPA. 2004e. "Region 9 PRGs 2004 Table." Updated December. Available Online at:  
<http://www.epa.gov/region09/waste/sfund/prg/files/04prgtable.pdf>
- EPA. 2004f. "Provisional Peer Reviewed Toxicity Values for Superfund." Office of Superfund Remediation and Technology Innovation. Available Online (on a trial basis) at:  
<http://hhprrtv.ornl.gov/>
- EPA. 2006a. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.
- EPA. 2006b. "Child-Specific Exposure Factors Handbook (External Review Draft)." EPA/600/R/06/096A. September.
- EPA. 2007. Integrated Risk Information System. Online Database. Office of Research and Development, National Center for Environmental Assessment. Available Online at  
<http://www.epa.gov/iris>.

**FIGURES**

---



**LEGEND**

bgs Below ground surface  
 C Potentially complete exposure pathway  
 HHRA Human health risk assessment  
 I Incomplete or negligible exposure pathway  
 VOC Volatile organic compound  
 (a) Included in the evaluation of subsurface soil exposure pathways



Alameda Point, Alameda, California  
 U.S. Navy, NFECSSW, San Diego

**FIGURE H-1**

**HUMAN HEALTH CONCEPTUAL SITE MODEL FOR SITE 34**

Remedial Investigation Report for IR Site 34

**TABLES**

---

**TABLE H-1: EPA RAGS PART D TABLE 1, SELECTION OF EXPOSURE PATHWAYS**  
**Construction Workers, Residents, Commercial/Industrial Workers, and Recreational Users**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population (a)	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway			
Current	All	All	All	All	All	All	None	There are no current residential, commercial/industrial, construction worker, or recreational receptors at Site 34.			
Future	Surface Soil (0 to 2 ft bgs)	Surface Soil	Surface Soil	Resident	Adult	Ingestion	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.			
						Dermal Absorption	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.			
					Child	Ingestion	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.			
						Dermal Absorption	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.			
					Commercial/Industrial Worker	Ingestion	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.			
						Dermal Absorption	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.			
				Construction Worker	Ingestion	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.				
					Dermal Absorption	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.				
				Recreational User	Adult	Ingestion	Quant.	The most likely future land use at the site is a golf course. This exposure pathway would be potentially complete for a golfer.			
						Dermal Absorption	Quant.	The most likely future land use at the site is a golf course. This exposure pathway would be potentially complete for a golfer.			
					Child	Ingestion	Quant.	If the site is redeveloped for recreational use, this exposure pathway would be potentially complete.			
						Dermal Absorption	Quant.	If the site is redeveloped for recreational use, this exposure pathway would be potentially complete.			
					Homegrown Produce	Ingestion	Quant.	Under a redevelopment scenario, this exposure pathway would be complete.			
						Dermal Absorption	Quant.	Under a redevelopment scenario, this exposure pathway would be complete.			
				Particulates and Vapors	Respirable Particulates Suspended from Surface Soil and VOCs in Outdoor Air	Resident	Adult	Inhalation	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.	
								Child	Inhalation	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.
						Commercial/Industrial Worker	Adult		Inhalation	Quant.	Under a redevelopment scenario with minimal surface regrading, this exposure pathway would be complete.
								Construction Worker	Adult	Inhalation	Quant.
	Recreational User	Adult	Inhalation			Quant.	The most likely future land use at the site is a golf course. This exposure pathway would be potentially complete for a golfer.				
			Child			Inhalation	Quant.	If the site is redeveloped for recreational use, this exposure pathway would be potentially complete.			
	Subsurface Soil (0 to 4 ft bgs)	Subsurface Soil					Combined Surface and Subsurface Soil	Resident	Adult	Ingestion	Quant.
			Child			Ingestion				Quant.	Under a redevelopment scenario with significant surface regrading, this exposure pathway would be complete.
						Commercial/Industrial Worker			Adult	Dermal Absorption	Quant.
			Construction Worker							Adult	Dermal Absorption
				Recreational User	Adult	Ingestion			None		The most likely future land use at the site is a golf course. This exposure pathway is not considered complete because recreational use is not considered an intrusive pathway that will expose golfers to subsurface soils more than 2 feet bgs.
			Child			Ingestion			None	The most likely future land use at the site is a golf course. This exposure pathway is not considered complete because recreational use is not considered an intrusive pathway that will expose golfers to subsurface soils more than 2 feet bgs.	
				Recreational User	Adult			Dermal Absorption	None	The most likely future land use at the site is a golf course. This exposure pathway is not considered complete because recreational use is not considered an intrusive pathway that will expose golfers to subsurface soils more than 2 feet bgs.	
			Child			Dermal Absorption		None	The most likely future land use at the site is a golf course. This exposure pathway is not considered complete because recreational use is not considered an intrusive pathway that will expose golfers to subsurface soils more than 2 feet bgs.		
Homegrown Produce				Resident	Adult			Ingestion	Quant.	Under a redevelopment scenario, this exposure pathway would be complete.	
			Child			Ingestion		Quant.	Under a redevelopment scenario, this exposure pathway would be complete.		

**TABLE H-1: EPA RAGS PART D TABLE 1, SELECTION OF EXPOSURE PATHWAYS**  
**Construction Workers, Residents, Commercial/Industrial Workers, and Recreational Users (continued)**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population (a)	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway	
Future (continued)	Subsurface Soil (0 to 4 ft bgs) (continued)	Particulates and Vapors	Respirable Particulates Suspended from Surface Soil and VOCs in Outdoor Air	Resident	Adult	Inhalation	Quant.	Under a redevelopment scenario with significant surface regrading, this exposure pathway would be complete.	
					Child	Inhalation	Quant.	Under a redevelopment scenario with significant surface regrading, this exposure pathway would be complete.	
				Commercial/Industrial Worker	Adult	Inhalation	Quant.	Under a redevelopment scenario with significant surface regrading, this exposure pathway would be complete.	
				Construction Worker	Adult	Inhalation	Quant.	Under a redevelopment scenario with significant surface regrading, this exposure pathway would be complete.	
				Recreational User	Adult	Inhalation	Quant.	The most likely future land use at the site is a golf course. This exposure pathway would be potentially complete for a golfer.	
					Child	Inhalation	Quant.	If the site is redeveloped for recreational use, this exposure pathway would be potentially complete.	
		Vapors	Vapors from Subsurface Soil to Indoor Air via Vapor Intrusion	Resident	Adult	Inhalation	Quant.	If the site is ever developed for residential use, volatile compounds in soil could migrate into indoor air thus making this exposure pathway complete.	
					Child	Inhalation	Quant.	If the site is ever developed for residential use, volatile compounds in soil could migrate into indoor air thus making this exposure pathway complete.	
				Commercial/Industrial Worker	Adult	Inhalation	Quant.	If the site is ever developed for industrial use, volatile compounds in soil may migrate into indoor air making this pathway complete.	
				Construction Worker	Adult	Inhalation	None	Construction Workers are considered only outdoor receptors.	
				Recreational User	Adult	Inhalation	None	Recreational Users are considered only outdoor receptors.	
					Child	Inhalation	None	Recreational Users are considered only outdoor receptors.	
Future	Groundwater	Groundwater	Shallow Groundwater	Construction Worker	Adult	Dermal Contact	None	Although it is acknowledged that construction workers may also contact groundwater dermally during excavation activities that intercept the shallow water table (located at about 4 feet bgs across the site), construction in saturated trench conditions is generally avoided and dewatering is quickly implemented for effective construction activities. Therefore, groundwater-related pathways of exposure for a construction worker are potentially complete, but are expected to be quantitatively negligible relative to all other pathways, and will not be quantitatively evaluated in the HHRA for Site 34.	
			Tap Water from Shallow Groundwater	All	All	Ingestion, Dermal Contact, Inhalation of VOCs from use of tap water	None		Groundwater is not considered potable and is not a future source of drinking water. Groundwater would be expected to be supplied by an off-site source.
		Vapors	Vapors from Groundwater to Indoor Air via Vapor Intrusion	Resident	Adult	Inhalation	Quant.	If the site is ever developed for residential use, volatile compounds in groundwater could migrate into indoor air thus making this exposure pathway complete.	
					Child	Inhalation	Quant.	If the site is ever developed for residential use, volatile compounds in groundwater could migrate into indoor air thus making this exposure pathway complete.	
				Commercial/Industrial Worker	Adult	Inhalation	Quant.	If the site is ever developed for industrial use, volatile compounds in groundwater may migrate into indoor air making this pathway complete.	
				Construction Worker	Adult	Inhalation	None	Construction Workers are considered only outdoor receptors.	
				Recreational User	Adult	Inhalation	None	Recreational Users are considered only outdoor receptors.	
					Child	Inhalation	None	Recreational Users are considered only outdoor receptors.	
				VOCs in Outdoor Air	Resident	Adult	Inhalation	Quant.	Volatile compounds in shallow groundwater could volatilize to outdoor air making the pathway potentially complete.
						Child	Inhalation	Quant.	Volatile compounds in shallow groundwater could volatilize to outdoor air making the pathway potentially complete.
		Commercial/Industrial Worker	Adult		Inhalation	Quant.	Volatile compounds in shallow groundwater could volatilize to outdoor air making the pathway potentially complete.		
		Construction Worker	Adult		Inhalation	Quant.	Volatile compounds in shallow groundwater could volatilize to outdoor air making the pathway potentially complete.		
		Recreational User	Adult		Inhalation	Quant.	Volatile compounds in shallow groundwater could volatilize to outdoor air making the pathway potentially complete.		
			Child		Inhalation	Quant.	Volatile compounds in shallow groundwater could volatilize to outdoor air making the pathway potentially complete.		

Notes:

a The most likely future use at the site is a golf course. To provide alternative risk estimates for unrestricted reuse and support risk management decisions, this HHRA conservatively assumed the site may be redeveloped into residential or commercial/industrial property in the future.

Definitions:

bgs Below ground surface  
EPA U.S. Environmental Protection Agency  
HHRA Human health risk assessment  
Quant. Quantitative; exposure route quantitatively evaluated in this HHRA

TABLE H-2.1: EPA RAGS PART D TABLE 2, OCCURENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Surface Soil (0-2 feet bgs)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Surface Soil (0-2 ft bgs)

Exposure Point	CAS Number	Chemical	Minimum Detected Concentration (Qualifier)	Maximum Detected Concentration (Qualifier)	Units	Location of Maximum Concentration	Detected	Total	Detection Frequency (Percent)	Number of High Censored Results (1)	Range of Detection Limits	Concentration Used for Screening (2)	Ambient Value (2)	Screening Toxicity Value (2)	Potential ARAR/TBC Source	COPC Flag (Yes/No)	Rationale for Selection or Deletion (2)
Surface Soil	87-61-6	1,2,3-Trichlorobenzene	1.50E+00	1.50E+00	mg/kg	DP02	1	18	6	0	4.20E-03 - 1.40E-01	1.5		—		Yes	Detected
	120-62-1	1,2,4-Trichlorobenzene	5.10E+00	5.10E+00	mg/kg	DP02	1	26	4	0	4.20E-03 - 1.40E+00	5.1		62.2		Yes	Detected
	95-63-6	1,2,4-Trimethylbenzene	5.00E-01	5.00E-01	mg/kg	DP02	1	18	6	0	4.20E-03 - 1.40E-01	0.50		51.6		Yes	Detected
	95-50-1	1,2-Dichlorobenzene	2.60E+01	2.60E+01	mg/kg	DP02	1	26	4	0	4.20E-03 - 1.40E+00	26		600		Yes	Detected
	78-87-5	1,2-Dichloropropane	3.60E-03	3.60E-03	J	DP16	1	18	6	17	4.20E-03 - 1.40E-01	0.0036		0.342		Yes	Detected
	108-67-8	1,3,5-Trimethylbenzene	1.60E-01	1.60E-01	mg/kg	DP02	1	18	6	0	4.20E-03 - 1.40E-01	0.16		21.3		Yes	Detected
	541-73-1	1,3-Dichlorobenzene	1.10E+00	1.10E+00	mg/kg	DP02	1	26	4	1	4.20E-03 - 1.40E-01	1.1		530		Yes	Detected
	106-46-7	1,4-Dichlorobenzene	6.80E+00	6.80E+00	mg/kg	DP02	1	26	4	0	4.20E-03 - 1.40E+00	6.8		3.45		Yes	Detected
	105-67-9	2,4-Dimethylphenol	2.10E-01	2.10E-01	J	018-004-023	1	24	4	23	3.70E-01 - 7.00E+01	0.21		1200		Yes	Detected
	95-48-7	2-Methylphenol	8.10E-02	8.10E-02	J	018-004-023	1	24	4	23	3.70E-01 - 7.00E+01	0.08		3100		Yes	Detected
	91-57-6	2-Methylnaphthalene	1.90E-03	4.60E+00	mg/kg	DP16	7	32	22	0	5.40E-03 - 1.10E+00	4.6		—		Yes	Detected
	72-54-8	4,4'-DDD	1.20E-03	1.20E-03	J	DP12	1	80	1	79	3.60E-03 - 1.90E-01	0.0012		2.44		Yes	Detected
	72-55-9	4,4'-DDE	1.70E-02	7.10E-01	J	FS10	5	80	6	1	3.60E-03 - 1.90E-01	0.71		1.72		Yes	Detected
	50-29-3	4,4'-DDT	5.50E-03	4.70E-01	J	FS10	16	80	22	1	3.60E-03 - 1.90E-01	0.47		1.72		Yes	Detected
	106-44-5	4-Methylphenol	2.70E-01	2.70E-01	J	018-004-023	1	24	4	23	3.70E-01 - 7.00E+01	0.27		310		Yes	Detected
	100-01-6	4-Nitroaniline	6.20E-01	6.20E-01	J	DP16	1	24	4	23	7.40E-01 - 1.40E+02	0.62		23.2		Yes	Detected
	100-02-7	4-Nitrophenol	4.20E-01	4.20E-01	J	DP16	1	24	4	23	7.40E-01 - 1.40E+02	0.42		—		Yes	Detected
	83-32-9	Acenaphthene	1.10E-03	1.10E+01	mg/kg	DP16	4	32	12	0	5.40E-03 - 1.10E+00	11		3700		Yes	Detected
	208-96-8	Acenaphthylene	1.00E-03	3.10E-01	J	DP16	9	32	28	3	5.40E-03 - 1.10E+00	0.31		—		Yes	Detected
	309-00-2	Aldrin	1.30E-02	1.30E-02	J	MW-24	1	80	1	51	1.90E-03 - 9.80E-02	0.013		0.0286		Yes	Detected
	319-84-4	alpha-BHC	7.30E-04	7.30E-04	J	DP16	1	80	1	79	1.90E-03 - 9.80E-02	0.00073		0.0902		Yes	Detected
	5103-71-9	alpha-Chlordane	2.10E-03	4.80E-02	mg/kg	HS4W	14	80	18	12	1.90E-03 - 9.80E-02	0.048		—		Yes	Detected
	7429-90-5	Aluminum	3.70E+03	2.40E+04	mg/kg	DP13	58	58	100	0	3.80E+00 - 6.90E+01	24000		76000		Yes	Detected
	120-12-7	Anthracene	8.10E-04	2.70E+00	mg/kg	DP16	11	32	34	0	5.40E-03 - 1.10E+00	2.7		22000		Yes	Detected
	7440-36-0	Antimony	1.10E-01	1.60E+01	J	HS2W	44	77	57	0	1.70E-01 - 3.30E+00	16		31.3		Yes	Detected
	12672-29-6	Aroclor-1248	5.60E-02	1.20E+00	mg/kg	PW13	3	123	2	1	9.60E-03 - 2.10E-01	1.2		0.222		Yes	Detected
	11097-69-1	Aroclor-1254	2.40E-02	1.10E+01	mg/kg	FS10	38	123	31	1	9.60E-03 - 2.10E-01	11		0.222		Yes	Detected
	11096-82-5	Aroclor-1260	5.80E-03	9.70E+00	J	004-203-004	73	123	59	0	9.60E-03 - 2.10E-01	9.7		0.222		Yes	Detected
	11100-14-4	Aroclor-1268	8.30E-03	3.00E-01	mg/kg	PW13	25	113	22	0	9.60E-03 - 2.10E-01	0.3		0.222		Yes	Detected
	7440-38-2	Arsenic	7.00E-01	6.20E+01	mg/kg	DP12	76	77	99	0	1.70E-01 - 3.40E-01	62		0.39		Yes	Detected
	7440-39-3	Barium	1.20E+01	1.60E+02	J	HS1N	77	77	100	0	3.40E-01 - 6.90E-01	160		5400		Yes	Detected
	56-55-3	Benzo(a)anthracene	1.20E-03	1.40E+01	mg/kg	DP16	18	32	56	0	5.40E-03 - 1.10E+00	14		0.621		Yes	Detected
	50-32-8	Benzo(a)pyrene	1.70E-03	4.60E+00	mg/kg	DP16	19	32	59	0	5.40E-03 - 1.10E+00	4.6		0.0621		Yes	Detected
	205-99-2	Benzo(b)fluoranthene	1.20E-03	7.60E+00	mg/kg	DP16	22	32	69	0	5.40E-03 - 1.10E+00	7.6		0.621		Yes	Detected
	191-24-2	Benzo(g,h,i)perylene	8.70E-04	2.10E+00	mg/kg	DP16	26	32	81	0	5.40E-03 - 1.10E+00	2.1		—		Yes	Detected
	207-08-9	Benzo(k)fluoranthene	1.80E-03	9.20E+00	mg/kg	DP16	17	32	53	0	5.40E-03 - 1.10E+00	9.2		6.21		Yes	Detected
	7440-41-7	Beryllium	4.80E-02	6.10E-01	mg/kg	DP08	74	77	96	0	6.80E-02 - 1.40E-01	0.61		150		Yes	Detected
	319-85-7	Beta-BHC	2.20E-03	2.20E-03	J	DP16	1	80	1	68	1.90E-03 - 9.80E-02	0.0022		0.316		Yes	Detected
	117-61-7	bis(2-ethylhexyl)phthalate	3.10E-02	1.40E+01	D	018-004-020	4	24	17	2	3.70E-01 - 7.00E+01	14		34.7		Yes	Detected
	7440-43-9	Cadmium	6.60E-02	4.58E+01	E:J	018-006-026	75	77	97	0	1.70E-01 - 3.40E-01	46		37		Yes	Detected
	75-15-0	Carbon disulfide	2.40E-04	2.40E-04	J	MW-23	1	18	6	17	4.20E-03 - 1.40E-01	0.00024		360		Yes	Detected
	108-90-7	Chlorobenzene	1.10E-01	1.10E-01	J	DP02	1	18	6	0	4.20E-03 - 1.40E-01	0.11		150		Yes	Detected
	7440-47-3	Chromium	9.40E+00	5.50E+02	J	DP02	77	77	100	0	3.40E-01 - 6.90E-01	550		210		Yes	Detected
	218-01-9	Chrysene	8.20E-04	1.60E+01	mg/kg	DP16	26	32	81	0	5.40E-03 - 1.10E+00	16		62.1		Yes	Detected

TABLE H-2.1: EPA RAGS PART D TABLE 2, OCCURENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (CONTINUED)

Surface Soil (0-2 feet bgs)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Surface Soil (0-2 ft bgs)

Exposure Point	CAS Number	Chemical	Minimum Detected Concentration (Qualifier)	Maximum Detected Concentration (Qualifier)	Units	Location of Maximum Concentration	Detected	Total	Detection Frequency (Percent)	Number of High Censored Results (1)	Range of Detection Limits	Concentration Used for Screening (2)	Ambient Value (2)	Screening Toxicity Value (2)	Potential ARAR/TBC Source	COPC Flag (Yes/No)	Rationale for Selection or Deletion (2)
	7440-48-4	Cobalt	2.40E+00	2.17E+01	J	mg/kg	018-002-012	77	77	100	0	1.70E-01 - 1.40E+00	21.7		900	Yes	Detected
	7440-50-8	Copper	2.90E+00	2.54E+02	J	mg/kg	018-006-026	77	77	100	0	3.40E-01 - 6.90E-01	254		3100	Yes	Detected
	319-86-8	Delta-BHC	6.70E-03	8.40E-03	J	mg/kg	DP16	2	80	2	64	1.90E-03 - 9.80E-02	0.0084		--	Yes	Detected
	53-70-3	Dibenzo(a,h)anthracene	1.90E-03	1.30E+00	J	mg/kg	DP16	13	32	41	0	5.40E-03 - 1.10E+00	1.3		0.0621	Yes	Detected
	132-64-9	Dibenzofuran	1.30E+01	1.30E+01	J	mg/kg	DP16	1	24	4	2	3.70E-01 - 7.00E+01	13		150	Yes	Detected
	60-57-1	Dieldrin	2.40E-03	5.00E-01	J	mg/kg	FS10	14	80	18	1	3.60E-03 - 1.90E-01	0.50		0.0304	Yes	Detected
	131-11-3	Dimethylphthalate	3.80E-02	3.80E-02	J	mg/kg	018-004-021	1	24	4	23	3.70E-01 - 7.00E+01	0.04		100000	Yes	Detected
	84-74-2	di-n-Butylphthalate	5.10E-01	2.20E+00	B	mg/kg	018-007-035	2	24	8	4	3.70E-01 - 7.00E+01	2.2		6100	Yes	Detected
	959-98-8	Endosulfan I	2.30E-02	2.30E-02	J	mg/kg	DP16	1	80	1	34	1.90E-03 - 9.80E-02	0.023		370	Yes	Detected
	33213-65-9	Endosulfan II	2.10E-02	5.00E-02	J	mg/kg	HS7N	4	80	5	32	3.60E-03 - 1.90E-01	0.050		370	Yes	Detected
	1031-07-8	Endosulfan Sulfate	3.90E-03	4.30E-02	J	mg/kg	DP16	2	80	2	34	3.60E-03 - 1.90E-01	0.043		370	Yes	Detected
	7421-93-4	Endrin aldehyde	8.10E-03	7.40E-02	J	mg/kg	DP16	5	80	6	21	3.60E-03 - 1.90E-01	0.074		--	Yes	Detected
	53494-70-5	Endrin Ketone	2.30E-03	1.00E-02	J	mg/kg	DP16	2	80	2	66	3.60E-03 - 1.90E-01	0.010		--	Yes	Detected
	206-44-0	Fluoranthene	2.30E-03	7.40E+01	J	mg/kg	DP16	15	32	47	0	5.40E-03 - 1.10E+00	74		2300	Yes	Detected
	86-73-7	Fluorene	1.30E-03	7.80E+00	J	mg/kg	DP16	5	32	16	0	5.40E-03 - 1.10E+00	7.8		2700	Yes	Detected
	59-89-9	gamma-BHC (Lindane)	2.50E-03	2.60E-03	J	mg/kg	DP16	2	80	2	67	1.90E-03 - 9.80E-02	0.0026		0.437	Yes	Detected
	5103-74-2	gamma-Chlordane	1.60E-03	1.50E-01	J	mg/kg	FS9	16	80	20	1	1.90E-03 - 9.80E-02	0.15		--	Yes	Detected
	76-44-8	Heptachlor	6.90E-03	6.90E-03	J	mg/kg	FS4	1	80	1	65	1.90E-03 - 9.80E-02	0.0069		0.108	Yes	Detected
	1024-57-3	Heptachlor Epoxide	1.40E-03	1.10E-01	J	mg/kg	FS10	13	80	16	1	1.90E-03 - 9.80E-02	0.11		0.0534	Yes	Detected
	193-39-5	Indeno(1,2,3-cd)pyrene	1.10E-03	2.40E+00	J	mg/kg	DP16	15	32	47	0	5.40E-03 - 1.10E+00	2.4		0.621	Yes	Detected
	7439-89-6	Iron	8.11E+03	1.80E+05	J	mg/kg	HS2A	58	58	100	0	3.60E+01 - 4.70E+02	180000		23000	Yes	Detected
	78-59-1	Isophorone	2.00E-01	2.00E-01	J	mg/kg	MW-23	1	24	4	23	3.70E-01 - 7.00E+01	0.20		510	Yes	Detected
	7439-92-1	Lead	2.10E+00	2.10E+04	J	mg/kg	DP16	76	77	99	0	1.10E-01 - 1.50E+01	21000		400	Yes	Detected
	7439-96-5	Manganese	7.30E+01	1.30E+03	J	mg/kg	DP12	58	58	100	0	3.60E-01 - 5.10E+00	1300		1800	Yes	Detected
	7439-97-6	Mercury	9.10E-03	1.90E+00	J	mg/kg	PW18	58	77	75	0	1.40E-02 - 8.70E-02	1.9		23.46	Yes	Detected
	72-43-5	Methoxychlor	8.40E-02	1.20E-01	J	mg/kg	DP13	2	80	2	52	1.90E-02 - 9.80E-01	0.12		310	Yes	Detected
	7439-98-7	Molybdenum	1.00E-01	1.37E+01	J	mg/kg	018-002-012	57	77	74	0	1.90E-01 - 3.40E+00	13.7		390	Yes	Detected
	91-20-3	Naphthalene	5.00E-03	1.30E-01	J	mg/kg	DP16	2	32	6	27	4.20E-03 - 1.10E+00	13		55.9	Yes	Detected
	7440-02-0	Nickel	4.30E+00	1.22E+02	J	mg/kg	018-002-012	77	77	100	0	6.80E-01 - 1.40E+00	122		1600	Yes	Detected
	85-01-8	Phenanthrene	1.60E-03	4.00E-01	J	mg/kg	DP16	16	32	50	0	5.40E-03 - 1.10E+00	40		--	Yes	Detected
	108-95-2	Phenol	5.80E-01	5.80E-01	J	mg/kg	018-004-023	1	24	4	11	3.70E-01 - 7.00E+01	0.58		18000	Yes	Detected
	99-87-6	p-Isopropyltoluene	1.10E-01	1.10E-01	J	mg/kg	DP02	1	18	6	0	4.20E-03 - 1.40E-01	0.11		--	Yes	Detected
	129-00-0	Pyrene	3.80E-03	6.80E+01	J	mg/kg	DP16	22	32	69	0	5.40E-03 - 1.10E+00	68		2300	Yes	Detected
	135-98-6	sec-Butylbenzene	7.10E-02	7.10E-02	J	mg/kg	DP02	1	18	6	0	4.20E-03 - 1.40E-01	0.071		220	Yes	Detected
	7782-49-2	Selenium	7.20E-02	1.10E+00	J	mg/kg	018-002-012	12	77	16	0	1.70E-01 - 3.40E-01	1.1		390	Yes	Detected
	7440-22-4	Silver	2.70E-01	9.50E+00	J	mg/kg	018-004-022	10	77	13	0	1.70E-01 - 3.40E-01	9.5		390	Yes	Detected
	12789-03-6	Technical Chlordane	4.60E-02	6.00E-01	J	mg/kg	HS4W	4	70	6	33	3.30E-02 - 1.70E+00	0.60		1.62	Yes	Detected
	7440-28-0	Thallium	3.90E-02	3.50E+00	J	mg/kg	004-001-002	35	77	45	0	1.70E-01 - 3.40E-01	3.5		5.16	Yes	Detected
	108-88-3	Toluene	4.30E-04	4.30E-04	J	mg/kg	MW-24	1	19	5	18	4.20E-03 - 1.40E-01	0.00043		520	Yes	Detected
	7440-62-2	Vanadium	1.33E+01	1.30E-02	J	mg/kg	DP13	77	77	100	0	3.40E-01 - 6.90E-01	130		78.2	Yes	Detected
	7440-66-6	Zinc	1.37E+01	1.40E+03	J	mg/kg	PW18	77	77	100	0	7.30E-01 - 1.20E+01	1400		23000	Yes	Detected

**TABLE H-2.1: EPA RAGS PART D TABLE 2, OCCURENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (CONTINUED)**

Surface Soil (0-2 feet bgs)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Surface Soil (0-2 ft bgs)

Exposure Point	CAS Number	Chemical	Minimum Detected Concentration (Qualifier)	Maximum Detected Concentration (Qualifier)	Units	Location of Maximum Concentration	Detected	Total	Detection Frequency (Percent)	Number of High Censored Results (1)	Range of Detection Limits	Concentration Used for Screening (2)	Ambient Value (2)	Screening Toxicity Value (2)	Potential ARAR/TBC Source	COPC Flag (Yes/No)	Rationale for Selection or Deletion (2)
----------------	------------	----------	--	--	-------	-----------------------------------	----------	-------	-------------------------------	-------------------------------------	---------------------------	--------------------------------------	-------------------	------------------------------	---------------------------	--------------------	---

Notes:

- (1) The number of high censored (nondetect) results that exceeded the maximum detected datum. These results were excluded from the exposure point concentration calculations provided in the RAGS Table 3.
- (2) Chemicals were not screened against background (ambient) or PRGs. This table provides a comparison of the EPA Region IX PRGs for residential soil (EPA 2004) to the maximum detected concentrations. However, except for essential nutrients, all detected chemicals were included as COPCs.

Definitions:

-	Not available	ft bgs	Feet below ground surface
ARAR/TBC	Applicable or relevant and appropriate requirement/to be considered	J	Estimated Value
CAS	Chemical Abstracts Service	mg/kg	Miligrams per kilogram
COPC	Chemical of Potential Concern	PRG	Preliminary Remediation Goal
EPA	U.S. Environmental Protection Agency	RAGS	Risk Assessment Guidance for Superfund

References:

U.S. Environmental Protection Agency (EPA). 2004. "EPA Region IX Preliminary Remediation Goals (PRG) 2004." December. On-Line Address: <http://www.epa.gov/region09/waste/sfund/prg/index.htm>.

TABLE H-2.2: EPA RAGS PART D TABLE 2, OCCURENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Surface and Subsurface Soil (0-4 feet bgs)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Surface and Subsurface Soil (0-4 ft bgs)

Exposure Point	CAS Number	Chemical	Minimum Detected Concentration (Qualifier)	Maximum Detected Concentration (Qualifier)	Units	Location of Maximum Concentration	Detected	Total	Detection Frequency (Percent)	Number of High Censored Results (1)	Range of Detection Limits	Concentration Used for Screening (2)	Ambient Value (2)	Screening Toxicity Value (2)	Potential ARAR/TBC Source	COPC Flag (Yes/No)	Rationale for Selection or Deletion (2)	
Surface and Subsurface Soil	87-61-6	1,2,3-Trichlorobenzene	1.50E+00	1.50E+00	mg/kg	DP02	1	23	4	0	4.20E-03 - 1.40E-01	1.5		--		Yes	Detected	
	120-82-1	1,2,4-Trichlorobenzene	5.10E+00	5.10E+00	mg/kg	DP02	1	37	3	0	4.20E-03 - 1.40E+00	5.1		62		Yes	Detected	
	95-63-6	1,2,4-Trimethylbenzene	5.00E-01	5.00E-01	mg/kg	DP02	1	23	4	0	4.20E-03 - 1.40E-01	0.50		52		Yes	Detected	
	95-50-1	1,2-Dichlorobenzene	2.60E+01	2.60E+01	mg/kg	DP02	1	37	3	0	4.20E-03 - 1.40E+00	26		600		Yes	Detected	
	78-87-5	1,2-Dichloropropane	3.60E-03	3.60E-03	J	mg/kg	DP16	1	23	4	22	4.20E-03 - 1.40E-01	0.0036		0.34		Yes	Detected
	108-67-8	1,3,5-Trimethylbenzene	1.60E-01	1.60E-01	mg/kg	DP02	1	23	4	0	4.20E-03 - 1.40E-01	0.16		21		Yes	Detected	
	541-73-1	1,3-Dichlorobenzene	1.10E+00	1.10E+00	mg/kg	DP02	1	37	3	1	0	4.20E-03 - 1.40E-01	1.1		530		Yes	Detected
	106-46-7	1,4-Dichlorobenzene	8.80E+00	8.80E+00	mg/kg	DP02	1	37	3	0	0	4.20E-03 - 1.40E+00	6.8		3.5		Yes	Detected
	105-67-9	2,4-Dimethylphenol	2.10E-01	2.10E-01	J	mg/kg	018-004-023	1	35	3	34	3.70E-01 - 7.00E+01	0.21		1,200		Yes	Detected
	95-48-7	2-Methylphenol	8.10E-02	8.10E-02	J	mg/kg	018-004-023	1	35	3	34	3.70E-01 - 7.00E+01	0.08		3,100		Yes	Detected
	91-57-6	2-Methylnaphthalene	1.90E-03	4.60E+00	mg/kg	DP16	7	37	19	0	0	5.40E-03 - 1.10E+00	4.6		--		Yes	Detected
	72-54-8	4,4'-DDD	1.20E-03	1.20E-03	J	mg/kg	DP12	1	90	1	89	3.60E-03 - 1.90E-01	0.0012		2.4		Yes	Detected
	72-55-9	4,4'-DDE	1.70E-02	7.10E-01	J	mg/kg	FS10	5	90	6	1	3.60E-03 - 1.90E-01	0.71		1.7		Yes	Detected
	50-29-3	4,4'-DDT	5.50E-03	4.70E-01	J	mg/kg	FS10	18	90	20	1	3.60E-03 - 1.90E-01	0.47		1.7		Yes	Detected
	106-44-5	4-Methylphenol	2.70E-01	2.70E-01	J	mg/kg	018-004-023	1	35	3	34	3.70E-01 - 7.00E+01	0.27		310		Yes	Detected
	100-01-6	4-Nitroaniline	8.20E-01	6.20E-01	J	mg/kg	DP16	1	35	3	34	7.40E-01 - 1.40E+02	0.62		23		Yes	Detected
	100-02-7	4-Nitrophenol	4.20E-01	4.20E-01	J	mg/kg	DP16	1	35	3	34	7.40E-01 - 1.40E+02	0.42		--		Yes	Detected
	83-32-9	Acenaphthene	1.70E-03	1.10E+01	mg/kg	DP16	5	38	13	0	0	5.40E-03 - 1.10E+00	11.0		3,700		Yes	Detected
	208-96-8	Acenaphthylene	1.00E-03	3.10E-01	J	mg/kg	DP16	10	37	27	3	5.40E-03 - 1.10E+00	0.31		--		Yes	Detected
	309-00-2	Aldrin	1.30E-02	1.30E-02	J	mg/kg	MW-24	1	90	1	54	1.90E-03 - 9.80E-02	0.013		0.029		Yes	Detected
	319-84-6	alpha-BHC	7.30E-04	7.30E-04	J	mg/kg	DP16	1	90	1	89	1.90E-03 - 9.80E-02	0.00073		0.090		Yes	Detected
	5103-71-9	alpha-Chlordane	2.10E-03	4.80E-02	mg/kg	HS4W	14	90	16	12	0	1.90E-03 - 9.80E-02	0.048		--		Yes	Detected
	7429-90-5	Aluminum	3.38E+03	3.30E+04	mg/kg	018-007-041	71	71	100	0	0	3.80E+00 - 7.00E+01	33000		76,000		Yes	Detected
	120-12-7	Anthracene	8.10E-04	2.70E+00	mg/kg	DP16	12	37	32	0	0	5.40E-03 - 1.10E+00	2.7		22,000		Yes	Detected
	7440-36-0	Antimony	1.10E-01	1.60E+01	J	mg/kg	HS2W	49	94	52	0	1.70E-01 - 3.80E+00	16.0		31		Yes	Detected
	12672-29-6	Aroclor-1248	5.60E-02	1.20E+00	mg/kg	PW13	3	138	2	1	0	9.60E-03 - 2.10E-01	1.2		0.22		Yes	Detected
	11097-69-1	Aroclor-1254	2.40E-02	1.10E+01	mg/kg	FS10	39	138	28	1	0	9.60E-03 - 2.10E-01	11		0.22		Yes	Detected
	11096-82-5	Aroclor-1260	5.80E-03	9.70E+00	J	mg/kg	004-Z03-004	77	138	56	0	9.60E-03 - 2.10E-01	9.7		0.22		Yes	Detected
	11100-14-4	Aroclor-1268	8.30E-03	3.00E-01	J	mg/kg	PW13	26	123	21	0	9.60E-03 - 2.10E-01	0.30		0.22		Yes	Detected
	7440-38-2	Arsenic	7.00E-01	1.20E+02	J	mg/kg	HS1N	88	94	94	0	1.70E-01 - 3.50E-01	120		0.39		Yes	Detected
	7440-39-3	Barium	1.20E+01	2.00E+02	mg/kg	DP06	94	94	100	0	0	3.40E-01 - 7.00E-01	200		5400		Yes	Detected
	56-55-3	Benzo(a)anthracene	1.20E-03	1.40E+01	J	mg/kg	DP16	22	38	58	0	5.40E-03 - 1.10E+00	14.0		0.62		Yes	Detected
	50-32-8	Benzo(a)pyrene	1.70E-03	4.60E+00	mg/kg	DP16	23	38	61	0	0	5.40E-03 - 1.10E+00	4.6		0.062		Yes	Detected
	205-99-2	Benzo(b)fluoranthene	1.20E-03	7.60E+00	mg/kg	DP16	25	37	68	0	0	5.40E-03 - 1.10E+00	7.6		0.82		Yes	Detected
191-24-2	Benzo(g,h,i)perylene	8.70E-04	2.10E+00	mg/kg	DP18	30	38	79	0	0	5.40E-03 - 1.10E+00	2.1		--		Yes	Detected	
207-08-9	Benzo(k)fluoranthene	1.80E-03	9.20E+00	mg/kg	DP16	18	37	49	0	0	5.40E-03 - 1.10E+00	9.2		6.2		Yes	Detected	
7440-41-7	Beryllium	4.80E-02	6.10E-01	mg/kg	DP08	81	94	86	1	0	6.80E-02 - 1.40E-01	0.61		150		Yes	Detected	
319-85-7	Beta-BHC	2.20E-03	2.20E-03	J	mg/kg	DP16	1	90	1	71	1.90E-03 - 9.80E-02	0.0022		0.32		Yes	Detected	
117-81-7	bis(2-ethylhexyl)phthalate	3.10E-02	1.40E+01	D	mg/kg	018-004-020	5	35	14	3	3.70E-01 - 7.00E+01	14.0		35		Yes	Detected	
7440-43-9	Cadmium	6.60E-02	4.58E+01	E+J	mg/kg	018-006-026	82	94	87	0	1.70E-01 - 3.50E-01	45.8		37		Yes	Detected	
75-15-0	Carbon disulfide	2.40E-04	2.40E-04	J	mg/kg	MW-23	1	23	4	22	4.20E-03 - 1.40E-01	0.00024		360		Yes	Detected	
108-90-7	Chlorobenzene	1.10E-01	1.10E-01	J	mg/kg	DP02	1	23	4	0	4.20E-03 - 1.40E-01	0.11		150		Yes	Detected	
7440-47-3	Chromium	9.40E+00	5.50E+02	J	mg/kg	DP02	94	94	100	0	3.40E-01 - 7.00E-01	550		210		Yes	Detected	
218-01-9	Chrysene	8.20E-04	1.60E+01	J	mg/kg	DP16	30	38	79	0	5.40E-03 - 1.10E+00	16.0		62		Yes	Detected	

TABLE H-2.2: EPA RAGS PART D TABLE 2, OCCURENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (CONTINUED)

Surface and Subsurface Soil (0-4 feet bgs)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Surface and Subsurface Soil (0-4 ft bgs)

Exposure Point	CAS Number	Chemical	Minimum Detected Concentration (Qualifier)	Maximum Detected Concentration (Qualifier)	Units	Location of Maximum Concentration	Detected	Total	Detection Frequency (Percent)	Number of High Censored Results (1)	Range of Detection Limits	Concentration Used for Screening (2)	Ambient Value (2)	Screening Toxicity Value (2)	Potential ARAR/TBC Source	COPC Flag (Yes/No)	Rationale for Selection or Deletion (2)
	7440-48-4	Cobalt	2.40E+00	2.17E+01	J	mg/kg	018-002-012	94	94	100	0	1.70E-01 - 1.40E+00	21.7		900	Yes	Detected
	7440-50-8	Copper	2.90E+00	2.54E+02	J	mg/kg	018-006-026	93	94	99	0	3.40E-01 - 7.00E-01	254	3,100		Yes	Detected
	319-86-8	Delta-BHC	6.70E-03	8.40E-03	J	mg/kg	DP16	2	90	2	67	1.90E-03 - 9.80E-02	0.0084	--		Yes	Detected
	53-70-3	Dibenz(a,h)anthracene	1.90E-03	1.30E+00	J	mg/kg	DP16	14	37	38	0	5.40E-03 - 1.10E+00	1.3	0.062		Yes	Detected
	132-84-9	Dibenzofuran	1.30E-01	1.30E+01	J	mg/kg	DP16	2	35	8	3	3.70E-01 - 7.00E+01	13.0	150		Yes	Detected
	60-57-1	Dieldrin	2.40E-03	5.00E-01	J	mg/kg	FS10	14	90	16	1	3.60E-03 - 1.90E-01	0.50	0.030		Yes	Detected
	131-11-3	Dimethylphthalate	3.80E-02	3.80E-02	J	mg/kg	018-004-021	1	35	3	34	3.70E-01 - 7.00E+01	0.038	100,000		Yes	Detected
	84-74-2	di-n-Butylphthalate	5.10E-01	2.30E+00	B	mg/kg	018-007-035	3	35	9	5	3.70E-01 - 7.00E+01	2.3	6,100		Yes	Detected
	959-98-8	Endosulfan I	2.30E-02	2.30E-02	J	mg/kg	DP16	1	90	1	35	1.90E-03 - 9.80E-02	0.023	370		Yes	Detected
	33213-65-9	Endosulfan II	2.10E-02	5.00E-02	J	mg/kg	HS7N	4	90	4	33	3.60E-03 - 1.90E-01	0.050	370		Yes	Detected
	1031-07-8	Endosulfan Sulfate	3.90E-03	4.30E-02	J	mg/kg	DP16	2	90	2	35	3.60E-03 - 1.90E-01	0.043	370		Yes	Detected
	7421-93-4	Endrin aldehyde	8.10E-03	7.40E-02	J	mg/kg	DP16	5	90	8	21	3.60E-03 - 1.90E-01	0.074	--		Yes	Detected
	53494-70-5	Endrin Ketone	2.30E-03	1.00E-02	J	mg/kg	DP16	2	90	2	69	3.60E-03 - 1.90E-01	0.010	--		Yes	Detected
	206-44-0	Fluoranthene	2.30E-03	7.40E+01	J	mg/kg	DP16	19	38	50	0	5.40E-03 - 1.10E+00	74	2,300		Yes	Detected
	86-73-7	Fluorene	1.30E-03	7.80E+00	J	mg/kg	DP16	5	37	14	0	5.40E-03 - 1.10E+00	7.8	2,700		Yes	Detected
	58-89-9	gamma-BHC (Lindane)	2.50E-03	2.60E-03	J	mg/kg	DP16	2	90	2	70	1.90E-03 - 9.80E-02	0.0026	0.44		Yes	Detected
	5103-74-2	gamma-Chlordane	1.60E-03	1.50E-01	J	mg/kg	FS9	16	90	18	1	1.90E-03 - 9.80E-02	0.15	--		Yes	Detected
	76-44-8	Heptachlor	6.90E-03	6.90E-03	J	mg/kg	FS4	1	90	1	68	1.90E-03 - 9.80E-02	0.0069	0.11		Yes	Detected
	1024-57-3	Heptachlor Epoxide	1.40E-03	1.10E-01	J	mg/kg	FS10	13	90	14	1	1.90E-03 - 9.80E-02	0.11	0.053		Yes	Detected
	193-39-5	indeno(1,2,3-cd)pyrene	1.10E-03	2.40E+00	J	mg/kg	DP16	19	38	50	0	5.40E-03 - 1.10E+00	2.4	0.62		Yes	Detected
	7439-89-6	Iron	7.24E+03	1.80E+05	J	mg/kg	HS2A	71	71	100	0	3.60E+01 - 4.70E+02	180000	23,000		Yes	Detected
	78-59-1	Isophorone	2.00E-01	2.00E-01	J	mg/kg	MW-23	1	35	3	34	3.70E-01 - 7.00E+01	0.20	510		Yes	Detected
	7439-92-1	Lead	2.10E+00	2.10E+04	J	mg/kg	DP16	92	94	98	0	1.10E-01 - 1.50E+01	21000	400		Yes	Detected
	7439-96-5	Manganese	7.06E+01	1.30E+03	J	mg/kg	DP12	71	71	100	0	3.60E-01 - 5.10E+00	1300	1,800		Yes	Detected
	7439-97-6	Mercury	9.10E-03	1.90E+00	J	mg/kg	PW18	72	94	77	0	1.40E-02 - 8.70E-02	1.9	23		Yes	Detected
	72-43-5	Methoxychlor	8.40E-02	1.20E-01	J	mg/kg	DP13	2	90	2	55	1.90E-02 - 9.80E-01	0.12	310		Yes	Detected
	75-09-2	Methylene chloride	2.40E-03	2.40E-03	J	mg/kg	MW-20	1	23	4	22	1.70E-02 - 5.50E-01	0.0024	9.1		Yes	Detected
	7439-99-7	Molybdenum	1.00E-01	1.37E+01	J	mg/kg	018-002-012	63	94	67	0	1.90E-01 - 3.40E+00	13.7	390		Yes	Detected
	91-20-3	Naphthalene	5.00E-03	1.30E+01	J	mg/kg	DP16	2	37	5	32	4.20E-03 - 1.10E+00	13	56		Yes	Detected
	7440-02-0	Nickel	4.30E+00	1.22E+02	J	mg/kg	018-002-012	94	94	100	0	6.80E-01 - 1.40E+00	122	1,600		Yes	Detected
	85-01-8	Phenanthrene	1.60E-03	4.00E-01	J	mg/kg	DP16	20	38	53	0	5.40E-03 - 1.10E+00	40	--		Yes	Detected
	108-95-2	Phenol	5.80E-01	5.80E-01	J	mg/kg	018-004-023	1	35	3	14	3.70E-01 - 7.00E+01	0.58	18,000		Yes	Detected
	99-87-6	p-isopropyltoluene	1.10E-01	1.10E-01	J	mg/kg	DP02	1	23	4	0	4.20E-03 - 1.40E-01	0.11	--		Yes	Detected
	129-00-0	Pyrene	3.80E-03	6.80E+01	J	mg/kg	DP16	26	38	68	0	5.40E-03 - 1.10E+00	68	2,300		Yes	Detected
	135-98-8	sec-Butylbenzene	7.10E-02	7.10E-02	J	mg/kg	DP02	1	23	4	0	4.20E-03 - 1.40E-01	0.071	220		Yes	Detected
	7782-49-2	Selenium	7.20E-02	1.10E+00	J	mg/kg	018-002-012	14	94	15	1	1.70E-01 - 3.50E-01	1.1	390		Yes	Detected
	7440-22-4	Silver	2.70E-01	9.50E+00	J	mg/kg	018-004-022	11	94	12	0	1.70E-01 - 3.50E-01	9.5	390		Yes	Detected
	12789-03-8	Technical Chlordane	4.60E-02	8.00E-01	J	mg/kg	HS4W	4	75	5	34	3.30E-02 - 1.70E+00	0.60	1.6		Yes	Detected
	7440-28-0	Thallium	3.90E-02	3.50E+00	J	mg/kg	004-001-002	41	94	44	0	1.70E-01 - 3.50E-01	3.5	5.2		Yes	Detected
	108-88-3	Toluene	2.90E-04	4.30E-04	J	mg/kg	MW-24	3	24	12	21	4.20E-03 - 1.40E-01	0.00043	520		Yes	Detected
	7440-62-2	Vanadium	1.33E+01	1.30E+02	J	mg/kg	DP13	94	94	100	0	3.40E-01 - 7.00E-01	130	78		Yes	Detected
	7440-66-6	Zinc	1.37E+01	1.40E+03	J	mg/kg	PW18	91	94	97	0	7.30E-01 - 1.20E+01	1400	23,000		Yes	Detected

**TABLE H-2.2: EPA RAGS PART D TABLE 2, OCCURENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (CONTINUED)**

Surface and Subsurface Soil (0-4 feet bgs)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Surface and Subsurface Soil (0-4 ft bgs)

Exposure Point	CAS Number	Chemical	Minimum Detected Concentration (Qualifier)	Maximum Detected Concentration (Qualifier)	Units	Location of Maximum Concentration	Detected	Total	Detection Frequency (Percent)	Number of High Censored Results (1)	Range of Detection Limits	Concentration Used for Screening (2)	Ambient Value (2)	Screening Toxicity Value (2)	Potential ARAR/TBC Source	COPC Flag (Yes/No)	Rationale for Selection or Deletion (2)
----------------	------------	----------	--	--	-------	-----------------------------------	----------	-------	-------------------------------	-------------------------------------	---------------------------	--------------------------------------	-------------------	------------------------------	---------------------------	--------------------	---

Notes:

- (1) The number of high censored (nondetect) results that exceeded the maximum detected datum. These results were excluded from the exposure point concentration calculations provided in the RAGS Table 3.
- (2) Chemicals were not screened against background (ambient) or PRGs. This table provides a comparison of the EPA Region IX PRGs for residential soil (EPA 2004) to the maximum detected concentrations. However, except for essential nutrients, all detected chemicals were included as COPCs.

Definitions:

- Not available
- ARAR/TBC Applicable or relevant and appropriate requirement to be considered
- CAS Chemical Abstracts Service
- COPC Chemical of Potential Concern
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- J Estimated Value
- mg/kg Milligrams per kilogram
- PRG Preliminary Remediation Goal
- RAGS Risk Assessment Guidance for Superfund

References:

U.S. Environmental Protection Agency (EPA). 2004. "EPA Region IX Preliminary Remediation Goals (PRG) 2004." December. On-Line Address: <http://www.epa.gov/region09/waste/sfund/prg/index.htm>.

TABLE H-2.3: EPA RAGS PART D TABLE 2, OCCURENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Groundwater

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	CAS Number	Chemical	Minimum Detected Concentration (Qualifier)	Maximum Detected Concentration (Qualifier)	Units	Location of Maximum Concentration	Detected	Total	Detection Frequency (Percent)	Number of High Censored Results (1)	Range of Detection Limits	Concentration Used for Screening	Ambient Value	Screening Toxicity Value	Potential ARAR/TBC Source	COPC Flag (Yes/No) (2)	Rationale for Selection or Deletion (2)
Groundwater	75-34-3	1,1-Dichloroethane	1.00E-01 J	3.00E-01 J	µg/L	DP09	2	29	7	27	5.00E-01 - 5.00E-01				Yes	Detected	
	95-63-6	1,2,4-Trimethylbenzene	1.00E-01 J	1.00E-01 J	µg/L	DP16	2	29	7	27	5.00E-01 - 5.00E-01				Yes	Detected	
	95-50-1	1,2-Dichlorobenzene	2.00E-01 J	1.85E+00	µg/L	DP16	2	29	7	0	5.00E-01 - 5.00E-01				Yes	Detected	
	107-06-2	1,2-Dichloroethane	3.00E-01 J	1.70E+00	µg/L	DP16	2	29	7	0	5.00E-01 - 5.00E-01				Yes	Detected	
	78-87-5	1,2-Dichloropropane	3.00E-01 J	3.00E-01 J	µg/L	DP16	1	29	3	28	5.00E-01 - 5.00E-01				Yes	Detected	
	108-67-8	1,3,5-Trimethylbenzene	8.00E-02 J	6.00E-02 J	µg/L	MW-23	1	29	3	28	5.00E-01 - 5.00E-01				Yes	Detected	
	106-46-7	1,4-Dichlorobenzene	5.00E-01 J	5.00E-01 J	µg/L	DP16	1	29	3	0	5.00E-01 - 5.00E-01				Yes	Detected	
	591-78-6	2-Hexanone	2.00E-01 J	5.00E-01 J	µg/L	DP06	3	29	10	26	1.00E+01 - 1.00E+01				Yes	Detected	
	91-57-6	2-Methylnaphthalene	8.00E-03 J	1.00E-02 J	µg/L	MW-23	2	29	7	27	9.40E-02 - 9.70E+00				Yes	Detected	
	72-54-8	4,4'-DDD	3.80E-04 J	3.80E-04 J	µg/L	DP03	2	28	7	26	1.00E-04 - 6.00E-03				Yes	Detected	
	72-55-9	4,4'-DDE	4.10E-04 J	8.50E-04 J	µg/L	DP19	3	28	11	6	1.60E-04 - 5.20E-03				Yes	Detected	
	108-10-1	4-Methyl-2-pentanone	1.00E-01 J	1.00E-01 J	µg/L	MW-24	1	29	3	28	1.00E+01 - 1.00E+01				Yes	Detected	
	83-32-9	Acenaphthene	1.00E-02 J	2.40E+00 J	µg/L	DP19	6	29	21	0	9.40E-02 - 9.70E+00				Yes	Detected	
	208-96-8	Acenaphthylene	5.00E-03 J	9.60E-02 J	µg/L	DP01	6	29	21	17	9.40E-02 - 9.70E+00				Yes	Detected	
	309-00-2	Aldrin	1.10E-04 J	1.10E-03 J	µg/L	DP09	8	29	28	0	5.40E-05 - 1.10E-03				Yes	Detected	
	319-84-6	alpha-BHC	1.00E-04 J	2.30E-03	µg/L	DP12	5	28	18	0	6.00E-05 - 5.00E-04				Yes	Detected	
	5103-71-9	alpha-Chlordane	2.30E-04 J	4.80E-03 J	µg/L	DP12	5	28	18	0	7.20E-05 - 1.60E-03				Yes	Detected	
	7429-90-5	Aluminum	5.20E+00 J	1.30E+03 J	µg/L	MW-21	21	29	72	0	5.00E+01 - 1.00E+02				Yes	Detected	
	120-12-7	Anthracene	1.00E-02 J	1.20E-01	µg/L	DP05	5	29	17	1	9.40E-02 - 9.70E+00				Yes	Detected	
	7440-38-0	Antimony	1.70E-01 J	2.00E+00	µg/L	DP18	18	29	62	0	1.00E+00 - 1.00E+00				Yes	Detected	
	7440-38-2	Arsenic	2.50E+00	1.10E+02	µg/L	DP15	28	29	97	0	1.00E+00 - 1.00E+00				Yes	Detected	
	7440-39-3	Barium	1.60E+01	2.40E+02	µg/L	DP16	29	29	100	0	1.00E+00 - 1.00E+01				Yes	Detected	
	71-43-2	Benzene	6.00E-02 J	2.00E-01 J	µg/L	DP18	5	29	17	24	5.00E-01 - 5.00E-01				Yes	Detected	
	56-55-3	Benzo(a)anthracene	7.70E-02 J	7.70E-02 J	µg/L	DP05	1	29	3	28	9.40E-02 - 9.70E+00				Yes	Detected	
	50-32-8	Benzo(a)pyrene	8.00E-02 J	6.00E-02 J	µg/L	DP05	1	29	3	28	9.40E-02 - 9.70E+00				Yes	Detected	
	205-99-2	Benzo(b)fluoranthene	4.00E-02 J	4.00E-02 J	µg/L	DP05	1	29	3	28	9.40E-02 - 9.70E+00				Yes	Detected	
	191-24-2	Benzo(g,h,i)perylene	5.80E-02 J	5.80E-02 J	µg/L	DP05	1	29	3	28	9.40E-02 - 9.70E+00				Yes	Detected	
	207-08-9	Benzo(k)fluoranthene	4.20E-02 J	4.20E-02 J	µg/L	DP05	1	29	3	28	9.40E-02 - 9.70E+00				Yes	Detected	
	7440-41-7	Beryllium	7.10E-02 J	9.10E-02 J	µg/L	DP01	5	29	17	24	1.00E+00 - 1.00E+00				Yes	Detected	
	319-85-7	Beta-BHC	5.00E-04	5.00E-04	µg/L	DP01	1	28	4	9	3.80E-04 - 1.40E-03				Yes	Detected	
	75-25-2	Bromoform	1.00E-01 J	2.00E-01 J	µg/L	MW-23	2	29	7	27	1.00E+00 - 1.00E+00				Yes	Detected	
	7440-43-9	Cadmium	5.00E-01 J	1.50E+00	µg/L	DP18	3	29	10	0	1.00E+00 - 1.00E+00				Yes	Detected	
	75-15-0	Carbon disulfide	8.00E-02 J	1.10E+00	µg/L	DP19	21	29	72	0	5.00E-01 - 5.00E-01				Yes	Detected	
	108-90-7	Chlorobenzene	8.00E-02 J	8.00E-02 J	µg/L	DP18	1	29	3	28	5.00E-01 - 5.00E-01				Yes	Detected	
	87-66-3	Chloroform	1.60E+00	1.60E+00	µg/L	DP12	1	29	3	0	5.00E-01 - 5.00E-01				Yes	Detected	
	74-87-3	Chloromethane	2.00E-01 J	2.00E-01 J	µg/L	DP10	1	29	3	28	1.00E+00 - 1.00E+00				Yes	Detected	
	7440-47-3	Chromium	5.80E-01 J	8.50E+00	µg/L	MW-21	19	29	66	0	1.00E+00 - 1.00E+00				Yes	Detected	
	218-01-9	Chrysene	1.10E-01	1.10E-01	µg/L	DP05	1	29	3	1	9.40E-02 - 9.70E+00				Yes	Detected	
	156-59-2	cis-1,2-Dichloroethene	1.00E-01 J	1.70E+00	µg/L	DP19	14	29	48	0	5.00E-01 - 5.00E-01				Yes	Detected	
	7440-48-4	Cobalt	1.50E-01 J	4.50E+01	µg/L	DP17	26	29	90	0	1.00E+00 - 1.00E+00				Yes	Detected	
	7440-50-8	Copper	6.10E-01 J	1.20E+01	µg/L	DP18	18	29	62	0	1.00E+00 - 5.00E+00				Yes	Detected	
	53-70-3	Dibenzo(a,h)anthracene	1.40E-02 J	1.40E-02 J	µg/L	DP05	1	29	3	28	9.40E-02 - 9.70E+00				Yes	Detected	
	60-57-1	Dieldrin	4.60E-04 J	4.60E-04 J	µg/L	MW-24	1	28	4	27	4.00E-04 - 5.00E-04				Yes	Detected	
	959-98-8	Endosulfan I	1.20E-04 J	2.00E-03	µg/L	DP07	9	29	31	2	4.80E-05 - 2.30E-03				Yes	Detected	

TABLE H-2.3: EPA RAGS PART D TABLE 2, OCCURENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (CONTINUED)

Groundwater

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	CAS Number	Chemical	Minimum Detected Concentration (Qualifier)	Maximum Detected Concentration (Qualifier)	Units	Location of Maximum Concentration	Detected	Total	Detection Frequency (Percent)	Number of High Censored Results (1)	Range of Detection Limits	Concentration Used for Screening	Ambient Value	Screening Toxicity Value	Potential ARAR/TBC Source	COPC Flag (Yes/No) (2)	Rationale for Selection or Deletion (2)
	33213-65-9	Endosulfan II	2.30E-04 J	2.30E-04 J	µg/L	MW-20	1	28	4	25	8.70E-05 - 2.60E-03					Yes	Detected
	72-20-8	Endrin	1.10E-04 J	2.60E-04 J	µg/L	MW-22	2	28	7	26	8.30E-05 - 2.70E-03					Yes	Detected
	7421-93-4	Endrin aldehyde	2.00E-04 J	3.20E-03	µg/L	DP16	4	28	14	0	1.30E-04 - 9.60E-04					Yes	Detected
	100-41-4	Ethylbenzene	6.00E-02 J	1.00E-01 J	µg/L	DP13	3	29	10	28	5.00E-01 - 5.00E-01					Yes	Detected
	206-44-0	Fluoranthene	7.00E-03 J	2.40E-01	µg/L	DP05	6	29	21	1	9.40E-02 - 9.70E+00					Yes	Detected
	86-73-7	Fluorene	4.50E-02 J	2.40E-01	µg/L	DP05	5	29	17	1	9.40E-02 - 9.70E+00					Yes	Detected
	59-89-9	gamma-BHC (Lindane)	1.90E-04 J	1.70E-03 J	µg/L	DP16	5	29	17	0	9.20E-05 - 6.40E-04					Yes	Detected
	5103-74-2	gamma-Chlordane	4.10E-04 J	4.10E-04 J	µg/L	MW-24	1	28	4	27	1.50E-04 - 9.80E-04					Yes	Detected
	78-44-8	Heptachlor	3.20E-04 J	3.20E-04 J	µg/L	DP16	1	28	4	26	1.00E-04 - 7.00E-04					Yes	Detected
	1024-67-3	Heptachlor Epoxide	2.60E-04 J	1.90E-03 J	µg/L	DP10	2	28	7	2	5.00E-05 - 5.40E-03					Yes	Detected
	193-39-5	Indeno(1,2,3-cd)pyrene	3.80E-02 J	3.80E-02 J	µg/L	DP05	1	29	3	28	9.40E-02 - 9.70E+00					Yes	Detected
	7439-89-8	Iron	5.40E+01	2.20E+04	µg/L	DP06	26	29	90	0	5.00E+01 - 1.00E+03					Yes	Detected
	98-82-8	isopropylbenzene	1.35E-01 J	1.35E-01 J	µg/L	DP16	1	29	3	28	5.00E-01 - 5.00E-01					Yes	Detected
	7439-92-1	Lead	8.80E-02 J	4.10E+00	µg/L	DP17	14	29	48	0	1.00E+00 - 1.00E+00					Yes	Detected
		m,p-Xylene	2.00E-01 J	4.00E-01 J	µg/L	DP13	3	29	10	26	5.00E-01 - 5.00E-01					Yes	Detected
	7439-96-5	Manganese	3.00E+01	2.60E+04	µg/L	DP17	29	29	100	0	1.00E+00 - 2.00E+02					Yes	Detected
	7439-97-6	Mercury	1.70E-01 J	1.70E-01 J	µg/L	DP05	1	29	3	28	2.00E-01 - 2.00E-01					Yes	Detected
	72-43-5	Methoxychlor	9.10E-04 J	1.30E-03	µg/L	MW-21	2	28	7	0	1.70E-04 - 9.90E-04					Yes	Detected
	7439-98-7	Molybdenum	1.50E+00	4.70E+01	µg/L	DP18	25	29	86	0	1.00E+00 - 1.00E+00					Yes	Detected
	91-20-3	Naphthalene	2.30E-02 J	2.00E-01 J	µg/L	MW-21	6	29	21	1	9.40E-02 - 2.00E+00					Yes	Detected
	104-51-8	n-Butylbenzene	1.00E-01 J	1.00E-01 J	µg/L	DP12	1	29	3	28	5.00E-01 - 5.00E-01					Yes	Detected
	7440-02-0	Nickel	1.20E+00	4.60E+01	µg/L	DP18	24	29	83	0	1.00E+00 - 1.00E+00					Yes	Detected
	103-65-1	n-Propylbenzene	4.00E-02 J	1.30E-01 J	µg/L	DP16	2	29	7	27	5.00E-01 - 5.00E-01					Yes	Detected
	85-01-8	Phenanthrene	8.00E-03 J	7.70E-01	µg/L	DP05	9	29	31	1	9.40E-02 - 9.70E+00					Yes	Detected
	106-95-2	Phenol	6.20E-01 J	3.10E+01	µg/L	DP15	3	29	10	1	9.40E+00 - 4.90E+01					Yes	Detected
	99-87-6	p-Isopropyltoluene	1.35E-01 J	1.35E-01 J	µg/L	DP16	1	29	3	28	5.00E-01 - 5.00E-01					Yes	Detected
	129-00-0	Pyrene	8.00E-03 J	4.30E-01	µg/L	DP05	15	29	52	1	9.40E-02 - 9.70E+00					Yes	Detected
	135-98-8	sec-Butylbenzene	1.25E-01 J	3.00E-01 J	µg/L	DP12	2	29	7	27	5.00E-01 - 5.00E-01					Yes	Detected
	7782-49-2	Selenium	7.10E-01 J	3.40E+01	µg/L	DP17	10	29	34	0	1.00E+00 - 1.00E+01					Yes	Detected
	7440-22-4	Silver	4.70E-02 J	9.80E-02 J	µg/L	DP17	8	29	28	21	1.00E+00 - 1.00E+00					Yes	Detected
	98-06-6	Tert-Butylbenzene	4.00E-01 J	4.00E-01 J	µg/L	DP12	1	29	3	28	5.00E-01 - 5.00E-01					Yes	Detected
	7440-29-0	Thallium	4.00E-02 J	9.40E-01 J	µg/L	DP01	13	29	45	16	1.00E+00 - 1.00E+00					Yes	Detected
	108-88-3	Toluene	7.00E-02 J	6.00E-01	µg/L	DP13	16	29	55	0	5.00E-01 - 5.00E-01					Yes	Detected
	156-60-5	trans-1,2-Dichloroethene	4.00E-01 J	4.00E-01 J	µg/L	DP03	2	29	7	27	5.00E-01 - 5.00E-01					Yes	Detected
	79-01-6	Trichloroethene	2.00E-01 J	6.00E-01	µg/L	DP03	8	29	28	0	5.00E-01 - 5.00E-01					Yes	Detected
	7440-62-2	Vanadium	6.60E-01 J	1.40E+01	µg/L	DP09	24	29	83	0	1.00E+00 - 1.00E+00					Yes	Detected
	75-01-4	Vinyl chloride	2.00E-01 J	2.00E-01 J	µg/L	DP19	1	29	3	28	5.00E-01 - 5.00E-01					Yes	Detected
	7440-66-6	Zinc	2.30E+00 J	6.00E+02	µg/L	DP18	23	29	79	0	1.00E+00 - 1.00E+01					Yes	Detected

**TABLE H-2.3: EPA RAGS PART D TABLE 2, OCCURENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN (CONTINUED)**

**Groundwater**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	CAS Number	Chemical	Minimum Detected Concentration (Qualifier)	Maximum Detected Concentration (Qualifier)	Units	Location of Maximum Concentration	Detected	Total	Detection Frequency (Percent)	Number of High Censored Results (1)	Range of Detection Limits	Concentration Used for Screening	Ambient Value	Screening Toxicity Value	Potential ARAR/TBC Source	COPC Flag (Yes/No) (2)	Rationale for Selection or Deletion (2)
----------------	------------	----------	--	--	-------	-----------------------------------	----------	-------	-------------------------------	-------------------------------------	---------------------------	----------------------------------	---------------	--------------------------	---------------------------	------------------------	---

Notes:

- (1) The number of high censored (nondetect) results that exceeded the maximum detected datum. These results were excluded from the exposure point concentration calculations provided in the RAGS Table 3.
- (2) Chemicals were not screened against background (ambient) or PRGs. Except for essential nutrients, all detected chemicals were included as COPCs.

Definitions:

- Not available
- ARAR/TBC Applicable or relevant and appropriate requirement/to be considered
- CAS Chemical Abstracts Service
- COPC Chemical of Potential Concern
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- J Estimated Value
- µg/L Microgram per liter
- PRG Preliminary Remediation Goal
- RAGS Risk Assessment Guidance for Superfund

**TABLE H-3.1: EPA RAGS PART D TABLE 3, EXPOSURE POINT CONCENTRATION SUMMARY**

**Surface Soil (0-2 feet bgs)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Surface Soil (0-2 feet bgs)
Exposure Medium:	Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	UCL (Distribution) *		Maximum Concentration (Qualifier)	Exposure Point Concentration		
							Value	Statistic <sup>b</sup>	
Surface Soil	1,2,3-Trichlorobenzene	mg/kg	N/A	1.50E+00	NP	1.50E+00	1.50E+00	(1)	
	1,2,4-Trichlorobenzene	mg/kg	N/A	5.10E+00	NP	5.10E+00	5.10E+00	(1)	
	1,2,4-Trimethylbenzene	mg/kg	N/A	5.00E-01	NP	5.00E-01	5.00E-01	(1)	
	1,2-Dichlorobenzene	mg/kg	N/A	2.60E+01	NP	2.60E+01	2.60E+01	(1)	
	1,2-Dichloropropane	mg/kg	N/A	3.60E-03	NP	3.60E-03	J	3.60E-03	(1)
	1,3,5-Trimethylbenzene	mg/kg	N/A	1.60E-01	NP	1.60E-01		1.60E-01	(1)
	1,3-Dichlorobenzene	mg/kg	N/A	1.10E+00	NP	1.10E+00		1.10E+00	(1)
	1,4-Dichlorobenzene	mg/kg	N/A	6.80E+00	NP	6.80E+00		6.80E+00	(1)
	2,4-Dimethylphenol	mg/kg	N/A	2.10E-01	NP	2.10E-01	J	2.10E-01	(1)
	2-Methylphenol	mg/kg	N/A	8.10E-02	NP	8.10E-02	J	8.10E-02	(1)
	2-Methylnaphthalene	mg/kg	1.53E-01	1.67E+00	NP	4.60E+00		1.67E+00	(15)
	4,4'-DDD	mg/kg	N/A	1.20E-03	NP	1.20E-03	J	1.20E-03	(1)
	4,4'-DDE	mg/kg	3.21E-02	8.23E-02	NP	7.10E-01	J	8.23E-02	(13)
	4,4'-DDT	mg/kg	2.97E-02	4.45E-02	LN	4.70E-01	J	4.45E-02	(17)
	4-Methylphenol	mg/kg	N/A	2.70E-01	NP	2.70E-01	J	2.70E-01	(1)
	4-Nitroaniline	mg/kg	N/A	6.20E-01	NP	6.20E-01	J	6.20E-01	(1)
	4-Nitrophenol	mg/kg	N/A	4.20E-01	NP	4.20E-01	J	4.20E-01	(1)
	Acenaphthene	mg/kg	3.49E-01	4.23E+00	NP	1.10E+01		4.23E+00	(15)
	Acenaphthylene	mg/kg	2.33E-02	1.04E-01	LN	3.10E-01	J	1.04E-01	(14)
	Aldrin	mg/kg	N/A	1.30E-02	NP	1.30E-02	J	1.30E-02	(1)
	alpha-BHC	mg/kg	N/A	7.30E-04	NP	7.30E-04	J	7.30E-04	(1)
	alpha-Chlordane	mg/kg	5.94E-03	8.14E-03	LN	4.80E-02		8.14E-03	(17)
	Aluminum	mg/kg	8.00E+03	8.82E+03	LN	2.40E+04		8.82E+03	(2)
	Anthracene	mg/kg	1.34E-01	1.05E+00	LN	2.70E+00		1.05E+00	(15)
	Antimony	mg/kg	2.31E+00	4.08E+00	LN	1.60E+01	J	4.08E+00	(13)
	Aroclor-1248	mg/kg	N/A	1.20E+00	NP	1.20E+00		1.20E+00	(1)
	Aroclor-1254	mg/kg	2.65E-01	4.44E-01	NP	1.10E+01		4.44E-01	(17)
	Aroclor-1260	mg/kg	1.90E-01	5.41E-01	LN	9.70E+00	J	5.41E-01	(13)
	Aroclor-1268	mg/kg	2.12E-02	2.78E-02	LN	3.00E-01		2.78E-02	(17)
	Arsenic	mg/kg	4.57E+00	6.17E+00	NP	6.20E+01		6.17E+00	(17)
	Barium	mg/kg	6.17E+01	6.78E+01	G	1.60E+02	J	6.78E+01	(10)
	Benzo(a)anthracene	mg/kg	5.61E-01	5.00E+00	NP	1.40E+01		5.00E+00	(15)
	Benzo(a)pyrene	mg/kg	2.10E-01	1.67E+00	LN	4.60E+00		1.67E+00	(15)
	Benzo(b)fluoranthene	mg/kg	3.48E-01	2.74E+00	LN	7.60E+00		2.74E+00	(15)
	Benzo(g,h,i)perylene	mg/kg	1.11E-01	7.64E-01	LN	2.10E+00		7.64E-01	(15)
	Benzo(k)fluoranthene	mg/kg	3.66E-01	3.26E+00	LN	9.20E+00		3.26E+00	(15)
	Beryllium	mg/kg	2.12E-01	2.38E-01	G	6.10E-01		2.38E-01	(17)
	Beta-BHC	mg/kg	N/A	2.20E-03	NP	2.20E-03	J	2.20E-03	(1)
	bis(2-ethylhexyl)phthalate	mg/kg	7.19E-01	7.83E+00	NP	1.40E+01	D	7.83E+00	(15)
	Cadmium	mg/kg	4.36E+00	9.47E+00	NP	4.58E+01	E*J	9.47E+00	(14)
	Carbon disulfide	mg/kg	N/A	2.40E-04	NP	2.40E-04	J	2.40E-04	(1)
	Chlorobenzene	mg/kg	N/A	1.10E-01	NP	1.10E-01	J	1.10E-01	(1)
	Chromium	mg/kg	7.27E+01	1.11E+02	NP	5.50E+02	J	1.11E+02	(4)
	Chrysene	mg/kg	6.67E-01	5.68E+00	LN	1.60E+01		5.68E+00	(15)
	Cobalt	mg/kg	6.92E+00	7.57E+00	NP	2.17E+01	J	7.57E+00	(2)
Copper	mg/kg	4.18E+01	5.71E+01	LN	2.54E+02	*J	5.71E+01	(3)	
Delta-BHC	mg/kg	N/A	8.40E-03	NP	8.40E-03	J	8.40E-03	(1)	
Dibenzo(a,h)anthracene	mg/kg	5.73E-02	3.17E-01	LN	1.30E+00		3.17E-01	(14)	
Dibenzofuran	mg/kg	N/A	1.30E+01	NP	1.30E+01		1.30E+01	(1)	
Dieldrin	mg/kg	1.96E-02	5.51E-02	LN	5.00E-01		5.51E-02	(13)	
Dimethylphthalate	mg/kg	N/A	3.80E-02	NP	3.80E-02	J	3.80E-02	(1)	
di-n-Butylphthalate	mg/kg	N/A	2.20E+00	NP	2.20E+00	B	2.20E+00	(1)	
Endosulfan I	mg/kg	N/A	2.30E-02	NP	2.30E-02	J	2.30E-02	(1)	
Endosulfan II	mg/kg	2.23E-02	2.38E-02	NP	5.00E-02	J	2.38E-02	(12)	
Endosulfan Sulfate	mg/kg	N/A	4.30E-02	NP	4.30E-02	J	4.30E-02	(1)	
Endrin aldehyde	mg/kg	1.14E-02	4.21E-02	NP	7.40E-02		4.21E-02	(16)	

**TABLE H-3.1: EPA RAGS PART D TABLE 3, EXPOSURE POINT CONCENTRATION SUMMARY (CONTINUED)**  
**Surface Soil (0-2 feet bgs)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Surface Soil (0-2 feet bgs)
Exposure Medium:	Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	UCL (Distribution) <sup>a</sup>		Maximum Concentration (Qualifier)	Exposure Point Concentration	
							Value	Statistic <sup>b</sup>
	Endrin Ketone	mg/kg	N/A	1.00E-02	NP	1.00E-02	J	1.00E-02 (1)
	Fluoranthene	mg/kg	2.81E+00	2.65E+01	LN	7.40E+01	J	2.65E+01 (15)
	Fluorene	mg/kg	2.49E-01	2.92E+00	NP	7.80E+00	J	2.92E+00 (15)
	gamma-BHC (Lindane)	mg/kg	N/A	2.60E-03	NP	2.60E-03	J	2.60E-03 (1)
	gamma-Chlordane	mg/kg	9.26E-03	1.31E-02	LN	1.50E-01	J	1.31E-02 (17)
	Heptachlor	mg/kg	N/A	6.90E-03	NP	6.90E-03	J	6.90E-03 (1)
	Heptachlor Epoxide	mg/kg	7.57E-03	1.12E-02	G	1.10E-01	J	1.12E-02 (12)
	Indeno(1,2,3-cd)pyrene	mg/kg	1.11E-01	8.73E-01	LN	2.40E+00	J	8.73E-01 (15)
	Iron	mg/kg	2.49E+04	4.07E+04	NP	1.80E+05	J	4.07E+04 (4)
	Isophorone	mg/kg	N/A	2.00E-01	NP	2.00E-01	J	2.00E-01 (1)
	Lead	mg/kg	6.82E+02	2.90E+03	NP	2.10E+04	J	2.90E+03 (14)
	Manganese	mg/kg	2.82E+02	3.31E+02	LN	1.30E+03	J	3.31E+02 (3)
	Mercury	mg/kg	1.51E-01	3.10E-01	NP	1.90E+00	J	3.10E-01 (13)
	Methoxychlor	mg/kg	N/A	1.20E-01	NP	1.20E-01	J	1.20E-01 (1)
	Molybdenum	mg/kg	1.38E+00	2.50E+00	LN	1.37E+01	J	2.50E+00 (13)
	Naphthalene	mg/kg	N/A	1.30E+01	NP	1.30E+01	J	1.30E+01 (1)
	Nickel	mg/kg	3.57E+01	3.91E+01	NP	1.22E+02	J	3.91E+01 (2)
	Phenanthrene	mg/kg	1.29E+00	1.39E+01	NP	4.00E+01	J	1.39E+01 (15)
	Phenol	mg/kg	N/A	5.80E-01	NP	5.80E-01	J	5.80E-01 (1)
	p-Isopropyltoluene	mg/kg	N/A	1.10E-01	NP	1.10E-01	J	1.10E-01 (1)
	Pyrene	mg/kg	2.62E+00	2.41E+01	NP	6.80E+01	J	2.41E+01 (15)
	sec-Butylbenzene	mg/kg	N/A	7.10E-02	NP	7.10E-02	J	7.10E-02 (1)
	Selenium	mg/kg	1.72E-01	2.24E-01	N	1.10E+00	J	2.24E-01 (12)
	Silver	mg/kg	6.72E-01	1.16E+00	LN	9.50E+00	J	1.16E+00 (17)
	Technical Chlordane	mg/kg	8.82E-02	5.51E-01	NP	6.00E-01	J	5.51E-01 (17)
	Thallium	mg/kg	3.73E-01	4.97E-01	LN	3.50E+00	J	4.97E-01 (17)
	Toluene	mg/kg	N/A	4.30E-04	NP	4.30E-04	J	4.30E-04 (1)
	Vanadium	mg/kg	3.12E+01	3.41E+01	NP	1.30E+02	J	3.41E+01 (2)
	Zinc	mg/kg	2.33E+02	4.53E+02	NP	1.40E+03	J	4.53E+02 (5)

Notes:

See Appendix G for a detailed description of the statistical methods used.

BCa Bias-corrected accelerated

DF Detection frequency

EPC Exposure point concentration

J Estimated value

KM Kaplan-Meier product limit estimator

N/A Not applicable, no result reported because the sample size was less than four.

MVUE Minimum variance unbiased estimate

mg/kg Milligrams per kilogram

UCL One-sided upper confidence limit of the mean. Following EPA (2002, 2004, 2006), this can be either a 95, 97.5, or 99 percent UCL.

a Tested for detected data only using the Shapiro-Wilk W test (normal and lognormal distributions) and the Cramer von Mises W\* test (gamma distributions).

A 5 percent level of significance was used in all tests. Distribution tests were only conducted for samples with at least 8 detected measurements.

All other chemical distributions were treated as nonparametric in calculations of the mean, UCL, and EPC.

Distribution Codes: G= gamma, L= lognormal, N= normal, NP= nonparametric

b For detected data only, methods followed EPA (2002, 2004). For chemicals with at least one censored (nondetect) measurement, methods followed recommendations in EPA (2006). The EPC is the lesser of the UCL and the maximum detected concentration.

Method (Statistic) Codes are defined as follows:

(1) Maximum detected concentration

(2) 95 percent UCL calculated using Student's t distribution

(3) 95 percent UCL calculated using Land's H statistic

(4), (5), (6) 95, 97.5, or 99 percent UCL, respectively, calculated using the nonparametric Chebyshev method

(7), (8), (9) 95, 97.5, or 99 percent UCL, respectively, calculated using the MVUE Chebyshev method

(10) 95 percent UCL calculated using the approximate gamma method

(11) 95 percent UCL calculated using the adjusted gamma method

(12) 95 percent UCL calculated using the KM mean and Student's t cutoff for the UCL

(13), (14), (15) 95, 97.5, or 99 percent UCL, respectively, calculated using the KM mean and the nonparametric Chebyshev method to estimate the UCL

(16) 95 percent UCL calculated using the KM mean and a percentile bootstrap to estimate the UCL

(17) 95 percent UCL calculated using the KM mean and a BCa bootstrap to estimate the UCL

**TABLE H-3.1: EPA RAGS PART D TABLE 3, EXPOSURE POINT CONCENTRATION SUMMARY (CONTINUED)**  
**Surface Soil (0-2 feet bgs)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Surface Soil (0-2 feet bgs)
Exposure Medium:	Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	UCL (Distribution) <sup>a</sup>	Maximum Concentration (Qualifier)	Exposure Point Concentration	
						Value	Statistic <sup>b</sup>

**References**

- U.S. Environmental Protection Agency (EPA). 2002. "Calculating exposure point concentrations at hazardous waste sites." OSWER 9285.6-10. Office of Emergency and Remedial Response. Washington, DC. December.
- EPA. 2004. "ProUCL Version 3.0 User Guide." Prepared by Singh, A., Singh, A.K. and R.W. Maichle for the U.S. Environmental Protection Agency, Technical Support Center, Las Vegas, NV. April.
- EPA. 2006. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.

**TABLE H-3.2: EPA RAGS PART D TABLE 3, EXPOSURE POINT CONCENTRATION SUMMARY**  
**Surface and Subsurface Soil (0-4 feet bgs)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil (0-4 feet bgs)
Exposure Medium:	Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	UCL (Distribution) *		Maximum Concentration (Qualifier)	Exposure Point Concentration		
							Value	Statistic <sup>b</sup>	
Surface and Subsurface Soil	1,2,3-Trichlorobenzene	mg/kg	N/A	1.50E+00	NP	1.50E+00	1.50E+00	(1)	
	1,2,4-Trichlorobenzene	mg/kg	N/A	5.10E+00	NP	5.10E+00	5.10E+00	(1)	
	1,2,4-Trimethylbenzene	mg/kg	N/A	5.00E-01	NP	5.00E-01	5.00E-01	(1)	
	1,2-Dichlorobenzene	mg/kg	N/A	2.60E+01	NP	2.60E+01	2.60E+01	(1)	
	1,2-Dichloropropane	mg/kg	N/A	3.60E-03	NP	3.60E-03	J	3.60E-03	(1)
	1,3,5-Trimethylbenzene	mg/kg	N/A	1.60E-01	NP	1.60E-01		1.60E-01	(1)
	1,3-Dichlorobenzene	mg/kg	N/A	1.10E+00	NP	1.10E+00		1.10E+00	(1)
	1,4-Dichlorobenzene	mg/kg	N/A	6.80E+00	NP	6.80E+00		6.80E+00	(1)
	2,4-Dimethylphenol	mg/kg	N/A	2.10E-01	NP	2.10E-01	J	2.10E-01	(1)
	2-Methylphenol	mg/kg	N/A	8.10E-02	NP	8.10E-02	J	8.10E-02	(1)
	2-Methylnaphthalene	mg/kg	1.33E-01	1.45E+00	NP	4.60E+00		1.45E+00	(15)
	4,4'-DDD	mg/kg	N/A	1.20E-03	NP	1.20E-03	J	1.20E-03	(1)
	4,4'-DDE	mg/kg	3.04E-02	7.50E-02	NP	7.10E-01	J	7.50E-02	(13)
	4,4'-DDT	mg/kg	2.66E-02	4.20E-02	LN	4.70E-01	J	4.20E-02	(17)
	4-Methylphenol	mg/kg	N/A	2.70E-01	NP	2.70E-01	J	2.70E-01	(1)
	4-Nitroaniline	mg/kg	N/A	6.20E-01	NP	6.20E-01	J	6.20E-01	(1)
	4-Nitrophenol	mg/kg	N/A	4.20E-01	NP	4.20E-01	J	4.20E-01	(1)
	Acenaphthene	mg/kg	2.96E-01	3.47E+00	NP	1.10E+01		3.47E+00	(15)
	Acenaphthylene	mg/kg	2.08E-02	8.96E-02	LN	3.10E-01	J	8.96E-02	(14)
	Aldrin	mg/kg	N/A	1.30E-02	NP	1.30E-02	J	1.30E-02	(1)
	alpha-BHC	mg/kg	N/A	7.30E-04	NP	7.30E-04	J	7.30E-04	(1)
	alpha-Chlordane	mg/kg	5.30E-03	6.98E-03	LN	4.80E-02		6.98E-03	(17)
	Aluminum	mg/kg	8.11E+03	9.05E+03	NP	3.30E+04		9.05E+03	(2)
	Anthracene	mg/kg	1.17E-01	9.13E-01	LN	2.70E+00		9.13E-01	(15)
	Antimony	mg/kg	2.08E+00	2.72E+00	G	1.60E+01	J	2.72E+00	(17)
	Aroclor-1248	mg/kg	N/A	1.20E+00	NP	1.20E+00		1.20E+00	(1)
	Aroclor-1254	mg/kg	2.40E-01	4.38E-01	NP	1.10E+01		4.38E-01	(17)
	Aroclor-1260	mg/kg	1.74E-01	4.88E-01	LN	9.70E+00	J	4.88E-01	(13)
	Aroclor-1268	mg/kg	2.06E-02	2.72E-02	LN	3.00E-01		2.72E-02	(17)
	Arsenic	mg/kg	6.24E+00	9.53E+00	NP	1.20E+02	J	9.53E+00	(17)
	Barium	mg/kg	6.35E+01	6.94E+01	G	2.00E+02		6.94E+01	(10)
	Benzo(a)anthracene	mg/kg	4.77E-01	4.21E+00	LN	1.40E+01		4.21E+00	(15)
	Benzo(a)pyrene	mg/kg	1.81E-01	1.41E+00	LN	4.60E+00		1.41E+00	(15)
	Benzo(b)fluoranthene	mg/kg	3.03E-01	2.37E+00	LN	7.60E+00		2.37E+00	(15)
	Benzo(g,h,i)perylene	mg/kg	9.72E-02	6.48E-01	LN	2.10E+00		6.48E-01	(15)
	Benzo(k)fluoranthene	mg/kg	3.17E-01	2.82E+00	LN	9.20E+00		2.82E+00	(15)
	Beryllium	mg/kg	2.11E-01	2.28E-01	G	6.10E-01		2.28E-01	(17)
	Beta-BHC	mg/kg	N/A	2.20E-03	NP	2.20E-03	J	2.20E-03	(1)
	bis(2-ethylhexyl)phthalate	mg/kg	5.22E-01	5.30E+00	NP	1.40E+01	D	5.30E+00	(15)
	Cadmium	mg/kg	4.12E+00	8.65E+00	NP	4.58E+01	E*J	8.65E+00	(14)
Carbon disulfide	mg/kg	N/A	2.40E-04	NP	2.40E-04	J	2.40E-04	(1)	
Chlorobenzene	mg/kg	N/A	1.10E-01	NP	1.10E-01	J	1.10E-01	(1)	
Chromium	mg/kg	6.79E+01	1.00E+02	NP	5.50E+02	J	1.00E+02	(4)	
Chrysene	mg/kg	5.66E-01	4.80E+00	LN	1.60E+01		4.80E+00	(15)	
Cobalt	mg/kg	6.88E+00	7.44E+00	NP	2.17E+01	J	7.44E+00	(2)	
Copper	mg/kg	3.81E+01	6.01E+01	LN	2.54E+02	*J	6.01E+01	(13)	
Delta-BHC	mg/kg	N/A	8.40E-03	NP	8.40E-03	J	8.40E-03	(1)	
Dibenzo(a,h)anthracene	mg/kg	5.07E-02	2.76E-01	LN	1.30E+00		2.76E-01	(14)	
Dibenzofuran	mg/kg	N/A	1.30E+01	NP	1.30E+01		1.30E+01	(1)	
Dieldrin	mg/kg	1.73E-02	4.89E-02	LN	5.00E-01		4.89E-02	(13)	
Dimethylphthalate	mg/kg	N/A	3.80E-02	NP	3.80E-02	J	3.80E-02	(1)	
di-n-Butylphthalate	mg/kg	N/A	2.30E+00	NP	2.30E+00	B	2.30E+00	(1)	
Endosulfan I	mg/kg	N/A	2.30E-02	NP	2.30E-02	J	2.30E-02	(1)	
Endosulfan II	mg/kg	2.21E-02	2.34E-02	NP	5.00E-02	J	2.34E-02	(12)	
Endosulfan Sulfate	mg/kg	N/A	4.30E-02	NP	4.30E-02	J	4.30E-02	(1)	
Endrin aldehyde	mg/kg	1.09E-02	6.30E-02	NP	7.40E-02		6.30E-02	(16)	

**TABLE H-3.2: EPA RAGS PART D TABLE 3, EXPOSURE POINT CONCENTRATION SUMMARY (CONTINUED)**

**Surface and Subsurface Soil (0-4 feet bgs)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil (0-4 feet bgs)
Exposure Medium:	Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	UCL (Distribution) <sup>a</sup>			Maximum Concentration (Qualifier)	Exposure Point Concentration	
								Value	Statistic <sup>b</sup>
	Endrin Ketone	mg/kg	N/A	1.00E-02	NP	1.00E-02	J	1.00E-02	(1)
	Fluoranthene	mg/kg	2.37E+00	2.23E+01	NP	7.40E+01		2.23E+01	(15)
	Fluorene	mg/kg	2.16E-01	2.53E+00	NP	7.80E+00		2.53E+00	(15)
	gamma-BHC (Lindane)	mg/kg	N/A	2.60E-03	NP	2.60E-03	J	2.60E-03	(1)
	gamma-Chlordane	mg/kg	8.20E-03	1.27E-02	LN	1.50E-01	J	1.27E-02	(17)
	Heptachlor	mg/kg	N/A	6.90E-03	NP	6.90E-03	J	6.90E-03	(1)
	Heptachlor Epoxide	mg/kg	6.70E-03	9.86E-03	G	1.10E-01	J	9.86E-03	(12)
	Indeno(1,2,3-cd)pyrene	mg/kg	9.58E-02	4.97E-01	LN	2.40E+00		4.97E-01	(14)
	Iron	mg/kg	2.34E+04	3.68E+04	NP	1.80E+05		3.68E+04	(4)
	Isophorone	mg/kg	N/A	2.00E-01	NP	2.00E-01	J	2.00E-01	(1)
	Lead	mg/kg	5.66E+02	2.39E+03	NP	2.10E+04		2.39E+03	(14)
	Manganese	mg/kg	2.63E+02	3.04E+02	LN	1.30E+03		3.04E+02	(3)
	Mercury	mg/kg	1.34E-01	2.65E-01	NP	1.90E+00		2.65E-01	(13)
	Methoxychlor	mg/kg	N/A	1.20E-01	NP	1.20E-01	J	1.20E-01	(1)
	Methylene chloride	mg/kg	N/A	2.40E-03	NP	2.40E-03	J	2.40E-03	(1)
	Molybdenum	mg/kg	1.25E+00	2.18E+00	LN	1.37E+01		2.18E+00	(13)
	Naphthalene	mg/kg	N/A	1.30E+01	NP	1.30E+01	J	1.30E+01	(1)
	Nickel	mg/kg	3.61E+01	3.89E+01	NP	1.22E+02	J	3.89E+01	(2)
	Phenanthrene	mg/kg	1.09E+00	1.17E+01	NP	4.00E+01		1.17E+01	(15)
	Phenol	mg/kg	N/A	5.80E-01	NP	5.80E-01		5.80E-01	(1)
	p-Isopropyltoluene	mg/kg	N/A	1.10E-01	NP	1.10E-01	J	1.10E-01	(1)
	Pyrene	mg/kg	2.22E+00	2.03E+01	NP	6.80E+01		2.03E+01	(15)
	sec-Butylbenzene	mg/kg	N/A	7.10E-02	NP	7.10E-02	J	7.10E-02	(1)
	Selenium	mg/kg	1.75E-01	2.84E-01	LN	1.10E+00	J	2.84E-01	(16)
	Silver	mg/kg	6.02E-01	9.80E-01	LN	9.50E+00		9.80E-01	(17)
	Technical Chlordane	mg/kg	8.41E-02	5.41E-01	NP	6.00E-01	J	5.41E-01	(17)
	Thallium	mg/kg	3.39E-01	4.83E-01	LN	3.50E+00	J	4.83E-01	(17)
	Toluene	mg/kg	N/A	4.30E-04	NP	4.30E-04	J	4.30E-04	(1)
	Vanadium	mg/kg	3.10E+01	3.37E+01	NP	1.30E+02		3.37E+01	(2)
	Zinc	mg/kg	2.02E+02	3.32E+02	NP	1.40E+03		3.32E+02	(13)

Notes:

See Appendix G for a detailed description of the statistical methods used.

BCa Bias-corrected accelerated

DF Detection frequency

EPC Exposure point concentration

J Estimated value

KM Kaplan-Meier product limit estimator

N/A Not applicable, no result reported because the sample size was less than four.

MVUE Minimum variance unbiased estimate

mg/kg Milligrams per kilogram

UCL One-sided upper confidence limit of the mean. Following EPA (2002, 2004, 2006), this can be either a 95, 97.5, or 99 percent UCL.

a Tested for detected data only using the Shapiro-Wilk W test (normal and lognormal distributions) and the Cramer von Mises  $W^2$  test (gamma distributions).

A 5 percent level of significance was used in all tests. Distribution tests were only conducted for samples with at least 8 detected measurements.

All other chemical distributions were treated as nonparametric in calculations of the mean, UCL, and EPC.

Distribution Codes: G= gamma, L= lognormal, N= normal, NP= nonparametric

b For detected data only, methods followed EPA (2002, 2004). For chemicals with at least one censored (nondetect) measurement,

methods followed recommendations in EPA (2006). The EPC is the lesser of the UCL and the maximum detected concentration.

Method (Statistic) Codes are defined as follows:

(1) Maximum detected concentration

(2) 95 percent UCL calculated using Student's *t* distribution

(3) 95 percent UCL calculated using Land's H statistic

(4), (5), (6) 95, 97.5, or 99 percent UCL, respectively, calculated using the nonparametric Chebyshev method

(7), (8), (9) 95, 97.5, or 99 percent UCL, respectively, calculated using the MVUE Chebyshev method

(10) 95 percent UCL calculated using the approximate gamma method

(11) 95 percent UCL calculated using the adjusted gamma method

**TABLE H-3.2: EPA RAGS PART D TABLE 3, EXPOSURE POINT CONCENTRATION SUMMARY (CONTINUED)**  
**Surface and Subsurface Soil (0-4 feet bgs)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil (0-4 feet bgs)
Exposure Medium:	Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	UCL (Distribution) <sup>a</sup>	Maximum Concentration (Qualifier)	Exposure Point Concentration	
						Value	Statistic <sup>b</sup>
(12)				95 percent UCL calculated using the KM mean and Student's t cutoff for the UCL			
(13), (14), (15)				95, 97.5, or 99 percent UCL, respectively, calculated using the KM mean and the nonparametric Chebyshev method to estimate the UCL			
(16)				95 percent UCL calculated using the KM mean and a percentile bootstrap to estimate the UCL			
(17)				95 percent UCL calculated using the KM mean and a BCa bootstrap to estimate the UCL			

References

- U.S. Environmental Protection Agency (EPA). 2002. "Calculating exposure point concentrations at hazardous waste sites." OSWER 9285.6-10. Office of Emergency and Remedial Response. Washington, DC. December.
- EPA. 2004. "ProUCL Version 3.0 User Guide." Prepared by Singh, A., Singh, A.K. and R.W. Maichle for the U.S. Environmental Protection Agency, Technical Support Center, Las Vegas, NV. April.
- EPA. 2006. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.

**TABLE H-3.3: EPA RAGS PART D TABLE 3, EXPOSURE POINT CONCENTRATION SUMMARY**

**Groundwater**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	UCL (Distribution) <sup>a</sup>		Maximum Concentration (Qualifier)		Exposure Point Concentration	
								Value	Statistic <sup>b</sup>
Groundwater	1,1-Dichloroethane	µg/l	N/A	3.00E-01	NP	3.00E-01	J	3.00E-01	(1)
	1,2,4-Trimethylbenzene	µg/l	N/A	1.00E-01	NP	1.00E-01	J	1.00E-01	(1)
	1,2-Dichlorobenzene	µg/l	N/A	1.85E+00	NP	1.85E+00		1.85E+00	(1)
	1,2-Dichloroethane	µg/l	N/A	1.70E+00	NP	1.70E+00		1.70E+00	(1)
	1,2-Dichloropropane	µg/l	N/A	3.00E-01	NP	3.00E-01	J	3.00E-01	(1)
	1,3,5-Trimethylbenzene	µg/l	N/A	6.00E-02	NP	6.00E-02	J	6.00E-02	(1)
	1,4-Dichlorobenzene	µg/l	N/A	5.00E-01	NP	5.00E-01	J	5.00E-01	(1)
	2-Hexanone	µg/l	N/A	5.00E-01	NP	5.00E-01	J	5.00E-01	(1)
	2-Methylnaphthalene	µg/l	N/A	1.00E-02	NP	1.00E-02	J	1.00E-02	(1)
	4,4'-DDE	µg/l	N/A	8.50E-04	NP	8.50E-04	J	8.50E-04	(1)
	4-Methyl-2-pentanone	µg/l	N/A	1.00E-01	NP	1.00E-01	J	1.00E-01	(1)
	Acenaphthene	µg/l	1.96E-01	1.42E+00	NP	2.40E+00	J	1.42E+00	(15)
	Acenaphthylene	µg/l	3.42E-02	6.04E-02	NP	9.60E-02	J	6.04E-02	(17)
	Aldrin	µg/l	3.09E-04	4.52E-04	NP	1.10E-03	J	4.52E-04	(16)
	alpha-BHC	µg/l	2.65E-04	4.07E-04	NP	2.30E-03	J	4.07E-04	(17)
	alpha-Chlordane	µg/l	5.18E-04	8.47E-04	NP	4.80E-03	J	8.47E-04	(17)
	Anthracene	µg/l	3.02E-02	1.20E-01	NP	1.20E-01		1.20E-01	(17)
	Benzene	µg/l	1.06E-01	1.58E-01	NP	2.00E-01	J	1.58E-01	(2)
	Benzo(b)fluoranthene	µg/l	N/A	4.00E-02	NP	4.00E-02	J	4.00E-02	(1)
	Bromoform	µg/l	N/A	2.00E-01	NP	2.00E-01	J	2.00E-01	(1)
	Carbon disulfide	µg/l	3.50E-01	4.20E-01	G	1.10E+00		4.20E-01	(16)
	Chlorobenzene	µg/l	N/A	8.00E-02	NP	8.00E-02	J	8.00E-02	(1)
	Chloroform	µg/l	N/A	1.60E+00	NP	1.60E+00		1.60E+00	(1)
	Chloromethane	µg/l	N/A	2.00E-01	NP	2.00E-01	J	2.00E-01	(1)
	Chrysene	µg/l	N/A	1.10E-01	NP	1.10E-01		1.10E-01	(1)
	cis-1,2-Dichloroethene	µg/l	3.94E-01	5.20E-01	G	1.70E+00		5.20E-01	(12)
	Dieldrin	µg/l	N/A	4.60E-04	NP	4.60E-04	J	4.60E-04	(1)
	Endosulfan I	µg/l	4.71E-04	6.89E-04	NP	2.00E-03	J	6.89E-04	(16)
	Endosulfan II	µg/l	N/A	2.30E-04	NP	2.30E-04	J	2.30E-04	(1)
	Ethylbenzene	µg/l	N/A	1.00E-01	NP	1.00E-01	J	1.00E-01	(1)
	Fluoranthene	µg/l	2.05E-02	4.00E-02	NP	2.40E-01		4.00E-02	(17)
	Fluorene	µg/l	5.72E-02	7.77E-02	NP	2.40E-01		7.77E-02	(16)
	gamma-BHC (Lindane)	µg/l	2.92E-04	4.28E-04	NP	1.70E-03	J	4.28E-04	(16)
	gamma-Chlordane	µg/l	N/A	4.10E-04	NP	4.10E-04	J	4.10E-04	(1)
	Heptachlor	µg/l	N/A	3.20E-04	NP	3.20E-04	J	3.20E-04	(1)
	Isopropylbenzene	µg/l	N/A	1.35E-01	NP	1.35E-01	J	1.35E-01	(1)
	m,p-Xylene	µg/l	N/A	4.00E-01	NP	4.00E-01	J	4.00E-01	(1)
	Methoxychlor	µg/l	N/A	1.30E-03	NP	1.30E-03		1.30E-03	(1)
	Naphthalene	µg/l	3.95E-02	5.36E-02	NP	2.00E-01	J	5.36E-02	(16)
	n-Butylbenzene	µg/l	N/A	1.00E-01	NP	1.00E-01	J	1.00E-01	(1)
n-Propylbenzene	µg/l	N/A	1.30E-01	NP	1.30E-01	J	1.30E-01	(1)	
Phenanthrene	µg/l	4.12E-02	9.80E-02	NP	7.70E-01		9.80E-02	(17)	
p-Isopropyltoluene	µg/l	N/A	1.35E-01	NP	1.35E-01	J	1.35E-01	(1)	
Pyrene	µg/l	3.88E-02	1.38E-01	NP	4.30E-01		1.38E-01	(14)	
sec-Butylbenzene	µg/l	N/A	3.00E-01	NP	3.00E-01	J	3.00E-01	(1)	
Tert-Butylbenzene	µg/l	N/A	4.00E-01	NP	4.00E-01	J	4.00E-01	(1)	
Toluene	µg/l	1.57E-01	1.92E-01	NP	6.00E-01		1.92E-01	(16)	
trans-1,2-Dichloroethene	µg/l	N/A	4.00E-01	NP	4.00E-01	J	4.00E-01	(1)	
Trichloroethene	µg/l	2.74E-01	3.39E-01	NP	6.00E-01		3.39E-01	(16)	
Vinyl chloride	µg/l	N/A	2.00E-01	NP	2.00E-01	J	2.00E-01	(1)	

**TABLE H-3.3: EPA RAGS PART D TABLE 3, EXPOSURE POINT CONCENTRATION SUMMARY (CONTINUED)**

**Groundwater**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Notes:

See Appendix G for a detailed description of the statistical methods used.

BCa	Bias-corrected accelerated
DF	Detection frequency
EPC	Exposure point concentration
J	Estimated value
KM	Kaplan-Meier product limit estimator
N/A	Not applicable, no result reported because the sample size was less than four.
MVUE	Minimum variance unbiased estimate
mg/kg	Milligrams per kilogram
UCL	One-sided upper confidence limit of the mean. Following EPA (2002, 2004, 2006), this can be either a 95, 97.5, or 99 percent UCL.
a	Tested for detected data only using the Shapiro-Wilk W test (normal and lognormal distributions) and the Cramer von Mises W <sup>2</sup> test (gamma distributions). A 5 percent level of significance was used in all tests. Distribution tests were only conducted for samples with at least 8 detected measurements. All other chemical distributions were treated as nonparametric in calculations of the mean, UCL, and EPC. <u>Distribution Codes:</u> G= gamma, L= lognormal, N= normal, NP= nonparametric
b	For detected data only, methods followed EPA (2002, 2004). For chemicals with at least one censored (nondetect) measurement, methods followed recommendations in EPA (2006). The EPC is the lesser of the UCL and the maximum detected concentration. <u>Method (Statistic) Codes are defined as follows:</u>
(1)	Maximum detected concentration
(2)	95 percent UCL calculated using Student's t distribution
(3)	95 percent UCL calculated using Land's H statistic
(4), (5), (6)	95, 97.5, or 99 percent UCL, respectively, calculated using the nonparametric Chebyshev method
(7), (8), (9)	95, 97.5, or 99 percent UCL, respectively, calculated using the MVUE Chebyshev method
(10)	95 percent UCL calculated using the approximate gamma method
(11)	95 percent UCL calculated using the adjusted gamma method
(12)	95 percent UCL calculated using the KM mean and Student's t cutoff for the UCL
(13), (14), (15)	95, 97.5, or 99 percent UCL, respectively, calculated using the KM mean and the nonparametric Chebyshev method to estimate the UCL
(16)	95 percent UCL calculated using the KM mean and a percentile bootstrap to estimate the UCL
(17)	95 percent UCL calculated using the KM mean and a BCa bootstrap to estimate the UCL

References

U.S. Environmental Protection Agency (EPA). 2002. "Calculating exposure point concentrations at hazardous waste sites." OSWER 9285.6-10. Office of Emergency and Remedial Response. Washington, DC. December.

EPA. 2004. "ProUCL Version 3.0 User Guide." Prepared by Singh, A., Singh, A.K. and R.W. Maichle for the U.S. Environmental Protection Agency, Technical Support Center, Las Vegas, NV. April.

EPA. 2006. "On the Computation of a 95% Upper Confidence Limit of the Unknown Population Mean Based Upon Data Sets with Below Detection Limit Observations." Prepared by Singh, A., Maichle, R., and S.E. Lee. EPA/600/R-06/022. March.

**TABLE H-3.4: EXPOSURE POINT CONCENTRATION SUMMARY**  
**Ambient Air Concentrations via Volatilization in Surface Soil (0 to 2 feet bgs)**  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Surface Soil (0-2 feet bgs)
Exposure Medium:	Ambient Air

Exposure Point	Chemical of Potential Concern	Soil Exposure Point Concentration	Diffusivity in Air (a)	Dimensionless Henry's law constant (a)	Diffusivity in Water (a)	Organic Carbon Partition Coefficient (a)	Soil Water Partition Coefficient	Apparent Diffusivity	Volatilization Factor	Ambient Air Concentration
		C <sub>s</sub> (mg/kg)	D <sub>i</sub> (cm <sup>2</sup> /s)	H'	D <sub>w</sub> (cm <sup>2</sup> /s)	K <sub>oc</sub> (cm <sup>3</sup> /g)	K <sub>d</sub> (cm <sup>3</sup> /g)	D <sub>a</sub> (cm <sup>2</sup> /s)	VF	C <sub>a</sub> (mg/m <sup>3</sup> )
Surface Soil	1,2,3-Trichlorobenzene	1.50E+00	3.00E-02	5.81E-02	8.23E-06	1.78E+03	3.56E+00	4.73E-05	1.44E+04	1.04E-04
	1,2,4-Trichlorobenzene	5.10E+00	3.00E-02	5.81E-02	8.23E-06	1.78E+03	3.56E+00	4.73E-05	1.44E+04	3.55E-04
	1,2,4-Trimethylbenzene	5.00E-01	6.06E-02	2.52E-01	7.92E-06	1.35E+03	2.70E+00	5.36E-04	4.27E+03	1.17E-04
	1,2-Dichlorobenzene	2.60E+01	6.90E-02	7.77E-02	7.90E-06	6.17E+02	1.23E+00	4.09E-04	4.88E+03	5.32E-03
	1,2-Dichloropropane	3.60E-03	7.82E-02	1.15E-01	8.73E-06	4.37E+01	8.74E-02	6.16E-03	1.26E+03	2.86E-06
	1,3,5-Trimethylbenzene	1.60E-01	6.02E-02	2.41E-01	8.67E-06	1.35E+03	2.70E+00	5.09E-04	4.38E+03	3.65E-05
	1,3-Dichlorobenzene	1.10E+00	6.92E-02	1.27E-01	7.86E-06	1.98E+03	3.95E+00	2.14E-04	6.75E+03	1.62E-04
	1,4-Dichlorobenzene	6.80E+00	6.90E-02	9.82E-02	7.90E-06	6.17E+02	1.23E+00	5.15E-04	4.35E+03	1.56E-03
	2-Methylnaphthalene	1.67E+00	5.22E-02	2.12E-02	7.75E-06	2.81E+03	5.62E+00	1.91E-05	2.26E+04	7.40E-05
	4,4'-DDE	8.23E-02	1.44E-02	8.59E-04	5.87E-06	4.47E+06	8.94E+03	1.35E-10	8.49E+06	9.70E-09
	Acenaphthene	4.23E+00	4.21E-02	6.34E-03	7.69E-06	7.08E+03	1.42E+01	1.84E-06	7.28E+04	5.81E-05
	Acenaphthylene	1.04E-01	4.21E-02	6.34E-03	7.69E-06	7.08E+03	1.42E+01	1.84E-06	7.28E+04	1.43E-06
	Aldrin	1.30E-02	1.32E-02	6.95E-03	4.86E-06	2.45E+06	4.90E+03	1.83E-09	2.31E+06	5.63E-09
	alpha-BHC	7.30E-04	1.42E-02	4.34E-04	7.34E-06	1.23E+03	2.46E+00	2.42E-07	2.01E+05	3.64E-09
	alpha-Chlordane	8.14E-03	1.18E-02	1.99E-03	4.37E-06	1.20E+05	2.40E+02	9.56E-09	1.01E+06	8.06E-09
	Anthracene	1.05E+00	4.21E-02	6.34E-03	7.69E-06	7.08E+03	1.42E+01	1.84E-06	7.28E+04	1.45E-05
	Benzo(b)fluoranthene	2.74E+00	2.26E-02	4.54E-03	5.56E-06	1.23E+06	2.46E+03	4.08E-09	1.55E+06	1.77E-06
	Carbon disulfide	2.40E-04	1.04E-01	1.24E+00	1.00E-05	4.57E+01	9.14E-02	3.47E-02	5.31E+02	4.52E-07
	Chlorobenzene	1.10E-01	7.30E-02	1.51E-01	8.70E-06	2.19E+02	4.38E-01	2.16E-03	2.12E+03	5.18E-05
	Chrysene	5.68E+00	2.48E-02	3.87E-03	6.21E-06	3.98E+05	7.96E+02	1.18E-08	9.10E+05	6.25E-06
	Delta-BHC	8.40E-03	1.42E-02	4.34E-04	7.34E-06	1.23E+03	2.46E+00	2.42E-07	2.01E+05	4.19E-08
	Dibenzofuran	1.30E+01	2.38E-02	5.15E-04	6.00E-06	5.15E+03	1.03E+01	1.16E-07	2.90E+05	4.49E-05
	Dieldrin	5.51E-02	1.25E-02	6.18E-04	4.74E-06	2.14E+04	4.28E+01	1.76E-08	7.43E+05	7.42E-08
	Endosulfan I	2.30E-02	1.15E-02	4.58E-04	4.55E-06	2.14E+03	4.28E+00	1.20E-07	2.85E+05	8.06E-08
	Endosulfan II	2.38E-02	1.15E-02	4.58E-04	4.55E-06	2.14E+03	4.28E+00	1.20E-07	2.85E+05	8.34E-08
	Endosulfan Sulfate	4.30E-02	1.15E-02	4.58E-04	4.55E-06	2.14E+03	4.28E+00	1.20E-07	2.85E+05	1.51E-07
	Fluoranthene	2.65E+01	2.26E-02	4.54E-03	5.56E-06	1.23E+06	2.46E+03	4.08E-09	1.55E+06	1.71E-05
	Fluorene	2.92E+00	3.63E-02	2.60E-03	7.88E-06	1.38E+04	2.76E+01	3.34E-07	1.71E+05	1.71E-05
	gamma-BHC (Lindane)	2.60E-03	1.42E-02	5.73E-04	7.34E-06	1.07E+03	2.14E+00	3.67E-07	1.63E+05	1.59E-08
	gamma-Chlordane	1.31E-02	1.18E-02	1.99E-03	4.37E-06	1.20E+05	2.40E+02	9.56E-09	1.01E+06	1.30E-08
	Heptachlor	6.90E-03	1.12E-02	6.05E+01	5.69E-06	1.41E+06	2.82E+03	2.34E-05	2.04E+04	3.38E-07
	Methoxychlor	1.20E-01	1.56E-02	6.46E-04	4.46E-06	9.77E+04	1.95E+02	5.05E-09	1.39E+06	8.63E-08
	Naphthalene	1.30E+01	5.90E-02	1.98E-02	7.50E-06	2.00E+03	4.00E+00	2.82E-05	1.86E+04	6.99E-04
Phenanthrene	1.39E+01	4.21E-02	6.34E-03	7.69E-06	7.08E+03	1.42E+01	1.84E-06	7.28E+04	1.91E-04	
p-Isopropyltoluene	1.10E-01	6.50E-02	4.74E+01	7.10E-06	4.89E+02	9.77E-01	2.96E-02	5.74E+02	1.92E-04	
Pyrene	2.41E+01	2.72E-02	4.50E-04	7.24E-06	1.05E+05	2.10E+02	5.70E-09	1.31E+06	1.85E-05	
sec-Butylbenzene	7.10E-02	5.70E-02	5.68E-01	8.12E-06	9.66E+02	1.93E+00	1.53E-03	2.53E+03	2.81E-05	
Technical Chlordane	5.51E-01	1.18E-02	1.99E-03	4.37E-06	1.20E+05	2.40E+02	9.56E-09	1.01E+06	5.45E-07	
Toluene	4.30E-04	8.70E-02	2.72E-01	8.60E-06	1.82E+02	3.64E-01	5.14E-03	1.38E+03	3.12E-07	

**TABLE H-3.4: EXPOSURE POINT CONCENTRATION SUMMARY (CONTINUED)**  
**Ambient Air Concentrations via Volatilization in Surface Soil (0 to 2 feet bgs)**

$$VF = Q/C \times (3.14 \times D_A \times T)^{1/2} \times 10^{-4} \text{ (m}^2\text{/cm}^2\text{)} / (2 \times \rho_b \times D_A)$$

$$D_A = \frac{((\theta_a^{10/3} \times D_i \times H') + (\theta_w^{10/3} \times D_w)) / n^2}{((\rho_b \times K_d) + \theta_w + (\theta_a \times H'))}$$

$$C_A = C_S / VF$$

Parameter	Definition	Value	Source
VF	Volatilization factor (m <sup>2</sup> /kg)	chemical-specific	Calculated from above equation (EPA 1996, 2004)
D <sub>A</sub>	Apparent diffusivity (cm <sup>2</sup> /s)	chemical-specific	Calculated from above equation (EPA 1996, 2004)
C <sub>A</sub>	Concentration in ambient air (mg/m <sup>3</sup> )	chemical-specific	Calculated from above equation
C <sub>S</sub>	Concentration in soil (mg/kg)	chemical-specific	See RAGS Table H3.1
θ <sub>a</sub>	Air filled soil porosity (unitless)	0.321	Calculated based on soil type using Johnson and Ettinger Model
θ <sub>w</sub>	Water filled soil porosity (unitless)	0.054	Calculated based on soil type using Johnson and Ettinger Model
T	Exposure interval (s)	9.50E+08	Default value (EPA 1996, 2004)
n	Total soil porosity = 1 - (pb/ps)	0.37	
Pb	Dry soil bulk density (g/cm <sup>3</sup> )	1.66	Calculated based on soil type using Johnson and Ettinger Model
Ps	Soil particle density (g/cm <sup>3</sup> )	2.65	Default value (EPA 1996, 2004)
foc	Fraction organic carbon in soil (g/g)	0.002	Default value used in Johnson and Ettinger Model
Q/C	Inverse of the mean concentration at the center of a 5-acre square source (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	60.03	Exhibit 11 (EPA 1996)
D <sub>i</sub>	Diffusivity in air (cm <sup>2</sup> /s)	chemical-specific	VLOOKUP table from Johnson and Ettinger Model
H'	Dimensionless Henry's Law Constant	chemical-specific	VLOOKUP table from Johnson and Ettinger Model
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /s)	chemical-specific	VLOOKUP table from Johnson and Ettinger Model
K <sub>oc</sub>	Soil organic carbon partition coefficient (cm <sup>3</sup> /g)	chemical-specific	VLOOKUP table from Johnson and Ettinger Model
K <sub>d</sub>	Soil-water partition coefficient (cm <sup>3</sup> /g) = K <sub>oc</sub> × f <sub>oc</sub>	chemical-specific	VLOOKUP table from Johnson and Ettinger Model

(a) The HHRA used surrogates for chemicals lacking data for these parameters values. Surrogates used include 1,2,4-Trichlorobenzene for 1,2,3-Trichlorobenzene, Acenaphthene for Acenaphthylene, Anthracene, and Phenanthrene; Cumene for p-isopropyltoluene; gamma-HCH for Delta-BHC; Endosulfan for Endosulfan I & II and for Endosulfan sulfate; benzo(b)fluoranthene for fluoranthene; chlordane for Technical chlordane, alpha and gamma-chlordane; alpha-HCH for alpha-BHC; gamma-HCH for gamma-BHC.

**References**

EPA 1996. "Soil Screening Guidance: User's Guide." Office of Solid Waste and Emergency Response. Washington, DC. Publication 9355.4-23. July.

EPA 2004. "Users' Guide and Background Technical Document for USEPA Region 9's Preliminary Remediation Goals (PRG) Table." Available Online at <http://www.epa.gov/region09/waste/sfund/prg/files/04usersguide.pdf>.

**TABLE H-3.5: EXPOSURE POINT CONCENTRATION SUMMARY**  
**Ambient Air Concentrations via Volatilization in Surface and Subsurface Soil (0 to 4 feet bgs)**  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil (0-4 feet bgs)
Exposure Medium:	Ambient Air

Exposure Point	Chemical of Potential Concern	Soil Exposure Point Concentration	Diffusivity in Air (a)	Dimensionless Henry's law constant (a)	Diffusivity in Water (a)	Organic Carbon Partition Coefficient (a)	Soil Water Partition Coefficient	Apparent Diffusivity	Volatilization Factor	Ambient Air Concentration
		C <sub>s</sub> (mg/kg)	D <sub>i</sub> (cm <sup>2</sup> /s)	H'	D <sub>w</sub> (cm <sup>2</sup> /s)	K <sub>oc</sub> (cm <sup>3</sup> /g)	K <sub>d</sub> (cm <sup>3</sup> /g)	D <sub>A</sub> (cm <sup>2</sup> /s)	VF (m <sup>3</sup> /kg)	C <sub>A</sub> (mg/m <sup>3</sup> )
Surface and Subsurface Soil	1,2,3-Trichlorobenzene	1.50E+00	3.00E-02	5.81E-02	8.23E-06	1.78E+03	3.58E+00	4.73E-05	1.44E+04	1.04E-04
	1,2,4-Trichlorobenzene	5.10E+00	3.00E-02	5.81E-02	8.23E-06	1.78E+03	3.58E+00	4.73E-05	1.44E+04	3.55E-04
	1,2,4-Trimethylbenzene	5.00E-01	6.06E-02	2.52E-01	7.92E-06	1.35E+03	2.70E+00	5.36E-04	4.27E+03	1.17E-04
	1,2-Dichlorobenzene	2.60E+01	6.90E-02	7.77E-02	7.90E-06	6.17E+02	1.23E+00	4.09E-04	4.88E+03	5.32E-03
	1,2-Dichloropropane	3.60E+03	7.82E-02	1.15E-01	8.73E-06	4.37E+01	8.74E-02	6.16E-03	1.26E+03	2.86E-06
	1,3,5-Trimethylbenzene	1.60E-01	6.02E-02	2.41E-01	8.67E-06	1.35E+03	2.70E+00	5.09E-04	4.38E+03	3.65E-05
	1,3-Dichlorobenzene	1.10E+00	6.92E-02	1.27E-01	7.86E-06	1.98E+03	3.95E+00	2.14E-04	6.75E+03	1.63E-04
	1,4-Dichlorobenzene	6.80E+00	6.90E-02	9.82E-02	7.90E-06	6.17E+02	1.23E+00	5.15E-04	4.35E+03	1.56E-03
	2-Methylnaphthalene	1.45E+00	5.22E-02	2.12E-02	7.75E-06	2.81E+03	5.62E+00	1.91E-05	2.26E+04	6.41E-05
	4,4'-DDE	7.50E-02	1.44E-02	8.59E-04	5.87E-06	4.47E+06	8.94E+03	1.35E-10	8.49E+06	8.84E-09
	Acenaphthene	3.47E+00	4.21E-02	6.34E-03	7.69E-06	7.08E+03	1.42E+01	1.84E-06	7.28E+04	4.77E-05
	Acenaphthylene	8.96E-02	4.21E-02	6.34E-03	7.69E-06	7.08E+03	1.42E+01	1.84E-06	7.28E+04	1.23E-06
	Aldrin	1.30E-02	1.32E-02	6.95E-03	4.86E-06	2.45E+06	4.90E+03	1.83E-09	2.31E+06	5.63E-09
	alpha-BHC	7.30E-04	1.42E-02	4.34E-04	7.34E-06	1.23E+03	2.46E+00	2.42E-07	2.01E+05	3.64E-09
	alpha-Chlordane	6.98E-03	1.18E-02	1.99E-03	4.37E-06	1.20E+05	2.40E+02	9.56E-09	1.01E+06	6.91E-09
	Anthracene	9.13E-01	4.21E-02	6.34E-03	7.69E-06	7.08E+03	1.42E+01	1.84E-06	7.28E+04	1.25E-05
	Benzo(b)fluoranthene	2.37E+00	2.26E-02	4.54E-03	5.56E-06	1.23E+06	2.46E+03	4.08E-09	1.55E+06	1.53E-06
	Carbon disulfide	2.40E-04	1.04E-01	1.24E+00	1.00E-05	4.57E+01	9.14E-02	3.47E-02	5.31E+02	4.52E-07
	Chlorobenzene	1.10E-01	7.30E-02	1.51E-01	8.70E-06	2.19E+02	4.38E-01	2.16E-03	2.12E+03	5.18E-05
	Chrysene	4.80E+00	2.48E-02	3.87E-03	6.21E-06	3.98E+05	7.96E+02	1.18E-08	9.10E+05	5.27E-06
	Delta-BHC	8.40E-03	1.42E-02	4.34E-04	7.34E-06	1.23E+03	2.46E+00	2.42E-07	2.01E+05	4.19E-08
	Dibenzofuran	1.30E+01	2.38E-02	5.15E-04	6.00E-06	5.15E+03	1.03E+01	1.16E-07	2.90E+05	4.49E-05
	Dieldrin	4.89E-02	1.25E-02	6.18E-04	4.74E-06	2.14E+04	4.28E+01	1.76E-08	7.43E+05	6.58E-08
	Endosulfan I	2.30E-02	1.15E-02	4.58E-04	4.55E-06	2.14E+03	4.28E+00	1.20E-07	2.85E+05	8.06E-08
	Endosulfan II	2.34E-02	1.15E-02	4.58E-04	4.55E-06	2.14E+03	4.28E+00	1.20E-07	2.85E+05	8.19E-08
	Endosulfan Sulfate	4.30E-02	1.15E-02	4.58E-04	4.55E-06	2.14E+03	4.28E+00	1.20E-07	2.85E+05	1.51E-07
	Fluoranthene	2.23E+01	2.26E-02	4.54E-03	5.56E-06	1.23E+06	2.46E+03	4.08E-09	1.55E+06	1.44E-05
	Fluorene	2.53E+00	3.63E-02	2.60E-03	7.88E-06	1.38E+04	2.76E+01	3.34E-07	1.71E+05	1.48E-05
	gamma-BHC (Lindane)	2.60E-03	1.42E-02	5.73E-04	7.34E-06	1.07E+03	2.14E+00	3.67E-07	1.63E+05	1.59E-08
	gamma-Chlordane	1.27E-02	1.18E-02	1.99E-03	4.37E-06	1.20E+05	2.40E+02	9.56E-09	1.01E+06	1.26E-08
	Heptachlor	6.90E-03	1.12E-02	6.05E+01	5.69E-06	1.41E+06	2.82E+03	2.34E-05	2.04E+04	3.38E-07
	Methoxychlor	1.20E-01	1.56E-02	6.46E-04	4.46E-06	9.77E+04	1.95E+02	5.05E-09	1.39E+06	8.63E-08
	Methylene chloride	2.40E-03	1.01E-01	8.96E-02	1.17E-05	1.17E+01	2.34E-02	1.21E-02	8.99E+02	2.67E-06
	Naphthalene	1.30E+01	5.90E-02	1.98E-02	7.50E-06	2.00E+03	4.00E+00	2.82E-05	1.86E+04	6.99E-04
	Phenanthrene	1.17E+01	4.21E-02	6.34E-03	7.69E-06	7.08E+03	1.42E+01	1.84E-06	7.28E+04	1.60E-04
	p-Isopropyltoluene	1.10E-01	6.50E-02	4.74E+01	7.10E-06	4.89E+02	9.77E-01	2.96E-02	5.74E+02	1.92E-04
	Pyrene	2.03E+01	2.72E-02	4.50E-04	7.24E-06	1.05E+05	2.10E+02	5.70E-09	1.31E+06	1.56E-05
	sec-Butylbenzene	7.10E-02	5.70E-02	5.68E-01	8.12E-06	9.66E+02	1.93E+00	1.53E-03	2.53E+03	2.81E-05
	Technical Chlordane	5.41E-01	1.18E-02	1.99E-03	4.37E-06	1.20E+05	2.40E+02	9.56E-09	1.01E+06	5.35E-07
	Toluene	4.30E-04	8.70E-02	2.72E-01	8.60E-06	1.82E+02	3.64E-01	5.14E-03	1.38E+03	3.12E-07

**TABLE H-3.5: EXPOSURE POINT CONCENTRATION SUMMARY (CONTINUED)**  
**Ambient Air Concentrations via Volatilization in Surface and Subsurface Soil (0 to 4 feet bgs)**

$$VF = Q/C \times (3.14 \times D_A \times T)^{1/2} \times 10^{-4} (m^2/cm^2)/(2 \times \rho_b \times D_A)$$

$$D_A = (((\theta_a^{10/3} \times D_i \times H') + (\theta_w^{10/3} \times D_w)) / n^2) / ((\rho_b \times K_d) + \theta_w + (\theta_a \times H'))$$

$$C_A = C_S / VF$$

Parameter	Definition	Value	Source
VF	Volatilization factor (m <sup>3</sup> /kg)	chemical-specific	Calculated from above equation (EPA 1996, 2004)
D <sub>A</sub>	Apparent diffusivity (cm <sup>2</sup> /s)	chemical-specific	Calculated from above equation (EPA 1996, 2004)
C <sub>A</sub>	Concentration in ambient air (mg/m <sup>3</sup> )	chemical-specific	Calculated from above equation
C <sub>S</sub>	Concentration in soil (mg/kg)	chemical-specific	See RAGS Table H3.1
θ <sub>a</sub>	Air filled soil porosity (unitless)	0.321	Calculated based on soil type using Johnson and Ettinger Model (DTSC 2003)
θ <sub>w</sub>	Water filled soil porosity (unitless)	0.054	Calculated based on soil type using Johnson and Ettinger Model (DTSC 2003)
T	Exposure interval (s)	9.50E+08	Default value (EPA 1996, 2004)
n	Total soil porosity = 1 - (pb/ps)	0.37	
P <sub>b</sub>	Dry soil bulk density (g/cm <sup>3</sup> )	1.66	Calculated based on soil type using Johnson and Ettinger Model (DTSC 2003)
P <sub>s</sub>	Soil particle density (g/cm <sup>3</sup> )	2.65	Default value (EPA 1996, 2004)
foc	Fraction organic carbon in soil (g/g)	0.002	Default value used in Johnson and Ettinger Model (DTSC 2003)
Q/C	Inverse of the mean concentration at the center of a 5-acre square source (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	60.03	Exhibit 11 (EPA 1996)
D <sub>i</sub>	Diffusivity in air (cm <sup>2</sup> /s)	chemical-specific	VLOOKUP table from Johnson and Ettinger Model (DTSC 2003)
H'	Dimensionless Henry's Law Constant	chemical-specific	VLOOKUP table from Johnson and Ettinger Model (DTSC 2003)
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /s)	chemical-specific	VLOOKUP table from Johnson and Ettinger Model (DTSC 2003)
K <sub>oc</sub>	Soil organic carbon partition coefficient (cm <sup>3</sup> /g)	chemical-specific	VLOOKUP table from Johnson and Ettinger Model (DTSC 2003)
K <sub>d</sub>	Soil-water partition coefficient (cm <sup>3</sup> /g) = K <sub>oc</sub> × f <sub>oc</sub>	chemical-specific	

(a) The HHRA used surrogates for some chemicals for these parameters. Surrogates used include 1,2,4-Trichlorobenzene for 1,2,3-Trichlorobenzene, Acenaphthene for Acenaphthylene, Anthracene, and Phenanthrene; Cumene for p-isopropyltoluene; gamma-HCH for Delta-BHC; Endosulfan for Endosulfan I & II and for Endosulfan sulfate; benzo(b)fluoranthene for fluoranthene; chlordane for Technical chlordane, alpha and gamma-chlordane; alpha-HCH for alpha-BHC; gamma-HCH for gamma-BHC.

**References**

DTSC. 2003. Johnson and Ettinger (1991) Model for Vapor Intrusion Into Buildings. Version 3.0-Modification 1. July.  
 EPA 1996. "Soil Screening Guidance: User's Guide." Office of Solid Waste and Emergency Response. Washington, DC. Publication 9355.4-23. July.  
 EPA 2004. "Users' Guide and Background Technical Document for USEPA Region 9's Preliminary Remediation Goals (PRG) Table." Available Online at <http://www.epa.gov/region09/waste/sfund/prg/files/04usersguide.pdf>.

**TABLE H-3.6: EXPOSURE POINT CONCENTRATION SUMMARY**  
**Ambient Air Concentrations via Volatilization in Groundwater**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Ambient Air

Chemical of Potential Concern	Groundwater concentration (mg/L)	Dimensionless Henry's law constant (a)	Diffusivity in Air (a)	Diffusivity in Water (a)	Effective diffusion coefficient between groundwater and soil surface	Effective diffusion coefficient through capillary fringe	Effective diffusion coefficient in soil based on vapor-phase concentration	Volatilization factor	Ambient Air Concentration
	C <sub>w</sub> (mg/L)	H unitless	D <sub>a</sub> (cm <sup>2</sup> /s)	D <sub>w</sub> (cm <sup>2</sup> /s)	D <sub>ws</sub> (cm <sup>2</sup> /s)	D <sub>cap</sub> (cm <sup>2</sup> /s)	D <sub>s</sub> (cm <sup>2</sup> /s)	VF (mg/m <sup>3</sup> / mg/L)	C <sub>air</sub> (mg/m <sup>3</sup> )
1,1-Dichloroethane	3.00E-04	2.30E-01	7.42E-02	1.05E-05	2.76E-03	4.82E-04	1.20E-02	1.41E-03	4.23E-07
1,2,4-Trimethylbenzene	1.00E-04	2.52E-01	6.06E-02	7.92E-06	2.25E-03	3.93E-04	9.80E-03	1.26E-03	1.26E-07
1,2-Dichlorobenzene	1.85E-03	7.77E-02	6.90E-02	7.90E-06	2.59E-03	4.52E-04	1.12E-02	4.47E-04	8.27E-07
1,2-Dichloroethane	1.70E-03	4.00E-02	1.04E-01	9.90E-06	3.93E-03	6.89E-04	1.68E-02	3.50E-04	5.95E-07
1,2-Dichloropropane	3.00E-04	1.15E-01	7.82E-02	8.73E-06	2.92E-03	5.10E-04	1.26E-02	7.43E-04	2.23E-07
1,3,5-Trimethylbenzene	6.00E-05	2.41E-01	6.02E-02	8.67E-06	2.24E-03	3.91E-04	9.73E-03	1.20E-03	7.19E-08
1,4-Dichlorobenzene	5.00E-04	9.82E-02	6.90E-02	7.90E-06	2.58E-03	4.51E-04	1.12E-02	5.63E-04	2.82E-07
2-Hexanone	5.00E-04	2.29E-03	8.08E-02	9.80E-06	4.28E-03	8.35E-04	1.31E-02	2.18E-05	1.09E-08
2-Methylnaphthalene	1.00E-05	2.12E-02	5.22E-02	7.75E-06	2.05E-03	3.63E-04	8.44E-03	9.67E-05	9.67E-10
4,4'-DDE	8.50E-07	8.59E-04	1.44E-02	5.87E-06	1.65E-03	5.93E-04	2.33E-03	3.16E-06	2.68E-12
4-Methyl-2-pentanone	1.00E-04	5.64E-03	7.50E-02	7.80E-06	3.22E-03	5.85E-04	1.21E-02	4.05E-05	4.05E-09
Acenaphthene	1.42E-03	6.34E-03	4.21E-02	7.69E-06	1.94E-03	3.60E-04	6.81E-03	2.74E-05	3.87E-08
Acenaphthylene	6.04E-05	6.34E-03	4.21E-02	7.69E-06	1.94E-03	3.60E-04	6.81E-03	2.74E-05	1.65E-09
Aldrin	4.52E-07	6.95E-03	1.32E-02	4.86E-06	7.00E-04	1.36E-04	2.13E-03	1.08E-05	4.89E-12
alpha-BHC	4.07E-07	4.34E-04	1.42E-02	7.34E-06	2.09E-03	1.33E-03	2.30E-03	2.01E-06	8.19E-13
alpha-Chlordane	8.47E-07	1.99E-03	1.18E-02	4.37E-06	9.61E-04	2.37E-04	1.91E-03	4.24E-06	3.59E-12
Anthracene	1.20E-04	6.34E-03	4.21E-02	7.69E-06	1.94E-03	3.60E-04	6.81E-03	2.74E-05	3.29E-09
Benzene	1.58E-04	2.27E-01	8.80E-02	9.80E-06	3.27E-03	5.71E-04	1.42E-02	1.65E-03	2.61E-07
Benzo(b)fluoranthene	4.00E-05	4.54E-03	2.26E-02	5.56E-06	1.21E-03	2.35E-04	3.65E-03	1.22E-05	4.86E-10
Bromoform	2.00E-04	2.41E-02	1.49E-02	1.03E-05	6.87E-04	1.27E-04	2.41E-03	3.68E-05	7.36E-09
Carbon disulfide	4.20E-04	1.24E+00	1.04E-01	1.00E-05	3.85E-03	6.71E-04	1.68E-02	1.06E-02	4.46E-06
Chlorobenzene	8.00E-05	1.51E-01	7.30E-02	8.70E-06	2.72E-03	4.75E-04	1.18E-02	9.16E-04	7.32E-08
Chloroform	1.60E-03	1.50E-01	1.04E-01	1.00E-05	3.87E-03	6.76E-04	1.68E-02	1.29E-03	2.07E-06
Chloromethane	2.00E-04	3.61E-01	1.26E-01	6.50E-06	4.87E-03	8.14E-04	2.04E-02	3.75E-03	7.49E-07
Chrysene	1.10E-04	3.87E-03	2.48E-02	6.21E-06	1.39E-03	2.77E-04	4.01E-03	1.20E-05	1.32E-09
cis-1,2-Dichloroethene	5.20E-04	1.67E-01	7.36E-02	1.13E-05	2.75E-03	4.80E-04	1.19E-02	1.02E-03	5.29E-07
Dieldrin	4.60E-07	6.18E-04	1.25E-02	4.74E-06	1.56E-03	6.42E-04	2.02E-03	2.14E-06	9.82E-13
Endosulfan I	6.89E-07	4.58E-04	1.15E-02	4.55E-06	1.57E-03	8.01E-04	1.86E-03	1.60E-06	1.10E-12
Endosulfan II	2.30E-07	4.58E-04	1.15E-02	4.55E-06	1.57E-03	8.01E-04	1.86E-03	1.60E-06	3.68E-13
Ethylbenzene	1.00E-04	3.22E-01	7.50E-02	7.80E-06	2.79E-03	4.85E-04	1.21E-02	1.99E-03	1.99E-07
Fluoranthene	4.00E-05	2.60E-03	3.63E-02	7.88E-06	2.21E-03	4.56E-04	5.87E-03	1.27E-05	5.10E-10
Fluorene	7.77E-05	2.60E-03	3.63E-02	7.88E-06	2.21E-03	4.56E-04	5.87E-03	1.27E-05	9.91E-10
gamma-BHC (Lindane)	4.28E-07	5.73E-04	1.42E-02	7.34E-06	1.96E-03	1.03E-03	2.30E-03	2.50E-06	1.07E-12
gamma-Chlordane	4.10E-07	1.99E-03	1.18E-02	4.37E-06	9.61E-04	2.37E-04	1.91E-03	4.24E-06	1.74E-12
Heptachlor	3.20E-07	6.05E+01	1.12E-02	5.69E-06	4.15E-04	7.22E-05	1.81E-03	5.58E-02	1.79E-08
Isopropylbenzene (cumene)	1.35E-04	4.74E+01	6.50E-02	7.10E-06	2.41E-03	4.19E-04	1.05E-02	2.54E-01	3.43E-05
m,p-Xylene	4.00E-04	3.00E-01	7.00E-02	7.80E-06	2.60E-03	4.53E-04	1.13E-02	1.74E-03	6.94E-07
Methoxychlor	1.30E-06	6.46E-04	1.56E-02	4.46E-06	1.75E-03	6.06E-04	2.52E-03	2.51E-06	3.27E-12
Naphthalene	5.36E-05	1.98E-02	5.90E-02	7.50E-06	2.31E-03	4.08E-04	9.54E-03	1.01E-04	5.44E-09
n-Butylbenzene	1.00E-04	5.38E-01	5.70E-02	8.12E-06	2.12E-03	3.69E-04	9.21E-03	2.53E-03	2.53E-07
n-Propylbenzene	1.30E-04	4.37E-01	6.01E-02	7.83E-06	2.23E-03	3.89E-04	9.72E-03	2.17E-03	2.82E-07
Phenanthrene	9.80E-05	6.34E-03	4.21E-02	7.69E-06	1.94E-03	3.60E-04	6.81E-03	2.74E-05	2.68E-09
p-Isopropyltoluene	1.35E-04	4.74E+01	6.50E-02	7.10E-06	2.41E-03	4.19E-04	1.05E-02	2.54E-01	3.43E-05
Pyrene	1.38E-04	4.50E-04	2.72E-02	7.24E-06	3.35E-03	1.35E-03	4.40E-03	3.35E-06	4.61E-10
sec-Butylbenzene	3.00E-04	5.68E-01	5.70E-02	8.12E-06	2.12E-03	3.69E-04	9.21E-03	2.67E-03	8.01E-07
Tert-Butylbenzene	4.00E-04	4.87E-01	5.65E-02	8.02E-06	2.10E-03	3.66E-04	9.13E-03	2.27E-03	9.08E-07
Toluene	1.92E-04	2.72E-01	8.70E-02	8.60E-06	3.23E-03	5.63E-04	1.41E-02	1.95E-03	3.75E-07
trans-1,2-Dichloroethene	4.00E-04	3.84E-01	7.07E-02	1.19E-05	2.63E-03	4.58E-04	1.14E-02	2.24E-03	8.96E-07
Trichloroethene	3.39E-04	4.21E-01	7.90E-02	9.10E-06	2.93E-03	5.11E-04	1.28E-02	2.75E-03	9.32E-07
Vinyl chloride	2.00E-04	1.10E+00	1.06E-01	1.23E-05	3.93E-03	6.84E-04	1.71E-02	9.64E-03	1.93E-06

**TABLE H-3.6: EXPOSURE POINT CONCENTRATION SUMMARY (CONTINUED)**  
**Ambient Air Concentrations via Volatilization in Groundwater**

$$VF = H / (1 + ((U_{air} \times \delta \times L_{GW}) / (W \times D_{VGS})) \times 1000 \text{ L/m}^3$$

$$D_{VGS} = (h_{cap} + hv) \times ((h_{cap} / D_{cap}) + (hv / D_s))^{-1}$$

$$D_{cap} = (D_i \times (\theta^{3.33}_{acap} / (\theta^2_T))) + ((D_W \times 1/H \times ((\theta^{3.33}_{wcap}) / \theta^2_T)))$$

$$D_s = (D_i \times (\theta^{3.33}_{as} / \theta^2_T)) + (D_W \times 1/H \times (\theta^{3.33}_{ws} / \theta^2_T))$$

$$C_A = C_W \times VF$$

Parameter	Definition	Value	Source
VF	Volatilization factor (mg/m <sup>3</sup> / mg/L)	chemical-specific	Calculated from above equation (ASTM 1995)
D <sub>VGS</sub>	Effective diffusion coefficient between groundwater and soil surface (cm <sup>2</sup> /s)	chemical-specific	Calculated from above equation (ASTM 1995)
D <sub>cap</sub>	Effective diffusion coefficient through capillary fringe (cm <sup>2</sup> /s)	chemical-specific	Calculated from above equation (ASTM 1995)
D <sub>s</sub>	Effective diffusivity in vadose zone (cm <sup>2</sup> /s)	chemical-specific	Calculated from above equation (ASTM 1995)
C <sub>A</sub>	Concentration in ambient air (mg/m <sup>3</sup> )	chemical-specific	Calculated from above equation
C <sub>W</sub>	Concentration in groundwater (mg/kg)	chemical-specific	See RAGS Table H3.3
θ <sub>cap</sub>	Capillary fringe air filled porosity (unitless)	0.122	Calculated based on soil type using Johnson and Ettinger Model (DTSC 2003)
θ <sub>wcap</sub>	Capillary fringe water filled porosity (unitless)	0.253	Calculated based on soil type using Johnson and Ettinger Model (DTSC 2003)
θ <sub>t</sub>	Soil total porosity	0.375	Calculated based on soil type using Johnson and Ettinger Model (DTSC 2003)
θ <sub>as</sub>	Soil air filled soil porosity (unitless)	0.321	Calculated based on soil type using Johnson and Ettinger Model (DTSC 2003)
θ <sub>ws</sub>	Soil water filled soil porosity (unitless)	0.054	Calculated based on soil type using Johnson and Ettinger Model (DTSC 2003)
U <sub>air</sub>	Wind speed above ground surface in ambient mixing zone (cm/s)	225	ASTM default (ASTM 1995)
δ	Height of air mixing zone (cm)	200	ASTM default (ASTM 1995)
L <sub>GW</sub>	Depth to groundwater (cm)	121.9	Site-specific
W	Width of source area parallel to the wind (cm)	12,192	Site-specific
h <sub>cap</sub>	Thickness of capillary fringe (cm)	17.05	Calculated based on soil type using Johnson and Ettinger Model (DTSC 2003)
h <sub>v</sub>	Thickness of vadose zone (cm)	104.85	Calculated based on soil type using Johnson and Ettinger Model (DTSC 2003)
D <sub>i</sub>	Diffusivity in air (cm <sup>2</sup> /s)	chemical-specific	VLOOLUP table from Johnson and Ettinger Model (DTSC 2003)
H	Dimensionless Henry's Law Constant	chemical-specific	VLOOLUP table from Johnson and Ettinger Model (DTSC 2003)
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /s)	chemical-specific	VLOOLUP table from Johnson and Ettinger Model (DTSC 2003)

(a) The HHRA used surrogates for some chemicals for these parameters. Surrogates used include 1,2,4-Trichlorobenzene for 1,2,3-Trichlorobenzene, Acenaphthene for Acenaphthylene, Anthracene, and Phenanthrene; Cumene for p-isopropyltoluene; gamma-HCH for Delta-BHC; Endosulfan for Endosulfan I & II and for Endosulfan sulfate; benzo(b)fluoranthene for fluoranthene; chlordane for Technical chlordane, alpha and gamma-chlordane; alpha-HCH for alpha-BHC; gamma-HCH for gamma-BHC.

#### References

American Society for Testing and Materials (ASTM). 1995. Standard guide for risk-based corrective action applied at petroleum release sites. ASTM E 1739-95, West Conshohocken, PA.  
 DTSC. 2003. Johnson and Ettinger (1991) Model for Vapor Intrusion Into Buildings. Version 3.0-Modification 1. July.

**TABLE H-4.1: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, RME SOIL EXPOSURES**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Industrial Worker	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x IRS x EF x ED x MCF) / (BW x AT)
				IRS	Ingestion Rate - Soil	100	mg/day	EPA 2002; EPA 2004b	
				FI	Fraction Ingested	1	unitless	Professional judgment	
				EF	Exposure Frequency	250	days/year	EPA 1991a, DTSC 1992	
				ED	Exposure Duration	25	years	EPA 1991a	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	9,125	days	EPA 1989	
				Ingestion	Construction Worker	Adult	Site 34	CS	
IRS	Ingestion Rate - Soil	330	mg/day					EPA 1997	
FI	Fraction Ingested	1	unitless					Professional judgment	
EF	Exposure Frequency	250	days/year					EPA 1991a	
ED	Exposure Duration	1	years					DTSC 2000	
MCF	Mass Conversion Factor	1E-06	kg/mg					Not applicable	
BW	Body Weight	70	kg					EPA 1991a	
AT-C	Averaging Time - Cancer	25,550	days					EPA 1989	
AT-NC	Averaging Time - Noncancer	365	days					EPA 1989	
Ingestion	Resident	Adult	Site 34					CS	Chemical Concentration in Soil
				IRS	Ingestion Rate - Soil	100	mg/day	EPA 1991a	
				FI	Fraction Ingested	1	unitless	Professional judgment	
				EF	Exposure Frequency	350	days/year	EPA 1991a	
				ED	Exposure Duration	24	years	EPA 1991a, DTSC 1992	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	8,760	days	EPA 1989	

**TABLE H-4.1: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, RME SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/Reference	Intake Equation/Model Name (1)
Ingestion (continued)	Resident (continued)	Child	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x IRS x EF x ED x MCF) / ( BW x AT)
				IRS	Ingestion Rate - Soil	200	mg/day	EPA 1991a	
				FI	Fraction Ingested	1	unitless	Professional judgment	
				EF	Exposure Frequency	350	days/year	EPA 1991a	
				ED	Exposure Duration	6	years	EPA 1991a, DTSC 1992	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	15	kg	EPA 1991a	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	2,190	days	EPA 1989	
	Recreational User	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x IRS x EF x ED x MCF) / ( BW x AT)
				IRS	Ingestion Rate - Soil	100	mg/day	EPA 1991a	
				FI	Fraction Ingested	1	unitless	Professional judgment	
				EF	Exposure Frequency	75	days/year	Professional judgment	
				ED	Exposure Duration	24	years	EPA 1991a, DTSC 1992	
				MCF	Mass Conversion Factor	1.E-06	kg/mg	Not applicable	
BW	Body Weight	70	kg	EPA 1991a					
AT-C	Averaging Time - Cancer	25,550	days	EPA 1989					
AT-NC	Averaging Time - Noncancer	8,760	days	EPA 1989					
		Child	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x IRS x EF x ED x MCF) / ( BW x AT)
				IRS	Ingestion Rate - Soil	200	mg/day	EPA 1991a	
				FI	Fraction Ingested	1	unitless	Professional judgment	
				EF	Exposure Frequency	75	days/year	Professional judgment	
				ED	Exposure Duration	6	years	EPA 1991a, DTSC 1992	
				MCF	Mass Conversion Factor	1.E-06	kg/mg	Not applicable	
				BW	Body Weight	15	kg	EPA 1991a	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	2,190	days	EPA 1989	

**TABLE H-4.1: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, RME SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Dermal	Industrial Worker	Adult	Alameda Site Under Assessment	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)
				ABS	Dermal Absorption Factor	Chemical-specific	unitless	DTSC 1994	
				SA	Exposed Skin Surface Area	5,700	cm <sup>2</sup>	EPA 2004c, DTSC 2000	
				AF	Soil to Skin Adherence Factor	0.2	mg/cm <sup>2</sup>	DTSC 2000	
				EF	Exposure Frequency	250	days/year	EPA 1991a, DTSC 2000	
				ED	Exposure Duration	25	years	EPA 1991a, DTSC 2000	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	9,125	days	EPA 1989	
Dermal	Construction Worker	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)
				ABS	Dermal Absorption Factor	Chemical-specific	unitless	DTSC 1994	
				SA	Exposed Skin Surface Area	5,700	cm <sup>2</sup>	EPA 2004c, DTSC 2000	
				AF	Soil to Skin Adherence Factor	0.8	mg/cm <sup>2</sup>	DTSC 2000	
				EF	Exposure Frequency	250	days/year	DTSC 2000	
				ED	Exposure Duration	1	years	DTSC 2000	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	365	days	EPA 1989	
Dermal	Resident	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)
				ABS	Dermal Absorption Factor	Chemical-specific	unitless	DTSC 1994	
				SA	Exposed Skin Surface Area	5,700	cm <sup>2</sup>	DTSC 2000	
				AF	Soil to Skin Adherence Factor	0.07	mg/cm <sup>2</sup>	DTSC 2000	
				EF	Exposure Frequency	350	days/year	EPA 1991a; DTSC 2000	
				ED	Exposure Duration	24	years	EPA 1991a; DTSC 2000	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	8,760	days	EPA 1989	

**TABLE H-4.1: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, RME SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Dermal (continued)	Resident (continued)	Child	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)
				ABS	Dermal Absorption Factor	Chemical-specific	unitless	DTSC 1994	
				SA	Exposed Skin Surface Area	2,900	cm <sup>2</sup>	DTSC 2000	
				AF	Soil to Skin Adherence Factor	0.2	mg/cm <sup>2</sup>	DTSC 2000	
				EF	Exposure Frequency	350	days/year	EPA 1991a, DTSC 2000	
				ED	Exposure Duration	6	years	EPA 1991a, DTSC 2000	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	15	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	2,190	days	EPA 1989	
Dermal (continued)	Recreational User	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)
				ABS	Dermal Absorption Factor	Chemical-specific	unitless	DTSC 1994	
				SA	Exposed Skin Surface Area	5,700	cm <sup>2</sup>	DTSC 2000	
				AF	Soil to Skin Adherence Factor	0.07	mg/cm <sup>2</sup>	DTSC 2000	
				EF	Exposure Frequency	75	days/year	Professional judgment	
				ED	Exposure Duration	24	years	EPA 1991a; DTSC 2000	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	8,760	days	EPA 1989	
Dermal (continued)	Recreational User	Child	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)
				ABS	Dermal Absorption Factor	Chemical-specific	unitless	DTSC 1994	
				SA	Exposed Skin Surface Area	2,900	cm <sup>2</sup>	DTSC 2000	
				AF	Soil to Skin Adherence Factor	0.2	mg/cm <sup>2</sup>	DTSC 2000	
				EF	Exposure Frequency	75	days/year	Professional judgment	
				ED	Exposure Duration	6	years	EPA 1991a; DTSC 2000	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	15	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	2,190	days	EPA 1989	

**TABLE H-4.1: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, RME SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion of Homegrown Produce	Resident	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x UF x IRS x EF x ED) / (BW x AT)
				UF	Uptake Factor	Chemical-specific	unitless	DTSC 1993; EPA 1996	
				FI	Fraction Ingested	1	unitless	EPA 1996	
				IRS	Intake Rate	0.0812	kg/day	EPA 1997	
				EF	Exposure Frequency	350	days/year	EPA 1991	
				ED	Exposure Duration	24	years	EPA 1991	
				BW	Body Weight	70	kg	EPA 1991	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
	AT-NC	Averaging Time - Non-cancer	8,760	days	EPA 1989				
	Child	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x UF x IRS x EF x ED) / (BW x AT)	
			UF	Uptake Factor	Chemical-specific	unitless	DTSC 1993; EPA 1996		
			FI	Fraction Ingested	1	unitless	EPA 1996		
			IRS	Intake Rate	0.0174	kg/day	EPA 1997		
			EF	Exposure Frequency	350	days/year	EPA 1991		
ED			Exposure Duration	6	years	EPA 1991			
BW	Body Weight	15	kg	EPA 1991					
AT-C	Averaging Time - Cancer	25,550	days	EPA 1989					
AT-NC	Averaging Time - Non-cancer	2,190	days	EPA 1989					
Inhalation	Industrial Worker	Adult	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA= CS / PEF for particulates, and CA= CS / VF for volatiles PEF = 1.32E+09 VF = Chemical-specific volatilization factor
				InhR	Inhalation Rate	1.75	m <sup>3</sup> /hour	DTSC 1995	
				ET	Exposure Time	8	hours/day	EPA 1991a	
				EF	Exposure Frequency	250	days/year	EPA 1991a, DTSC 1992	
				ED	Exposure Duration	25	years	EPA 1991a, DTSC 1992	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	9,125	days	EPA 1989	

**TABLE H-4.1: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, RME SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/Reference	Intake Equation/Model Name (1)
Inhalation (continued)	Construction Worker	Adult	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA = CS / PEF for particulates, and CA = CS / VF for volatiles PEF = 1.0E+06 VF = Chemical-specific volatilization factor
				InhR	Inhalation Rate	2.50	m <sup>3</sup> /hour	EPA 1991,a DTSC 1992	
				ET	Exposure Time	8	hours/day	EPA 1991a	
				EF	Exposure Frequency	250	days/year	EPA 1991a, DTSC 1992	
				ED	Exposure Duration	1	years	DTSC 2000	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
	AT-C	Averaging Time - Cancer	25,550	days	EPA 1989				
	AT-NC	Averaging Time - Noncancer	365	days	EPA 1989				
	Resident	Adult	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA = CS / PEF for particulates, and CA = CS / VF for volatiles PEF = 1.32E+09 VF = Chemical-specific volatilization factor
				InhR	Inhalation Rate	0.83	m <sup>3</sup> /hour	EPA 1991a	
				ET	Exposure Time	24	hours/day	EPA 1991a, DTSC 1992	
				EF	Exposure Frequency	350	days/year	EPA 1991a, DTSC 1992	
ED				Exposure Duration	24	years	EPA 1991a, DTSC 1992		
BW				Body Weight	70	kg	EPA 1991a, DTSC 1992		
AT-C	Averaging Time - Cancer	25,550	days	EPA 1989					
AT-NC	Averaging Time - Noncancer	8,760	days	EPA 1989					
	Child (2)	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA = CS / PEF for particulates, and CA = CS / VF for volatiles PEF = 1.32E+09 VF = Chemical-specific volatilization factor	
			InhR	Inhalation Rate	0.42	m <sup>3</sup> /hour	EPA 1997, DTSC 1994		
			ET	Exposure Time	24	hours/day	EPA 1991a, DTSC 1992		
			EF	Exposure Frequency	350	days/year	EPA 1991a, DTSC 1992		
			ED	Exposure Duration	6	years	EPA 1991a, DTSC 1992		
			BW	Body Weight	15	kg	EPA 1991a, DTSC 1992		
AT-C	Averaging Time - Cancer	25,550	days	EPA 1989					
AT-NC	Averaging Time - Noncancer	2,190	days	EPA 1989					
Recreational User	Adult	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA = CS / PEF for particulates, and CA = CS / VF for volatiles PEF = 1.32E+09 VF = Chemical-specific volatilization factor	
			InhR	Inhalation Rate	0.83	m <sup>3</sup> /hour	EPA 1991a		
			ET	Exposure Time	0.91	hours/day	Professional judgment		
			EF	Exposure Frequency	75	days/year	Professional judgment		
			ED	Exposure Duration	24	years	EPA 1991a, DTSC 1992		
			BW	Body Weight	70	kg	EPA 1991a, DTSC 1992		
AT-C	Averaging Time - Cancer	25,550	days	EPA 1989					
AT-NC	Averaging Time - Noncancer	8,760	days	EPA 1989					

**TABLE H-4.1: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, RME SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation (continued)	Recreational User	Child (2)	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA = CS / PEF for particulates, and CA = CS / VF for volatiles PEF = 1.32E+09 VF = Chemical-specific volatilization factor
				InhR	Inhalation Rate	0.42	m <sup>3</sup> /hour	EPA 1991a	
				ET	Exposure Time	1.0	hours/day	Professional judgment	
				EF	Exposure Frequency	75	days/year	Professional judgment	
				ED	Exposure Duration	6	years	EPA 1991a, DTSC 1992	
				BW	Body Weight	15	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
AT-NC	Averaging Time - Noncancer	2,190	days	EPA 1989					

Notes:

(1) See Section H5.5 for discussion of the intake assumptions.

(2) While children's inhalation rates can be estimated, the toxicity factors applied in a risk assessment are based on chronic risks and not adjusted for a child's unique physiology.

Definitions:

cm <sup>2</sup>	Square centimeter	mg/day	Milligram per day
days/year	Day per year	mg/kg	Milligram per kilogram
DTSC	Department of Toxic Substances Control	mg/m <sup>3</sup>	Milligram per cubic meter
EPA	U.S. Environmental Protection Agency	m <sup>3</sup> /hour	Cubic meter per hour
EPC	Exposure point concentration	m <sup>3</sup> /kg	Cubic meter of air per kg soil (reduced from mg/m <sup>3</sup> -air per mg/kg-soil)
hours/day	Hour per day	PEF	Particulate emission factor
kg	Kilogram	RAGS	Risk Assessment Guidance for Superfund
kg/mg	Kilogram per milligram	RI	Remedial Investigation
mg/cm <sup>2</sup>	Milligram per square centimeter	RME	Reasonable maximum exposure

References:

- DTSC 1992: Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities
- DTSC 1994: Preliminary Endangerment Assessment Guidance Manual
- DTSC 1995: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities
- DTSC 2000: Draft Memorandum Regarding the Guidance for the Dermal Exposure Pathway
- EPA 1989: EPA RAGS Part A
- EPA 1991a: Standard Default Exposure Factors
- EPA 1997: Exposure Factors Handbook
- EPA 2002: Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites
- EPA 2004b: Region 9 PRG Table
- EPA 2004c: EPA RAGS Part E

H-4.2

TABLE H-4.4: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, RME GROUNDWATER EXPOSURES

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)				
Inhalation of Volatiles in Outdoor and Indoor Air	Industrial Worker	Adult	Site 34	CA	Chemical Concentration in Air	EPC	mg/m <sup>3</sup>	RAGS Part D Table 3	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA will be modeled from groundwater data using volatilization factors for outdoor air and the Johnson & Ettinger model for indoor air				
				InhR	Inhalation Rate	1.75	m <sup>3</sup> /hour	DTSC 2005					
				ET	Exposure Time	8	hours/day	EPA 1991a					
				EF	Exposure Frequency	250	days/year	EPA 1991a, DTSC 1992					
				ED	Exposure Duration	25	years	EPA 1991a, DTSC 1992					
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992					
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989					
				AT-NC	Averaging Time - Noncancer	9,125	days	EPA 1989					
				Resident	Adult	Site 34	CA	Chemical Concentration in Air		EPC	mg/m <sup>3</sup>	RAGS Part D Table 3	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA will be modeled from groundwater data using volatilization factors for outdoor air and the Johnson & Ettinger model for indoor air
							InhR	Inhalation Rate		0.83	m <sup>3</sup> /hour	EPA 1991a	
	ET	Exposure Time (3)	24				hours/day	EPA 1991a					
	EF	Exposure Frequency	350				days/year	EPA 1991a, DTSC 1992					
	ED	Exposure Duration	24				years	EPA 1991a, DTSC 1992					
	BW	Body Weight	70				kg	EPA 1991a, DTSC 1992					
	AT-C	Averaging Time - Cancer	25,550				days	EPA 1989					
	AT-NC	Averaging Time - Noncancer	8,760				days	EPA 1989					
	Child (2)	Child (2)	Site 34				CA	Chemical Concentration in Air	EPC	mg/m <sup>3</sup>	RAGS Part D Table 3	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA will be modeled from groundwater data using volatilization factors for outdoor air and the Johnson & Ettinger model for indoor air	
							InhR	Inhalation Rate	0.42	m <sup>3</sup> /hour	EPA 1991a, DTSC 1992		
				ET	Exposure Time (3)	24	hours/day	EPA 1991a					
				EF	Exposure Frequency	350	days/year	EPA 1991a, DTSC 1992					
				ED	Exposure Duration	6	years	EPA 1991a, DTSC 1992					
				BW	Body Weight	15	kg	EPA 1991a, DTSC 1992					
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989					
				AT-NC	Averaging Time - Noncancer	2,190	days	EPA 1989					
Recreational User				Adult	Site 34	CA	Chemical Concentration in Air	EPC	mg/m <sup>3</sup>	RAGS Part D Table 3	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA will be modeled from groundwater data using volatilization factors for outdoor air and the Johnson & Ettinger model for indoor air		
						InhR	Inhalation Rate	0.83	m <sup>3</sup> /hour	EPA 1991a			
	ET	Exposure Time	0.91			hours/day	Professional judgment						
	EF	Exposure Frequency	75			days/year	Professional judgment						
	ED	Exposure Duration	24			years	EPA 1991a, DTSC 1992						
	BW	Body Weight	70			kg	EPA 1991a, DTSC 1992						
	AT-C	Averaging Time - Cancer	25,550			days	EPA 1989						
	AT-NC	Averaging Time - Noncancer	8,760			days	EPA 1989						

H-4.2

**TABLE H-4.4: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, RME GROUNDWATER EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation of Volatiles in Outdoor and Indoor Air	Recreational User (continued)	Child (2)	Site 34	CA	Chemical Concentration in Air	EPC	mg/m <sup>3</sup>	RAGS Part D Table 3	Intake (mg/kg-day) = (CA x inhR x ET x EF x ED) / (BW x AT)  where CA will be modeled from groundwater data using volatilization factors for outdoor air and the Johnson & Ettinger model for indoor air
				InhR	Inhalation Rate	0.42	m <sup>3</sup> /hour	EPA 1991a, DTSC 1992	
				ET	Exposure Time	1.0	hours/day	Professional judgment	
				EF	Exposure Frequency	75	days/year	Professional judgment	
				ED	Exposure Duration	6	years	EPA 1991a, DTSC 1992	
				BW	Body Weight	15	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
AT-NC	Averaging Time - Noncancer	2,190	days	EPA 1989					

Notes:

- (1) See Section H5.5 for discussion of the intake assumptions.
- (2) While children's inhalation rates can be estimated, the toxicity factors applied in a risk assessment are based on chronic risks and not adjusted for a child's unique physiology.
- (3) These exposure times for inhalation are shown to represent the total daily inhalation rate on an hourly basis; however, because some outdoor activity is being assumed based on the inclusion of soil pathways and outdoor air inhalation, this will result in a conservative overestimate of risk, unless soil (vapor and particulate) and groundwater (indoor air) pathways are characterized separately.

Definitions:

cm <sup>2</sup>	Square centimeter	m <sup>3</sup> /hour	Cubic meter per hour
cm/hr	Centimeter per hour	L/cm <sup>3</sup>	Liter per cubic centimeter
days/year	Day per year	mg/kg-day	Milligram per kilogram per day
DTSC	Department of Toxic Substances Control	mg/m <sup>3</sup>	Milligram per cubic meter
EPA	U.S. Environmental Protection Agency	mg/L	Milligram per liter
EPC	Exposure Point Concentration	RAGS	Risk Assessment Guidance for Superfund
hours/day	Hour per day	RI	Remedial investigation
kg	Kilogram	RME	Reasonable maximum exposure

References:

- DTSC. 1992: Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities
- DTSC 1994: Preliminary Endangerment Assessment Guidance Manual
- DTSC 1995: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities
- EPA 1989: EPA RAGS Part A
- EPA 1991a: Standard Default Exposure Factors
- EPA 1991b: EPA RAGS Part B
- EPA 2004b: Region 9 PRG Table
- EPA 2004c: EPA RAGS Part E

**TABLE H-4.3: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, CTE SOIL EXPOSURES**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion	Industrial Worker	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x IRS x EF x ED x MCF) / (BW x AT)
				IRS	Ingestion Rate - Soil	50	mg/day	EPA 2002; EPA 2004b	
				FI	Fraction Ingested	1	unitless	Professional judgment	
				EF	Exposure Frequency	219	days/year	EPA 1991a, DTSC 1992	
				ED	Exposure Duration	4.5	years	EPA 1991a	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
	AT-NC	Averaging Time - Noncancer	1,643	days	EPA 1989				
	Construction Worker	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x IRS x EF x ED x MCF) / (BW x AT)
				IRS	Ingestion Rate - Soil	100	mg/day	EPA 1997	
				FI	Fraction Ingested	1	unitless	Professional judgment	
				EF	Exposure Frequency	90	days/year	EPA 1991a	
				ED	Exposure Duration	1	years	DTSC 2000	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
	AT-NC	Averaging Time - Noncancer	365	days	EPA 1989				
	Resident	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x IRS x EF x ED x MCF) / (BW x AT)
				IRS	Ingestion Rate - Soil	50	mg/day	EPA 1991a	
				FI	Fraction Ingested	1	unitless	Professional judgment	
EF				Exposure Frequency	350	days/year	EPA 1991a		
ED				Exposure Duration	7	years	EPA 1991a, DTSC 1992		
MCF				Mass Conversion Factor	1E-06	kg/mg	Not applicable		
BW				Body Weight	70	kg	EPA 1991a		
AT-C				Averaging Time - Cancer	25,550	days	EPA 1989		
AT-NC	Averaging Time - Noncancer	2,555	days	EPA 1989					

**TABLE H-4.3: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, CTE SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Ingestion (continued)	Resident (continued)	Child	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x IRS x EF x ED x MCF) / ( BW x AT)
				IRS	Ingestion Rate - Soil	100	mg/day	EPA 1991a	
				FI	Fraction Ingested	1	unitless	Professional judgment	
				EF	Exposure Frequency	350	days/year	EPA 1991a	
				ED	Exposure Duration	2	years	EPA 1991a, DTSC 1992	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	15	kg	EPA 1991a	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
	AT-NC	Averaging Time - Noncancer	730	days	EPA 1989				
	Recreational User	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x IRS x EF x ED x MCF) / ( BW x AT)
				IRS	Ingestion Rate - Soil	50	mg/day	EPA 1991a	
				FI	Fraction Ingested	1	unitless	Professional judgment	
				EF	Exposure Frequency	75	days/year	Professional judgment	
				ED	Exposure Duration	24	years	EPA 1991a, DTSC 1992	
				MCF	Mass Conversion Factor	1.E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
		AT-NC	Averaging Time - Noncancer	8,760	days	EPA 1989			
		Child	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x IRS x EF x ED x MCF) / ( BW x AT)
				IRS	Ingestion Rate - Soil	100	mg/day	EPA 1991a	
				FI	Fraction Ingested	1	unitless	Professional judgment	
				EF	Exposure Frequency	75	days/year	Professional judgment	
				ED	Exposure Duration	6	years	EPA 1991a, DTSC 1992	
				MCF	Mass Conversion Factor	1.E-06	kg/mg	Not applicable	
BW				Body Weight	15	kg	EPA 1991a		
AT-C	Averaging Time - Cancer			25,550	days	EPA 1989			
AT-NC	Averaging Time - Noncancer	2,190	days	EPA 1989					

**TABLE H-4.3: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, CTE SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Dermal	Industrial Worker	Adult	Alameda Site Under Assessment	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)
				ABS	Dermal Absorption Factor	Chemical-specific	unitless	DTSC 1994	
				SA	Exposed Skin Surface Area	3,300	cm <sup>2</sup>	EPA 2004c, DTSC 2000	
				AF	Soil to Skin Adherence Factor	0.02	mg/cm <sup>2</sup>	DTSC 2000	
				EF	Exposure Frequency	219	days/year	EPA 1991a, DTSC 2000	
				ED	Exposure Duration	4.5	years	EPA 1991a, DTSC 2000	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	1,643	days	EPA 1989	
	Construction Worker	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)
				ABS	Dermal Absorption Factor	Chemical-specific	unitless	DTSC 1994	
				SA	Exposed Skin Surface Area	3,300	cm <sup>2</sup>	EPA 2004c, DTSC 2000	
				AF	Soil to Skin Adherence Factor	0.1	mg/cm <sup>2</sup>	DTSC 2000	
				EF	Exposure Frequency	90	days/year	DTSC 2000	
				ED	Exposure Duration	1	years	DTSC 2000	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	365	days	EPA 1989	
	Resident	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)
				ABS	Dermal Absorption Factor	Chemical-specific	unitless	DTSC 1994	
				SA	Exposed Skin Surface Area	5,700	cm <sup>2</sup>	DTSC 2000	
				AF	Soil to Skin Adherence Factor	0.01	mg/cm <sup>2</sup>	DTSC 2000	
				EF	Exposure Frequency	350	days/year	EPA 1991a; DTSC 2000	
				ED	Exposure Duration	7	years	EPA 1991a; DTSC 2000	
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable	
BW				Body Weight	70	kg	EPA 1991a, DTSC 1992		
AT-C				Averaging Time - Cancer	25,550	days	EPA 1989		
AT-NC				Averaging Time - Noncancer	2,555	days	EPA 1989		

**TABLE H-4.3: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, CTE SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)				
Dermal (continued)	Resident (continued)	Child	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)				
				ABS	Dermal Absorption Factor	Chemical-specific	unitless	DTSC 1994					
				SA	Exposed Skin Surface Area	2,800	cm <sup>2</sup>	DTSC 2000					
				AF	Soil to Skin Adherence Factor	0.04	mg/cm <sup>2</sup>	DTSC 2000					
				EF	Exposure Frequency	350	days/year	EPA 1991a, DTSC 2000					
				ED	Exposure Duration	2	years	EPA 1991a, DTSC 2000					
				MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable					
				BW	Body Weight	15	kg	EPA 1991a, DTSC 1992					
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989					
				AT-NC	Averaging Time - Noncancer	730	days	EPA 1989					
				Recreational User	Adult	Site 34	CS	Chemical Concentration in Soil		EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)
							ABS	Dermal Absorption Factor		Chemical-specific	unitless	DTSC 1994	
							SA	Exposed Skin Surface Area		5,700	cm <sup>2</sup>	DTSC 2000	
							AF	Soil to Skin Adherence Factor		0.01	mg/cm <sup>2</sup>	DTSC 2000	
EF	Exposure Frequency	75	days/year				Professional judgment						
ED	Exposure Duration	7	years				EPA 1991a; DTSC 2000						
MCF	Mass Conversion Factor	1E-06	kg/mg				Not applicable						
BW	Body Weight	70	kg				EPA 1991a, DTSC 1992						
AT-C	Averaging Time - Cancer	25,550	days				EPA 1989						
AT-NC	Averaging Time - Noncancer	2,555	days				EPA 1989						
Child	Site 34	CS	Chemical Concentration in Soil				EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x ABS x SA x AF x EF x ED x MCF) / (BW x AT)			
		ABS	Dermal Absorption Factor				Chemical-specific	unitless	DTSC 1994				
		SA	Exposed Skin Surface Area				2,800	cm <sup>2</sup>	DTSC 2000				
		AF	Soil to Skin Adherence Factor				0.04	mg/cm <sup>2</sup>	DTSC 2000				
		EF	Exposure Frequency	75	days/year	Professional judgment							
		ED	Exposure Duration	2	years	EPA 1991a; DTSC 2000							
		MCF	Mass Conversion Factor	1E-06	kg/mg	Not applicable							
		BW	Body Weight	15	kg	EPA 1991a, DTSC 1992							
		AT-C	Averaging Time - Cancer	25,550	days	EPA 1989							
		AT-NC	Averaging Time - Noncancer	730	days	EPA 1989							

**TABLE H-4.3: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, CTE SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/Reference	Intake Equation/Model Name (1)
Ingestion of Homegrown Produce	Resident	Adult	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	Intake (mg/kg-day) = (CS x FI x UF x IRS x EF x ED) / (BW x AT)
				UF	Uptake Factor	Chemical-specific	unitless	DTSC 1993; EPA 1996	
				FI	Fraction Ingested	1	unitless	EPA 1997	
				IRS	Intake Rate	0.03	kg/day	EPA 1997	
				EF	Exposure Frequency	350	days/year	EPA 1991	
				ED	Exposure Duration	24	years	EPA 1991	
				BW	Body Weight	70	kg	EPA 1991	
		AT-C	Averaging Time - Cancer	25,550	days	EPA 1989			
		AT-NC	Averaging Time - Non-cancer	8,760	days	EPA 1989			
		Child	Site 34	CS	Chemical Concentration in Soil	EPC	mg/kg	RAGS Part D Table 3 documents the rationale.	
				UF	Uptake Factor	Chemical-specific	unitless	DTSC 1993; EPA 1996	
				FI	Fraction Ingested	1	unitless	EPA 1997	
				IRS	Intake Rate	0.00642	kg/day	EPA 1997	
				EF	Exposure Frequency	350	days/year	EPA 1991	
ED	Exposure Duration			6	years	EPA 1991			
BW	Body Weight			15	kg	EPA 1991			
AT-C	Averaging Time - Cancer	25,550	days	EPA 1989					
AT-NC	Averaging Time - Non-cancer	2,190	days	EPA 1989					
Inhalation	Industrial Worker	Adult	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA= CS / PEF for particulates, and CA= CS / VF for volatiles PEF = 1.32E+09 VF = Chemical-specific volatilization factor
				InhR	Inhalation Rate	1.30	m <sup>3</sup> /hour	DTSC 1995	
				ET	Exposure Time	8	hours/day	EPA 1991a	
				EF	Exposure Frequency	219	days/year	EPA 1991a, DTSC 1992	
				ED	Exposure Duration	4.5	years	EPA 1991a, DTSC 1992	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	1,643	days	EPA 1989	

**TABLE H-4.3: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, CTE SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation (continued)	Construction Worker	Adult	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA = CS / PEF for particulates, and CA = CS / VF for volatiles PEF = 6.58E+8 VF = Chemical-specific volatilization factor
				InhR	Inhalation Rate	1.3	m <sup>3</sup> /hour	EPA 1991, a DTSC 1992	
				ET	Exposure Time	8	hours/day	EPA 1991a	
				EF	Exposure Frequency	90	days/year	EPA 1991a, DTSC 1992	
				ED	Exposure Duration	1	years	DTSC 2000	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	365	days	EPA 1989	
	Resident	Adult	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA = CS / PEF for particulates, and CA = CS / VF for volatiles PEF = 1.32E+09 VF = Chemical-specific volatilization factor
				InhR	Inhalation Rate	0.63	m <sup>3</sup> /hour	EPA 1991a	
				ET	Exposure Time	24	hours/day	EPA 1991a, DTSC 1992	
				EF	Exposure Frequency	350	days/year	EPA 1991a, DTSC 1992	
				ED	Exposure Duration	7	years	EPA 1991a, DTSC 1992	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
		AT-C	Averaging Time - Cancer	25,550	days	EPA 1989			
		AT-NC	Averaging Time - Noncancer	2,555	days	EPA 1989			
		Child (2)	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA = CS / PEF for particulates, and CA = CS / VF for volatiles PEF = 1.32E+09 VF = Chemical-specific volatilization factor
				InhR	Inhalation Rate	0.33	m <sup>3</sup> /hour	EPA 1997, DTSC 1994	
				ET	Exposure Time	24	hours/day	EPA 1991a, DTSC 1992	
				EF	Exposure Frequency	350	days/year	EPA 1991a, DTSC 1992	
	ED			Exposure Duration	2	years	EPA 1991a, DTSC 1992		
	BW			Body Weight	15	kg	EPA 1991a, DTSC 1992		
	AT-C	Averaging Time - Cancer	25,550	days	EPA 1989				
	AT-NC	Averaging Time - Noncancer	730	days	EPA 1989				
Recreational User	Adult	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA = CS / PEF for particulates, and CA = CS / VF for volatiles PEF = 1.32E+09 VF = Chemical-specific volatilization factor	
			InhR	Inhalation Rate	0.83	m <sup>3</sup> /hour	EPA 1991a		
			ET	Exposure Time	0.85	hours/day	Professional judgment		
			EF	Exposure Frequency	75	days/year	Professional judgment		
			ED	Exposure Duration	7	years	EPA 1991a, DTSC 1992		
			BW	Body Weight	70	kg	EPA 1991a, DTSC 1992		
			AT-C	Averaging Time - Cancer	25,550	days	EPA 1989		
			AT-NC	Averaging Time - Noncancer	2,555	days	EPA 1989		

**TABLE H-4.3: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, CTE SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/Reference	Intake Equation/Model Name (1)
Inhalation (continued)	Recreational User	Child (2)	Site 34	CA	Chemical Concentration in Air	Chemical-specific	mg/m <sup>3</sup>	Calculated from CS	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA = CS / PEF for particulates, and CA = CS / VF for volatiles PEF = 1.32E+09 VF = Chemical-specific volatilization factor
				InhR	Inhalation Rate	0.42	m <sup>3</sup> /hour	EPA 1991a	
				ET	Exposure Time	1.0	hours/day	Professional judgment	
				EF	Exposure Frequency	75	days/year	Professional judgment	
				ED	Exposure Duration	2	years	EPA 1991a, DTSC 1992	
				BW	Body Weight	15	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
AT-NC	Averaging Time - Noncancer	730	days	EPA 1989					

Notes:

(1) See Section H5.5 for discussion of the intake assumptions.

(2) While children's inhalation rates can be estimated, the toxicity factors applied in a risk assessment are based on chronic risks and not adjusted for a child's unique physiology.

Definitions:

cm <sup>2</sup>	Square centimeter	mg/day	Milligram per day
days/year	Day per year	mg/kg	Milligram per kilogram
DTSC	Department of Toxic Substances Control	mg/m <sup>3</sup>	Milligram per cubic meter
EPA	U.S. Environmental Protection Agency	m <sup>3</sup> /hour	Cubic meter per hour
EPC	Exposure point concentration	m <sup>3</sup> /kg	Cubic meter of air per kg soil (reduced from mg/m <sup>3</sup> -air per mg/kg-soil)
hours/day	Hour per day	PEF	Particulate emission factor
kg	Kilogram	RAGS	Risk Assessment Guidance for Superfund
kg/mg	Kilogram per milligram	RI	Remedial investigation
mg/cm <sup>2</sup>	Milligram per square centimeter	RME	Reasonable maximum exposure

**TABLE H-4.3: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, CTE SOIL EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/Reference	Intake Equation/Model Name (1)
----------------	---------------------	--------------	----------------	----------------	----------------------	-------	-------	---------------------	--------------------------------

References:

- DTSC 1992: Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities
- DTSC 1994: Preliminary Endangerment Assessment Guidance Manual
- DTSC 1995: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities
- DTSC 2000: Draft Memorandum Regarding the Guidance for the Dermal Exposure Pathway
- EPA 1989: EPA RAGS Part A
- EPA 1991a: Standard Default Exposure Factors
- EPA 1997: Exposure Factors Handbook
- EPA 2002: Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites
- EPA 2004b: Region 9 PRG Table
- EPA 2004c: EPA RAGS Part E

**TABLE H-4.4: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, CTE GROUNDWATER EXPOSURES**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Medium:	Groundwater
Exposure Medium:	Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation of Volatiles in Outdoor Air and Indoor Air	Industrial Worker	Adult	Site 34	CA	Chemical Concentration in Air	EPC	mg/m <sup>3</sup>	RAGS Part D Table 3	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA will be modeled from groundwater data using volatilization factors for outdoor air and the Johnson & Ettinger model for indoor air
				InhR	Inhalation Rate	1.30	m <sup>3</sup> /hour	DTSC 2005	
				ET	Exposure Time	8	hours/day	EPA 1991a	
				EF	Exposure Frequency	219	days/year	EPA 1991a, DTSC 1992	
				ED	Exposure Duration	4.5	years	EPA 1991a, DTSC 1992	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
				AT-NC	Averaging Time - Noncancer	1,643	days	EPA 1989	
	Resident	Adult	Site 34	CA	Chemical Concentration in Air	EPC	mg/m <sup>3</sup>	RAGS Part D Table 3	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA will be modeled from groundwater data using volatilization factors for outdoor air and the Johnson & Ettinger model for indoor air
				InhR	Inhalation Rate	0.63	m <sup>3</sup> /hour	EPA 1991a	
				ET	Exposure Time (3)	24	hours/day	EPA 1991a	
				EF	Exposure Frequency	350	days/year	EPA 1991a, DTSC 1992	
				ED	Exposure Duration	7	years	EPA 1991a, DTSC 1992	
				BW	Body Weight	70	kg	EPA 1991a, DTSC 1992	
		AT-C	Averaging Time - Cancer	25,550	days	EPA 1989			
		AT-NC	Averaging Time - Noncancer	2,555	days	EPA 1989			
		Child (2)	Site 34	CA	Chemical Concentration in Air	EPC	mg/m <sup>3</sup>	RAGS Part D Table 3	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA will be modeled from groundwater data using volatilization factors for outdoor air and the Johnson & Ettinger model for indoor air
				InhR	Inhalation Rate	0.33	m <sup>3</sup> /hour	EPA 1991a, DTSC 1992	
				ET	Exposure Time (3)	24	hours/day	EPA 1991a	
				EF	Exposure Frequency	350	days/year	EPA 1991a, DTSC 1992	
	ED			Exposure Duration	2	years	EPA 1991a, DTSC 1992		
	BW			Body Weight	15	kg	EPA 1991a, DTSC 1992		
	AT-C	Averaging Time - Cancer	25,550	days	EPA 1989				
	AT-NC	Averaging Time - Noncancer	730	days	EPA 1989				
Recreational User	Adult	Site 34	CA	Chemical Concentration in Air	EPC	mg/m <sup>3</sup>	RAGS Part D Table 3	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA will be modeled from groundwater data using volatilization factors for outdoor air and the Johnson & Ettinger model for indoor air	
			InhR	Inhalation Rate	0.83	m <sup>3</sup> /hour	EPA 1991a		
			ET	Exposure Time	0.85	hours/day	Professional judgment		
			EF	Exposure Frequency	75	days/year	Professional judgment		
			ED	Exposure Duration	7	years	EPA 1991a, DTSC 1992		
			BW	Body Weight	70	kg	EPA 1991a, DTSC 1992		
			AT-C	Averaging Time - Cancer	25,550	days	EPA 1989		
			AT-NC	Averaging Time - Noncancer	2,555	days	EPA 1989		

**TABLE H-4.4: EPA RAGS PART D TABLE 4, VALUES USED FOR DAILY INTAKE, CTE GROUNDWATER EXPOSURES (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name (1)
Inhalation of Volatiles in Outdoor Air and Indoor Air	Recreational User (continued)	Child (2)	Site 34	CA	Chemical Concentration in Air	EPC	mg/m <sup>3</sup>	RAGS Part D Table 3	Intake (mg/kg-day) = (CA x InhR x ET x EF x ED) / (BW x AT)  where CA will be modeled from groundwater data using volatilization factors for outdoor air and the Johnson & Ettinger model for indoor air
				InhR	Inhalation Rate	0.42	m <sup>3</sup> /hour	EPA 1991a, DTSC 1992	
				ET	Exposure Time	1.0	hours/day	Professional judgment	
				EF	Exposure Frequency	75	days/year	Professional judgment	
				ED	Exposure Duration	2	years	EPA 1991a, DTSC 1992	
				BW	Body Weight	15	kg	EPA 1991a, DTSC 1992	
				AT-C	Averaging Time - Cancer	25,550	days	EPA 1989	
AT-NC	Averaging Time - Noncancer	730	days	EPA 1989					

Notes:

- (1) See Section H5.5 for discussion of the intake assumptions.
- (2) While children's inhalation rates can be estimated, the toxicity factors applied in a risk assessment are based on chronic risks and not adjusted for a child's unique physiology.
- (3) These exposure times for inhalation are shown to represent the total daily inhalation rate on an hourly basis; however, because some outdoor activity is being assumed based on the inclusion of soil pathways and outdoor air inhalation, this will result in a conservative overestimate of risk, unless soil (vapor and particulate) and groundwater (indoor air) pathways are characterized separately.

Definitions:

cm <sup>2</sup>	Square centimeter	m <sup>3</sup> /hour	Cubic meter per hour
cm/hr	Centimeter per hour	L/cm <sup>3</sup>	Liter per cubic centimeter
days/year	Day per year	mg/kg-day	Milligram per kilogram per day
DTSC	Department of Toxic Substances Control	mg/m <sup>3</sup>	Milligram per cubic meter
EPA	U.S. Environmental Protection Agency	mg/L	Milligram per liter
EPC	Exposure Point Concentration	RAGS	Risk Assessment Guidance for Superfund
hours/day	Hour per day	RI	Remedial investigation
kg	Kilogram	RME	Reasonable maximum exposure

References:

- DTSC. 1992: Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities
- DTSC 1994: Preliminary Endangerment Assessment Guidance Manual
- DTSC 1995: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities
- EPA 1989: EPA RAGS Part A
- EPA 1991a: Standard Default Exposure Factors
- EPA 1991b: EPA RAGS Part B
- EPA 2004b: Region 9 PRG Table
- EPA 2004c: EPA RAGS Part E

**TABLE H-5.1: DERMAL ABSORPTION FACTORS**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Skin Absorption Factors ABS <sup>a</sup>	
	(unitless)	
1,2,3-Trichlorobenzene	1.0E-01	
1,2,4-Trichlorobenzene	1.0E-02	
1,2,4-Trimethylbenzene	1.0E-02	
1,2-Dichlorobenzene	1.0E-02	
1,2-Dichloropropane	1.0E-02	
1,3,5-Trimethylbenzene	1.0E-02	
1,3-Dichlorobenzene	1.0E-02	
1,4-Dichlorobenzene	--	
2,4-Dimethylphenol	1.0E-02	
2-Methylphenol	1.0E-01	
2-Methylnaphthalene	1.0E-02	
4,4'-DDD	1.0E-02	
4,4'-DDE	1.0E-02	
4,4'-DDT	3.0E-02	
4-Methylphenol	1.0E-01	
4-Nitroaniline	1.0E-01	
4-Nitrophenol	1.0E-01	
Acenaphthene	1.3E-01	
Acenaphthylene	1.0E-02	
Aldrin	1.0E-01	
alpha-BHC	1.0E-02	
alpha-Chlordane	--	
Aluminum	1.0E-03	
Anthracene	1.3E-01	
Antimony	1.0E-03	
Aroclor-1248	1.4E-01	
Aroclor-1254	1.4E-01	
Aroclor-1260	1.4E-01	
Aroclor-1268	1.4E-01	
Arsenic	3.0E-02	
Barium	1.0E-03	
Benzo(a)anthracene	1.3E-01	
Benzo(a)pyrene	1.3E-01	
Benzo(b)fluoranthene	1.3E-01	
Benzo(g,h,i)perylene	1.3E-01	
Benzo(k)fluoranthene	1.3E-01	
Beryllium	1.0E-03	
Beta-BHC	1.0E-02	
bis(2-ethylhexyl)phthalate	1.0E-02	
Cadmium	1.0E-03	
Carbon disulfide	2.5E-01	
Chlorobenzene	1.0E-02	
Chromium	1.0E-03	
Chrysene	1.3E-01	
Cobalt	1.0E-03	
Copper	1.0E-03	
Delta-BHC	5.0E-02	
Dibenzo(a,h)anthracene	1.3E-01	

**TABLE H-5.1: DERMAL ABSORPTION FACTORS (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Skin Absorption Factors ABS <sup>a</sup> (unitless)
Dibenzofuran	1.0E-02
Dieldrin	1.0E-02
Dimethylphthalate	1.0E-02
di-n-Butylphthalate	1.0E-02
Endosulfan I	5.0E-02
Endosulfan II	5.0E-02
Endosulfan Sulfate	5.0E-02
Endrin aldehyde	5.0E-02
Endrin Ketone	--
Fluoranthene	1.3E-01
Fluorene	1.3E-01
gamma-BHC (Lindane)	4.0E-02
gamma-Chlordane	--
Heptachlor	1.0E-02
Heptachlor Epoxide	1.0E-02
Indeno(1,2,3-cd)pyrene	1.3E-01
Iron	1.0E-03
Isophorone	1.0E-01
Lead	1.0E-03
Manganese	1.0E-03
Mercury	--
Methoxychlor	1.0E-02
Methylene chloride	1.0E-02
Molybdenum	1.0E-03
Naphthalene	1.3E-01
Nickel	1.0E-03
Phenanthrene	1.0E-02
Phenol	1.0E-01
p-Isopropyltoluene	--
Pyrene	1.3E-01
sec-Butylbenzene	--
Selenium	1.0E-03
Silver	1.0E-03
Technical Chlordane	4.0E-02
Thallium	--
Toluene	1.0E-02
Vanadium	1.0E-03
Zinc	1.0E-03

## Notes:

a Chemical specific ABS are taken from EPA (2002). An ABS of 0.010 was used for inorganics when a value was unavailable.

-- Not applicable; chemical is not considered volatile.

ABS Dermal absorption factor

EPA U.S. Environmental Protection Agency

## Sources:

EPA. 2002. "Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites." OSWER 9355.4-24. December.

**TABLE H-5.2 CHEMICAL DATA AND UPTAKE FACTORS FOR INGESTION OF HOMEGROWN PRODUCE PATHWAY**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	K <sub>ow</sub>	Source	K <sub>oc</sub>	Source	UF <sup>a</sup>
1,2,3-Trichlorobenzene	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--
2,4-Dimethylphenol	2.6E+02	EPA 1990	2.2E+02	EPA 1990	1.4E-01
2-Methylnaphthalene	--	--	--	--	--
2-Methylphenol	8.9E+01	EPA 1990	5.5E+01	Calculate	3.2E-01
4,4'-DDD	1.6E+06	EPA 1990	7.7E+05	EPA 1990	2.31E-04
4,4'-DDE	1.0E+07	EPA 1990	4.4E+06	EPA 1990	1.67E-04
4,4'-DDT	1.6E+06	EPA 1990	2.4E+05	EPA 1990	7.22E-04
4-Methylphenol	8.5E+01	EPA 1990	5.2E+01	Calculate	3.3E-01
4-Nitroaniline	2.5E+01	EPA 1990	5.2E+01	RAIS 2005	2.3E-01
4-Nitrophenol	8.1E+01	EPA 1990	5.0E+01	Calculate	3.4E-01
Acenaphthene	--	--	--	--	--
Acenaphthylene	--	--	--	--	--
Aldrin	2.0E+05	EPA 1990	9.6E+04	EPA 1990	3.78E-04
alpha-BHC	7.9E+03	EPA 1990	3.8E+03	EPA 1990	8.16E-02
alpha-Chlordane	2.1E+03	EPA 1990	1.4E+05	EPA 1990	8.30E-04
Aluminum	--	--	--	--	1.1E-04
Anthracene	--	--	--	--	--
Antimony	--	--	--	--	5.2E-03
Aroclor-1248	5.6E+05	EPA 1990	3.5E+05	Calculate	2.32E-04
Aroclor-1254	1.1E+06	EPA 1990	4.3E+04	EPA 1990	3.10E-03
Aroclor-1260	1.4E+07	EPA 1990	8.5E+06	Calculate	1.11E-04
Aroclor-1268	1.1E+06	EPA 1990	4.3E+04	EPA 1990	3.10E-03
Arsenic	--	--	--	--	1.0E-03
Barium	--	--	--	--	2.6E-03
Benzo(a)anthracene	4.0E+05	EPA 1990	1.4E+06	EPA 1990	4.5E-05
Benzo(a)pyrene	1.2E+06	EPA 1990	5.5E+06	EPA 1990	2.5E-05
Benzo(b)fluoranthene	1.2E+06	EPA 1990	5.5E+05	EPA 1990	2.5E-04
Benzo(g,h,i)perylene	3.2E+06	EPA 1990	1.6E+06	EPA 1990	1.9E-04
Benzo(k)fluoranthene	1.2E+06	EPA 1990	5.5E+05	EPA 1990	2.5E-04
Beryllium	--	--	--	--	2.6E-04
beta-BHC	7.9E+03	EPA 1990	3.8E+03	EPA 1990	8.16E-02
bis(2-Ethylhexyl)phthalate	9.5E+03	EPA 1990	5.9E+03	EPA 1990	6.0E-02
Cadmium	--	--	--	--	2.6E-02
Carbon disulfide	--	--	--	--	--
Chlorobenzene	--	--	--	--	--
Chromium	--	--	--	--	7.8E-04
Chrysene	4.1E+05	EPA 1990	2.0E+05	EPA 1990	3.1E-04
Cobalt	--	--	--	--	1.2E-03
Copper	--	--	--	--	4.4E-02
delta-BHC	1.3E+04	EPA 1990	6.6E+03	EPA 1990	6.65E-04

**TABLE H-5.2 CHEMICAL DATA AND UPTAKE FACTORS FOR INGESTION OF HOMEGROWN PRODUCE PATHWAY (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	K <sub>ow</sub>	Source	K <sub>oc</sub>	Source	UF <sup>a</sup>
Dibenz(a,h)anthracene	6.3E+06	EPA 1990	3.3E+06	EPA 1990	1.6E-04
Dibenzofuran	--	--	--	--	--
Dieldrin	3.2E+03	EPA 1990	1.7E+03	EPA 1990	9.22E-02
Dimethylphthalate	1.3E+02	EPA 1990	8.1E+01	Calculate	2.59E-01
di-n-Butylphthalate	4.0E+05	EPA 1990	1.7E+05	EPA 1990	3.6E-04
Endosulfan I	3.6E+03	EPA 1990	2.2E+03	Calculate	7.80E-02
Endosulfan II	4.2E+03	EPA 1990	2.6E+03	Calculate	7.47E-02
Endosulfan sulfate	4.6E+03	EPA 1990	2.8E+03	Calculate	7.29E-02
Endrin aldehyde	2.2E+05	EPA 1990	1.3E+05	Calculate	2.89E-04
Endrin ketone	2.2E+05	EPA 1990	1.3E+05	Calculate	2.89E-04
Fluoranthene	7.9E+04	EPA 1990	3.8E+04	EPA 1990	4.7E-04
Fluorene	--	--	--	--	--
gamma-BHC (Lindane)	7.9E+03	EPA 1990	1.1E+03	EPA 1990	2.87E-01
gamma-Chlordane	2.1E+03	EPA 1990	1.4E+05	EPA 1990	8.30E-04
Heptachlor	2.5E+04	EPA 1990	1.2E+04	EPA 1990	6.17E-04
Heptachlor epoxide	5.0E+02	EPA 1990	2.2E+02	EPA 1990	2.01E-01
Indeno(1,2,3-cd)pyrene	3.2E+06	EPA 1990	1.6E+06	EPA 1990	1.9E-04
Iron	--	--	--	--	1.7E-04
Isophorone	50	EPA 1990	3.1E+01	Calculate	--
Lead	--	--	--	--	1.6E-03
Manganese	--	--	--	--	8.7E-03
Mercury	--	--	--	--	3.5E-02
Methoxychlor	4.8E+04	EPA 1990	8.0E+04	EPA 1990	1.51E-04
Methylene chloride	--	--	--	--	--
Molybdenum	--	--	--	--	1.0E-02
Naphthalene	--	--	--	--	--
Nickel	--	--	--	--	1.0E-02
Phenanthrene	--	--	--	--	--
Phenol	2.9E+01	EPA 1990	1.4E+01	EPA 1990	8.6E-01
para-Isopropyl toluene	--	--	--	--	--
Pyrene	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	--
Selenium	--	--	--	--	4.4E-03
Silver	--	--	--	--	1.7E-02
Technical Chlordane	2,090	EPA 1990	1.4E+05	EPA 1990	8.3E-04
Thallium	--	--	--	--	7.0E-05
Toluene	--	--	--	--	--
Vanadium	--	--	--	--	5.2E-04
Zinc	--	--	--	--	1.6E-01

**TABLE H-5.2 CHEMICAL DATA AND UPTAKE FACTORS FOR INGESTION OF HOMEGROWN PRODUCE PATHWAY (CONTINUED)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	$K_{ow}$	Source	$K_{oc}$	Source	UF <sup>a</sup>
-------------------------------	----------	--------	----------	--------	-----------------

Notes:

a UFs obtained from DOE (1984) for metals and Cal/EPA (2003) for organic chemicals.

-- Not available or not applicable

BHC Hexachlorocyclohexane

DDD Dichlorodiphenyldichloroethane

DDE Dichlorodiphenyldichloroethene

DDT Dichlorodiphenyltrichloroethane

DOE U.S. Department of Energy

EPA U.S. Environmental Protection Agency

$K_{oc}$  Organic carbon partition coefficient

$K_{ow}$  Octanol-water partition coefficient

UF Soil-to-plant uptake factor

Sources:

EPA. 1990. "Basics of Pump-and-Treat Groundwater Remediation Technology." EPA/600/8-90/003. March. Online at <http://www.epa.gov/oerrpage/superfund/resources/remedy/pdf/6008-90003-s.pdf>

Oak Ridge National Laboratory, Risk Assessment Information System (RAIS). 2005. Chemical-Specific Factors. Last Updated March 22. Accessed on March 29. Available Online at: [http://risk.lsd.ornl.gov/cgi-bin/tox/TOX\\_select?select=csf](http://risk.lsd.ornl.gov/cgi-bin/tox/TOX_select?select=csf)

TABLE H-6.1: EPA RAGS PART D TABLE 5.1, NONCANCER TOXICITY DATA - ORAL/DERMAL

Method 1 Values (EPA Sources)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal (a)	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfD: Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s)
1,1-Dichloroethane	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	No observed effect	1000	HEAST	7/1/1997
1,2,3-Trichlorobenzene °	Chronic	1.0E-02	mg/kg-day	100%	1.0E-02	mg/kg-day	Adrenal	1,000	IRIS	4/5/2007
1,2,4-Trichlorobenzene	Chronic	1.0E-02	mg/kg-day	100%	1.0E-02	mg/kg-day	Adrenal	1,000	IRIS	4/5/2007
1,2,4-Trimethylbenzene	Chronic	5.0E-02	mg/kg-day	100%	5.0E-02	mg/kg-day	Whole Body/Liver/Kidney	3,000	PPRTV	8/1/2003
1,2-Dichlorobenzene	Chronic	9.0E-02	mg/kg-day	100%	9.0E-02	mg/kg-day	No Observed Effect	1,000	IRIS	4/5/2007
1,2-Dichloroethane	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Liver, Kidney, CNS	--	R9-N	12/28/2004
1,2-Dichloropropane	Chronic	1.1E-03	mg/kg-day	100%	1.1E-03	mg/kg-day	Nasal	300	R9-R	12/28/2004
1,3,5-Trimethylbenzene	Chronic	5.0E-02	mg/kg-day	100%	5.0E-02	mg/kg-day	Whole Body/Liver/Kidney	3,000	PPRTV	8/1/2003
1,3-Dichlorobenzene	Chronic	3.0E-02	mg/kg-day	100%	3.0E-02	mg/kg-day	Kidney/Liver	3,000	R9-N	12/28/2004
1,4-Dichlorobenzene	Chronic	3.0E-02	mg/kg-day	100%	3.0E-02	mg/kg-day	Organ Weight	--	R9-N	12/28/2004
2,4-Dimethylphenol	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Blood/Whole Body	3,000	IRIS	4/5/2007
2-Hexanone °	Chronic	6.0E-01	mg/kg-day	100%	6.0E-01	mg/kg-day	Body weight	1,000	IRIS	4/5/2007
2-Methylnaphthalene	Chronic	4.0E-03	mg/kg-day	100%	4.0E-03	mg/kg-day	Respiratory System	1,000	IRIS	4/5/2007
2-Methylphenol	Chronic	5.0E-02	mg/kg-day	100%	5.0E-02	mg/kg-day	CNS/Body Weight	1,000	IRIS	4/5/2007
4,4'-DDD *	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	100	IRIS	4/5/2007
4,4'-DDE *	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	100	IRIS	4/5/2007
4,4'-DDT	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	100	IRIS	4/5/2007
4-Methylphenol	Chronic	5.0E-03	mg/kg-day	100%	5.0E-03	mg/kg-day	Whole Body/CNS/Respiratory	1,000	HEAST	7/1/1997
4-Methyl-2-pentanone	Chronic	8.0E-02	mg/kg-day	100%	8.0E-02	mg/kg-day	Whole Body	3000	HEAST	6/19/2005
4-Nitroaniline	Chronic	3.0E-03	mg/kg-day	100%	3.0E-03	mg/kg-day	--	--	PPRTV	8/1/2003
4-Nitrophenol <sup>†</sup>	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Kidney/Liver/Blood	10,000	IRIS	4/5/2007
Acenaphthene	Chronic	6.0E-02	mg/kg-day	100%	6.0E-02	mg/kg-day	Liver	3,000	IRIS	4/5/2007
Acenaphthylene °	Chronic	6.0E-02	mg/kg-day	100%	6.0E-02	mg/kg-day	Liver	3,000	IRIS	4/5/2007
Aldrin	Chronic	3.0E-05	mg/kg-day	100%	3.0E-05	mg/kg-day	Liver	1,000	IRIS	4/5/2007
alpha-BHC	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver/Kidney	100	R9-N	12/28/2004
alpha-Chlordane <sup>h</sup>	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	300	IRIS	4/5/2007
Aluminum	Chronic	1.0E+00	mg/kg-day	100%	1.0E+00	mg/kg-day	CNS	100	PPRTV	6/28/2004
Anthracene	Chronic	3.0E-01	mg/kg-day	100%	3.0E-01	mg/kg-day	No observed effect	3,000	IRIS	4/5/2007
Antimony	Chronic	4.0E-04	mg/kg-day	100%	4.0E-04	mg/kg-day	Whole body/Blood	1,000	IRIS	4/5/2007
Aroclor-1248 <sup>†</sup>	Chronic	2.0E-05	mg/kg-day	100%	2.0E-05	mg/kg-day	Immune System/ Eye/Finger and Toe Nails	300	IRIS	4/5/2007
Aroclor-1254	Chronic	2.0E-05	mg/kg-day	100%	2.0E-05	mg/kg-day	Immune System/ Eye/Finger and Toe Nails	300	IRIS	4/5/2007
Aroclor-1260 <sup>†</sup>	Chronic	2.0E-05	mg/kg-day	100%	2.0E-05	mg/kg-day	Immune System/ Eye/Finger and Toe Nails	300	IRIS	4/5/2007
Aroclor-1268 <sup>†</sup>	Chronic	2.0E-05	mg/kg-day	100%	2.0E-05	mg/kg-day	Immune System/ Eye/Finger and Toe Nails	300	IRIS	4/5/2007
Arsenic	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Skin	3	IRIS	4/5/2007
Barium	Chronic	7.0E-02	mg/kg-day	100%	7.0E-02	mg/kg-day	Kidney	3	IRIS	4/5/2007
Benzene	Chronic	4.0E-03	mg/kg-day	100%	4.0E-03	mg/kg-day	Blood	300	IRIS	4/5/2007
Benzo(a)anthracene	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene <sup>†</sup>	Chronic	3.0E-02	mg/kg-day	100%	3.0E-02	mg/kg-day	Kidney	3,000	IRIS	4/5/2007
Benzo(k)fluoranthene	--	--	--	--	--	--	--	--	--	--
Beryllium	Chronic	2.0E-03	mg/kg-day	100%	2.0E-03	mg/kg-day	GI Tract	300	IRIS	4/5/2007
Beta-BHC	Chronic	2.0E-04	mg/kg-day	100%	2.0E-04	mg/kg-day	Kidney/Liver	--	R9-N	12/28/2004
bis(2-ethylhexyl)phthalate	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Bromoform	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Cadmium	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Kidney	10	IRIS	4/5/2007
Carbon disulfide	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	Developmental	100	IRIS	4/5/2007
Chlorobenzene	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Chloroform	Chronic	1.0E-02	mg/kg-day	100%	1.0E-02	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Chloromethane	Chronic	2.6E-02	mg/kg-day	100%	2.6E-02	mg/kg-day	CNS	1,000	R9-R	12/28/2004
Chromium <sup>k</sup>	Chronic	1.5E+00	mg/kg-day	100%	1.5E+00	mg/kg-day	No observed effect	1,000	IRIS	4/5/2007
Chrysene	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	Chronic	1.0E-02	mg/kg-day	100%	1.0E-02	mg/kg-day	Blood	3000	PPRTV	9/24/2002
Cobalt	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Blood	10	PPRTV	1/15/2002
Copper	Chronic	3.7E-02	mg/kg-day	100%	3.7E-02	mg/kg-day	GI Tract	--	HEAST	7/31/1997
Delta-BHC <sup>†</sup>	Chronic	2.0E-04	mg/kg-day	100%	2.0E-04	mg/kg-day	Liver/Kidney	--	R9-N	12/28/2004
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	Chronic	2.0E-03	mg/kg-day	100%	2.0E-03	mg/kg-day	Kidney	--	R9-N	12/28/2004
Dieldrin	Chronic	5.0E-05	mg/kg-day	100%	5.0E-05	mg/kg-day	Liver	100	IRIS	4/5/2007
Dimethylphthalate	Chronic	1.0E+01	mg/kg-day	100%	1.0E+01	mg/kg-day	--	--	HEAST	7/31/1997
di-n-Butylphthalate	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	Whole Body	1,000	IRIS	4/5/2007
Endosulfan I <sup>m</sup>	Chronic	6.0E-03	mg/kg-day	100%	6.0E-03	mg/kg-day	Body Weight/Kidney/CNS	100	IRIS	4/5/2007
Endosulfan II <sup>m</sup>	Chronic	6.0E-03	mg/kg-day	100%	6.0E-03	mg/kg-day	Body weight/Kidney	100	IRIS	4/5/2007
Endosulfan Sulfate <sup>m</sup>	Chronic	6.0E-03	mg/kg-day	100%	6.0E-03	mg/kg-day	Body weight/Kidney/CNS	100	IRIS	4/5/2007
Endrin aldehyde <sup>n</sup>	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Liver	100	IRIS	4/5/2007
Endrin Ketone <sup>n</sup>	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Liver	100	IRIS	4/5/2007
Ethylbenzene	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	Liver, Kidney	1,000	IRIS	4/5/2007
Fluoranthene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Kidney/Liver/Blood	3,000	IRIS	4/5/2007
Fluorene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Blood	3,000	IRIS	4/5/2007

**TABLE H-6.1: EPA RAGS PART D TABLE 5.1, NONCANCER TOXICITY DATA - ORAL/DERMAL (CONTINUED)**

**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Oral RID		Oral Absorption Efficiency for Dermal (a)	Absorbed RID for Dermal		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RID Target Organ(s)	
		Value	Units		Value (b)	Units			Source(s)	Date(s)
gamma-BHC (Lindane)	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Liver/Kidney	1,000	IRIS	4/5/2007
gamma-Chlordane <sup>h</sup>	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	300	IRIS	4/5/2007
Heptachlor	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	300	IRIS	4/5/2007
Heptachlor Epoxide	Chronic	1.3E-05	mg/kg-day	100%	1.3E-05	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	--	--	--	--	--
Iron	Chronic	3.0E-01	mg/kg-day	100%	3.0E-01	mg/kg-day	Liver	1	R9-N	12/28/2004
Isophorone	Chronic	2.0E-01	mg/kg-day	100%	2.0E-01	mg/kg-day	No observed effect	1,000	IRIS	4/5/2007
Isopropylbenzene	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	Kidney	1,000	IRIS	4/5/2007
Lead	--	--	--	--	--	--	--	--	--	--
m,p-Xylene <sup>o</sup>	Chronic	2.0E-01	mg/kg-day	100%	2.0E-01	mg/kg-day	Body weight, Death	1,000	IRIS	4/5/2007
Manganese <sup>p</sup>	Chronic	2.4E-02	mg/kg-day	100%	2.4E-02	mg/kg-day	CNS	3	IRIS	4/5/2007
Mercury <sup>q</sup>	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Immune System	1,000	IRIS	4/5/2007
Methoxychlor	Chronic	5.0E-03	mg/kg-day	100%	5.0E-03	mg/kg-day	Developmental	1,000	IRIS	4/5/2007
Methylene chloride	Chronic	6.0E-02	mg/kg-day	100%	6.0E-02	mg/kg-day	Liver	100	IRIS	4/5/2007
Molybdenum	Chronic	5.0E-03	mg/kg-day	100%	5.0E-03	mg/kg-day	Blood	30	IRIS	4/5/2007
Naphthalene	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Whole Body	3,000	IRIS	4/5/2007
n-Butylbenzene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Liver, Kidney	3,000	R9-N	12/28/2004
Nickel <sup>r</sup>	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Whole Body	300	IRIS	4/5/2007
n-Propylbenzene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Liver, Kidney	3,000	R9-N	12/28/2004
Phenanthrene <sup>s</sup>	Chronic	3.0E-01	mg/kg-day	100%	3.0E-01	mg/kg-day	No Observed Effect	3,000	IRIS	4/5/2007
Phenol	Chronic	3.0E-01	mg/kg-day	100%	3.0E-01	mg/kg-day	Whole Body	300	IRIS	4/5/2007
p-Isopropyltoluene <sup>t</sup>	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	Kidney	1,000	IRIS	4/5/2007
Pyrene	Chronic	3.0E-02	mg/kg-day	100%	3.0E-02	mg/kg-day	Kidney	3,000	IRIS	4/5/2007
sec-Butylbenzene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Liver/Kidney	3,000	R9-N	12/28/2004
Selenium	Chronic	5.0E-03	mg/kg-day	100%	5.0E-03	mg/kg-day	Whole Body	3	IRIS	4/5/2007
Silver	Chronic	5.0E-03	mg/kg-day	100%	5.0E-03	mg/kg-day	Skin	3	IRIS	4/5/2007
Technical Chlordane	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	300	IRIS	4/5/2007
Tert-Butylbenzene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Organ weight	3,000	R9-N	12/28/2004
Thallium <sup>u</sup>	Chronic	6.6E-05	mg/kg-day	100%	6.6E-05	mg/kg-day	Blood	3,000	IRIS	4/5/2007
Toluene	Chronic	8.0E-02	mg/kg-day	100%	8.0E-02	mg/kg-day	Liver/Kidney	3,000	IRIS	4/5/2007
trans-1,2-Dichloroethene	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Blood	1000	IRIS	4/5/2007
Trichloroethene	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Liver, Kidney, Fetus	3,000	R9-N	12/28/2004
Vanadium	Chronic	1.0E-03	mg/kg-day	100%	1.0E-03	mg/kg-day	Kidney	300	R9-N	12/28/2004
Vinyl chloride	Chronic	3.0E-03	mg/kg-day	100%	3.0E-03	mg/kg-day	Liver	30	IRIS	4/5/2007
Zinc	Chronic	3.0E-01	mg/kg-day	100%	3.0E-01	mg/kg-day	Blood	3	IRIS	4/5/2007

Notes:

- a Assumed most conservative gastrointestinal absorption of 100%. Value obtained from EPA (2004c).
- b Per EPA's Dermal Guidance document (EPA 2004c), organic and inorganic COPCs without ABS<sup>GI</sup> values listed in Exhibit 4-1 of EPA (2004c) were assigned an ABSGI value of 100%. Per EPA's Dermal Guidance document (EPA 2004c), arsenic had a ABS<sup>GI</sup> value greater than 50% in Exhibit 4-1 of EPA (2004c) and therefore was assigned an ABS<sup>GI</sup> value of 100%. Note that when a range of ABS<sup>GI</sup> values was presented in Exhibit 4-1 of EPA (2004c), the lowest number in the range was used, which was the most conservative approach.
- c 1,2,4-trichlorobenzene used as a surrogate for toxicity information.
- d 2-Butanone used as a surrogate for toxicity information.
- e 4,4'-DDT used as surrogate for toxicity information.
- f Nitrobenzene used as a surrogate for toxicity information.
- g Acenaphthene used as a surrogate for toxicity information.
- h Chlordane used as a surrogate for toxicity information.
- i Aroclor 1254 used as a surrogate for toxicity information.
- j Pyrene used as a surrogate for toxicity information.
- k Chromium III used as a surrogate for toxicity information.
- l Beta-BHC used as a surrogate for toxicity information.
- m Endosulfan used as a surrogate for toxicity information.
- n Endrin used as a surrogate for toxicity information.
- o The toxicity value for total xylenes was used as a surrogate for m,p-xylenes
- p As recommended in IRIS (EPA, 2006) and described in the EPA Region 9 PRG technical memorandum (2004a), the RID for manganese was modified to account for dietary contribution of manganese from the normal diet.
- q Mercuric chlordane used as a surrogate for toxicity information.
- r Nickel (soluble salts) used as a surrogate for toxicity information.
- s Anthracene used as a surrogate for toxicity information.
- t Isopropylbenzene used as a surrogate for toxicity information.
- u The toxicity value for thallium sulfate was adjusted as described in the EPA Region 9 PRG Table technical memorandum (2004a). Based on the molecular weight of thallium sulfate, an adjustment was made to obtain an oral RID for plain thallium.

**TABLE H-6.1: EPA RAGS PART D TABLE 5.1, NONCANCER TOXICITY DATA - ORAL/DERMAL (CONTINUED)**  
**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal (a)	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value (b)	Units			Source(s)	Date(s)

Definitions:

- Not available; not applicable
- ABS Dermal Absorption Factors
- BHC Hexachlorocyclohexane
- CNS Central nervous system
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethene
- DDT Dichlorodiphenyltrichloroethane
- EPA U.S. Environmental Protection Agency
- GI Gastrointestinal
- HEAST EPA Health Effects Assessment Summary Tables (EPA 1997)
- HHRA Human Health Risk Assessment
- IRIS EPA Integrated Risk Information System (EPA 2007)
- mg/kg-day Milligram per kilogram per day
- PPRTV Provisional Peer Reviewed Toxicity Value for Superfund (EPA 2004b)
- PRG Preliminary Remediation Goal
- R9-N National Center for Environmental Assessment (NCEA) value as shown in EPA Region 9 PRG Table (EPA 2004a).
- R9-R Source of toxicity value listed as "route extrapolation" in the EPA Region 9 PRG Table (EPA 2004a)
- RAGS Risk Assessment Guidance for Superfund
- RfD Reference dose

References:

- EPA 1997. Health Effects Assessment Summary Tables (HEAST) FY 1997 Update, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, 9200.6-303 (97-1), EPA-540-R-97-036, PB97-921199, July 31.
- EPA 2004a. EPA Region 9 Preliminary Remediation Goals (PRGs) 2004 Table. December 28. Online address: <http://epa.gov/region09/waste/sfund/prg/index.htm>.
- EPA 2004b. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). Downloaded from <http://hhprrtv.ornl.gov/> on June 26, 2004.
- EPA 2004c. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. 20460, EPA/540/R-99/005, OSWER 9285.7-02EP, PB99-963312, September. Online address: <http://www.epa.gov/superfund/programs/risk/ragse/index.htm>.
- EPA 2007. Integrated Risk Information System. Online address: <http://www.epa.gov/iris/index.html>.

**TABLE H-6.2: EPA RAGS PART D TABLE 5.2, NONCANCER TOXICITY DATA - INHALATION**

**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC		Extrapolated RfD		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfC : Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s)
1,1-Dichloroethane	Chronic	4.9E-01	mg/m <sup>3</sup>	1.4E-01	mg/kg-day	No observed effect	1000	HEAST	7/31/1997
1,2,3-Trichlorobenzene *	Chronic	4.0E-03	mg/m <sup>3</sup>	1.1E-03	mg/kg-day	Kidney	1,000	PPRTV	8/1/2003
1,2,4-Trichlorobenzene	Chronic	4.0E-03	mg/m <sup>3</sup>	1.1E-03	mg/kg-day	Kidney	1,000	PPRTV	8/1/2003
1,2,4-Trimethylbenzene	Chronic	6.0E-03	mg/m <sup>3</sup>	1.7E-03	mg/kg-day	CNS/Blood/Respiratory System	3,000	PPRTV	8/1/2003
1,2-Dichlorobenzene	Chronic	2.0E-01	mg/m <sup>3</sup>	5.7E-02	mg/kg-day	Body Weight	1,000	HEAST	7/31/1997
1,2-Dichloroethane	Chronic	4.9E-03	mg/m <sup>3</sup>	1.4E-03	mg/kg-day	Liver, Kidney, CNS	--	R9-N	12/28/2004
1,2-Dichloropropane	Chronic	4.0E-03	mg/m <sup>3</sup>	1.1E-03	mg/kg-day	Nasal	300	IRIS	4/5/2007
1,3,5-Trimethylbenzene	Chronic	6.0E-03	mg/m <sup>3</sup>	1.7E-03	mg/kg-day	CNS/Blood/Respiratory System	3,000	PPRTV	8/1/2003
1,3-Dichlorobenzene	Chronic	1.1E-01	mg/m <sup>3</sup>	3.0E-02	mg/kg-day	Kidney/Liver	3,000	R9-R	12/28/2004
1,4-Dichlorobenzene	Chronic	8.0E-01	mg/m <sup>3</sup>	2.3E-01	mg/kg-day	Liver	100	IRIS	4/5/2007
2,4-Dimethylphenol	Chronic	7.0E-02	mg/m <sup>3</sup>	2.0E-02	mg/kg-day	Blood/Whole Body	3,000	R9-R	12/28/2004
2-Hexanone <sup>b</sup>	Chronic	5.0E+00	mg/m <sup>3</sup>	1.4E+00	mg/kg-day	Developmental	300	IRIS	4/5/2007
2-Methylphenol	Chronic	1.8E-01	mg/m <sup>3</sup>	5.0E-02	mg/kg-day	CNS/Body Weight	1,000	R9-R	12/28/2004
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--
4,4'-DDD <sup>c</sup>	Chronic	1.8E-03	mg/m <sup>3</sup>	5.0E-04	mg/kg-day	Liver	100	R9-R	12/28/2004
4,4'-DDE <sup>c</sup>	Chronic	1.8E-03	mg/m <sup>3</sup>	5.0E-04	mg/kg-day	Liver	100	R9-R	12/28/2004
4,4'-DDT	Chronic	1.8E-03	mg/m <sup>3</sup>	5.0E-04	mg/kg-day	Liver	100	R9-R	12/28/2004
4-Methylphenol	Chronic	1.8E-02	mg/m <sup>3</sup>	5.0E-03	mg/kg-day	Whole Body/CNS/Respiratory System	1,000	R9-R	12/28/2004
4-Methyl-2-pentanone	Chronic	3.0E+00	mg/m <sup>3</sup>	8.6E-01	mg/kg-day	Developmental	300	IRIS	4/5/2007
4-Nitroaniline	Chronic	3.5E-03	--	1.0E-03	mg/kg-day	--	--	PPRTV	8/1/2003
4-Nitrophenol <sup>d</sup>	Chronic	2.0E-03	mg/m <sup>3</sup>	5.7E-04	mg/kg-day	Blood/Kidney/Liver	10,000	HEAST	7/31/1997
Acenaphthene	Chronic	2.1E-01	mg/m <sup>3</sup>	6.0E-02	mg/kg-day	Liver	3,000	R9-R	12/28/2004
Acenaphthylene *	Chronic	2.1E-01	mg/m <sup>3</sup>	6.0E-02	mg/kg-day	Liver	3,000	R9-R	12/28/2004
Aldrin	Chronic	1.1E-04	mg/m <sup>3</sup>	3.0E-05	mg/kg-day	Liver	1,000	R9-R	12/28/2004
alpha-BHC	Chronic	1.8E-03	mg/m <sup>3</sup>	5.0E-04	mg/kg-day	Liver/Kidney	100	R9-R	12/28/2004
alpha-Chlordane <sup>f</sup>	Chronic	7.0E-04	mg/m <sup>3</sup>	2.0E-04	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Aluminum	Chronic	5.0E-03	mg/m <sup>3</sup>	1.4E-03	mg/kg-day	Respiratory System	300	PPRTV	8/1/2003
Anthracene	Chronic	1.1E+00	mg/m <sup>3</sup>	3.0E-01	mg/kg-day	No Observed Effect	3,000	R9-R	12/28/2004
Antimony	--	--	--	--	--	--	--	--	--
Aroclor-1248 <sup>g</sup>	Chronic	7.0E-05	mg/m <sup>3</sup>	2.0E-05	mg/kg-day	Immune System/Eye/Finger and Toe Nails	300	R9-R	12/28/2004
Aroclor-1254	Chronic	7.0E-05	mg/m <sup>3</sup>	2.0E-05	mg/kg-day	Immune System/Eye/Finger and Toe nails	300	R9-R	12/28/2004
Aroclor-1260 <sup>g</sup>	Chronic	7.0E-05	mg/m <sup>3</sup>	2.0E-05	mg/kg-day	Immune System/Eye/Finger and Toe Nails	300	R9-R	12/28/2004
Aroclor-1268 <sup>g</sup>	Chronic	7.0E-05	mg/m <sup>3</sup>	2.0E-05	mg/kg-day	Immune System/Eye/Finger and Toe Nails	300	R9-R	12/28/2004
Arsenic	Chronic	--	--	--	--	--	--	--	--
Barium	Chronic	4.9E-04	mg/m <sup>3</sup>	1.4E-04	mg/kg-day	Developmental	1,000	HEAST	7/31/1997
Benzene	Chronic	3.0E-02	mg/m <sup>3</sup>	8.6E-03	mg/kg-day	Blood	300	IRIS	4/5/2007
Benzo(a)anthracene	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene <sup>h</sup>	Chronic	1.1E-01	mg/m <sup>3</sup>	3.0E-02	mg/kg-day	Kidney	3,000	R9-R	12/28/2004
Benzo(k)fluoranthene	--	--	--	--	--	--	--	--	--
Beryllium	Chronic	2.0E-05	mg/m <sup>3</sup>	5.7E-06	mg/kg-day	Immune System/Lung	10	IRIS	4/5/2007
Beta-BHC	Chronic	7.0E-04	mg/m <sup>3</sup>	2.0E-04	mg/kg-day	Liver/Kidney	--	R9-R	12/28/2004
bis(2-ethylhexyl)phthalate	Chronic	7.0E-02	mg/m <sup>3</sup>	2.0E-02	mg/kg-day	Liver	1,000	R9-R	12/28/2004
Bromoform	Chronic	7.0E-02	mg/m <sup>3</sup>	2.0E-02	mg/kg-day	Liver	1,000	R9-R	12/28/2004
Cadmium	--	--	--	--	--	--	--	--	--
Carbon disulfide	Chronic	7.0E-01	mg/m <sup>3</sup>	2.0E-01	mg/kg-day	CNS	30	IRIS	4/5/2007
Chlorobenzene	Chronic	6.0E-02	mg/m <sup>3</sup>	1.7E-02	mg/kg-day	Liver	1,000	R9-N	12/28/2004
Chloroform	Chronic	4.9E-02	mg/m <sup>3</sup>	1.4E-02	mg/kg-day	Liver, Kidney, Respiratory	--	R9-N	12/28/2004
Chloromethane	Chronic	9.0E-02	mg/m <sup>3</sup>	2.6E-02	mg/kg-day	CNS	1,000	IRIS	4/5/2007
Chromium	--	--	--	--	--	--	--	--	--
Chrysene	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	Chronic	3.5E-02	mg/m <sup>3</sup>	1.0E-02	mg/kg-day	Blood	3000	R9-R	12/28/2004
Cobalt	Chronic	2.0E-05	mg/m <sup>3</sup>	5.7E-06	mg/kg-day	Respiratory System	100	PPRTV	8/1/2003
Copper	--	--	--	--	--	--	--	--	--
Delta-BHC <sup>i</sup>	Chronic	7.0E-04	mg/m <sup>3</sup>	2.0E-04	mg/kg-day	Liver/Kidney	--	R9-R	12/28/2004
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--	--
Dibenzofuran	Chronic	7.0E-03	mg/m <sup>3</sup>	2.0E-03	mg/kg-day	Kidney	1,000	R9-R	12/28/2004
Dieldrin	Chronic	1.8E-04	mg/m <sup>3</sup>	5.0E-05	mg/kg-day	Liver	100	R9-R	12/28/2004
Dimethylphthalate	Chronic	3.5E+01	mg/m <sup>3</sup>	1.0E+01	mg/kg-day	--	--	R9-R	12/28/2004
di-n-Butylphthalate	Chronic	--	mg/m <sup>3</sup>	1.0E-01	mg/kg-day	Whole body	1,000	R9-R	12/28/2004
Endosulfan I <sup>j</sup>	Chronic	2.1E-02	mg/m <sup>3</sup>	6.0E-03	mg/kg-day	Body Weight/Kidney/CNS	100	R9-R	12/28/2004
Endosulfan II <sup>j</sup>	Chronic	2.1E-02	mg/m <sup>3</sup>	6.0E-03	mg/kg-day	Body Weight/Kidney	100	R9-R	12/28/2004
Endosulfan Sulfate <sup>j</sup>	Chronic	2.1E-02	mg/m <sup>3</sup>	6.0E-03	mg/kg-day	Body weight/Kidney/CNS	100	R9-R	12/28/2004
Endrin aldehyde <sup>k</sup>	Chronic	1.1E-03	mg/m <sup>3</sup>	3.0E-04	mg/kg-day	Liver	100	R9-R	12/28/2004

**TABLE H-6.2: EPA RAGS PART D TABLE 5.2, NONCANCER TOXICITY DATA - INHALATION (CONTINUED)**

**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC		Extrapolated RfD		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfC : Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s)
Endrin Ketone <sup>a</sup>	Chronic	1.1E-03	mg/m <sup>3</sup>	3.0E-04	mg/kg-day	Liver	100	R9-R	12/28/2004
Ethylbenzene	Chronic	1.0E+00	mg/m <sup>3</sup>	2.9E-01	mg/kg-day	Developmental	300	IRIS	4/5/2007
Fluoranthene	Chronic	1.4E-01	mg/m <sup>3</sup>	4.0E-02	mg/kg-day	Kidney/Liver/Blood	3,000	R9-R	12/28/2004
Fluorene	Chronic	1.4E-01	mg/m <sup>3</sup>	4.0E-02	mg/kg-day	Blood	3,000	R9-R	12/28/2004
gamma-BHC (Lindane)	Chronic	1.1E-03	mg/m <sup>3</sup>	3.0E-04	mg/kg-day	Liver/Kidney	1,000	R9-R	12/28/2004
gamma-Chlordane <sup>f</sup>	Chronic	7.0E-04	mg/m <sup>3</sup>	2.0E-04	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Heptachlor	Chronic	1.8E-03	mg/m <sup>3</sup>	5.0E-04	mg/kg-day	Liver	300	R9-R	12/28/2004
Heptachlor Epoxide	Chronic	4.6E-05	mg/m <sup>3</sup>	1.3E-05	mg/kg-day	Liver	1,000	R9-R	12/28/2004
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Isophorone	Chronic	7.0E-01	mg/m <sup>3</sup>	2.0E-01	mg/kg-day	No observed effect	1,000	R9-R	12/28/2004
Isopropylbenzene	Chronic	4.0E-01	mg/m <sup>3</sup>	1.1E-01	mg/kg-day	Kidney	1,000	IRIS	4/5/2007
Lead	--	--	--	--	--	--	--	--	--
m,p-Xylene <sup>l</sup>	Chronic	1.0E-01	mg/m <sup>3</sup>	2.9E-02	mg/kg-day	CNS	300	IRIS	4/5/2007
Manganese	Chronic	5.0E-05	mg/m <sup>3</sup>	1.4E-05	mg/kg-day	CNS	1,000	IRIS	4/5/2007
Mercury <sup>m</sup>	Chronic	3.0E-04	mg/m <sup>3</sup>	8.6E-05	mg/kg-day	CNS	30	IRIS	4/5/2007
Methoxychlor	Chronic	1.8E-02	mg/m <sup>3</sup>	5.0E-03	mg/kg-day	Developmental	1,000	R9-R	12/28/2004
Methylene chloride	Chronic	3.0E+00	mg/m <sup>3</sup>	8.6E-01	mg/kg-day	Liver	100	HEAST	7/31/1997
Molybdenum	--	--	--	--	--	--	--	--	--
Naphthalene	Chronic	3.0E-03	mg/m <sup>3</sup>	8.6E-04	mg/kg-day	Respiratory System	3,000	IRIS	4/5/2007
n-Butylbenzene	Chronic	3.0E-03	mg/m <sup>3</sup>	8.6E-04	mg/kg-day	Respiratory System	3,000	IRIS	4/5/2007
Nickel	--	--	--	--	--	--	--	--	--
n-Propylbenzene	Chronic	1.4E-01	mg/m <sup>3</sup>	4.0E-02	mg/kg-day	Liver, Kidney	3,000	R9-R	12/28/2004
Phenanthrene <sup>n</sup>	Chronic	1.1E+00	mg/m <sup>3</sup>	3.0E-01	mg/kg-day	No Observed Effect	3,000	R9-R	12/28/2004
Phenol	Chronic	1.1E+00	mg/m <sup>3</sup>	3.0E-01	mg/kg-day	Body Weight	300	R9-R	12/28/2004
p-Isopropyltoluene <sup>o</sup>	Chronic	4.0E-01	mg/m <sup>3</sup>	1.1E-01	mg/kg-day	Kidney	1,000	IRIS	4/5/2007
Pyrene	Chronic	1.1E-01	mg/m <sup>3</sup>	3.0E-02	mg/kg-day	Kidney	3,000	R9-R	12/28/2004
sec-Butylbenzene	Chronic	1.4E-01	mg/m <sup>3</sup>	4.0E-02	mg/kg-day	Kidney	3,000	R9-R	12/28/2004
Selenium	--	--	--	--	--	--	--	--	--
Silver	--	--	--	--	--	--	--	--	--
Technical Chlordane	Chronic	7.0E-04	mg/m <sup>3</sup>	2.0E-04	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Tert-Butylbenzene	Chronic	1.4E-01	mg/m <sup>3</sup>	4.0E-02	mg/kg-day	Organ weight	3,000	R9-R	12/28/2004
Thallium <sup>p</sup>	--	--	--	--	--	--	--	--	--
Toluene	Chronic	5.0E+00	mg/m <sup>3</sup>	1.4E+00	mg/kg-day	CNS	10	IRIS	4/5/2007
trans-1,2-Dichloroethene	Chronic	7.0E-02	mg/m <sup>3</sup>	2.0E-02	mg/kg-day	Blood	1000	R9-R	12/28/2004
Trichloroethene	Chronic	3.5E-02	mg/m <sup>3</sup>	1.0E-02	mg/kg-day	CNS, Liver, Endocrine	100	R9-N	12/28/2004
Vanadium	--	--	--	--	--	--	--	--	--
Vinyl chloride	Chronic	1.0E-01	mg/m <sup>3</sup>	2.9E-02	mg/kg-day	Liver	30	IRIS	4/5/2007
Zinc	--	--	--	--	--	--	--	--	--

Notes:

- a 1,2,4-trichlorobenzene was used as a surrogate for toxicity information.
- b 2-butanone used as a surrogate for toxicity information.
- c 4,4-DDT used as a surrogate for toxicity information.
- d Nitrobenzene used as a surrogate for toxicity information.
- e Acenaphthene used as a surrogate for toxicity information.
- f Chlordane used as a surrogate for toxicity information.
- g Aroclor 1254 used as a surrogate for toxicity information.
- h Pyrene used as a surrogate for toxicity information.
- i Beta-BHC used as a surrogate for toxicity information.
- j Endosulfan used as a surrogate for toxicity information.
- k Endrin used as a surrogate for toxicity information.
- l The toxicity value for total xylenes was used as a surrogate for m,p-xylenes
- m Elemental mercury used as a surrogate for toxicity information.
- n Anthracene used as a surrogate for toxicity information.
- o Isopropylbenzene used as a surrogate for toxicity information.
- p Thallium chloride used as a surrogate for toxicity information.

Definitions:

- Not available; not applicable
- BHC Hexachlorocyclohexane
- CNS Central nervous system
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethene
- DDT Dichlorodiphenyltrichloroethane

**TABLE H-6.2: EPA RAGS PART D TABLE 5.2, NONCANCER TOXICITY DATA - INHALATION (CONTINUED)**

**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RFC		Extrapolated RfD		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RFC : Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s)

EPA U.S. Environmental Protection Agency  
 HEAST EPA Health Effects Assessment Summary Tables (EPA 1997)  
 HHRA Human Health Risk Assessment  
 IRIS EPA Integrated Risk Information System (EPA 2007)  
 mg/kg-day Milligram per kilogram per day  
 mg/m<sup>3</sup> Milligrams per cubic meter  
 PPRTV Provisional Peer Reviewed Toxicity Value for Superfund (EPA 2004b)  
 R9-N National Center for Environmental Assessment (NCEA) value as shown in EPA Region 9 PRG Table (EPA 2004a).  
 R9-R Source of toxicity value listed as "route extrapolation" in the EPA Region 9 PRG Table (EPA 2004a)  
 RAGS Risk Assessment Guidance for Superfund  
 RFC Reference concentration  
 RfD Reference dose

References:

EPA 1997. Health Effects Assessment Summary Tables (HEAST) FY 1997 Update, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, 9200.6-303 (97-1), EPA-540-R-97-036, PB97-921199, July 31.  
 EPA 2004a. EPA Region 9 Preliminary Remediation Goals (PRGs) 2004 Table. December 28. Online address: <http://epa.gov/region09/waste/sfund/prg/index.htm>.  
 EPA 2004b. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). Downloaded from <http://hhpprtv.ornl.gov/> on June 26, 2004.  
 EPA 2007. Integrated Risk Information System. Online address: <http://www.epa.gov/iris/index.html>.

**TABLE H-6.3: EPA RAGS PART D TABLE 6.1, CANCER TOXICITY DATA - ORAL/DERMAL**

**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (a)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral Cancer Slope Factor	
	Value	Units		Value (b)	Units		Source(s)	Date(s)
1,1-Dichloroethane	--	--	--	--	--	C	IRIS	4/5/2007
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	D	IRIS	4/5/2007
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	D	IRIS	4/5/2007
1,2-Dichloroethane	9.1E-02	(mg/kg-day) <sup>1</sup>	100%	9.1E-02	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
1,2-Dichloropropane	6.8E-02	(mg/kg-day) <sup>1</sup>	100%	6.8E-02	(mg/kg-day) <sup>1</sup>	B2	HEAST	7/31/1997
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	D	IRIS	4/5/2007
1,4-Dichlorobenzene	2.4E-02	(mg/kg-day) <sup>1</sup>	100%	2.4E-02	(mg/kg-day) <sup>1</sup>	--	HEAST	7/31/1997
2,4-Dimethylphenol	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--
2-Methylphenol	--	--	--	--	--	C	IRIS	4/5/2007
2-Methylnaphthalene	--	--	--	--	--	D	IRIS	4/5/2007
4,4'-DDD	2.4E-01	(mg/kg-day) <sup>1</sup>	100%	2.4E-01	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
4,4'-DDE	3.4E-01	(mg/kg-day) <sup>1</sup>	100%	3.4E-01	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
4,4'-DDT	3.4E-01	(mg/kg-day) <sup>1</sup>	100%	3.4E-01	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
4-Methylphenol	--	--	--	--	--	C	IRIS	4/5/2007
4-Methyl-2-pentanone	--	--	--	--	--	--	--	--
4-Nitroaniline	2.1E-02	(mg/kg-day) <sup>1</sup>	100%	2.1E-02	--	--	PPRTV	3/31/2006
4-Nitrophenol	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	D	IRIS	4/5/2007
Aldrin	1.7E+01	(mg/kg-day) <sup>1</sup>	100%	1.7E+01	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
alpha-BHC	6.3E+00	(mg/kg-day) <sup>1</sup>	100%	6.3E+00	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
alpha-Chlordane <sup>c</sup>	3.5E-01	(mg/kg-day) <sup>1</sup>	3.5E-01	1.3E+00	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Aluminum	--	--	--	--	--	--	--	--
Anthracene	--	--	--	--	--	D	IRIS	4/5/2007
Antimony	--	--	--	--	--	--	--	--
Aroclor-1248 <sup>d</sup>	2.0E+00	(mg/kg-day) <sup>1</sup>	100%	2.0E+00	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Aroclor-1254 <sup>d</sup>	2.0E+00	(mg/kg-day) <sup>1</sup>	100%	2.0E+00	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Aroclor-1260 <sup>d</sup>	2.0E+00	(mg/kg-day) <sup>1</sup>	100%	2.0E+00	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Aroclor-1268 <sup>d</sup>	2.0E+00	(mg/kg-day) <sup>1</sup>	100%	2.0E+00	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Arsenic	1.5E+00	(mg/kg-day) <sup>1</sup>	100%	1.5E+00	(mg/kg-day) <sup>1</sup>	A	IRIS	4/5/2007
Barium	--	--	--	--	--	D	IRIS	4/5/2007
Benzene <sup>e</sup>	5.5E-02	(mg/kg-day) <sup>1</sup>	100%	5.5E-02	(mg/kg-day) <sup>1</sup>	A	IRIS	4/5/2007
Benzo(a)anthracene	7.3E-01	(mg/kg-day) <sup>1</sup>	100%	7.3E-01	(mg/kg-day) <sup>1</sup>	B2	R9-N	12/28/2004
Benzo(a)pyrene	7.3E+00	(mg/kg-day) <sup>1</sup>	100%	7.3E+00	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Benzo(b)fluoranthene	7.3E-01	(mg/kg-day) <sup>1</sup>	100%	7.3E-01	(mg/kg-day) <sup>1</sup>	B2	R9-N	12/28/2004
Benzo(g,h,i)perylene	--	--	--	--	--	D	IRIS	4/5/2007
Benzo(k)fluoranthene	7.3E-02	(mg/kg-day) <sup>1</sup>	100%	7.3E-02	(mg/kg-day) <sup>1</sup>	B2	R9-N	12/28/2004
Beryllium	--	--	--	--	--	--	--	--
Beta-BHC	1.8E+00	(mg/kg-day) <sup>1</sup>	100%	1.8E+00	(mg/kg-day) <sup>1</sup>	C	IRIS	4/5/2007
bis(2-ethylhexyl)phthalate	1.4E-02	(mg/kg-day) <sup>1</sup>	100%	1.4E-02	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Bromoform	7.9E-03	(mg/kg-day) <sup>1</sup>	100%	7.9E-03	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Cadmium	--	--	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	D	IRIS	4/5/2007
Chloroform <sup>f</sup>	--	--	--	--	--	B2	IRIS	4/5/2007
Chloromethane	--	--	--	--	--	D	IRIS	4/5/2007
Chromium	--	--	--	--	--	D	IRIS	4/5/2007
Chrysene	7.3E-03	(mg/kg-day) <sup>1</sup>	100%	7.3E-03	(mg/kg-day) <sup>1</sup>	B2	R9-N	12/28/2004
cis-1,2-Dichloroethene	--	--	--	--	--	D	IRIS	4/5/2007
Cobalt	--	--	--	--	--	--	--	--
Copper	--	--	--	--	--	D	IRIS	4/5/2007
Delta-BHC <sup>g</sup>	1.8E+00	(mg/kg-day) <sup>1</sup>	100%	1.8E+00	(mg/kg-day) <sup>1</sup>	C	IRIS	4/5/2007
Dibenzo(a,h)anthracene	7.3E+00	(mg/kg-day) <sup>1</sup>	100%	7.3E+00	(mg/kg-day) <sup>1</sup>	B2	R9-N	12/28/2004
Dibenzofuran	--	--	--	--	--	D	IRIS	4/5/2007
Dieldrin	1.6E+01	(mg/kg-day) <sup>1</sup>	100%	1.6E+01	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Dimethylphthalate	--	--	--	--	--	D	IRIS	4/5/2007
di-n-Butylphthalate	--	--	--	--	--	D	IRIS	4/5/2007

**TABLE H-6.3: EPA RAGS PART D TABLE 6.1, CANCER TOXICITY DATA - ORAL/DERMAL (CONTINUED)**

**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (a)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral Cancer Slope Factor	
	Value	Units		Value (b)	Units		Source(s)	Date(s)
Endosulfan I	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	D	IRIS	4/5/2007
Endrin Ketone	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	--	D	IRIS	4/5/2007
Fluorene	--	--	--	--	--	D	IRIS	4/5/2007
gamma-BHC (Lindane)	1.3E+00	(mg/kg-day) <sup>1</sup>	100%	1.3E+00	(mg/kg-day) <sup>1</sup>	B2	HEAST	7/31/1997
gamma-Chlordane <sup>c</sup>	3.5E-01	(mg/kg-day) <sup>1</sup>	100%	3.5E-01	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Heptachlor	4.5E+00	(mg/kg-day) <sup>1</sup>	100%	4.5E+00	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Heptachlor Epoxide	9.1E+00	(mg/kg-day) <sup>1</sup>	100%	9.1E+00	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Indeno(1,2,3-cd)pyrene	7.3E-01	(mg/kg-day) <sup>1</sup>	100%	7.3E-01	(mg/kg-day) <sup>1</sup>	B2	R9-N	12/28/2004
Iron	--	--	--	--	--	--	--	--
Isophorone	9.5E-04	(mg/kg-day) <sup>1</sup>	100%	9.5E-04	(mg/kg-day) <sup>1</sup>	C	IRIS	4/5/2007
Isopropylbenzene	--	--	--	--	--	D	IRIS	4/5/2007
Lead	--	--	--	--	--	--	--	--
m,p-Xylene	--	--	--	--	--	--	--	--
Manganese	--	--	--	--	--	D	IRIS	4/5/2007
Mercury	--	--	--	--	--	D	IRIS	4/5/2007
Methoxychlor	--	--	--	--	--	D	IRIS	4/5/2007
Methylene chloride	7.5E-03	(mg/kg-day) <sup>1</sup>	100%	7.5E-03	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Molybdenum	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	C	IRIS	4/5/2007
n-Butylbenzene	--	--	--	--	--	--	--	--
Nickel	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	D	IRIS	4/5/2007
Phenol	--	--	--	--	--	D	IRIS	4/5/2007
p-Isopropyltoluene	--	--	--	--	--	D	IRIS	4/5/2007
Pyrene	--	--	--	--	--	D	IRIS	4/5/2007
sec-Butylbenzene	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	D	IRIS	4/5/2007
Silver	--	--	--	--	--	D	IRIS	4/5/2007
Technical Chlordane	3.5E-01	(mg/kg-day) <sup>1</sup>	100%	3.5E-01	(mg/kg-day) <sup>1</sup>	B2	IRIS	4/5/2007
Tert-Butylbenzene	--	--	--	--	--	--	--	--
Thallium	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	D	IRIS	4/5/2007
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--
Trichloroethene	4.0E-01	(mg/kg-day) <sup>1</sup>	100%	4.0E-01	(mg/kg-day) <sup>1</sup>	--	R9-N	12/28/2004
Vanadium	--	--	--	--	--	--	--	--
Vinyl chloride	1.5E+00	(mg/kg-day) <sup>1</sup>	100%	1.5E+00	(mg/kg-day) <sup>1</sup>	--	IRIS	4/5/2007
Zinc	--	--	--	--	--	D	IRIS	4/5/2007

Notes:

- a Assumed most conservative gastrointestinal absorption of 100%. Value obtained from EPA (2004c).
- b Per EPA's Dermal Guidance document (EPA 2004c), organic and inorganic COPCs without ABS<sup>GI</sup> values listed in Exhibit 4-1 of EPA (2004c) were assigned an ABS<sup>GI</sup> value of 100%. Per EPA's Dermal Guidance document (EPA 2004c), arsenic had a ABS<sup>GI</sup> value greater than 50% in Exhibit 4-1 of EPA (2004c) and therefore was assigned an ABS<sup>GI</sup> value of 100%. Note that when a range of ABS<sup>GI</sup> values was presented in Exhibit 4-1 of EPA (2004c), the lowest number in the range was used, which was the most conservative approach.
- c Chlordane used as surrogate for toxicity information.
- d The upper-bound oral cancer slope factor for polychlorinated biphenyls (high risk and persistence) was used.
- e The high range oral slope factor for benzene in IRIS was used.
- f As cited in IRIS, "The Proposed Guidelines for Carcinogenic Risk Assessment (U.S. EPA, 1996) state that when the mode-of-action analysis based on available data indicates that 'the carcinogenic response is secondary to another toxicity that has a threshold, the margin-of-exposure analysis performed for toxicity is the same as is done for a noncancer endpoint, and an RfD for that toxicity may be considered in the cancer assessment.' For chloroform, available evidence indicates that chloroform-induced carcinogenicity is secondary to cytotoxicity and regenerative hyperplasia; hence, EPA relies on a nonlinear dose-response approach and the use of a margin-of-exposure analysis for cancer risk. EPA has also chosen not to rely on a mathematical model to estimate a point of departure for cancer risk estimate, because the mode of action indicates that cytotoxicity is the critical effect and the reference dose value is considered protective for this effect."
- g The toxicity value for beta-BHC was used as a surrogate.

**TABLE H-6.3: EPA RAGS PART D TABLE 6.1, CANCER TOXICITY DATA - ORAL/DERMAL (CONTINUED)**

**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (a)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral Cancer Slope Factor	
	Value	Units		Value (b)	Units		Source(s)	Date(s)

Definitions:

- Not available; not applicable
- BHC Hexachlorocyclohexane
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethene
- DDT Dichlorodiphenyltrichloroethane
- EPA U.S. Environmental Protection Agency
- HEAST EPA Health Effects Assessment Summary Tables (EPA 1997)
- HHRA Human Health Risk Assessment
- IRIS EPA Integrated Risk Information System (EPA 2007)
- mg/kg-day Milligram per kilogram per day
- PPRTV Provisional Peer Reviewed Toxicity Value for Superfund (EPA 2004b)
- R9-N National Center for Environmental Assessment (NCEA) value as shown in EPA Region 9 PRG Table (EPA 2004a).
- RAGS Risk Assessment Guidance for Superfund

References:

- EPA 1997. Health Effects Assessment Summary Tables (HEAST) FY 1997 Update, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, 9200.6-303 (97-1), EPA-540-R-97-036, PB97-921199, July 31.
- EPA 2004a. EPA Region 9 Preliminary Remediation Goals (PRGs) 2004 Table. December 28. Online address: <http://epa.gov/region09/waste/sfund/prg/index.htm>.
- EPA 2004b. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). Downloaded from <http://hhpprtv.ornl.gov/> on June 26, 2004.
- EPA 2004c. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. 20460, EPA/540/R-99/005, OSWER 9285.7-02EP, PB99-963312, September. Online address: <http://www.epa.gov/superfund/programs/risk/ragse/index.htm>.
- EPA 2007. Integrated Risk Information System. Online address: <http://www.epa.gov/iris/index.html>.

**TABLE H-6.4: EPA RAGS PART D TABLE 6.2, CANCER TOXICITY DATA - INHALATION**

**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor		Weight of Evidence/ Cancer Guideline Description	Unit Risk : Inhalation Cancer Slope Factor	
	Value	Units	Value	Units		Source(s)	Date(s)
1,1-Dichloroethane	--	--	--	--	C	IRIS	4/5/2007
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	D	IRIS	4/5/2007
1,2-Dichloroethane	2.6E-05	--	9.1E-02	--	B2	IRIS	4/5/2007
1,2-Dichloropropane	1.9E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	6.8E-02	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	D	IRIS	4/5/2007
1,4-Dichlorobenzene	6.3E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.2E-02	(mg/kg-day) <sup>-1</sup>	--	R9-N	12/28/2004
2,4-Dimethylphenol	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--
2-Methylphenol	--	--	--	--	C	IRIS	4/5/2007
2-Methylnaphthalene	--	--	--	--	D1	IRIS	4/5/2007
4,4'-DDD	6.9E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.4E-01	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
4,4'-DDE	9.7E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.4E-01	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
4,4'-DDT	9.7E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.4E-01	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
4-Methylphenol	--	--	--	--	C	IRIS	4/5/2007
4-Methyl-2-pentanone	--	--	--	--	--	--	--
4-Nitroaniline	6.0E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.10E-02	(mg/kg-day) <sup>-1</sup>	--	R9-R	12/28/2004
4-Nitrophenol	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	D	IRIS	4/5/2007
Aldrin	4.9E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.7E+01	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
alpha-BHC	1.8E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	6.3E+00	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
alpha-Chlordane*	1.0E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.5E-01	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Aluminum	--	--	--	--	--	--	--
Anthracene	--	--	--	--	D	IRIS	4/5/2007
Antimony	--	--	--	--	--	--	--
Aroclor-1248 <sup>b</sup>	--	--	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Aroclor-1254 <sup>b</sup>	5.7E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Aroclor-1260 <sup>b</sup>	5.7E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Aroclor-1268 <sup>b</sup>	5.7E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Arsenic	4.3E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.5E+01	(mg/kg-day) <sup>-1</sup>	A	IRIS	4/5/2007
Barium	--	--	--	--	D	IRIS	4/5/2007
Benzene <sup>c</sup>	7.8E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.7E-02	(mg/kg-day) <sup>-1</sup>	A	IRIS	4/5/2007
Benzo(a)anthracene	2.1E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	7.3E-01	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
Benzo(a)pyrene	2.1E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	7.3E+00	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
Benzo(b)fluoranthene	2.1E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	7.3E-01	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
Benzo(g,h,i)perylene	--	--	--	--	D	IRIS	4/5/2007
Benzo(k)fluoranthene	2.1E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	7.3E-02	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
Beryllium	2.4E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	8.4E+00	(mg/kg-day) <sup>-1</sup>	B1	IRIS	4/5/2007
Beta-BHC	5.3E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.9E+00	(mg/kg-day) <sup>-1</sup>	C	IRIS	4/5/2007
bis(2-ethylhexyl)phthalate	4.0E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.4E-02	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
Bromoform	1.1E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.9E-03	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Cadmium	1.8E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	6.3E+00	(mg/kg-day) <sup>-1</sup>	B1	IRIS	4/5/2007
Carbon disulfide	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	D	IRIS	4/5/2007
Chloroform	2.3E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	8.1E-02	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Chloromethane	--	--	--	--	D	IRIS	4/5/2007
Chromium <sup>d</sup>	--	--	--	--	--	--	--
Chrysene	2.1E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	7.3E-03	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
cis-1,2-Dichloroethene	--	--	--	--	D	IRIS	4/5/2006
Cobalt	2.8E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	9.8E+00	(mg/kg-day) <sup>-1</sup>	B1	PPRTV	1/15/2002
Copper	--	--	--	--	D	IRIS	4/5/2007
Delta-BHC*	5.3E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.9E+00	(mg/kg-day) <sup>-1</sup>	C	IRIS	4/5/2007
Dibenzo(a,h)anthracene	2.1E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	7.3E+00	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
Dibenzofuran	--	--	--	--	D	IRIS	4/5/2007
Dieldrin	4.6E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.6E+01	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Dimethylphthalate	--	--	--	--	D	IRIS	4/5/2007

**TABLE H-6.4: EPA RAGS PART D TABLE 6.2, CANCER TOXICITY DATA - INHALATION (CONTINUED)**

**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor		Weight of Evidence/ Cancer Guideline Description	Unit Risk : Inhalation Cancer Slope Factor	
	Value	Units	Value	Units		Source(s)	Date(s)
di-n-Butylphthalate	--	--	--	--	D	IRIS	4/5/2007
Endosulfan I	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	--	--
Endrin Ketone	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	D	IRIS	4/5/2007
Fluoranthene	--	--	--	--	D	IRIS	4/5/2007
Fluorene	--	--	--	--	D	IRIS	4/5/2007
gamma-BHC (Lindane)	3.7E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.3E+00	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
gamma-Chlordane*	1.0E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.5E-01	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Heptachlor	1.3E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	4.6E+00	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Heptachlor Epoxide	2.6E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	9.1E+00	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Indeno(1,2,3-cd)pyrene	2.1E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	7.3E-01	(mg/kg-day) <sup>-1</sup>	B2	R9-R	12/28/2004
Iron	--	--	--	--	--	--	--
Isophorone	2.7E-07	(µg/m <sup>3</sup> ) <sup>-1</sup>	9.5E-04	(mg/kg-day) <sup>-1</sup>	C	R9-R	12/28/2004
Isopropylbenzene	--	--	--	--	D	IRIS	4/5/2007
Lead	--	--	--	--	--	--	--
m,p-Xylene	--	--	--	--	--	--	--
Manganese	--	--	--	--	D	IRIS	4/5/2007
Mercury	--	--	--	--	D	IRIS	4/5/2007
Methoxychlor	--	--	--	--	D	IRIS	4/5/2007
Methylene chloride	4.7E-07	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.6E-03	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Molybdenum	--	--	--	--	--	--	--
Naphthalene†	--	--	--	--	C	IRIS	4/5/2007
n-Butylbenzene	--	--	--	--	--	--	--
Nickel	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	D	IRIS	4/5/2007
Phenol	--	--	--	--	D	IRIS	4/5/2007
p-Isopropyltoluene	--	--	--	--	--	--	--
Pyrene	--	--	--	--	D	IRIS	4/5/2007
sec-Butylbenzene	--	--	--	--	--	--	--
Selenium	--	--	--	--	D	IRIS	4/5/2007
Silver	--	--	--	--	D	IRIS	4/5/2007
Technical Chlordane	1.4E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.5E-04	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Tert-Butylbenzene	--	--	--	--	--	--	--
Thallium	--	--	--	--	--	--	--
Toluene	--	--	--	--	D	IRIS	4/5/2007
trans-1,2-Dichloroethene	--	--	--	--	--	--	--
Trichloroethene	1.1E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	4.0E-01	(mg/kg-day) <sup>-1</sup>	--	R9-N	12/28/2004
Vanadium	--	--	--	--	--	--	--
Vinyl chloride	8.9E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.1E-02	(mg/kg-day) <sup>-1</sup>	A	IRIS	4/5/2007
Zinc	--	--	--	--	D	IRIS	4/5/2007

**TABLE H-6.4: EPA RAGS PART D TABLE 6.2, CANCER TOXICITY DATA - INHALATION (CONTINUED)**  
**Method 1 Values (EPA Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor		Weight of Evidence/ Cancer Guideline Description	Unit Risk : Inhalation Cancer Slope Factor	
	Value	Units	Value	Units		Source(s)	Date(s)

Notes:

- a Chlordane used as a surrogate for toxicity information.
- a The upper-bound oral cancer slope factor for high risk and persistent polychlorinated biphenyls was used.
- c The high range oral slope factor for benzene in IRIS was used.
- d Toxicity information for Chromium III.
- e The toxicity value for beta-BHC was used as a surrogate.
- f No unit risk or inhalation cancer slope factor was selected for naphthalene for Method 1. An inhalation unit risk estimate for naphthalene has not been derived by EPA because of the weakness of the evidence that naphthalene may be carcinogenic.

Definitions:

- Not available; not applicable
- µg/m<sup>3</sup> Micrograms per cubic meter
- BHC Hexachlorocyclohexane
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethane
- DDT Dichlorodiphenyltrichloroethane
- EPA U.S. Environmental Protection Agency
- HHRA Human Health Risk Assessment
- IRIS EPA Integrated Risk Information System (EPA 2006)
- mg/kg-day Milligram per kilogram per day
- PPRTV Provisional Peer Reviewed Toxicity Value for Superfund (EPA 2004b)
- R9-N National Center for Environmental Assessment (NCEA) value as shown in EPA Region 9 PRG Table (EPA 2004a).
- R9-R Source of toxicity value listed as "route extrapolation" in the EPA Region 9 PRG Table (EPA 2004a)
- RAGS Risk Assessment Guidance for Superfund

References:

- EPA 2004a. EPA Region 9 Preliminary Remediation Goals (PRGs) 2004 Table. December 28. Online address: <http://epa.gov/region09/waste/sfund/prg/index.htm>.
- EPA 2004b. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). Downloaded from <http://hhpprtv.ornl.gov/> on June 26, 2004.
- EPA 2006. Integrated Risk Information System. Online address: <http://www.epa.gov/iris/index.html>.

**TABLE H-6.5: EPA RAGS PART D TABLE 5.1, NONCANCER TOXICITY DATA - ORAL/DERMAL**

**Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal (a)	Absorbed RfD for Dermal (b)		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfD Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s)
1,1-Dichloroethane	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	No observed effect	1000	HEAST	7/1/1997
1,2,3-Trichlorobenzene <sup>e</sup>	Chronic	1.0E-02	mg/kg-day	100%	1.0E-02	mg/kg-day	Adrenal	1,000	IRIS	4/5/2007
1,2,4-Trichlorobenzene	Chronic	1.0E-02	mg/kg-day	100%	1.0E-02	mg/kg-day	Adrenal	1,000	IRIS	4/5/2007
1,2,4-Trimethylbenzene	Chronic	5.0E-02	mg/kg-day	100%	5.0E-02	mg/kg-day	Whole Body/Liver/Kidney	3,000	PPRTV	6/28/2004
1,2-Dichlorobenzene	Chronic	9.0E-02	mg/kg-day	100%	9.0E-02	mg/kg-day	No Observed Effect	1,000	IRIS	4/5/2007
1,2-Dichloroethane	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Liver, Kidney, CNS	--	R9-N	12/28/2004
1,2-Dichloropropane	Chronic	1.1E-03	mg/kg-day	100%	1.1E-03	mg/kg-day	Nasal	300	R9-R	12/28/2004
1,3,5-Trimethylbenzene	Chronic	5.0E-02	mg/kg-day	100%	5.0E-02	mg/kg-day	Whole Body/Liver/Kidney	3,000	PPRTV	6/28/2004
1,3-Dichlorobenzene	Chronic	3.0E-02	mg/kg-day	100%	3.0E-02	mg/kg-day	Kidney/Liver	3,000	R9-N	10/1/2004
1,4-Dichlorobenzene	Chronic	3.0E-02	mg/kg-day	100%	3.0E-02	mg/kg-day	Organ weight	--	R9-N	10/1/2004
2,4-Dimethylphenol	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Blood/Whole Body	3,000	IRIS	4/5/2007
2-Hexanone <sup>d</sup>	Chronic	6.0E-01	mg/kg-day	100%	6.0E-01	mg/kg-day	Body weight	1000	IRIS	4/5/2007
2-Methylphenol	Chronic	5.0E-02	mg/kg-day	100%	5.0E-02	mg/kg-day	CNS/Body Weight	1,000	IRIS	4/5/2007
2-Methylnaphthalene	Chronic	4.0E-03	mg/kg-day	100%	4.0E-03	mg/kg-day	Respiratory System	1,000	IRIS	4/5/2007
4,4'-DDD <sup>*</sup>	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	100	IRIS	4/5/2007
4,4'-DDE <sup>*</sup>	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	100	IRIS	4/5/2007
4,4'-DDT	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	100	IRIS	4/5/2007
4-Methylphenol	Chronic	5.0E-03	mg/kg-day	100%	5.0E-03	mg/kg-day	Whole Body/CNS/Respiratory	1,000	HEAST	7/1/1997
4-Methyl-2-pentanone	Chronic	8.0E-02	mg/kg-day	100%	8.0E-02	mg/kg-day	Whole Body	3000	HEAST	7/1/1997
4-Nitroaniline	Chronic	3.0E-03	mg/kg-day	100%	3.0E-03	mg/kg-day	--	--	PPRTV	8/1/2003
4-Nitrophenol <sup>f</sup>	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Kidney/Liver/Blood	10,000	IRIS	4/5/2007
Acenaphthene	Chronic	6.0E-02	mg/kg-day	100%	6.0E-02	mg/kg-day	Liver	3,000	IRIS	4/5/2007
Acenaphthylene <sup>g</sup>	Chronic	6.0E-02	mg/kg-day	100%	6.0E-02	mg/kg-day	Liver	3,000	IRIS	4/5/2007
Aldrin	Chronic	3.0E-05	mg/kg-day	100%	3.0E-05	mg/kg-day	Liver	1,000	IRIS	4/5/2007
alpha-BHC	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver/Kidney	100	R9-N	12/28/2004
alpha-Chlordane <sup>h</sup>	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	300	IRIS	4/5/2007
Aluminum	Chronic	1.0E+00	mg/kg-day	100%	1.0E+00	mg/kg-day	CNS	100	PPRTV	6/28/2004
Anthracene	Chronic	3.0E-01	mg/kg-day	100%	3.0E-01	mg/kg-day	No Observed Effect	3,000	IRIS	4/5/2007
Antimony	Chronic	4.0E-04	mg/kg-day	100%	4.0E-04	mg/kg-day	Whole Body/Blood	1,000	IRIS	4/5/2007
Aroclor-1248 <sup>i</sup>	Chronic	2.0E-05	mg/kg-day	100%	2.0E-05	mg/kg-day	Immune System/ Eye/Finger and Toe Nails	300	IRIS	4/5/2007
Aroclor-1254	Chronic	2.0E-05	mg/kg-day	100%	2.0E-05	mg/kg-day	Immune System/ Eye/Finger and Toe Nails	300	IRIS	4/5/2007
Aroclor-1260 <sup>j</sup>	Chronic	2.0E-05	mg/kg-day	100%	2.0E-05	mg/kg-day	Immune System/ Eye/Finger and Toe Nails	300	IRIS	4/5/2007
Aroclor-1268 <sup>k</sup>	Chronic	2.0E-05	mg/kg-day	100%	2.0E-05	mg/kg-day	Immune System/ Eye/Finger and Toe Nails	300	IRIS	4/5/2007
Arsenic	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Skin	3	IRIS	4/5/2007
Barium	Chronic	7.0E-02	mg/kg-day	100%	7.0E-02	mg/kg-day	Kidney	3	IRIS	4/5/2007
Benzene	Chronic	4.0E-03	mg/kg-day	100%	4.0E-03	mg/kg-day	Blood	300	IRIS	4/5/2007
Benzo(a)anthracene	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene <sup>l</sup>	Chronic	3.0E-02	mg/kg-day	100%	3.0E-02	mg/kg-day	Kidney	3,000	IRIS	4/5/2007
Benzo(k)fluoranthene	--	--	--	--	--	--	--	--	--	--
Beryllium	Chronic	2.0E-03	mg/kg-day	100%	2.0E-03	mg/kg-day	GI Tract	300	IRIS	4/5/2007
Beta-BHC	Chronic	2.0E-04	mg/kg-day	100%	2.0E-04	mg/kg-day	Liver/Kidney	--	R9-N	12/28/2004
bis(2-ethylhexyl)phthalate	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Bromoform	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Cadmium	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Kidney	10	IRIS	4/5/2007
Carbon disulfide	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	Developmental	100	IRIS	4/5/2007
Chlorobenzene	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Chloroform	Chronic	1.0E-02	mg/kg-day	100%	1.0E-02	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Chloromethane	Chronic	2.6E-02	mg/kg-day	100%	2.6E-02	mg/kg-day	CNS	1,000	R9-R	12/28/2004
Chromium <sup>k</sup>	Chronic	1.5E+00	mg/kg-day	100%	1.5E+00	mg/kg-day	No Observed Effect	100	IRIS	4/5/2007
Chrysene	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	Chronic	1.0E-02	mg/kg-day	100%	1.0E-02	mg/kg-day	Blood	3000	PPRTV	9/24/2002
Cobalt	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Blood	10	PPRTV	6/28/2004
Copper	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	GI Tract/Kidney	1,000	HEAST	7/31/1997
Delta-BHC <sup>l</sup>	Chronic	2.0E-04	mg/kg-day	100%	2.0E-04	mg/kg-day	Liver/Kidney	--	R9-N	12/28/2004
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	Chronic	2.0E-03	mg/kg-day	100%	2.0E-03	mg/kg-day	Kidney	--	NCEA	1/13/2004
Dieldrin	Chronic	5.0E-05	mg/kg-day	100%	5.0E-05	mg/kg-day	Liver	100	IRIS	4/5/2007
Dimethylphthalate	Chronic	8.0E-01	mg/kg-day	100%	8.0E-01	mg/kg-day	Developmental/Organ Weight	1,000	IRIS	4/5/2007
di-n-Butylphthalate	Chronic	2.0E-01	mg/kg-day	100%	2.0E-01	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Endosulfan I <sup>m</sup>	Chronic	6.0E-03	mg/kg-day	100%	6.0E-03	mg/kg-day	Body weight/Kidney/CNS	100	IRIS	4/5/2007
Endosulfan II <sup>m</sup>	Chronic	6.0E-03	mg/kg-day	100%	6.0E-03	mg/kg-day	Body Weight/Kidney	100	IRIS	4/5/2007
Endosulfan Sulfate <sup>m</sup>	Chronic	6.0E-03	mg/kg-day	100%	6.0E-03	mg/kg-day	Body Weight/Kidney/CNS	100	IRIS	4/5/2007
Endrin aldehyde <sup>n</sup>	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Liver	100	IRIS	4/5/2007
Endrin Ketone <sup>n</sup>	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Liver	100	IRIS	4/5/2007
Ethylbenzene	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	Liver, Kidney	1,000	IRIS	4/5/2007
Fluoranthene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Kidney/Liver/Blood	3,000	IRIS	4/5/2007
Fluorene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Blood	3,000	IRIS	4/5/2007
gamma-BHC (Lindane)	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Liver/Kidney	1,000	IRIS	4/5/2007

**TABLE H-6.5: EPA RAGS PART D TABLE 5.1, NONCANCER TOXICITY DATA - ORAL/DERMAL (CONTINUED)**

**Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal (a)	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfD Target Organ(s)	
		Value	Units		Value (b)	Units			Source(s)	Date(s)
gamma-Chlordane <sup>h</sup>	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	300	IRIS	4/5/2007
Heptachlor	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	300	IRIS	4/5/2007
Heptachlor Epoxide	Chronic	1.3E-05	mg/kg-day	100%	1.3E-05	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	--	--	--	--	--
Iron	Chronic	3.0E-01	mg/kg-day	100%	3.0E-01	mg/kg-day	Liver	1	NCEA	7/23/1996
Isophorone	Chronic	2.0E-01	mg/kg-day	100%	2.0E-01	mg/kg-day	No Observed Effect	1,000	IRIS	4/5/2007
Isopropylbenzene	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	Kidney	1,000	IRIS	4/5/2007
Lead	--	--	--	--	--	--	--	--	--	--
m,p-Xylene <sup>o</sup>	Chronic	2.0E-01	mg/kg-day	100%	2.0E-01	mg/kg-day	Body weight, Death	1,000	IRIS	4/5/2007
Manganese <sup>p</sup>	Chronic	2.4E-02	mg/kg-day	100%	2.4E-02	mg/kg-day	CNS	3	IRIS	4/5/2007
Mercury <sup>q</sup>	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Immune System	1,000	IRIS	4/5/2007
Methoxychlor	Chronic	5.0E-03	mg/kg-day	100%	5.0E-03	mg/kg-day	Developmental	1,000	IRIS	4/5/2007
Methylene chloride	Chronic	6.0E-02	mg/kg-day	100%	6.0E-02	mg/kg-day	Liver	100	IRIS	4/5/2007
Molybdenum	Chronic	5.0E-03	mg/kg-day	100%	5.0E-03	mg/kg-day	Blood	30	IRIS	4/5/2007
Naphthalene	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Whole Body	3,000	IRIS	4/5/2007
n-Butylbenzene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Liver, Kidney	3,000	R9-N	12/28/2004
Nickel <sup>r</sup>	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Whole Body	300	IRIS	4/5/2007
n-Propylbenzene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Liver, Kidney	3,000	R9-N	12/28/2004
Phenanthrene <sup>s</sup>	Chronic	3.0E-01	mg/kg-day	100%	3.0E-01	mg/kg-day	No Observed Effect	3,000	IRIS	4/5/2007
Phenol	Chronic	3.0E-01	mg/kg-day	100%	3.0E-01	mg/kg-day	Whole Body	300	IRIS	4/5/2007
p-Isopropyltoluene <sup>t</sup>	Chronic	1.0E-01	mg/kg-day	100%	1.0E-01	mg/kg-day	Kidney	1,000	IRIS	4/5/2007
Pyrene	Chronic	3.0E-02	mg/kg-day	100%	3.0E-02	mg/kg-day	Kidney	3,000	IRIS	4/5/2007
sec-Butylbenzene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Liver/Kidney	3,000	NCEA	10/1/2004
Selenium	Chronic	5.0E-03	mg/kg-day	100%	5.0E-03	mg/kg-day	Whole Body	3	IRIS	4/5/2007
Silver	Chronic	5.0E-03	mg/kg-day	100%	5.0E-03	mg/kg-day	Skin	3	IRIS	4/5/2007
Technical Chlordane	Chronic	5.0E-04	mg/kg-day	100%	5.0E-04	mg/kg-day	Liver	300	IRIS	4/5/2007
Tert-Butylbenzene	Chronic	4.0E-02	mg/kg-day	100%	4.0E-02	mg/kg-day	Organ weight	3,000	R9-N	12/28/2004
Thallium <sup>u</sup>	Chronic	8.0E-05	mg/kg-day	100%	8.0E-05	mg/kg-day	Blood	3,000	IRIS	4/5/2007
Toluene	Chronic	8.0E-02	mg/kg-day	100%	8.0E-02	mg/kg-day	Liver/Kidney	1,000	IRIS	4/5/2007
trans-1,2-Dichloroethene	Chronic	2.0E-02	mg/kg-day	100%	2.0E-02	mg/kg-day	Blood	1000	IRIS	4/5/2007
Trichloroethene	Chronic	3.0E-04	mg/kg-day	100%	3.0E-04	mg/kg-day	Liver, Kidney, Fetus	3,000	R9-N	12/28/2004
Vanadium	Chronic	1.0E-03	mg/kg-day	100%	1.0E-03	mg/kg-day	Kidney	300	NCEA	5/31/2000
Vinyl chloride	Chronic	3.0E-03	mg/kg-day	100%	3.0E-03	mg/kg-day	Liver	30	IRIS	4/5/2007
Zinc	Chronic	3.0E-01	mg/kg-day	100%	3.0E-01	mg/kg-day	Blood	3	IRIS	4/5/2007

Notes:

- a Assumed most conservative gastrointestinal absorption of 100%. Value obtained from EPA (2004c).
- b Per EPA's Dermal Guidance document (EPA 2004c), organic and inorganic COPCs without ABS<sup>GI</sup> values listed in Exhibit 4-1 of EPA (2004c) were assigned an ABS<sup>GI</sup> value of 100%. Per EPA's Dermal Guidance document (EPA 2004c), arsenic had a ABS<sup>GI</sup> value greater than 50% in Exhibit 4-1 of EPA (2004c) and therefore was assigned an ABS<sup>GI</sup> value of 100%. Note that when a range of ABS<sup>GI</sup> values was presented in Exhibit 4-1 of EPA (2004c), the lowest number in the range was used, which was the most conservative approach.
- c 1,2,4-Trichlorobenzene used as a surrogate for toxicity information.
- d 2-Butanone used as a surrogate for toxicity information.
- e 4,4'-DÖT used as surrogate for toxicity information.
- f Nitrobenzene used as a surrogate for toxicity information.
- g Acenaphthene used as a surrogate for toxicity information.
- h Chlordane used as a surrogate for toxicity information.
- i Aroclor 1254 used as a surrogate for toxicity information.
- j Pyrene used as a surrogate for toxicity information.
- k Chromium III used as a surrogate for toxicity information.
- l Beta-BHC used as a surrogate for toxicity information.
- m Endosulfan used as a surrogate for toxicity information.
- n Endrin used as a surrogate for toxicity information.
- o The toxicity value for total xylenes was used as a surrogate for m,p-xylenes
- p As recommended in IRIS (EPA, 2006) and described in the EPA Region 9 PRG technical memorandum (2004a), the RfD for manganese was modified to account for dietary contribution of manganese from the normal diet.
- q Mercuric chlordane used as a surrogate for toxicity information.
- r Nickel (soluble salts) used as a surrogate for toxicity information.
- s Anthracene used as a surrogate for toxicity information.
- t Isopropylbenzene used as a surrogate for toxicity information.
- u The toxicity value for thallium sulfate was adjusted as described in the EPA Region 9 PRG Table technical memorandum (2004a). Based on the molecular weight of thallium sulfate, an adjustment was made to obtain an oral RfD for plain thallium.

**TABLE H-6.5: EPA RAGS PART D TABLE 5.1, NONCANCER TOXICITY DATA - ORAL/DERMAL (CONTINUED)**  
**Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal (a)	Absorbed RfD for Dermal		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s)

Definitions:

-	Not available; not applicable
ABS	Dermal Absorption Factors
BHC	Hexachlorocyclohexane
CNS	Central nervous system
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethene
DDT	Dichlorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
GI	Gastrointestinal
HEAST	EPA Health Effects Assessment Summary Tables (EPA 1997)
HHRA	Human Health Risk Assessment
IRIS	EPA Integrated Risk Information System (EPA 2006)
mg/kg-day	Milligram per kilogram per day
NCEA	EPA National Center for Environmental Assessment
PPRTV	Provisional Peer Reviewed Toxicity Value for Superfund (EPA 2004b)
R9-N	National Center for Environmental Assessment (NCEA) value as shown in EPA Region 9 PRG Table (EPA 2004a).
R9-R	Source of toxicity value listed as "route extrapolation" in the EPA Region 9 PRG Table (EPA 2004a)
RAGS	Risk Assessment Guidance for Superfund
RfD	Reference dose

References:

EPA 1997. Health Effects Assessment Summary Tables (HEAST) FY 1997 Update, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, 9200.6-303 (97-1), EPA-540-R-97-036, PB97-921199, July 31.

EPA 2004a. EPA Region 9 Preliminary Remediation Goals (PRGs) 2004 Table. December 28. Online address: <http://epa.gov/region09/waste/sfund/prg/index.htm>.

EPA 2004b. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). Downloaded from <http://hhpprtv.onrl.gov/> on June 26, 2004.

EPA 2004c. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. 20460, EPA/540/R-99/005, OSWER 9285.7-02EP, PB99-963312, September. Online address: <http://www.epa.gov/superfund/programs/risk/ragse/index.htm>.

EPA 2007. Integrated Risk Information System. Online address: <http://www.epa.gov/iris/index.html>.

**TABLE H6.6: EPA RAGS PART D TABLE 5.2, NONCANCER TOXICITY DATA - INHALATION**

**Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC		Extrapolated RfD		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfC : Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s)
1,1-Dichloroethane	Chronic	4.9E-01	mg/m <sup>3</sup>	1.4E-01	mg/kg-day	No observed effect	1000	HEAST	7/31/1997
1,2,3-Trichlorobenzene <sup>a</sup>	Chronic	4.0E-03	mg/m <sup>3</sup>	1.1E-03	mg/kg-day	Kidney	1,000	PPRTV	10/16/2002
1,2,4-Trichlorobenzene	Chronic	4.0E-03	mg/m <sup>3</sup>	1.1E-03	mg/kg-day	Kidney	1,000	PPRTV	10/16/2002
1,2,4-Trimethylbenzene	Chronic	6.0E-03	mg/m <sup>3</sup>	1.7E-03	mg/kg-day	CNS/Blood/Respiratory System	3,000	PPRTV	6/28/2004
1,2-Dichlorobenzene	Chronic	2.0E-01	mg/m <sup>3</sup>	5.7E-02	mg/kg-day	Body weight	1,000	HEAST	7/31/1997
1,2-Dichloroethane	Chronic	4.9E-03	mg/m <sup>3</sup>	1.4E-03	mg/kg-day	Liver, Kidney, CNS	--	R9-N	12/28/2004
1,2-Dichloropropane	Chronic	4.0E-03	mg/m <sup>3</sup>	1.1E-03	mg/kg-day	Nasal	300	IRIS	4/5/2007
1,3,5-Trimethylbenzene	Chronic	6.0E-03	mg/m <sup>3</sup>	1.7E-03	mg/kg-day	CNS/Blood/Respiratory System	3,000	PPRTV	6/28/2004
1,3-Dichlorobenzene	Chronic	1.1E-01	mg/m <sup>3</sup>	3.0E-02	mg/kg-day	Kidney/Liver	3,000	R9-R	12/28/2004
1,4-Dichlorobenzene	Chronic	8.0E-01	mg/m <sup>3</sup>	2.3E-01	mg/kg-day	Liver	100	IRIS	4/5/2007
2,4-Dimethylphenol	Chronic	7.0E-02	mg/m <sup>3</sup>	2.0E-02	mg/kg-day	Blood/Whole Body	3,000	R9-R	12/28/2004
2-Hexanone <sup>b</sup>	Chronic	5.0E+00	mg/m <sup>3</sup>	1.4E+00	mg/kg-day	Developmental	300	IRIS	4/5/2007
2-Methylphenol	Chronic	1.8E-01	mg/m <sup>3</sup>	5.0E-02	mg/kg-day	CNS/Body Weight	1,000	R9-R	12/28/2004
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--
4,4'-DDD <sup>c</sup>	Chronic	1.8E-03	mg/m <sup>3</sup>	5.0E-04	mg/kg-day	Liver	100	R9-R	12/28/2004
4,4'-DDE <sup>c</sup>	Chronic	1.8E-03	mg/m <sup>3</sup>	5.0E-04	mg/kg-day	Liver	100	R9-R	12/28/2004
4,4'-DDT	Chronic	1.8E-03	mg/m <sup>3</sup>	5.0E-04	mg/kg-day	Liver	100	R9-R	12/28/2004
4-Methylphenol	Chronic	1.8E-02	mg/m <sup>3</sup>	5.0E-03	mg/kg-day	Whole Body/CNS/Respiratory System	1,000	R9-R	12/28/2004
4-Methyl-2-pentanone	Chronic	3.0E+00	mg/m <sup>3</sup>	8.6E-01	mg/kg-day	Developmental	300	IRIS	4/5/2007
4-Nitroaniline	Chronic	3.5E-03	mg/m <sup>3</sup>	1.0E-03	mg/kg-day	--	--	PPRTV	8/1/2003
4-Nitrophenol <sup>d</sup>	Chronic	2.0E-03	mg/m <sup>3</sup>	5.7E-04	mg/kg-day	Blood/Kidney/Liver	10,000	HEAST	7/31/1997
Acenaphthene	Chronic	2.1E-01	mg/m <sup>3</sup>	6.0E-02	mg/kg-day	Liver	3,000	R9-R	12/28/2004
Acenaphthylene <sup>e</sup>	Chronic	2.1E-01	mg/m <sup>3</sup>	6.0E-02	mg/kg-day	Liver	3,000	R9-R	12/28/2004
Aldrin	Chronic	1.1E-04	mg/m <sup>3</sup>	3.0E-05	mg/kg-day	Liver	1,000	R9-R	12/28/2004
alpha-BHC	Chronic	1.8E-03	mg/m <sup>3</sup>	5.0E-04	mg/kg-day	Liver, Kidney	100	R9-R	12/28/2004
alpha-Chlordane <sup>f</sup>	Chronic	7.0E-04	mg/m <sup>3</sup>	2.0E-04	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Aluminum	Chronic	5.0E-03	mg/m <sup>3</sup>	1.4E-03	mg/kg-day	Respiratory System	300	PPRTV	6/28/2004
Anthracene	Chronic	1.1E+00	mg/m <sup>3</sup>	3.0E-01	mg/kg-day	No Observed Effect	3,000	R9-R	12/28/2004
Antimony	--	--	--	--	--	--	--	--	--
Aroclor-1248 <sup>g</sup>	Chronic	7.0E-05	mg/m <sup>3</sup>	2.0E-05	mg/kg-day	Immune System/Eye/Finger and Toe nails	300	R9-R	12/28/2004
Aroclor-1254	Chronic	7.0E-05	mg/m <sup>3</sup>	2.0E-05	mg/kg-day	Immune System/Eye/Finger and Toe nails	300	R9-R	12/28/2004
Aroclor-1260 <sup>g</sup>	Chronic	7.0E-05	mg/m <sup>3</sup>	2.0E-05	mg/kg-day	Immune System/Eye/Finger and Toe Nails	300	R9-R	12/28/2004
Aroclor-1268 <sup>g</sup>	Chronic	7.0E-05	mg/m <sup>3</sup>	2.0E-05	mg/kg-day	Immune System/Eye/Finger and Toe nails	300	R9-R	12/28/2004
Arsenic	Chronic	3.0E-05	mg/m <sup>3</sup>	8.6E-06	mg/kg-day	Developmental	1,000	Cal/EPA	7/25/2005
Barium	Chronic	4.9E-04	mg/m <sup>3</sup>	1.4E-04	mg/kg-day	Developmental	1,000	HEAST	7/31/1997
Benzene	Chronic	3.0E-02	mg/m <sup>3</sup>	8.6E-03	mg/kg-day	Blood	300	IRIS	4/5/2007
Benzo(a)anthracene	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene <sup>h</sup>	Chronic	1.1E-01	mg/m <sup>3</sup>	3.0E-02	mg/kg-day	Kidney	3,000	R9-R	12/28/2004
Benzo(k)fluoranthene	--	--	--	--	--	--	--	--	--
Beryllium	Chronic	2.0E-05	mg/m <sup>3</sup>	5.7E-06	mg/kg-day	Immune System/Lung	10	IRIS	4/5/2007
Beta-BHC	Chronic	7.0E-04	mg/m <sup>3</sup>	2.0E-04	mg/kg-day	Liver/Kidney	--	R9-R	12/28/2004
bis(2-ethylhexyl)phthalate	Chronic	7.0E-02	mg/m <sup>3</sup>	2.0E-02	mg/kg-day	Liver	1,000	R9-R	12/28/2004
Bromoform	Chronic	7.0E-02	mg/m <sup>3</sup>	2.0E-02	mg/kg-day	Liver	1,000	R9-R	12/28/2004
Cadmium	Chronic	2.0E-05	mg/m <sup>3</sup>	5.7E-06	mg/kg-day	Kidney/Respiratory System	30	Cal/EPA	7/25/2005
Carbon disulfide	Chronic	7.0E-01	mg/m <sup>3</sup>	2.0E-01	mg/kg-day	CNS	30	IRIS	4/5/2007
Chlorobenzene	Chronic	1.0E+00	mg/m <sup>3</sup>	2.9E-01	mg/kg-day	GI Tract/Kidney/Reproductive System	100	Cal/EPA	7/25/2005
Chloroform	Chronic	3.0E-01	mg/m <sup>3</sup>	8.6E-02	mg/kg-day	Alimentary system/ Kidney/ Development	300	Cal/EPA	2/1/2005
Chloromethane	Chronic	9.0E-02	mg/m <sup>3</sup>	2.6E-02	mg/kg-day	CNS	1,000	IRIS	4/5/2007
Chromium	--	--	--	--	--	--	--	--	--
Chrysene	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	Chronic	3.5E-02	mg/m <sup>3</sup>	1.0E-02	mg/kg-day	Blood	3000	R9-R	12/28/2004
Cobalt	Chronic	2.0E-05	mg/m <sup>3</sup>	5.7E-06	mg/kg-day	Respiratory System	100	PPRTV	1/15/2002
Copper	--	--	--	--	--	--	--	--	--
Delta-BHC <sup>i</sup>	Chronic	7.0E-04	mg/m <sup>3</sup>	2.0E-04	mg/kg-day	Liver/Kidney	--	R9-R	12/28/2004
Dibenzo(a,h)anthracene	--	--	--	--	--	--	--	--	--
Dibenzofuran	Chronic	7.0E-03	mg/m <sup>3</sup>	2.0E-03	mg/kg-day	Kidney	--	R9-R	12/28/2004
Dieldrin	Chronic	1.8E-04	mg/m <sup>3</sup>	5.0E-05	mg/kg-day	Liver	100	R9-R	12/28/2004
Dimethylphthalate	Chronic	2.8E+00	mg/m <sup>3</sup>	8.0E-01	mg/kg-day	Brain/Liver/Kidney/GI Tract	1,000	R9-R	12/28/2004
di-n-Butylphthalate	Chronic	3.5E-01	mg/m <sup>3</sup>	1.0E-01	mg/kg-day	Whole body	1,000	R9-R	12/28/2004
Endosulfan I <sup>j</sup>	Chronic	2.1E-02	mg/m <sup>3</sup>	6.0E-03	mg/kg-day	Body Weight/Kidney/CNS	100	R9-R	12/28/2004
Endosulfan II <sup>j</sup>	Chronic	2.1E-02	mg/m <sup>3</sup>	6.0E-03	mg/kg-day	Body weight/Kidney	100	R9-R	12/28/2004
Endosulfan Sulfate <sup>j</sup>	Chronic	2.1E-02	mg/m <sup>3</sup>	6.0E-03	mg/kg-day	Body Weight/Kidney/CNS	100	R9-R	12/28/2004
Endrin aldehyde <sup>k</sup>	Chronic	1.1E-03	mg/m <sup>3</sup>	3.0E-04	mg/kg-day	Liver	100	R9-R	12/28/2004

**TABLE H6.6: EPA RAGS PART D TABLE 5.2, NONCANCER TOXICITY DATA - INHALATION (CONTINUED)**

**Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC		Extrapolated RfD		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfC : Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s)
Endrin Ketone <sup>k</sup>	Chronic	1.1E-03	mg/m <sup>3</sup>	3.0E-04	mg/kg-day	Liver	100	R9-R	12/28/2004
Ethylbenzene	Chronic	1.0E+00	mg/m <sup>3</sup>	2.9E-01	mg/kg-day	Developmental	300	IRIS	3/31/2006
Fluoranthene	Chronic	1.4E-01	mg/m <sup>3</sup>	4.0E-02	mg/kg-day	Kidney/Liver/Blood	3,000	R9-R	12/28/2004
Fluorene	Chronic	1.4E-01	mg/m <sup>3</sup>	4.0E-02	mg/kg-day	Blood	3,000	R9-R	12/28/2004
gamma-BHC (Lindane)	Chronic	1.1E-03	mg/m <sup>3</sup>	3.0E-04	mg/kg-day	Liver/Kidney	1,000	R9-R	12/28/2004
gamma-Chlordane <sup>f</sup>	Chronic	7.0E-04	mg/m <sup>3</sup>	2.0E-04	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Heptachlor	Chronic	1.8E-03	mg/m <sup>3</sup>	5.0E-04	mg/kg-day	Liver	300	R9-R	12/28/2004
Heptachlor Epoxide	Chronic	4.6E-05	mg/m <sup>3</sup>	1.3E-05	mg/kg-day	Liver	1,000	R9-R	12/28/2004
Indeno(1,2,3-cd)pyrene	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Isophorone	--	--	--	--	--	--	--	--	--
Isopropylbenzene	Chronic	4.0E-01	mg/m <sup>3</sup>	1.1E-01	mg/kg-day	Kidney	1,000	IRIS	4/5/2007
Lead	--	--	--	--	--	--	--	--	--
m,p-Xylene <sup>l</sup>	Chronic	1.0E-01	mg/m <sup>3</sup>	2.9E-02	mg/kg-day	CNS	300	IRIS	4/5/2007
Manganese	Chronic	5.0E-05	mg/m <sup>3</sup>	1.4E-05	mg/kg-day	CNS	1,000	IRIS	4/5/2007
Mercury <sup>m</sup>	Chronic	3.0E-04	mg/m <sup>3</sup>	8.6E-05	mg/kg-day	CNS	30	IRIS	4/5/2007
Methoxychlor	Chronic	1.8E-02	mg/m <sup>3</sup>	5.0E-03	mg/kg-day	Developmental	1,000	R9-R	12/28/2004
Methylene chloride	Chronic	4.0E-01	mg/m <sup>3</sup>	1.1E-01	mg/kg-day	Blood	100	Cal/EPA	7/25/2005
Molybdenum	--	--	--	--	--	--	--	--	--
Naphthalene	Chronic	3.0E-03	mg/m <sup>3</sup>	8.6E-04	mg/kg-day	Nasal Epithelium	3,000	IRIS	4/5/2007
n-Butylbenzene	Chronic	3.0E-03	mg/m <sup>3</sup>	8.6E-04	mg/kg-day	Respiratory System	3,000	IRIS	4/5/2007
Nickel	Chronic	5.0E-05	mg/m <sup>3</sup>	1.4E-05	mg/kg-day	Respiratory System	30	Cal/EPA	7/25/2005
n-Propylbenzene	Chronic	1.4E-01	mg/m <sup>3</sup>	4.0E-02	mg/kg-day	Liver, Kidney	3,000	R9-R	12/28/2004
Phenanthrene <sup>n</sup>	Chronic	1.1E+00	mg/m <sup>3</sup>	3.0E-01	mg/kg-day	No Observed Effect	3,000	R9-R	12/28/2004
Phenol	Chronic	2.0E-01	mg/m <sup>3</sup>	5.7E-02	mg/kg-day	Liver/CNS	100	Cal/EPA	7/25/2005
p-Isopropyltoluene <sup>o</sup>	Chronic	4.0E-01	mg/m <sup>3</sup>	1.1E-01	mg/kg-day	Kidney	1,000	IRIS	4/5/2007
Pyrene	Chronic	1.1E-01	mg/m <sup>3</sup>	3.0E-02	mg/kg-day	Kidney	3,000	R9-R	12/28/2004
sec-Butylbenzene	Chronic	1.4E-01	mg/m <sup>3</sup>	4.0E-02	mg/kg-day	Liver/Kidney	3,000	R9-R	12/28/2004
Selenium	Chronic	2.0E-02	mg/m <sup>3</sup>	5.7E-03	mg/kg-day	Liver/Blood/Skin/CNS	3	Cal/EPA	7/25/2005
Silver	--	--	--	--	--	--	--	--	--
Technical Chlordane	Chronic	7.0E-04	mg/m <sup>3</sup>	2.0E-04	mg/kg-day	Liver	1,000	IRIS	4/5/2007
Tert-Butylbenzene	Chronic	1.4E-01	mg/m <sup>3</sup>	4.0E-02	mg/kg-day	Organ weight	3,000	R9-R	12/28/2004
Thallium <sup>p</sup>	--	--	--	--	--	--	--	--	--
Toluene	Chronic	5.0E+00	mg/m <sup>3</sup>	1.4E+00	mg/kg-day	CNS	300	IRIS	4/5/2007
trans-1,2-Dichloroethene	Chronic	7.0E-02	mg/m <sup>3</sup>	2.0E-02	mg/kg-day	Blood	1000	R9-R	12/28/2004
Trichloroethene	Chronic	6.0E-01	mg/m <sup>3</sup>	1.7E-01	mg/kg-day	CNS/Eye	100	Cal/EPA	7/25/2005
Vanadium	--	--	--	--	--	--	--	--	--
Vinyl chloride	Chronic	1.0E-01	mg/m <sup>3</sup>	2.9E-02	mg/kg-day	Liver	30	IRIS	4/5/2007
Zinc	--	--	--	--	--	--	--	--	--

Notes:

- a 1,2,4-trichlorobenzene was used as a surrogate for toxicity information.
- b 2-butanone used as a surrogate for toxicity information.
- c 4,4-DDT used as a surrogate for toxicity information.
- d Nitrobenzene used as a surrogate for toxicity information.
- e Acenaphthene used as a surrogate for toxicity information.
- f Chlordane used as a surrogate for toxicity information.
- g Aroclor 1254 used as a surrogate for toxicity information.
- h Pyrene used as a surrogate for toxicity information.
- i Beta-BHC used as a surrogate for toxicity information.
- j Endosulfan used as a surrogate for toxicity information.
- k Endrin used as a surrogate for toxicity information.
- l The toxicity value for total xylenes was used as a surrogate for m,p-xylenes
- m Elemental mercury used as a surrogate for toxicity information.
- n Anthracene used as a surrogate for toxicity information.
- o Isopropylbenzene used as a surrogate for toxicity information.
- p Thallium chloride used as a surrogate for toxicity information.

**TABLE H6.6: EPA RAGS PART D TABLE 5.2, NONCANCER TOXICITY DATA - INHALATION (CONTINUED)**

**Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC		Extrapolated RfD		Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfC : Target Organ(s)	
		Value	Units	Value	Units			Source(s)	Date(s)

Definitions:

-	Not available; not applicable
BHC	Hexachlorocyclohexane
CNS	Central nervous system
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethene
DDT	Dichlorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
GI	Gastrointestinal
HEAST	EPA Health Effects Assessment Summary Tables (EPA 1997)
HHRA	Human Health Risk Assessment
IRIS	EPA Integrated Risk Information System (EPA 2007)
mg/kg-day	Milligram per kilogram per day
mg/m <sup>3</sup>	Milligrams per cubic meter
PPRTV	Provisional Peer Reviewed Toxicity Value for Superfund (EPA 2004b)
R9-N	National Center for Environmental Assessment (NCEA) value as shown in EPA Region 9 PRG Table (EPA 2004a).
R9-R	Source of toxicity value listed as "route extrapolation" in the EPA Region 9 PRG Table (EPA 2004a)
RAGS	Risk Assessment Guidance for Superfund
RfC	Reference concentration
RfD	Reference dose

References:

- EPA 1997. Health Effects Assessment Summary Tables (HEAST) FY 1997 Update, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, 9200.6-303 (97-1), EPA-540-R-97-036, PB97-921199, July 31.
- EPA 2004a. EPA Region 9 Preliminary Remediation Goals (PRGs) 2004 Table. December 28. Online address: <http://epa.gov/region09/waste/sfund/prg/index.htm>.
- EPA 2004b. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). Downloaded from <http://hhpprtv.ornl.gov/> on June 26, 2004.
- EPA 2007. Integrated Risk Information System. Online address: <http://www.epa.gov/iris/index.html>.

**TABLE H-6.7: EPA RAGS Part D TABLE 6.1, CANCER TOXICITY DATA - ORAL/DERMAL  
Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (a)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral Cancer Slope Factor	
	Value	Units		Value (b)	Units		Source(s)	Date(s)
1,1-Dichloroethane	5.7E-03	(mg/kg-day) <sup>-1</sup>	100%	5.7E-03	(mg/kg-day) <sup>-1</sup>	C	Cal/EPA	4/5/2007
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	D	IRIS	4/5/2007
1,2-Dichloroethane	4.7E-02	(mg/kg-day) <sup>-1</sup>	100%	4.7E-02	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
1,2-Dichloropropane	3.6E-02	(mg/kg-day) <sup>-1</sup>	--	3.6E-02	(mg/kg-day) <sup>-1</sup>	--	Cal/EPA	4/5/2007
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	D	IRIS	4/5/2007
1,4-Dichlorobenzene	5.4E-03	(mg/kg-day) <sup>-1</sup>	100%	5.4E-03	(mg/kg-day) <sup>-1</sup>	--	Cal/EPA	4/5/2007
2,4-Dimethylphenol	--	--	--	--	--	--	IRIS	4/5/2007
2-Hexanone	--	--	--	--	--	--	--	--
2-Methylphenol	--	--	--	--	--	C	IRIS	4/5/2007
2-Methylnaphthalene	--	--	--	--	--	D	IRIS	4/5/2007
4,4'-DDD	2.4E-01	(mg/kg-day) <sup>-1</sup>	100%	2.4E-01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
4,4'-DDE	3.4E-01	(mg/kg-day) <sup>-1</sup>	100%	3.4E-01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
4,4'-DDT	3.4E-01	(mg/kg-day) <sup>-1</sup>	100%	3.4E-01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
4-Methylphenol	--	--	--	--	--	C	IRIS	4/5/2007
4-Methyl-2-pentanone	--	--	--	--	--	--	--	--
4-Nitroaniline	2.1E-02	(mg/kg-day) <sup>-1</sup>	100%	2.1E-02	(mg/kg-day) <sup>-1</sup>	--	PPRTV	3/31/2006
4-Nitrophenol	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	--	D	IRIS	4/5/2007
Aldrin	1.7E+01	(mg/kg-day) <sup>-1</sup>	100%	1.7E+01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
alpha-BHC	2.7E+00	(mg/kg-day) <sup>-1</sup>	100%	2.7E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
alpha-Chlordane <sup>c</sup>	1.3E+00	(mg/kg-day) <sup>-1</sup>	100%	1.3E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Aluminum	--	--	--	--	--	--	--	--
Anthracene	--	--	--	--	--	D	IRIS	4/5/2007
Antimony	--	--	--	--	--	--	--	--
Aroclor-1248 <sup>d</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	100%	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Aroclor-1254 <sup>d</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	100%	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Aroclor-1260 <sup>d</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	100%	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Aroclor-1268 <sup>d</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	100%	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Arsenic	9.5E+00	(mg/kg-day) <sup>-1</sup>	100%	9.5E+00	(mg/kg-day) <sup>-1</sup>	A	Cal/EPA	4/5/2007
Barium	--	--	--	--	--	D	IRIS	4/5/2007
Benzene	1.0E-01	(mg/kg-day) <sup>-1</sup>	100%	1.0E-01	(mg/kg-day) <sup>-1</sup>	A	Cal/EPA	4/5/2007
Benzo(a)anthracene	1.2E+00	(mg/kg-day) <sup>-1</sup>	100%	1.2E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Benzo(a)pyrene	1.2E+01	(mg/kg-day) <sup>-1</sup>	100%	1.2E+01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Benzo(b)fluoranthene	1.2E+00	(mg/kg-day) <sup>-1</sup>	100%	1.2E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Benzo(g,h,i)perylene	--	--	--	--	--	D	IRIS	4/5/2007
Benzo(k)fluoranthene	1.2E+00	(mg/kg-day) <sup>-1</sup>	100%	1.2E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Beryllium	--	--	--	--	--	B1	IRIS	4/5/2007
Beta-BHC	1.5E+00	(mg/kg-day) <sup>-1</sup>	100%	1.5E+00	(mg/kg-day) <sup>-1</sup>	C	Cal/EPA	4/5/2007
bis(2-ethylhexyl)phthalate	3.0E-03	(mg/kg-day) <sup>-1</sup>	100%	3.0E-03	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Bromoform	7.9E-03	(mg/kg-day) <sup>-1</sup>	100%	7.9E-03	(mg/kg-day) <sup>-1</sup>	B2	IRIS	4/5/2007
Cadmium	3.8E-01	(mg/kg-day) <sup>-1</sup>	100%	3.8E-01	(mg/kg-day) <sup>-1</sup>	B1	Cal/EPA	4/5/2007
Carbon disulfide	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	D	IRIS	4/5/2007
Chloroform	3.1E-02	(mg/kg-day) <sup>-1</sup>	100%	3.1E-02	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Chloromethane	--	--	--	--	--	D	IRIS	4/5/2007
Chromium	--	--	--	--	--	D	IRIS	4/5/2007
Chrysene	1.2E-01	(mg/kg-day) <sup>-1</sup>	100%	1.2E-01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
cis-1,2-Dichloroethene	--	--	--	--	--	D	IRIS	4/5/2007
Cobalt	--	--	--	--	--	B1	PPRTV	1/5/2002
Copper	--	--	--	--	--	D	IRIS	4/5/2007
Delta-BHC <sup>e</sup>	1.5E+00	(mg/kg-day) <sup>-1</sup>	100%	1.5E+00	(mg/kg-day) <sup>-1</sup>	C	Cal/EPA	4/5/2007
Dibenzo(a,h)anthracene	4.1E+00	(mg/kg-day) <sup>-1</sup>	--	4.1E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Dibenzofuran	--	--	--	--	--	D	IRIS	4/5/2007

**TABLE H-6.7: EPA RAGS Part D TABLE 6.1, CANCER TOXICITY DATA - ORAL/DERMAL (CONTINUED)**  
**Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (a)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral Cancer Slope Factor	
	Value	Units		Value (b)	Units		Source(s)	Date(s)
Dieldrin	1.6E+01	(mg/kg-day) <sup>-1</sup>	100%	1.6E+01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Dimethylphthalate	--	--	--	--	--	--	--	--
di-n-Butylphthalate	--	--	--	--	--	D	IRIS	4/5/2007
Endosulfan I	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	D	IRIS	4/5/2007
Endrin Ketone	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	D	IRIS	4/5/2007
Fluoranthene	--	--	--	--	--	D	IRIS	4/5/2007
Fluorene	--	--	--	--	--	D	IRIS	4/5/2007
gamma-BHC (Lindane)	1.1E+00	(mg/kg-day) <sup>-1</sup>	100%	1.1E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
gamma-Chlordane <sup>c</sup>	1.3E+00	(mg/kg-day) <sup>-1</sup>	100%	1.3E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Heptachlor	4.1E+00	(mg/kg-day) <sup>-1</sup>	100%	4.1E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Heptachlor Epoxide	5.5E+00	(mg/kg-day) <sup>-1</sup>	100%	5.5E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Indeno(1,2,3-cd)pyrene	1.2E+00	(mg/kg-day) <sup>-1</sup>	100%	1.2E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Iron	--	--	--	--	--	--	--	--
Isophorone	9.5E-04	(mg/kg-day) <sup>-1</sup>	100%	9.5E-04	(mg/kg-day) <sup>-1</sup>	C	IRIS	4/5/2007
Isopropylbenzene	--	--	--	--	--	D	IRIS	4/5/2007
Lead	--	--	--	--	--	--	--	--
m,p-Xylene	--	--	--	--	--	D	IRIS	4/5/2007
Manganese	--	--	--	--	--	D	IRIS	4/5/2007
Mercury	--	--	--	--	--	D	IRIS	4/5/2007
Methoxychlor	--	--	--	--	--	D	IRIS	4/5/2007
Methylene chloride	1.4E-02	(mg/kg-day) <sup>-1</sup>	100%	1.4E-02	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Molybdenum	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--
Nickel	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	D	IRIS	4/5/2007
Phenol	--	--	--	--	--	D	IRIS	4/5/2007
p-Isopropyltoluene	--	--	--	--	--	D	IRIS	4/5/2007
Pyrene	--	--	--	--	--	D	IRIS	4/5/2007
sec-Butylbenzene	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	D	IRIS	4/5/2007
Silver	--	--	--	--	--	D	IRIS	4/5/2007
Technical Chlordane	1.3E+00	(mg/kg-day) <sup>-1</sup>	100%	1.3E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Tert-Butylbenzene	--	--	--	--	--	--	--	--
Thallium	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	D	IRIS	4/5/2007
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--
Trichloroethene	1.3E-02	(mg/kg-day) <sup>-1</sup>	100%	1.3E-02	(mg/kg-day) <sup>-1</sup>	--	Cal/EPA	4/5/2007
Vanadium	--	--	--	--	--	--	--	--
Vinyl chloride	2.7E-01	(mg/kg-day) <sup>-1</sup>	100%	2.7E-01	(mg/kg-day) <sup>-1</sup>	--	Cal/EPA	4/5/2007
Zinc	--	--	--	--	--	D	IRIS	4/5/2007

Notes:

- a Assumed most conservative gastrointestinal absorption of 100%. Value obtained from EPA (2004c).
- b Per EPA's Dermal Guidance document (EPA 2004c), organic and inorganic COPCs without ABS<sup>GI</sup> values listed in Exhibit 4-1 of EPA (2004c) were assigned an ABS<sup>GI</sup> value of 100%. Per EPA's Dermal Guidance document (EPA 2004c), arsenic had a ABS<sup>GI</sup> value greater than 50% in Exhibit 4-1 of EPA (2004c) and therefore was assigned an ABS<sup>GI</sup> value of 100%. Note that when a range of ABS<sup>GI</sup> values was presented in Exhibit 4-1 of EPA (2004c), the lowest number in the range was used, which was the most conservative approach.
- c Chlordane used as surrogate for toxicity information.
- d The upper-bound oral cancer slope factor for polychlorinated biphenyls (high risk and persistence) was used.
- e The toxicity value for beta-BHC was used as a surrogate.

**TABLE H-6.7: EPA RAGS Part D TABLE 6.1, CANCER TOXICITY DATA - ORAL/DERMAL (CONTINUED)**

**Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (a)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral Cancer Slope Factor	
	Value	Units		Value (b)	Units		Source(s)	Date(s)

Definitions:

-	Not available; not applicable
BHC	Hexachlorocyclohexane
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethene
DDT	Dichlorodiphenyltrichloroethane
EPA	U.S. Environmental Protection Agency
HHRA	Human Health Risk Assessment
IRIS	EPA Integrated Risk Information System (EPA 2007)
mg/kg-day	Milligram per kilogram per day
PPRTV	Provisional Peer Reviewed Toxicity Value for Superfund (EPA 2004b)
RAGS	Risk Assessment Guidance for Superfund

References:

- Cal/EPA 2007. Office of Environmental Health Hazard Assessment. Toxicity Criteria Database. Online address: <http://www.oehha.ca.gov/risk/chemicalDB/index.asp>.
- EPA 1997. Health Effects Assessment Summary Tables (HEAST) FY 1997 Update, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response 9200.6-303 (97-1), EPA-540-R-97-036, PB97-921199, July 31.
- EPA 2004a. EPA Region 9 Preliminary Remediation Goals (PRGs) 2004 Table. December 28. Online address: <http://epa.gov/region09/waste/sfund/prg/index.htm>.
- EPA 2004b. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). Downloaded from <http://hhpprtv.ornl.gov/> on June 26, 2004.
- EPA 2004c. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. 20460, EPA/540/R-99/005, OSWER 9285.7-02EP, PB99-963312, September. Online address: <http://www.epa.gov/superfund/programs/risk/ragse/index.htm>.
- EPA 2007. Integrated Risk Information System. Online address: <http://www.epa.gov/iris/index.html>.

**TABLE H-6.8: EPA RAGS PART D TABLE 6.2, CANCER TOXICITY DATA - INHALATION**

**Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor		Weight of Evidence/ Cancer Guideline Description	Unit Risk : Inhalation Cancer Slope Factor	
	Value	Units	Value	Units		Source(s)	Date(s)
1,1-Dichloroethane	1.6E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	5.7E-03	(mg/kg-day) <sup>-1</sup>	C	Cal/EPA	4/5/2007
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	D	IRIS	4/5/2007
1,2-Dichloroethane	2.1E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	7.2E-02	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
1,2-Dichloropropane	1.0E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.6E-02	(mg/kg-day) <sup>-1</sup>	--	Cal/EPA	4/5/2007
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	D	IRIS	4/5/2007
1,4-Dichlorobenzene	1.1E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	4.0E-02	(mg/kg-day) <sup>-1</sup>	--	Cal/EPA	4/5/2007
2,4-Dimethylphenol	--	--	--	--	--	IRIS	4/5/2007
2-Hexanone	--	--	--	--	--	--	--
2-Methylphenol	--	--	--	--	C	IRIS	4/5/2007
2-Methylnaphthalene	--	--	--	--	D	IRIS	4/5/2007
4,4'-DDD	6.9E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.4E-01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
4,4'-DDE	9.7E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.4E-01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
4,4'-DDT	9.7E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.4E-01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
4-Methylphenol	--	--	--	--	C	IRIS	4/5/2007
4-Methyl-2-pentanone	--	--	--	--	--	--	--
4-Nitroaniline	6.0E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.1E-02	(mg/kg-day) <sup>-1</sup>	--	R9-R	12/28/2004
4-Nitrophenol	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--
Acenaphthylene	--	--	--	--	D	IRIS	4/5/2007
Aldrin	4.9E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.7E+01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
alpha-BHC	7.7E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.7E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
alpha-Chlordane*	3.4E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.2E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Aluminum	--	--	--	--	--	--	--
Anthracene	--	--	--	--	D	IRIS	4/5/2007
Antimony	--	--	--	--	--	--	--
Aroclor-1248 <sup>b</sup>	5.7E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Aroclor-1254 <sup>b</sup>	5.7E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Aroclor-1260 <sup>b</sup>	5.7E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Aroclor-1268 <sup>b</sup>	5.7E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	2.0E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Arsenic	3.3E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.2E+01	(mg/kg-day) <sup>-1</sup>	A	Cal/EPA	4/5/2007
Barium	--	--	--	--	D	IRIS	4/5/2007
Benzene	2.9E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.0E-01	(mg/kg-day) <sup>-1</sup>	A	Cal/EPA	4/5/2007
Benzo(a)anthracene	1.1E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.9E-01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Benzo(a)pyrene	1.1E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.9E+00	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Benzo(b)fluoranthene	1.1E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.9E-01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Benzo(g,h,i)perylene	--	--	--	--	D	IRIS	4/5/2007
Benzo(k)fluoranthene	1.1E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.9E-01	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Beryllium	2.4E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	8.4E+00	(mg/kg-day) <sup>-1</sup>	B1	Cal/EPA	4/5/2007
Beta-BHC	4.3E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.5E+00	(mg/kg-day) <sup>-1</sup>	C	Cal/EPA	4/5/2007
bis(2-ethylhexyl)phthalate	2.4E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	8.4E-03	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Bromoform	1.1E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.9E-03	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Cadmium	4.2E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.5E+01	(mg/kg-day) <sup>-1</sup>	B1	Cal/EPA	4/5/2007
Carbon disulfide	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	D	IRIS	4/5/2007
Chloroform	5.3E-06	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.9E-02	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Chloromethane	--	--	--	--	D	IRIS	4/5/2007
Chromium <sup>c</sup>	--	--	--	--	--	--	--
Chrysene	1.1E-05	(µg/m <sup>3</sup> ) <sup>-1</sup>	3.9E-02	(mg/kg-day) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
cis-1,2-Dichloroethene	--	--	--	--	D	IRIS	4/5/2007
Cobalt	2.8E-03	(µg/m <sup>3</sup> ) <sup>-1</sup>	9.8E+00	(mg/kg-day) <sup>-1</sup>	B1	PPRTV	1/5/2002
Copper	--	--	--	--	D	IRIS	4/5/2007
Delta-BHC <sup>d</sup>	4.3E-04	(µg/m <sup>3</sup> ) <sup>-1</sup>	1.5E+00	(mg/kg-day) <sup>-1</sup>	C	Cal/EPA	4/5/2007

**TABLE H-6.8: EPA RAGS PART D TABLE 6.2, CANCER TOXICITY DATA - INHALATION (CONTINUED)**

**Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor		Weight of Evidence/ Cancer Guideline Description	Unit Risk : Inhalation Cancer Slope Factor	
	Value	Units	Value	Units		Source(s)	Date(s)
Dibenzo(a,h)anthracene	1.2E-03	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	4.1E+00	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Dibenzofuran	--	--	--	--	D	IRIS	4/5/2007
Dieldrin	4.6E-03	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	1.6E+01	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Dimethylphthalate	--	--	--	--	D	IRIS	4/5/2007
di-n-Butylphthalate	--	--	--	--	D	IRIS	4/5/2007
Endosulfan I	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	--	--
Endrin Ketone	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	D	IRIS	4/5/2007
Fluoranthene	--	--	--	--	D	IRIS	4/5/2007
Fluorene	--	--	--	--	D	IRIS	4/5/2007
gamma-BHC (Lindane)	3.1E-04	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	1.1E+00	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	--	Cal/EPA	4/5/2007
gamma-Chlordane*	3.4E-04	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	1.2E+00	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Heptachlor	--	--	4.1E+00	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Heptachlor Epoxide	--	--	5.5E+00	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Indeno(1,2,3-cd)pyrene	1.1E-04	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	3.9E-01	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Iron	--	--	--	--	--	--	--
Isophorone	--	--	--	--	--	IRIS	4/5/2007
Isopropylbenzene	--	--	--	--	D	IRIS	4/5/2007
Lead	--	--	--	--	B2	IRIS	4/5/2007
m,p-Xylene	--	--	--	--	D	IRIS	4/5/2007
Manganese	--	--	--	--	D	IRIS	4/5/2007
Mercury	--	--	--	--	D	IRIS	4/5/2007
Methoxychlor	--	--	--	--	D	IRIS	4/5/2007
Methylene chloride	1.0E-06	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	3.5E-03	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Molybdenum	--	--	--	--	--	--	--
Naphthalene	3.4E-05	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	1.2E-01	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	C	Cal/EPA	4/5/2007
n-Butylbenzene	--	--	--	--	--	--	--
Nickel	2.6E-04	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	9.1E-01	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	A	Cal/EPA	4/5/2007
n-Propylbenzene	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	D	IRIS	4/5/2007
Phenol	--	--	--	--	D	IRIS	4/5/2007
p-Isopropyltoluene	--	--	--	--	D	IRIS	4/5/2007
Pyrene	--	--	--	--	D	IRIS	4/5/2007
sec-Butylbenzene	--	--	--	--	--	--	--
Selenium	--	--	--	--	D	IRIS	4/5/2007
Silver	--	--	--	--	D	IRIS	4/5/2007
Technical Chlordane	3.4E-04	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	1.2E+00	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	B2	Cal/EPA	4/5/2007
Tert-Butylbenzene	--	--	--	--	--	--	--
Thallium	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	--	--	--	--	--	--
Trichloroethene	2.0E-06	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	7.0E-03	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	--	Cal/EPA	4/5/2007
Vanadium	--	--	--	--	--	--	--
Vinyl chloride	7.8E-05	( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	2.7E-01	( $\text{mg}/\text{kg}\cdot\text{day}$ ) <sup>-1</sup>	A	Cal/EPA	4/5/2007
Zinc	--	--	--	--	--	--	--

**TABLE H-6.8: EPA RAGS PART D TABLE 6.2, CANCER TOXICITY DATA - INHALATION (CONTINUED)  
Method 2 Values (DTSC-Preferred Sources)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor		Weight of Evidence/ Cancer Guideline Description	Unit Risk : Inhalation Cancer Slope Factor	
	Value	Units	Value	Units		Source(s)	Date(s)

Notes:

- a Chlordane used as a surrogate for toxicity information.
- b The upper-bound oral cancer slope factor for high risk and persistent polychlorinated biphenyls was used.
- c Toxicity information for Chromium III.
- d The toxicity value for beta-BHC was used as a surrogate.

Definitions:

- Not available; not applicable
- µg/m<sup>3</sup> Micrograms per cubic meter
- BHC Hexachlorocyclohexane
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethene
- DDT Dichlorodiphenyltrichloroethane
- EPA U.S. Environmental Protection Agency
- HHRA Human Health Risk Assessment
- IRIS EPA Integrated Risk Information System (EPA 2007)
- mg/kg-day Milligram per kilogram per day
- PPRTV Provisional Peer Reviewed Toxicity Value for Superfund (EPA 2004b)
- R9-N National Center for Environmental Assessment (NCEA) value as shown in EPA Region 9 PRG Table (EPA 2004a).
- R9-R Source of toxicity value listed as "route extrapolation" in the EPA Region 9 PRG Table (EPA 2004a)
- RAGS Risk Assessment Guidance for Superfund

References:

- Cal/EPA 2007. Office of Environmental Health Hazard Assessment. Toxicity Criteria Database. Online address: <http://www.oehha.ca.gov/risk/chemicalDB/index.asp>.
- EPA 2004a. EPA Region 9 Preliminary Remediation Goals (PRGs) 2004 Table. December 28. Online address: <http://epa.gov/region09/waste/sfund/prg/index.htm>.
- EPA 2004b. Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). Downloaded from <http://hhpprtv.oim.gov/> on June 26, 2004.
- EPA 2007. Integrated Risk Information System. Online address: <http://www.epa.gov/iris/index.html>.

TABLE H-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	5.24E-07	mg/kg-day	--	--	--	--	1.47E-06	mg/kg-day	1.00E-02	mg/kg-day	1.47E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.78E-06	mg/kg-day	--	--	--	--	4.99E-06	mg/kg-day	1.00E-02	mg/kg-day	4.99E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.75E-07	mg/kg-day	--	--	--	--	4.89E-07	mg/kg-day	5.00E-02	mg/kg-day	9.78E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	9.09E-06	mg/kg-day	--	--	--	--	2.54E-05	mg/kg-day	9.00E-02	mg/kg-day	2.83E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.26E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	8.55E-11	--	3.52E-09	mg/kg-day	1.14E-03	mg/kg-day	3.09E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.59E-08	mg/kg-day	--	--	--	--	1.57E-07	mg/kg-day	5.00E-02	mg/kg-day	3.13E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	3.84E-07	mg/kg-day	--	--	--	--	1.08E-08	mg/kg-day	3.00E-02	mg/kg-day	3.59E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	2.38E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	5.70E-08	--	6.65E-06	mg/kg-day	3.00E-02	mg/kg-day	2.22E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	7.34E-08	mg/kg-day	--	--	--	--	2.05E-07	mg/kg-day	2.00E-02	mg/kg-day	1.03E-05
				2-Methylphenol	8.10E-02	mg/kg	2.83E-08	mg/kg-day	--	--	--	--	7.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.59E-06
				2-Methylnaphthalene	1.67E+00	mg/kg	5.84E-07	mg/kg-day	--	--	--	--	1.64E-06	mg/kg-day	4.00E-03	mg/kg-day	4.09E-04
				4,4'-DDD	1.20E-03	mg/kg	4.19E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.01E-10	--	1.17E-09	mg/kg-day	5.00E-04	mg/kg-day	2.35E-06
				4,4'-DDE	8.23E-02	mg/kg	2.88E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.78E-09	--	8.05E-08	mg/kg-day	5.00E-04	mg/kg-day	1.61E-04
				4,4'-DDT	4.45E-02	mg/kg	1.55E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.29E-09	--	4.35E-08	mg/kg-day	5.00E-04	mg/kg-day	8.71E-05
				4-Methylphenol	2.70E-01	mg/kg	9.44E-08	mg/kg-day	--	--	--	--	2.64E-07	mg/kg-day	5.00E-03	mg/kg-day	5.28E-05
				4-Nitroaniline	6.20E-01	mg/kg	2.17E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.55E-09	--	6.07E-07	mg/kg-day	3.00E-03	mg/kg-day	2.02E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.47E-07	mg/kg-day	--	--	--	--	4.11E-07	mg/kg-day	5.00E-04	mg/kg-day	8.22E-04
				Acenaphthene	4.23E+00	mg/kg	1.48E-06	mg/kg-day	--	--	--	--	4.14E-06	mg/kg-day	6.00E-02	mg/kg-day	6.91E-05
				Acenaphthylene	1.04E-01	mg/kg	3.64E-08	mg/kg-day	--	--	--	--	1.02E-07	mg/kg-day	6.00E-02	mg/kg-day	1.70E-06
				Aldrin	1.30E-02	mg/kg	4.54E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.72E-08	--	1.27E-08	mg/kg-day	3.00E-05	mg/kg-day	4.24E-04
				alpha-BHC	7.30E-04	mg/kg	2.55E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.61E-09	--	7.14E-10	mg/kg-day	5.00E-04	mg/kg-day	1.43E-06
				alpha-Chlordane	8.14E-03	mg/kg	2.85E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	9.96E-10	--	7.97E-09	mg/kg-day	5.00E-04	mg/kg-day	1.59E-05
				Aluminum	8.82E+03	mg/kg	3.08E-03	mg/kg-day	--	--	--	--	8.63E-03	mg/kg-day	1.00E+00	mg/kg-day	8.63E-03
				Anthracene	1.05E+00	mg/kg	3.69E-07	mg/kg-day	--	--	--	--	1.03E-06	mg/kg-day	3.00E-01	mg/kg-day	3.44E-06
				Antimony	4.08E+00	mg/kg	1.43E-06	mg/kg-day	--	--	--	--	3.99E-06	mg/kg-day	4.00E-04	mg/kg-day	9.98E-03
				Aroclor-1248	1.20E+00	mg/kg	4.19E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.39E-07	--	1.17E-06	mg/kg-day	2.00E-05	mg/kg-day	5.87E-02
				Aroclor-1254	4.44E-01	mg/kg	1.55E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.10E-07	--	4.35E-07	mg/kg-day	2.00E-05	mg/kg-day	2.17E-02
				Aroclor-1260	5.41E-01	mg/kg	1.89E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.78E-07	--	5.30E-07	mg/kg-day	2.00E-05	mg/kg-day	2.65E-02
				Aroclor-1268	2.78E-02	mg/kg	9.70E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.84E-08	--	2.72E-08	mg/kg-day	2.00E-05	mg/kg-day	1.36E-03
				Arsenic	6.17E+00	mg/kg	2.15E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.23E-06	--	6.03E-06	mg/kg-day	3.00E-04	mg/kg-day	2.01E-02
				Barium	6.78E+01	mg/kg	2.37E-05	mg/kg-day	--	--	--	--	6.64E-05	mg/kg-day	7.00E-02	mg/kg-day	9.48E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	1.75E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.28E-06	--	4.90E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	5.82E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.25E-06	--	1.63E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	9.57E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.99E-07	--	2.68E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.67E-07	mg/kg-day	--	--	--	--	7.47E-07	mg/kg-day	3.00E-02	mg/kg-day	2.49E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.14E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	8.32E-08	--	3.19E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	8.32E-08	mg/kg-day	--	--	--	--	2.33E-07	mg/kg-day	2.00E-03	mg/kg-day	1.17E-04
				Beta-BHC	2.20E-03	mg/kg	7.69E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.38E-09	--	2.15E-09	mg/kg-day	2.00E-04	mg/kg-day	1.08E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.74E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.83E-08	--	7.66E-06	mg/kg-day	2.00E-02	mg/kg-day	3.83E-04
				Cadmium	9.47E+00	mg/kg	3.31E-06	mg/kg-day	--	--	--	--	9.27E-06	mg/kg-day	5.00E-04	mg/kg-day	1.85E-02
				Carbon disulfide	2.40E-04	mg/kg	8.39E-11	mg/kg-day	--	--	--	--	2.35E-10	mg/kg-day	1.00E-01	mg/kg-day	2.35E-09
				Chlorobenzene	1.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	--	1.08E-07	mg/kg-day	2.00E-02	mg/kg-day	5.38E-06
				Chromium	1.11E+02	mg/kg	3.89E-05	mg/kg-day	--	--	--	--	1.09E-04	mg/kg-day	1.50E+00	mg/kg-day	7.25E-05
				Chrysene	5.68E+00	mg/kg	1.99E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.45E-08	--	5.56E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.65E-06	mg/kg-day	--	--	--	--	7.41E-08	mg/kg-day	2.00E-02	mg/kg-day	3.71E-04
				Copper	5.71E+01	mg/kg	1.99E-05	mg/kg-day	--	--	--	--	5.58E-05	mg/kg-day	3.70E-02	mg/kg-day	1.51E-03
				Delta-BHC	8.40E-03	mg/kg	2.94E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	5.28E-09	--	8.22E-09	mg/kg-day	2.00E-04	mg/kg-day	4.11E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.11E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	8.10E-07	--	3.11E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.54E-06	mg/kg-day	--	--	--	--	1.27E-05	mg/kg-day	2.00E-03	mg/kg-day	6.36E-03
				Dieldrin	5.51E-02	mg/kg	1.93E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.08E-07	--	5.40E-08	mg/kg-day	5.00E-05	mg/kg-day	1.08E-03

TABLE H-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																			
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient															
							Value	Units	Value	Units		Value	Units	Value	Units																
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	Dimethylphthalate	3.80E-02	mg/kg	1.33E-08	mg/kg-day	--	--	--	--	3.72E-08	mg/kg-day	1.00E+01	mg/kg-day	3.72E-09														
				di-n-Butylphthalate	2.20E+00	mg/kg	7.69E-07	mg/kg-day	--	--	--	--	2.15E-06	mg/kg-day	1.00E-01	mg/kg-day	2.15E-05														
				Endosulfan I	2.30E-02	mg/kg	8.04E-09	mg/kg-day	--	--	--	--	2.25E-08	mg/kg-day	6.00E-03	mg/kg-day	3.75E-06														
				Endosulfan II	2.38E-02	mg/kg	8.32E-09	mg/kg-day	--	--	--	--	2.33E-08	mg/kg-day	6.00E-03	mg/kg-day	3.88E-06														
				Endosulfan Sulfate	4.30E-02	mg/kg	1.50E-08	mg/kg-day	--	--	--	--	4.21E-08	mg/kg-day	6.00E-03	mg/kg-day	7.01E-06														
				Endrin aldehyde	4.21E-02	mg/kg	1.47E-08	mg/kg-day	--	--	--	--	4.12E-08	mg/kg-day	3.00E-04	mg/kg-day	1.37E-04														
				Endrin Ketone	1.00E-02	mg/kg	3.49E-09	mg/kg-day	--	--	--	--	9.78E-09	mg/kg-day	3.00E-04	mg/kg-day	3.26E-05														
				Fluoranthene	2.65E+01	mg/kg	9.26E-06	mg/kg-day	--	--	--	--	2.59E-05	mg/kg-day	4.00E-02	mg/kg-day	6.48E-04														
				Fluorene	2.92E+00	mg/kg	1.02E-06	mg/kg-day	--	--	--	--	2.85E-06	mg/kg-day	4.00E-02	mg/kg-day	7.13E-05														
				gamma-BHC (Lindane)	2.60E-03	mg/kg	9.09E-10	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.18E-09	--	2.54E-09	mg/kg-day	3.00E-04	mg/kg-day	8.48E-06														
				gamma-Chlordane	1.31E-02	mg/kg	4.58E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.60E-09	--	1.28E-08	mg/kg-day	5.00E-04	mg/kg-day	2.56E-05														
				Heptachlor	6.90E-03	mg/kg	2.41E-09	mg/kg-day	4.50E+00	(mg/kg-day) <sup>-1</sup>	1.09E-08	--	6.75E-09	mg/kg-day	5.00E-04	mg/kg-day	1.35E-05														
				Heptachlor Epoxide	1.12E-02	mg/kg	3.90E-09	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	3.55E-08	--	1.09E-08	mg/kg-day	1.30E-05	mg/kg-day	8.40E-04														
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	3.05E-07	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	2.23E-07	--	8.54E-07	mg/kg-day	--	--	--														
				Iron	4.07E+04	mg/kg	1.42E-02	mg/kg-day	--	--	--	--	3.99E-02	mg/kg-day	3.00E-01	mg/kg-day	1.33E-01														
				Isophorone	2.00E-01	mg/kg	6.99E-08	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	6.64E-11	--	1.96E-07	mg/kg-day	2.00E-01	mg/kg-day	9.78E-07														
				Lead	2.90E+03	mg/kg	1.01E-03	mg/kg-day	--	--	--	--	2.84E-03	mg/kg-day	--	--	--														
				Manganese	3.31E+02	mg/kg	1.16E-04	mg/kg-day	--	--	--	--	3.24E-04	mg/kg-day	2.40E-02	mg/kg-day	1.35E-02														
				Mercury	3.10E-01	mg/kg	1.08E-07	mg/kg-day	--	--	--	--	3.03E-07	mg/kg-day	3.00E-04	mg/kg-day	1.01E-03														
				Methoxychlor	1.20E-01	mg/kg	4.19E-08	mg/kg-day	--	--	--	--	1.17E-07	mg/kg-day	5.00E-03	mg/kg-day	2.35E-05														
				Molybdenum	2.50E+00	mg/kg	8.75E-07	mg/kg-day	--	--	--	--	2.45E-06	mg/kg-day	5.00E-03	mg/kg-day	4.90E-04														
				Naphthalene	1.30E+01	mg/kg	4.54E-06	mg/kg-day	--	--	--	--	1.27E-05	mg/kg-day	2.00E-02	mg/kg-day	6.36E-04														
				Nickel	3.91E+01	mg/kg	1.37E-05	mg/kg-day	--	--	--	--	3.83E-05	mg/kg-day	2.00E-02	mg/kg-day	1.91E-03														
				Phenanthrene	1.39E+01	mg/kg	4.86E-06	mg/kg-day	--	--	--	--	1.36E-05	mg/kg-day	3.00E-01	mg/kg-day	4.54E-05														
				Phenol	5.80E-01	mg/kg	2.03E-07	mg/kg-day	--	--	--	--	5.68E-07	mg/kg-day	3.00E-01	mg/kg-day	1.89E-06														
				p-Isopropyltoluene	1.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	--	1.08E-07	mg/kg-day	1.00E-01	mg/kg-day	1.08E-06														
				Pyrene	2.41E+01	mg/kg	8.44E-06	mg/kg-day	--	--	--	--	2.36E-05	mg/kg-day	3.00E-02	mg/kg-day	7.88E-04														
				sec-Butylbenzene	7.10E-02	mg/kg	2.48E-08	mg/kg-day	--	--	--	--	6.95E-08	mg/kg-day	4.00E-02	mg/kg-day	1.74E-06														
				Selenium	2.24E-01	mg/kg	7.84E-08	mg/kg-day	--	--	--	--	2.20E-07	mg/kg-day	5.00E-03	mg/kg-day	4.39E-05														
				Silver	1.18E+00	mg/kg	4.05E-07	mg/kg-day	--	--	--	--	1.13E-06	mg/kg-day	5.00E-03	mg/kg-day	2.27E-04														
				Technical Chlordane	5.51E-01	mg/kg	1.93E-07	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	6.74E-08	--	5.39E-07	mg/kg-day	5.00E-04	mg/kg-day	1.08E-03														
				Thallium	4.97E-01	mg/kg	1.74E-07	mg/kg-day	--	--	--	--	4.86E-07	mg/kg-day	6.60E-05	mg/kg-day	7.37E-03														
				Toluene	4.30E-04	mg/kg	1.50E-10	mg/kg-day	--	--	--	--	4.21E-10	mg/kg-day	8.00E-02	mg/kg-day	5.26E-09														
				Vanadium	3.41E+01	mg/kg	1.18E-05	mg/kg-day	--	--	--	--	3.34E-05	mg/kg-day	1.00E-03	mg/kg-day	3.34E-02														
				Zinc	4.53E+02	mg/kg	1.58E-04	mg/kg-day	--	--	--	--	4.44E-04	mg/kg-day	3.00E-01	mg/kg-day	1.48E-03														
				<b>Exposure Route Total</b>										<b>1.28E-05</b>																	
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4'-DDD	4,4'-DDE	4,4'-DDT	1.50E+00	mg/kg	5.98E-07	mg/kg-day	--	--	--	--	1.67E-06	mg/kg-day	1.00E-02	mg/kg-day	1.67E-04
																			5.10E+00	mg/kg	2.03E-07	mg/kg-day	--	--	--	--	5.69E-07	mg/kg-day	1.00E-02	mg/kg-day	5.69E-05
																			5.00E-01	mg/kg	1.99E-08	mg/kg-day	--	--	--	--	5.58E-08	mg/kg-day	5.00E-02	mg/kg-day	1.12E-06
																			2.60E+01	mg/kg	1.04E-06	mg/kg-day	--	--	--	--	2.90E-06	mg/kg-day	9.00E-02	mg/kg-day	3.22E-05
																			3.60E-03	mg/kg	1.43E-10	mg/kg-day	8.80E-02	(mg/kg-day) <sup>-1</sup>	9.75E-12	--	4.02E-10	mg/kg-day	1.14E-03	mg/kg-day	3.52E-07
																			1.60E-01	mg/kg	6.37E-09	mg/kg-day	--	--	--	--	1.78E-08	mg/kg-day	5.00E-02	mg/kg-day	3.57E-07
																			1.10E+00	mg/kg	4.38E-08	mg/kg-day	--	--	--	--	1.23E-07	mg/kg-day	3.00E-02	mg/kg-day	4.09E-06
																			6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
																			2.10E-01	mg/kg	8.37E-09	mg/kg-day	--	--	--	--	2.34E-08	mg/kg-day	2.00E-02	mg/kg-day	1.17E-06
																			8.10E-02	mg/kg	3.23E-08	mg/kg-day	--	--	--	--	9.04E-08	mg/kg-day	5.00E-02	mg/kg-day	1.81E-06
																			1.67E+00	mg/kg	6.66E-08	mg/kg-day	--	--	--	--	1.86E-07	mg/kg-day	4.00E-03	mg/kg-day	4.66E-05
1.20E-03	mg/kg	4.78E-11	mg/kg-day																2.40E-01	(mg/kg-day) <sup>-1</sup>	1.15E-11	--	1.34E-10	mg/kg-day	5.00E-04	mg/kg-day	2.68E-07				
8.23E-02	mg/kg	3.28E-09	mg/kg-day																3.40E-01	(mg/kg-day) <sup>-1</sup>	1.11E-09	--	9.18E-09	mg/kg-day	5.00E-04	mg/kg-day	1.84E-05				
4.45E-02	mg/kg	5.32E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.81E-09	--	1.49E-08	mg/kg-day	5.00E-04	mg/kg-day	2.98E-05																			

TABLE H-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Methylphenol	2.70E-01	mg/kg	1.08E-07	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	5.00E-03	mg/kg-day	6.02E-05
				4-Nitroaniline	6.20E-01	mg/kg	2.47E-07	mg/kg-day	2.10E-02	--	5.19E-09	6.92E-07	mg/kg-day	3.00E-03	mg/kg-day	2.31E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.67E-07	mg/kg-day	--	--	--	4.68E-07	mg/kg-day	5.00E-04	mg/kg-day	9.37E-04
				Acenaphthene	4.23E+00	mg/kg	2.19E-06	mg/kg-day	--	--	--	6.14E-06	mg/kg-day	6.00E-02	mg/kg-day	1.02E-04
				Acenaphthylene	1.04E-01	mg/kg	4.15E-09	mg/kg-day	--	--	--	1.16E-08	mg/kg-day	6.00E-02	mg/kg-day	1.94E-07
				Aldrin	1.30E-02	mg/kg	5.18E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.80E-08	1.45E-08	mg/kg-day	3.00E-05	mg/kg-day	4.83E-04
				alpha-BHC	7.30E-04	mg/kg	2.91E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.83E-10	8.14E-11	mg/kg-day	5.00E-04	mg/kg-day	1.63E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	3.51E-05	mg/kg-day	--	--	--	9.84E-05	mg/kg-day	1.00E+00	mg/kg-day	9.84E-05
				Anthracene	1.05E+00	mg/kg	5.46E-07	mg/kg-day	--	--	--	1.53E-06	mg/kg-day	3.00E-01	mg/kg-day	5.10E-06
				Antimony	4.08E+00	mg/kg	1.62E-08	mg/kg-day	--	--	--	4.55E-08	mg/kg-day	4.00E-04	mg/kg-day	1.14E-04
				Aroclor-1248	1.20E+00	mg/kg	6.69E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.34E-06	1.87E-08	mg/kg-day	2.00E-05	mg/kg-day	9.37E-02
				Aroclor-1254	4.44E-01	mg/kg	2.48E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.95E-07	6.94E-07	mg/kg-day	2.00E-05	mg/kg-day	3.47E-02
				Aroclor-1260	5.41E-01	mg/kg	3.02E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.04E-07	8.45E-07	mg/kg-day	2.00E-05	mg/kg-day	4.23E-02
				Aroclor-1268	2.78E-02	mg/kg	1.55E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.10E-08	4.33E-08	mg/kg-day	2.00E-05	mg/kg-day	2.17E-03
				Arsenic	6.17E+00	mg/kg	7.37E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.11E-06	2.06E-06	mg/kg-day	3.00E-04	mg/kg-day	6.88E-03
				Barium	6.78E+01	mg/kg	2.70E-07	mg/kg-day	--	--	--	7.57E-07	mg/kg-day	7.00E-02	mg/kg-day	1.08E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	2.59E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.89E-06	7.26E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	8.62E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	6.30E-06	2.41E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.42E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.04E-06	3.97E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.95E-07	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	3.00E-02	mg/kg-day	3.69E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.69E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.23E-07	4.73E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	9.49E-10	mg/kg-day	--	--	--	2.66E-09	mg/kg-day	2.00E-03	mg/kg-day	1.33E-06
				Beta-BHC	2.20E-03	mg/kg	8.76E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.58E-10	2.45E-10	mg/kg-day	2.00E-04	mg/kg-day	1.23E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.12E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	4.37E-09	8.74E-07	mg/kg-day	2.00E-02	mg/kg-day	4.37E-05
				Cadmium	9.47E+00	mg/kg	3.77E-08	mg/kg-day	--	--	--	1.06E-07	mg/kg-day	5.00E-04	mg/kg-day	2.11E-04
				Carbon disulfide	2.40E-04	mg/kg	2.39E-10	mg/kg-day	--	--	--	6.69E-10	mg/kg-day	1.00E-01	mg/kg-day	6.69E-09
				Chlorobenzene	1.10E-01	mg/kg	4.38E-09	mg/kg-day	--	--	--	1.23E-08	mg/kg-day	2.00E-02	mg/kg-day	6.14E-07
				Chromium	1.11E+02	mg/kg	4.43E-07	mg/kg-day	--	--	--	1.24E-06	mg/kg-day	1.50E+00	mg/kg-day	8.27E-07
				Chrysene	5.68E+00	mg/kg	2.94E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.15E-08	8.24E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.02E-08	mg/kg-day	--	--	--	8.45E-08	mg/kg-day	2.00E-02	mg/kg-day	4.22E-06
				Copper	5.71E+01	mg/kg	2.27E-07	mg/kg-day	--	--	--	6.36E-07	mg/kg-day	3.70E-02	mg/kg-day	1.72E-05
				Delta-BHC	8.40E-03	mg/kg	1.67E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.01E-09	4.68E-09	mg/kg-day	2.00E-04	mg/kg-day	2.34E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.64E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.20E-06	4.60E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	5.18E-07	mg/kg-day	--	--	--	1.45E-06	mg/kg-day	2.00E-03	mg/kg-day	7.25E-04
				Dieldrin	5.51E-02	mg/kg	2.20E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.51E-08	6.15E-09	mg/kg-day	5.00E-05	mg/kg-day	1.23E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.51E-09	mg/kg-day	--	--	--	4.24E-09	mg/kg-day	1.00E+01	mg/kg-day	4.24E-10
				di-n-Butylphthalate	2.20E+00	mg/kg	8.76E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	1.00E-01	mg/kg-day	2.45E-06
				Endosulfan I	2.30E-02	mg/kg	4.58E-09	mg/kg-day	--	--	--	1.28E-08	mg/kg-day	6.00E-03	mg/kg-day	2.14E-06
				Endosulfan II	2.38E-02	mg/kg	4.74E-09	mg/kg-day	--	--	--	1.33E-08	mg/kg-day	6.00E-03	mg/kg-day	2.21E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	8.57E-09	mg/kg-day	--	--	--	2.40E-08	mg/kg-day	6.00E-03	mg/kg-day	4.00E-06
				Endrin aldehyde	4.21E-02	mg/kg	8.38E-09	mg/kg-day	--	--	--	2.35E-08	mg/kg-day	3.00E-04	mg/kg-day	7.82E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.37E-05	mg/kg-day	--	--	--	3.84E-05	mg/kg-day	4.00E-02	mg/kg-day	9.61E-04
				Fluorene	2.92E+00	mg/kg	1.51E-06	mg/kg-day	--	--	--	4.23E-06	mg/kg-day	4.00E-02	mg/kg-day	1.06E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.14E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.99E-10	1.16E-09	mg/kg-day	3.00E-04	mg/kg-day	3.87E-06
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	2.75E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.24E-09	7.70E-10	mg/kg-day	5.00E-04	mg/kg-day	1.54E-06
				Heptachlor Epoxide	1.12E-02	mg/kg	4.44E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	4.04E-09	1.24E-09	mg/kg-day	1.30E-05	mg/kg-day	9.57E-05
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.52E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.30E-07	1.27E-06	mg/kg-day	--	--	--

TABLE H-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Iron	4.07E+04	mg/kg	1.62E-04	mg/kg-day	--	--	--	--	4.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.51E-03
				Isophorone	2.00E-01	mg/kg	7.97E-08	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	7.57E-11	2.23E-07	mg/kg-day	2.00E-01	mg/kg-day	1.12E-06	
				Lead	2.90E+03	mg/kg	1.16E-05	mg/kg-day	--	--	--	3.24E-05	mg/kg-day	--	--	--	
				Manganese	3.31E+02	mg/kg	1.32E-06	mg/kg-day	--	--	--	3.69E-06	mg/kg-day	2.40E-02	mg/kg-day	1.64E-04	
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	
				Methoxychlor	1.20E-01	mg/kg	4.78E-09	mg/kg-day	--	--	--	1.34E-08	mg/kg-day	5.00E-03	mg/kg-day	2.68E-06	
				Molybdenum	2.50E+00	mg/kg	9.98E-09	mg/kg-day	--	--	--	2.79E-08	mg/kg-day	5.00E-03	mg/kg-day	5.59E-06	
				Naphthalene	1.30E+01	mg/kg	6.73E-06	mg/kg-day	--	--	--	1.89E-05	mg/kg-day	2.00E-02	mg/kg-day	9.43E-04	
				Nickel	3.91E+01	mg/kg	1.56E-07	mg/kg-day	--	--	--	4.36E-07	mg/kg-day	2.00E-02	mg/kg-day	2.18E-05	
				Phenanthrene	1.39E+01	mg/kg	5.55E-07	mg/kg-day	--	--	--	1.55E-06	mg/kg-day	3.00E-01	mg/kg-day	5.18E-06	
				Phenol	5.80E-01	mg/kg	2.31E-07	mg/kg-day	--	--	--	6.47E-07	mg/kg-day	3.00E-01	mg/kg-day	2.16E-06	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	
				Pyrene	2.41E+01	mg/kg	1.25E-05	mg/kg-day	--	--	--	3.50E-05	mg/kg-day	3.00E-02	mg/kg-day	1.17E-03	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	
				Selenium	2.24E-01	mg/kg	8.94E-10	mg/kg-day	--	--	--	2.50E-09	mg/kg-day	5.00E-03	mg/kg-day	5.01E-07	
				Silver	1.16E+00	mg/kg	4.62E-09	mg/kg-day	--	--	--	1.29E-08	mg/kg-day	5.00E-03	mg/kg-day	2.59E-06	
				Technical Chlordane	5.51E-01	mg/kg	6.78E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.07E-08	2.46E-07	mg/kg-day	5.00E-04	mg/kg-day	4.92E-04	
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--	
				Toluene	4.30E-04	mg/kg	1.71E-11	mg/kg-day	--	--	--	4.80E-11	mg/kg-day	8.00E-02	mg/kg-day	6.00E-10	
				Vanadium	3.41E+01	mg/kg	1.36E-07	mg/kg-day	--	--	--	3.81E-07	mg/kg-day	1.00E-03	mg/kg-day	3.81E-04	
				Zinc	4.53E+02	mg/kg	1.81E-06	mg/kg-day	--	--	--	5.06E-06	mg/kg-day	3.00E-01	mg/kg-day	1.69E-05	
				Exposure Route Total										1.46E-05			1.89E-01
				Exposure Point Total										2.74E-05			5.66E-01
Exposure Medium Total										2.74E-05			5.66E-01				
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	7.78E-12	mg/kg-day	--	--	--	--	2.18E-11	mg/kg-day	2.00E-02	mg/kg-day	1.09E-09	
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.00E-12	mg/kg-day	--	--	--	8.41E-12	mg/kg-day	--	--	--		
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	4.45E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	1.07E-14	1.25E-13	mg/kg-day	5.00E-04	mg/kg-day	2.49E-10		
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	1.65E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	5.61E-13	4.62E-12	mg/kg-day	5.00E-04	mg/kg-day	9.23E-09		
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.00E-11	mg/kg-day	--	--	--	2.80E-11	mg/kg-day	5.00E-03	mg/kg-day	5.60E-09		
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.30E-11	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	4.83E-13	6.43E-11	mg/kg-day	1.00E-03	mg/kg-day	6.43E-08		
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.56E-11	mg/kg-day	--	--	--	4.36E-11	mg/kg-day	5.70E-04	mg/kg-day	7.65E-08		
			Aluminum	6.68E-06	mg/m <sup>3</sup>	3.27E-07	mg/kg-day	--	--	--	9.16E-07	mg/kg-day	1.43E-03	mg/kg-day	6.40E-04		
			Antimony	3.09E-09	mg/m <sup>3</sup>	1.51E-10	mg/kg-day	--	--	--	4.23E-10	mg/kg-day	--	--	--		
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	4.45E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	8.90E-11	1.25E-10	mg/kg-day	2.00E-05	mg/kg-day	6.23E-06		
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	1.65E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.29E-11	4.81E-11	mg/kg-day	2.00E-05	mg/kg-day	2.30E-06		
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	2.01E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.01E-11	5.62E-11	mg/kg-day	2.00E-05	mg/kg-day	2.81E-06		
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	1.03E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.06E-12	2.88E-12	mg/kg-day	2.00E-05	mg/kg-day	1.44E-07		
			Arsenic	4.67E-09	mg/m <sup>3</sup>	2.29E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	3.43E-09	6.40E-10	mg/kg-day	--	--	--		
			Barium	5.14E-08	mg/m <sup>3</sup>	2.51E-09	mg/kg-day	--	--	--	7.04E-09	mg/kg-day	1.40E-04	mg/kg-day	5.03E-05		
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	1.85E-10	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.35E-10	5.19E-10	mg/kg-day	--	--	--		
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	6.17E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	4.51E-10	1.73E-10	mg/kg-day	--	--	--		
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	2.83E-11	mg/kg-day	--	--	--	7.92E-11	mg/kg-day	3.00E-02	mg/kg-day	2.64E-09		
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	1.21E-10	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	8.82E-12	3.38E-10	mg/kg-day	--	--	--		
			Beryllium	1.80E-10	mg/m <sup>3</sup>	8.83E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	7.41E-11	2.47E-11	mg/kg-day	5.71E-06	mg/kg-day	4.32E-06		
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	8.15E-14	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	1.51E-13	2.28E-13	mg/kg-day	2.00E-04	mg/kg-day	1.14E-09		
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	2.90E-10	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	4.06E-12	8.13E-10	mg/kg-day	2.00E-02	mg/kg-day	4.06E-08		
			Cadmium	7.18E-09	mg/m <sup>3</sup>	3.51E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	2.21E-09	9.83E-10	mg/kg-day	--	--	--		
			Chromium	8.42E-08	mg/m <sup>3</sup>	4.12E-09	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	--	--	--		
			Cobalt	5.74E-09	mg/m <sup>3</sup>	2.81E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	2.75E-09	7.86E-10	mg/kg-day	5.71E-06	mg/kg-day	1.38E-04		
			Copper	4.32E-08	mg/m <sup>3</sup>	2.11E-09	mg/kg-day	--	--	--	5.82E-09	mg/kg-day	--	--	--		

TABLE H-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	1.18E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	8.59E-11	3.29E-11	mg/kg-day	--	--	--				
				Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.41E-12	mg/kg-day	--	--	--	--	3.94E-12	mg/kg-day	1.00E+01	mg/kg-day	3.94E-13			
				di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	8.15E-11	mg/kg-day	--	--	--	--	2.28E-10	mg/kg-day	1.00E-01	mg/kg-day	2.28E-09			
				Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	1.56E-12	mg/kg-day	--	--	--	--	4.37E-12	mg/kg-day	3.00E-04	mg/kg-day	1.46E-08			
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	3.71E-13	mg/kg-day	--	--	--	--	1.04E-12	mg/kg-day	3.00E-04	mg/kg-day	3.46E-09			
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	4.13E-13	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	3.76E-12	1.16E-12	mg/kg-day	1.30E-05	mg/kg-day	8.90E-08				
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	3.24E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	2.36E-11	9.06E-11	mg/kg-day	--	--	--				
				Iron	3.09E-05	mg/m <sup>3</sup>	1.51E-06	mg/kg-day	--	--	--	4.23E-06	mg/kg-day	--	--	--				
				Isophorone	1.52E-10	mg/m <sup>3</sup>	7.41E-12	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	7.04E-15	2.08E-11	mg/kg-day	2.00E-01	mg/kg-day	1.04E-10				
				Lead	2.20E-06	mg/m <sup>3</sup>	1.08E-07	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	--	--	--				
				Manganese	2.51E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	--	--	--	3.44E-08	mg/kg-day	1.43E-05	mg/kg-day	2.40E-03				
				Mercury	2.34E-10	mg/m <sup>3</sup>	1.15E-11	mg/kg-day	--	--	--	3.21E-11	mg/kg-day	8.60E-05	mg/kg-day	3.74E-07				
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	9.28E-11	mg/kg-day	--	--	--	2.60E-10	mg/kg-day	--	--	--				
				Nickel	2.96E-08	mg/m <sup>3</sup>	1.45E-09	mg/kg-day	--	--	--	4.06E-09	mg/kg-day	--	--	--				
				Phenol	4.39E-10	mg/m <sup>3</sup>	2.15E-11	mg/kg-day	--	--	--	6.02E-11	mg/kg-day	3.00E-01	mg/kg-day	2.01E-10				
				Selenium	1.70E-10	mg/m <sup>3</sup>	8.32E-12	mg/kg-day	--	--	--	2.33E-11	mg/kg-day	--	--	--				
				Silver	8.78E-10	mg/m <sup>3</sup>	4.30E-11	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	--	--	--				
				Thalium	3.77E-10	mg/m <sup>3</sup>	1.84E-11	mg/kg-day	--	--	--	5.16E-11	mg/kg-day	--	--	--				
				Vanadium	2.59E-08	mg/m <sup>3</sup>	1.27E-09	mg/kg-day	--	--	--	3.54E-09	mg/kg-day	--	--	--				
				Zinc	3.44E-07	mg/m <sup>3</sup>	1.68E-08	mg/kg-day	--	--	--	4.71E-08	mg/kg-day	--	--	--				
				Exposure Route Total										9.34E-09						
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.11E-06	mg/kg-day	--	--	--	1.43E-05	mg/kg-day	1.10E-03	mg/kg-day	1.30E-02
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.74E-05	mg/kg-day	--	--	--	4.86E-05	mg/kg-day	1.10E-03	mg/kg-day	4.42E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	5.73E-06	mg/kg-day	--	--	--	1.61E-05	mg/kg-day	1.71E-03	mg/kg-day	9.36E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.60E-04	mg/kg-day	--	--	--	7.29E-04	mg/kg-day	5.70E-02	mg/kg-day	1.28E-02
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.40E-07	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	9.52E-09	3.92E-07	mg/kg-day	1.14E-03	mg/kg-day	3.44E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.79E-06	mg/kg-day	--	--	--	5.01E-06	mg/kg-day	1.71E-03	mg/kg-day	2.92E-03
1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	7.97E-06					mg/kg-day	--	--	--	2.23E-05	mg/kg-day	3.00E-02	mg/kg-day	7.44E-04				
1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	7.64E-05					mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.68E-06	2.14E-04	mg/kg-day	2.30E-01	mg/kg-day	9.31E-04				
2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	3.62E-06					mg/kg-day	--	--	--	1.01E-05	mg/kg-day	5.00E-02	mg/kg-day	2.03E-04				
4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	4.74E-10					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.61E-10	1.33E-09	mg/kg-day	5.00E-04	mg/kg-day	2.66E-06				
Acenaphthene	5.81E-05	mg/m <sup>3</sup>	2.84E-06					mg/kg-day	--	--	--	7.96E-06	mg/kg-day	6.00E-02	mg/kg-day	1.33E-04				
Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	7.00E-08					mg/kg-day	--	--	--	1.96E-07	mg/kg-day	6.00E-02	mg/kg-day	3.27E-06				
Aldrin	5.63E-09	mg/m <sup>3</sup>	2.76E-10					mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	4.68E-09	7.72E-10	mg/kg-day	3.00E-05	mg/kg-day	2.57E-05				
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.78E-10					mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.12E-09	4.98E-10	mg/kg-day	5.00E-04	mg/kg-day	9.97E-07				
alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	3.94E-10					mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.38E-10	1.10E-09	mg/kg-day	2.00E-04	mg/kg-day	5.52E-06				
Anthracene	1.45E-05	mg/m <sup>3</sup>	7.09E-07					mg/kg-day	--	--	--	1.98E-06	mg/kg-day	3.00E-01	mg/kg-day	6.61E-06				
Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	8.66E-08					mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	6.32E-08	2.43E-07	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.21E-08					mg/kg-day	--	--	--	6.20E-08	mg/kg-day	2.00E-01	mg/kg-day	3.10E-07				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.53E-06					mg/kg-day	--	--	--	7.09E-06	mg/kg-day	1.70E-02	mg/kg-day	4.17E-04				
Chrysene	6.25E-06	mg/m <sup>3</sup>	3.06E-07					mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.23E-09	8.56E-07	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.05E-09					mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	3.80E-09	5.73E-09	mg/kg-day	2.00E-04	mg/kg-day	2.87E-05				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.19E-06					mg/kg-day	--	--	--	6.15E-06	mg/kg-day	2.00E-03	mg/kg-day	3.07E-03				
Dieldrin	7.42E-08	mg/m <sup>3</sup>	3.63E-09					mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	5.81E-08	1.02E-08	mg/kg-day	5.00E-05	mg/kg-day	2.03E-04				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	3.94E-09					mg/kg-day	--	--	--	1.10E-08	mg/kg-day	6.00E-03	mg/kg-day	1.84E-06				
Endosulfan II	8.34E-08	mg/m <sup>3</sup>	4.08E-09					mg/kg-day	--	--	--	1.14E-08	mg/kg-day	6.00E-03	mg/kg-day	1.90E-06				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	7.37E-09					mg/kg-day	--	--	--	2.06E-08	mg/kg-day	6.00E-03	mg/kg-day	3.44E-06				
Fluoranthene	1.71E-05	mg/m <sup>3</sup>	8.39E-07					mg/kg-day	--	--	--	2.35E-06	mg/kg-day	4.00E-02	mg/kg-day	5.87E-05				
Fluorene	1.71E-05	mg/m <sup>3</sup>	8.35E-07	mg/kg-day	--	--	--	2.34E-06	mg/kg-day	4.00E-02	mg/kg-day	5.85E-05								
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	7.80E-10	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.01E-09	2.18E-09	mg/kg-day	3.00E-04	mg/kg-day	7.28E-06								

TABLE H-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	6.35E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.22E-10	1.78E-09	mg/kg-day	2.00E-04	mg/kg-day	8.88E-06				
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.65E-08	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	7.52E-08	4.63E-08	mg/kg-day	5.00E-04	mg/kg-day	9.26E-05				
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.22E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	5.00E-03	mg/kg-day	2.37E-06				
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.42E-05	mg/kg-day	--	--	--	9.58E-05	mg/kg-day	8.57E-04	mg/kg-day	1.12E-01				
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	9.35E-06	mg/kg-day	--	--	--	2.62E-05	mg/kg-day	3.00E-01	mg/kg-day	8.73E-05				
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	9.38E-06	mg/kg-day	--	--	--	2.63E-05	mg/kg-day	1.10E-01	mg/kg-day	2.39E-04				
				Pyrene	1.85E-05	mg/m <sup>3</sup>	9.04E-07	mg/kg-day	--	--	--	2.53E-06	mg/kg-day	3.00E-02	mg/kg-day	8.43E-05				
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.37E-06	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	4.00E-02	mg/kg-day	9.82E-05				
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	2.67E-08	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	9.34E-12	7.47E-08	mg/kg-day	2.00E-04	mg/kg-day	3.74E-04				
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.53E-08	mg/kg-day	--	--	--	4.28E-08	mg/kg-day	1.43E+00	mg/kg-day	2.99E-08				
				Exposure Route Total										1.90E-08			2.01E-01			
				Exposure Point Total										1.91E-08			2.05E-01			
						Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	3.99E+00	(a) ug/m <sup>3</sup>	1.95E-04	mg/kg-day	--	--	--	5.46E-04	mg/kg-day	1.10E-03	mg/kg-day	4.97E-01
								1,2,4-Trichlorobenzene	1.36E+01	(a) ug/m <sup>3</sup>	6.63E-04	mg/kg-day	--	--	--	1.86E-03	mg/kg-day	1.10E-03	mg/kg-day	1.69E+00
								1,2,4-Trimethylbenzene	1.33E+00	(a) ug/m <sup>3</sup>	6.50E-05	mg/kg-day	--	--	--	1.82E-04	mg/kg-day	1.71E-03	mg/kg-day	1.06E-01
1,2-Dichlorobenzene	6.91E+01	(a) ug/m <sup>3</sup>	3.38E-03					mg/kg-day	--	--	--	9.47E-03	mg/kg-day	5.70E-02	mg/kg-day	1.66E-01				
p-Dichloropropane	9.57E-03	(a) ug/m <sup>3</sup>	4.68E-07					mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	3.18E-08	1.31E-06	mg/kg-day	1.14E-03	mg/kg-day	1.15E-03				
1,3,5-Trimethylbenzene	4.25E-01	(a) ug/m <sup>3</sup>	2.08E-05					mg/kg-day	--	--	--	5.83E-05	mg/kg-day	1.71E-03	mg/kg-day	3.40E-02				
1,3-Dichlorobenzene	2.93E+00	(a) ug/m <sup>3</sup>	1.43E-04					mg/kg-day	--	--	--	4.01E-04	mg/kg-day	3.00E-02	mg/kg-day	1.34E-02				
1,4-Dichlorobenzene	1.81E+01	(a) ug/m <sup>3</sup>	8.85E-04					mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.95E-05	2.48E-03	mg/kg-day	2.30E-01	mg/kg-day	1.08E-02				
2-Methylnaphthalene	1.96E+00	(a) ug/m <sup>3</sup>	9.60E-05					mg/kg-day	--	--	--	2.69E-04	mg/kg-day	5.00E-02	mg/kg-day	5.38E-03				
4,4'-DDE	2.42E-08	(a) ug/m <sup>3</sup>	1.19E-10					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.03E-11	3.32E-10	mg/kg-day	5.00E-04	mg/kg-day	6.84E-07				
Acenaphthene	6.79E-01	(a) ug/m <sup>3</sup>	3.32E-05					mg/kg-day	--	--	--	9.30E-05	mg/kg-day	6.00E-02	mg/kg-day	1.55E-03				
Acenaphthylene	1.75E-02	(a) ug/m <sup>3</sup>	8.58E-07					mg/kg-day	--	--	--	2.40E-06	mg/kg-day	6.00E-02	mg/kg-day	4.00E-05				
Aldrin	6.43E-06	(a) ug/m <sup>3</sup>	3.14E-10					mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	5.34E-09	8.80E-10	mg/kg-day	3.00E-05	mg/kg-day	2.93E-05				
alpha-BHC	4.31E-05	(a) ug/m <sup>3</sup>	2.11E-09					mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.33E-08	5.80E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05				
alpha-Chlordane	2.17E-05	(a) ug/m <sup>3</sup>	1.06E-09					mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.71E-10	2.97E-09	mg/kg-day	2.00E-04	mg/kg-day	1.48E-05				
Anthracene	1.79E-01	(a) ug/m <sup>3</sup>	8.74E-06					mg/kg-day	--	--	--	2.45E-05	mg/kg-day	3.00E-01	mg/kg-day	8.16E-05				
Benzo(b)fluoranthene	1.26E-03	(a) ug/m <sup>3</sup>	6.16E-08					mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.50E-08	1.72E-07	mg/kg-day	--	--	--				
Carbon Disulfide	6.38E-04	(a) ug/m <sup>3</sup>	3.12E-08					mg/kg-day	--	--	--	8.74E-08	mg/kg-day	2.00E-01	mg/kg-day	4.37E-07				
Chlorobenzene	2.93E-01	(a) ug/m <sup>3</sup>	1.43E-05					mg/kg-day	--	--	--	4.01E-05	mg/kg-day	1.70E-02	mg/kg-day	2.36E-03				
Chrysene	7.10E-03	(a) ug/m <sup>3</sup>	3.47E-07					mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.54E-09	9.73E-07	mg/kg-day	--	--	--				
Delta-BHC	7.37E-04	(a) ug/m <sup>3</sup>	3.61E-08					mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	6.69E-08	1.01E-07	mg/kg-day	2.00E-04	mg/kg-day	5.05E-04				
Dibenzofuran	9.47E-03	(a) ug/m <sup>3</sup>	4.63E-07					mg/kg-day	--	--	--	1.30E-06	mg/kg-day	2.00E-03	mg/kg-day	8.48E-04				
Dieldrin	2.09E-04	(a) ug/m <sup>3</sup>	1.02E-08					mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.64E-07	2.87E-08	mg/kg-day	5.00E-05	mg/kg-day	5.74E-04				
Endosulfan I	8.63E-04	(a) ug/m <sup>3</sup>	4.22E-08					mg/kg-day	--	--	--	1.18E-07	mg/kg-day	6.00E-03	mg/kg-day	1.97E-05				
Endosulfan II	8.78E-04	(a) ug/m <sup>3</sup>	4.30E-08					mg/kg-day	--	--	--	1.20E-07	mg/kg-day	6.00E-03	mg/kg-day	2.00E-05				
Endosulfan Sulfate	1.61E-03	(a) ug/m <sup>3</sup>	7.88E-08					mg/kg-day	--	--	--	2.21E-07	mg/kg-day	6.00E-03	mg/kg-day	3.68E-05				
fluoranthene	1.96E-03	(a) ug/m <sup>3</sup>	9.59E-08					mg/kg-day	--	--	--	2.69E-07	mg/kg-day	4.00E-02	mg/kg-day	6.71E-06				
Fluorene	1.07E-01	(a) ug/m <sup>3</sup>	5.24E-06					mg/kg-day	--	--	--	1.47E-05	mg/kg-day	4.00E-02	mg/kg-day	3.67E-04				
gamma-BHC (Lindane)	2.28E-04	(a) ug/m <sup>3</sup>	1.12E-08					mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.45E-08	3.13E-08	mg/kg-day	3.00E-04	mg/kg-day	1.04E-04				
gamma-Chlordane	3.94E-07	(a) ug/m <sup>3</sup>	1.93E-11					mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	6.75E-12	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07				
Heptachlor	4.34E-05	(a) ug/m <sup>3</sup>	2.12E-09					mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	9.65E-09	5.94E-09	mg/kg-day	5.00E-04	mg/kg-day	1.19E-05				
Methoxychlor	1.18E-04	(a) ug/m <sup>3</sup>	5.80E-09					mg/kg-day	--	--	--	1.62E-08	mg/kg-day	5.00E-03	mg/kg-day	3.25E-06				
Methylene Chloride	6.38E-03	(a) ug/m <sup>3</sup>	3.12E-07	mg/kg-day	1.60E-03	(mg/kg-day) <sup>-1</sup>	5.00E-10	8.74E-07	mg/kg-day	8.57E-01	mg/kg-day	1.02E-06								
Naphthalene	2.55E+01	(a) ug/m <sup>3</sup>	1.25E-03	mg/kg-day	--	--	--	3.49E-03	mg/kg-day	8.57E-04	mg/kg-day	4.08E+00								
Phenanthrene	2.29E+00	(a) ug/m <sup>3</sup>	1.12E-04	mg/kg-day	--	--	--	3.14E-04	mg/kg-day	3.00E-01	mg/kg-day	1.05E-03								
p-Isopropyltoluene	2.93E-01	(a) ug/m <sup>3</sup>	1.43E-05	mg/kg-day	--	--	--	4.01E-05	mg/kg-day	1.10E-01	mg/kg-day	3.64E-04								
Pyrene	1.59E-02	(a) ug/m <sup>3</sup>	7.78E-07	mg/kg-day	--	--	--	2.18E-06	mg/kg-day	3.00E-02	mg/kg-day	7.26E-05								

TABLE H-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	sec-Butylbenzene	9.25E-02	(a) ug/m <sup>3</sup>	4.53E-06	mg/kg-day	--	--	--	1.27E-05	mg/kg-day	4.00E-02	mg/kg-day	3.17E-04
				Technical Chlordane	1.68E-03	(a) ug/m <sup>3</sup>	8.21E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	2.87E-11	2.30E-07	mg/kg-day	2.00E-04	mg/kg-day	1.15E-03
				Toluene	1.14E-03	(a) ug/m <sup>3</sup>	5.59E-08	mg/kg-day	--	--	--	1.57E-07	mg/kg-day	1.43E+00	mg/kg-day	1.10E-07
				<b>Exposure Route Total</b>												
		<b>Exposure Point Total</b>														
	<b>Exposure Medium Total</b>															
<b>Medium Total</b>																
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.1E-08	mg/kg-day	--	--	--	5.8E-08	mg/kg-day	1.40E-01	mg/kg-day	4.14E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.2E-09	mg/kg-day	--	--	--	1.7E-08	mg/kg-day	1.71E-03	mg/kg-day	1.01E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.0E-08	mg/kg-day	--	--	--	1.1E-07	mg/kg-day	5.70E-02	mg/kg-day	1.99E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	2.9E-08	mg/kg-day	9.10E-02	--	2.65E-09	8.2E-08	mg/kg-day	1.40E-03	mg/kg-day	5.82E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.1E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	7.42E-10	3.1E-08	mg/kg-day	1.14E-03	mg/kg-day	2.68E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.5E-09	mg/kg-day	--	--	--	9.8E-09	mg/kg-day	1.71E-03	mg/kg-day	5.75E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.4E-08	mg/kg-day	2.20E-02	(mg/kg-day)-1	3.03E-10	3.9E-08	mg/kg-day	2.30E-01	mg/kg-day	1.68E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	5.3E-10	mg/kg-day	--	--	--	1.5E-09	mg/kg-day	1.43E+00	mg/kg-day	1.04E-09
				2-Methylnaphthalene	9.87E-10	mg/m <sup>3</sup>	4.7E-11	mg/kg-day	--	--	--	1.3E-10	mg/kg-day	5.00E-02	mg/kg-day	2.65E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	6.3E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.15E-11	1.8E-10	mg/kg-day	5.00E-04	mg/kg-day	3.54E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.0E-10	mg/kg-day	--	--	--	5.6E-10	mg/kg-day	8.60E-01	mg/kg-day	6.44E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.9E-09	mg/kg-day	--	--	--	5.3E-09	mg/kg-day	6.00E-02	mg/kg-day	8.85E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	8.1E-11	mg/kg-day	--	--	--	2.3E-10	mg/kg-day	6.00E-02	mg/kg-day	3.77E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.1E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.86E-09	3.1E-10	mg/kg-day	3.00E-05	mg/kg-day	1.02E-05
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.4E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	8.73E-11	3.9E-11	mg/kg-day	5.00E-04	mg/kg-day	7.76E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.3E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.15E-11	9.2E-11	mg/kg-day	2.00E-04	mg/kg-day	4.59E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.6E-10	mg/kg-day	--	--	--	4.5E-10	mg/kg-day	3.00E-01	mg/kg-day	1.50E-09
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.3E-08	mg/kg-day	2.73E-02	(mg/kg-day)-1	3.49E-10	3.6E-08	mg/kg-day	8.60E-03	mg/kg-day	4.16E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.4E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.74E-11	6.7E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	3.6E-10	mg/kg-day	3.85E-03	(mg/kg-day)-1	1.39E-12	1.0E-09	mg/kg-day	2.00E-02	mg/kg-day	5.04E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.2E-07	mg/kg-day	--	--	--	6.2E-07	mg/kg-day	2.00E-01	mg/kg-day	3.09E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	3.6E-09	mg/kg-day	--	--	--	1.0E-08	mg/kg-day	1.70E-02	mg/kg-day	5.90E-07
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.0E-07	mg/kg-day	8.05E-02	(mg/kg-day)-1	8.14E-09	2.8E-07	mg/kg-day	1.40E-02	mg/kg-day	2.02E-05
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	3.7E-08	mg/kg-day	--	--	--	1.0E-07	mg/kg-day	2.60E-02	mg/kg-day	3.95E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	6.4E-11	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.70E-13	1.8E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.6E-08	mg/kg-day	--	--	--	7.3E-08	mg/kg-day	1.00E-02	mg/kg-day	7.26E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	4.8E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	7.89E-10	1.3E-10	mg/kg-day	5.00E-05	mg/kg-day	2.69E-06
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.1E-11	mg/kg-day	--	--	--	3.1E-11	mg/kg-day	6.00E-03	mg/kg-day	5.11E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.8E-14	mg/kg-day	--	--	--	5.0E-14	mg/kg-day	6.00E-03	mg/kg-day	8.40E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	9.8E-09	mg/kg-day	--	--	--	2.7E-08	mg/kg-day	2.90E-01	mg/kg-day	9.42E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.5E-11	mg/kg-day	--	--	--	6.9E-11	mg/kg-day	4.00E-02	mg/kg-day	1.73E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	4.9E-11	mg/kg-day	--	--	--	1.4E-10	mg/kg-day	4.00E-02	mg/kg-day	3.42E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.1E-14	mg/kg-day	1.30E+00	(mg/kg-day)-1	7.90E-14	1.7E-13	mg/kg-day	3.00E-04	mg/kg-day	5.67E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	8.5E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.98E-11	2.4E-10	mg/kg-day	2.00E-04	mg/kg-day	1.19E-06
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	8.7E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	3.97E-09	2.4E-09	mg/kg-day	5.00E-04	mg/kg-day	4.89E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.7E-06	mg/kg-day	--	--	--	4.7E-06	mg/kg-day	1.10E-01	mg/kg-day	4.27E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.4E-08	mg/kg-day	--	--	--	9.5E-08	mg/kg-day	2.90E-02	mg/kg-day	3.28E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.6E-10	mg/kg-day	--	--	--	4.5E-10	mg/kg-day	5.00E-03	mg/kg-day	8.95E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	2.7E-10	mg/kg-day	--	--	--	7.4E-10	mg/kg-day	8.57E-04	mg/kg-day	8.68E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.2E-08	mg/kg-day	--	--	--	3.5E-08	mg/kg-day	8.57E-04	mg/kg-day	4.04E-05
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.4E-08	mg/kg-day	--	--	--	3.9E-08	mg/kg-day	4.00E-02	mg/kg-day	9.65E-07
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.3E-10	mg/kg-day	--	--	--	3.6E-10	mg/kg-day	3.00E-01	mg/kg-day	1.20E-09
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.7E-06	mg/kg-day	--	--	--	4.7E-06	mg/kg-day	1.10E-01	mg/kg-day	4.27E-05

TABLE H-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Pyrene	4.61E-10	mg/m <sup>3</sup>	2.3E-11	mg/kg-day	--	--	--	--	6.3E-11	mg/kg-day	3.00E-02	mg/kg-day	2.11E-09
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	3.9E-08	mg/kg-day	--	--	--	--	1.1E-07	mg/kg-day	4.00E-02	mg/kg-day	2.74E-06
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	4.4E-08	mg/kg-day	--	--	--	--	1.2E-07	mg/kg-day	4.00E-02	mg/kg-day	3.11E-06
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.9E-08	mg/kg-day	--	--	--	--	5.2E-08	mg/kg-day	1.43E+00	mg/kg-day	3.64E-08
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.4E-08	mg/kg-day	--	--	--	--	1.2E-07	mg/kg-day	2.00E-02	mg/kg-day	6.14E-06
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	4.6E-08	mg/kg-day	4.00E-01	(mg/kg-day)-1	1.82E-08	--	1.3E-07	mg/kg-day	1.00E-02	mg/kg-day	1.28E-05
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	9.4E-08	mg/kg-day	3.10E-02	(mg/kg-day)-1	2.92E-09	--	2.6E-07	mg/kg-day	2.86E-02	mg/kg-day	9.25E-06
				Exposure Route Total										4.01E-08			3.28E-04
				Exposure Point Total										4.01E-08			3.28E-04
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	5.98E-02	ug/m <sup>3</sup>	2.92E-06	mg/kg-day	--	--	--	--	8.19E-08
1,2,4-Trimethylbenzene	2.69E-03	ug/m <sup>3</sup>	1.32E-07					mg/kg-day	--	--	--	--	3.69E-07	mg/kg-day	1.71E-03	mg/kg-day	2.15E-04
1,2-Dichlorobenzene	1.72E-02	ug/m <sup>3</sup>	8.43E-07					mg/kg-day	--	--	--	--	2.36E-06	mg/kg-day	5.70E-02	mg/kg-day	4.14E-05
1,2-Dichloroethane	1.31E-02	ug/m <sup>3</sup>	6.39E-07					mg/kg-day	9.10E-02	(mg/kg-day)-1	5.81E-08	--	1.79E-06	mg/kg-day	1.40E-02	mg/kg-day	1.28E-03
1,2-Dichloropropane	5.23E-03	ug/m <sup>3</sup>	2.56E-07					mg/kg-day	6.80E-02	(mg/kg-day)-1	1.74E-08	--	7.16E-07	mg/kg-day	1.14E-03	mg/kg-day	6.28E-04
1,3,5-Trimethylbenzene	1.54E-03	ug/m <sup>3</sup>	7.52E-08					mg/kg-day	--	--	--	--	2.10E-07	mg/kg-day	1.71E-03	mg/kg-day	1.23E-04
1,4-Dichlorobenzene	5.99E-03	ug/m <sup>3</sup>	2.93E-07					mg/kg-day	2.20E-02	(mg/kg-day)-1	6.45E-09	--	8.20E-07	mg/kg-day	2.30E-01	mg/kg-day	3.57E-06
2-Hexanone	2.54E-04	ug/m <sup>3</sup>	1.25E-08					mg/kg-day	--	--	--	--	3.49E-08	mg/kg-day	1.43E+00	mg/kg-day	2.44E-08
2-Methylnaphthalene	1.77E-05	ug/m <sup>3</sup>	8.68E-10					mg/kg-day	--	--	--	--	2.43E-09	mg/kg-day	5.00E-02	mg/kg-day	4.86E-08
4,4'-DDE	4.94E-08	ug/m <sup>3</sup>	2.41E-12					mg/kg-day	3.40E-01	(mg/kg-day)-1	8.21E-13	--	6.76E-12	mg/kg-day	5.00E-04	mg/kg-day	1.35E-08
4-Methyl-2-pentanone	9.24E-05	ug/m <sup>3</sup>	4.52E-09					mg/kg-day	--	--	--	--	1.27E-08	mg/kg-day	8.60E-01	mg/kg-day	1.47E-08
Acenaphthene	8.04E-04	ug/m <sup>3</sup>	3.93E-08					mg/kg-day	--	--	--	--	1.10E-07	mg/kg-day	6.00E-02	mg/kg-day	1.84E-06
Acenaphthylene	3.42E-05	ug/m <sup>3</sup>	1.67E-09					mg/kg-day	--	--	--	--	4.68E-09	mg/kg-day	6.00E-02	mg/kg-day	7.81E-08
Aldrin	1.05E-07	ug/m <sup>3</sup>	5.13E-12					mg/kg-day	1.70E+01	(mg/kg-day)-1	8.72E-11	--	1.44E-11	mg/kg-day	3.00E-05	mg/kg-day	4.79E-07
alpha-BHC	1.39E-08	ug/m <sup>3</sup>	6.79E-13					mg/kg-day	6.30E+00	(mg/kg-day)-1	4.28E-12	--	1.90E-12	mg/kg-day	5.00E-04	mg/kg-day	3.80E-09
alpha-Chlordane	8.38E-08	ug/m <sup>3</sup>	4.10E-12					mg/kg-day	3.50E-01	(mg/kg-day)-1	1.43E-12	--	1.15E-11	mg/kg-day	2.00E-04	mg/kg-day	5.74E-08
Anthracene	6.79E-05	ug/m <sup>3</sup>	3.32E-09					mg/kg-day	--	--	--	--	9.31E-09	mg/kg-day	3.00E-01	mg/kg-day	3.10E-08
Benzene	6.09E-03	ug/m <sup>3</sup>	2.98E-07					mg/kg-day	2.73E-02	(mg/kg-day)-1	8.13E-09	--	8.34E-07	mg/kg-day	8.60E-03	mg/kg-day	9.69E-05
Benzo(b)fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.19E-10					mg/kg-day	7.30E-01	(mg/kg-day)-1	3.06E-10	--	1.17E-09	mg/kg-day	--	--	--
Bromoform	2.09E-04	ug/m <sup>3</sup>	1.02E-08					mg/kg-day	3.85E-03	(mg/kg-day)-1	3.94E-11	--	2.87E-08	mg/kg-day	2.00E-02	mg/kg-day	1.43E-06
Carbon disulfide	1.07E-01	ug/m <sup>3</sup>	5.21E-06					mg/kg-day	--	--	--	--	1.46E-05	mg/kg-day	2.00E-01	mg/kg-day	7.30E-05
Chlorobenzene	1.65E-03	ug/m <sup>3</sup>	8.06E-08					mg/kg-day	--	--	--	--	2.26E-07	mg/kg-day	1.70E-02	mg/kg-day	1.33E-05
Chloroform	4.74E-02	ug/m <sup>3</sup>	2.32E-06					mg/kg-day	8.05E-02	(mg/kg-day)-1	1.87E-07	--	6.50E-06	mg/kg-day	1.40E-02	mg/kg-day	4.64E-04
Chloromethane	1.86E-02	ug/m <sup>3</sup>	9.09E-07					mg/kg-day	--	--	--	--	2.55E-06	mg/kg-day	2.60E-02	mg/kg-day	9.79E-05
Chrysene	2.39E-05	ug/m <sup>3</sup>	1.17E-09					mg/kg-day	7.30E-03	(mg/kg-day)-1	8.53E-12	--	3.27E-09	mg/kg-day	--	--	--
cis-1,2-Dichloroethene	1.31E-02	ug/m <sup>3</sup>	6.43E-07					mg/kg-day	--	--	--	--	1.80E-06	mg/kg-day	1.00E-02	mg/kg-day	1.80E-04
Dieldrin	1.62E-08	ug/m <sup>3</sup>	7.91E-13					mg/kg-day	1.80E+01	(mg/kg-day)-1	1.27E-11	--	2.21E-12	mg/kg-day	5.00E-05	mg/kg-day	4.43E-08
Endosulfan I	2.10E-08	ug/m <sup>3</sup>	1.03E-12					mg/kg-day	--	--	--	--	2.87E-12	mg/kg-day	6.00E-03	mg/kg-day	4.78E-10
Endosulfan II	7.00E-09	ug/m <sup>3</sup>	3.42E-13					mg/kg-day	--	--	--	--	9.58E-13	mg/kg-day	6.00E-03	mg/kg-day	1.60E-10
Ethylbenzene	4.38E-03	ug/m <sup>3</sup>	2.14E-07					mg/kg-day	--	--	--	--	6.00E-07	mg/kg-day	2.90E-01	mg/kg-day	2.07E-06
Fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.19E-10					mg/kg-day	--	--	--	--	1.17E-09	mg/kg-day	4.00E-02	mg/kg-day	2.93E-08
Fluorene	2.18E-05	ug/m <sup>3</sup>	1.06E-09					mg/kg-day	--	--	--	--	2.98E-09	mg/kg-day	4.00E-02	mg/kg-day	7.45E-08
gamma-BHC (Lindane)	1.87E-08	ug/m <sup>3</sup>	9.17E-13					mg/kg-day	1.30E+00	(mg/kg-day)-1	1.19E-12	--	2.57E-12	mg/kg-day	3.00E-04	mg/kg-day	8.56E-09
gamma-Chlordane	4.05E-08	ug/m <sup>3</sup>	1.98E-12					mg/kg-day	3.50E-01	(mg/kg-day)-1	6.94E-13	--	5.55E-12	mg/kg-day	2.00E-04	mg/kg-day	2.78E-08
Heptachlor	2.94E-07	ug/m <sup>3</sup>	1.44E-11					mg/kg-day	4.55E+00	(mg/kg-day)-1	6.54E-11	--	4.03E-11	mg/kg-day	5.00E-04	mg/kg-day	8.05E-08
Isopropylbenzene	6.87E-01	ug/m <sup>3</sup>	3.36E-05					mg/kg-day	--	--	--	--	9.41E-05	mg/kg-day	1.10E-01	mg/kg-day	8.56E-04
m,p-Xylene	1.54E-02	ug/m <sup>3</sup>	7.53E-07					mg/kg-day	--	--	--	--	2.11E-06	mg/kg-day	2.90E-02	mg/kg-day	7.27E-05
Methoxychlor	5.41E-08	ug/m <sup>3</sup>	2.65E-12					mg/kg-day	--	--	--	--	7.41E-12	mg/kg-day	5.00E-03	mg/kg-day	1.48E-09
Naphthalene	1.13E-04	ug/m <sup>3</sup>	5.51E-09					mg/kg-day	--	--	--	--	1.54E-08	mg/kg-day	8.57E-04	mg/kg-day	1.80E-05
n-Butylbenzene	5.41E-03	ug/m <sup>3</sup>	2.65E-07					mg/kg-day	--	--	--	--	7.41E-07	mg/kg-day	8.57E-04	mg/kg-day	8.64E-04
n-Propylbenzene	6.10E-03	ug/m <sup>3</sup>	2.99E-07	mg/kg-day	--	--	--	--	8.38E-07	mg/kg-day	4.00E-02	mg/kg-day	2.09E-05				

TABLE H-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units					
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Phenanthrene	5.55E-05	ug/m <sup>3</sup>	2.71E-09	mg/kg-day	--	--	--	--	7.60E-09	mg/kg-day	3.00E-01	mg/kg-day	2.53E-08	
				p-isopropyltoluene	6.87E-01	ug/m <sup>3</sup>	3.36E-05	mg/kg-day	--	--	--	--	9.41E-05	mg/kg-day	1.10E-01	mg/kg-day	8.56E-04	
				Pyrene	7.39E-06	ug/m <sup>3</sup>	3.62E-10	mg/kg-day	--	--	--	--	1.01E-09	mg/kg-day	3.00E-02	mg/kg-day	3.37E-08	
				sec-Butylbenzene	2.17E-04	ug/m <sup>3</sup>	1.06E-08	mg/kg-day	--	--	--	--	2.98E-08	mg/kg-day	4.00E-02	mg/kg-day	7.45E-07	
				Tert-Butylbenzene	2.17E-02	ug/m <sup>3</sup>	1.06E-06	mg/kg-day	--	--	--	--	2.97E-06	mg/kg-day	4.00E-02	mg/kg-day	7.43E-05	
				Toluene	8.34E-04	ug/m <sup>3</sup>	4.08E-08	mg/kg-day	--	--	--	--	1.14E-07	mg/kg-day	1.43E+00	mg/kg-day	8.00E-08	
				trans-1,2-Dichloroethene	2.31E-02	ug/m <sup>3</sup>	1.13E-06	mg/kg-day	--	--	--	--	3.16E-06	mg/kg-day	2.00E-02	mg/kg-day	1.58E-04	
				Trichloroethene	2.18E-02	ug/m <sup>3</sup>	1.07E-06	mg/kg-day	4.00E-01	(mg/kg-day)-1	3.10E-02	(mg/kg-day)-1	4.27E-07	2.99E-06	mg/kg-day	1.00E-02	mg/kg-day	2.99E-04
				Vinyl chloride	4.98E-02	ug/m <sup>3</sup>	2.44E-06	mg/kg-day	3.10E-02	(mg/kg-day)-1	3.10E-02	(mg/kg-day)-1	7.55E-08	6.82E-06	mg/kg-day	2.86E-02	mg/kg-day	2.39E-04
				Exposure Route Total														
		Exposure Point Total														6.74E-03		
		Exposure Medium Total														7.06E-03		
Medium Total																7.06E-03		
										Total of Receptor Risks Across All Media		5.00E-05		Total of Receptor Hazards Across All Media		7.38E+00		

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	5.24E-07	mg/kg-day	--	--	--	1.47E-06	mg/kg-day	1.00E-02	mg/kg-day	1.47E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.78E-06	mg/kg-day	--	--	--	4.99E-06	mg/kg-day	1.00E-02	mg/kg-day	4.99E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.75E-07	mg/kg-day	--	--	--	4.89E-07	mg/kg-day	5.00E-02	mg/kg-day	9.78E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	9.09E-06	mg/kg-day	--	--	--	2.54E-05	mg/kg-day	9.00E-02	mg/kg-day	2.83E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.26E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	8.55E-11	3.52E-09	mg/kg-day	1.14E-03	mg/kg-day	3.09E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.59E-08	mg/kg-day	--	--	--	1.57E-07	mg/kg-day	5.00E-02	mg/kg-day	3.13E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	3.84E-07	mg/kg-day	--	--	--	1.08E-06	mg/kg-day	3.00E-02	mg/kg-day	3.59E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	2.38E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	5.70E-08	6.65E-06	mg/kg-day	3.00E-02	mg/kg-day	2.22E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	7.34E-08	mg/kg-day	--	--	--	2.05E-07	mg/kg-day	2.00E-02	mg/kg-day	1.03E-05
				2-Methylphenol	8.10E-02	mg/kg	2.83E-08	mg/kg-day	--	--	--	7.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.59E-06
				2-Methylnaphthalene	1.45E+00	mg/kg	5.06E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	4.00E-03	mg/kg-day	3.55E-04
				4,4'-DDD	1.20E-03	mg/kg	4.19E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.01E-10	1.17E-09	mg/kg-day	5.00E-04	mg/kg-day	2.35E-06
				4,4'-DDE	7.50E-02	mg/kg	2.62E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	8.91E-09	7.34E-08	mg/kg-day	5.00E-04	mg/kg-day	1.47E-04
				4,4'-DDT	4.20E-02	mg/kg	1.47E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.99E-09	4.11E-08	mg/kg-day	5.00E-04	mg/kg-day	8.22E-05
				4-Methylphenol	2.70E-01	mg/kg	9.44E-08	mg/kg-day	--	--	--	2.64E-07	mg/kg-day	5.00E-03	mg/kg-day	5.28E-05
				4-Nitroaniline	6.20E-01	mg/kg	2.17E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.55E-09	6.07E-07	mg/kg-day	3.00E-03	mg/kg-day	2.02E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.47E-07	mg/kg-day	--	--	--	4.11E-07	mg/kg-day	5.00E-04	mg/kg-day	8.22E-04
				Acenaphthene	3.47E+00	mg/kg	1.21E-06	mg/kg-day	--	--	--	3.40E-06	mg/kg-day	6.00E-02	mg/kg-day	5.66E-05
				Acenaphthylene	8.96E-02	mg/kg	3.13E-08	mg/kg-day	--	--	--	8.76E-08	mg/kg-day	6.00E-02	mg/kg-day	1.46E-06
				Aldrin	1.30E-02	mg/kg	4.54E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.72E-08	1.27E-08	mg/kg-day	3.00E-05	mg/kg-day	4.24E-04
				alpha-BHC	7.30E-04	mg/kg	2.55E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.61E-09	7.14E-10	mg/kg-day	5.00E-04	mg/kg-day	1.43E-06
				alpha-Chlordane	6.98E-03	mg/kg	2.44E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	8.54E-10	6.83E-09	mg/kg-day	5.00E-04	mg/kg-day	1.37E-05
				Aluminum	9.05E+03	mg/kg	3.16E-03	mg/kg-day	--	--	--	8.86E-03	mg/kg-day	1.00E+00	mg/kg-day	8.86E-03
				Anthracene	9.13E-01	mg/kg	3.19E-07	mg/kg-day	--	--	--	8.94E-07	mg/kg-day	3.00E-01	mg/kg-day	2.98E-06
				Antimony	2.72E+00	mg/kg	9.52E-07	mg/kg-day	--	--	--	2.67E-06	mg/kg-day	4.00E-04	mg/kg-day	6.66E-03
				Aroclor-1248	1.20E+00	mg/kg	4.19E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.39E-07	1.17E-06	mg/kg-day	2.00E-05	mg/kg-day	5.87E-02
				Aroclor-1254	4.38E-01	mg/kg	1.53E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.06E-07	4.28E-07	mg/kg-day	2.00E-05	mg/kg-day	2.14E-02
				Aroclor-1260	4.88E-01	mg/kg	1.71E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.41E-07	4.78E-07	mg/kg-day	2.00E-05	mg/kg-day	2.39E-02
				Aroclor-1268	2.72E-02	mg/kg	9.50E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.90E-08	2.68E-08	mg/kg-day	2.00E-05	mg/kg-day	1.33E-03
				Arsenic	9.53E+00	mg/kg	3.33E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.00E-06	9.33E-06	mg/kg-day	3.00E-04	mg/kg-day	3.11E-02
				Barium	6.94E+01	mg/kg	2.43E-05	mg/kg-day	--	--	--	6.80E-05	mg/kg-day	7.00E-02	mg/kg-day	9.71E-04
				Benzo(a)anthracene	4.21E+00	mg/kg	1.47E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.07E-06	4.12E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	4.91E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.59E-06	1.38E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	8.29E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.05E-07	2.32E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	2.26E-07	mg/kg-day	--	--	--	6.34E-07	mg/kg-day	3.00E-02	mg/kg-day	2.11E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	9.87E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	7.21E-08	2.78E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	7.96E-08	mg/kg-day	--	--	--	2.23E-07	mg/kg-day	2.00E-03	mg/kg-day	1.11E-04
				Beta-BHC	2.20E-03	mg/kg	7.69E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.38E-09	2.15E-09	mg/kg-day	2.00E-04	mg/kg-day	1.08E-05
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.85E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.59E-08	5.18E-06	mg/kg-day	2.00E-02	mg/kg-day	2.59E-04
				Cadmium	8.65E+00	mg/kg	3.02E-06	mg/kg-day	--	--	--	8.46E-06	mg/kg-day	5.00E-04	mg/kg-day	1.69E-02
				Carbon disulfide	2.40E-04	mg/kg	8.39E-11	mg/kg-day	--	--	--	2.35E-10	mg/kg-day	1.00E-01	mg/kg-day	2.35E-09
				Chlorobenzene	1.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	1.08E-07	mg/kg-day	2.00E-02	mg/kg-day	5.38E-06
				Chromium	1.00E+02	mg/kg	3.49E-05	mg/kg-day	--	--	--	9.78E-05	mg/kg-day	1.50E+00	mg/kg-day	6.52E-05
				Chrysene	4.80E+00	mg/kg	1.68E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.22E-08	4.69E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.60E-06	mg/kg-day	--	--	--	7.28E-06	mg/kg-day	2.00E-02	mg/kg-day	3.64E-04
Copper	6.01E+01	mg/kg	2.10E-05	mg/kg-day	--	--	--	5.88E-05	mg/kg-day	3.70E-02	mg/kg-day	1.59E-03				
Delta-BHC	8.40E-03	mg/kg	2.94E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	5.28E-09	8.22E-09	mg/kg-day	2.00E-04	mg/kg-day	4.11E-05				
Dibenzo(a,h)anthracene	2.76E-01	mg/kg	9.63E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	7.03E-07	2.70E-07	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	4.54E-06	mg/kg-day	--	--	--	1.27E-05	mg/kg-day	2.00E-03	mg/kg-day	6.36E-03				
Dieldrin	4.89E-02	mg/kg	1.71E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.74E-07	4.79E-08	mg/kg-day	5.00E-05	mg/kg-day	9.57E-04				
Dimethylphthalate	3.80E-02	mg/kg	1.33E-08	mg/kg-day	--	--	--	3.72E-08	mg/kg-day	1.00E+01	mg/kg-day	3.72E-09				

TABLE H-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	8.04E-07	mg/kg-day	--	--	--	--	2.25E-08	mg/kg-day	1.00E-01	mg/kg-day	2.25E-05			
				Endosulfan I	2.30E-02	mg/kg	8.04E-09	mg/kg-day	--	--	--	--	2.25E-08	mg/kg-day	6.00E-03	mg/kg-day	3.75E-06			
				Endosulfan II	2.34E-02	mg/kg	8.17E-09	mg/kg-day	--	--	--	--	2.29E-08	mg/kg-day	6.00E-03	mg/kg-day	3.81E-06			
				Endosulfan Sulfate	4.30E-02	mg/kg	1.50E-08	mg/kg-day	--	--	--	--	4.21E-08	mg/kg-day	6.00E-03	mg/kg-day	7.01E-06			
				Endrin aldehyde	6.30E-02	mg/kg	2.20E-08	mg/kg-day	--	--	--	--	6.16E-08	mg/kg-day	3.00E-04	mg/kg-day	2.05E-04			
				Endrin Ketone	1.00E-02	mg/kg	3.49E-09	mg/kg-day	--	--	--	--	9.78E-09	mg/kg-day	3.00E-04	mg/kg-day	3.26E-05			
				Fluoranthene	2.23E+01	mg/kg	7.78E-06	mg/kg-day	--	--	--	--	2.18E-05	mg/kg-day	4.00E-02	mg/kg-day	5.44E-04			
				Fluorene	2.53E+00	mg/kg	8.83E-07	mg/kg-day	--	--	--	--	2.47E-06	mg/kg-day	4.00E-02	mg/kg-day	6.18E-05			
				gamma-BHC (Lindane)	2.60E-03	mg/kg	9.09E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.18E-09	2.54E-09	mg/kg-day	3.00E-04	mg/kg-day	8.48E-06				
				gamma-Chlordane	1.27E-02	mg/kg	4.44E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.55E-09	1.24E-08	mg/kg-day	5.00E-04	mg/kg-day	2.49E-05				
				Heptachlor	6.90E-03	mg/kg	2.41E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.09E-08	6.75E-09	mg/kg-day	5.00E-04	mg/kg-day	1.35E-05				
				Heptachlor Epoxide	9.86E-03	mg/kg	3.44E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.13E-08	9.65E-09	mg/kg-day	1.30E-05	mg/kg-day	7.42E-04				
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.74E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.27E-07	4.86E-07	mg/kg-day	--	--	--				
				Iron	3.68E+04	mg/kg	1.28E-02	mg/kg-day	--	--	--	3.60E-02	mg/kg-day	3.00E-01	mg/kg-day	1.20E-01				
				Isophorone	2.00E-01	mg/kg	6.99E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.64E-11	1.96E-07	mg/kg-day	2.00E-01	mg/kg-day	9.78E-07				
				Lead	2.39E+03	mg/kg	8.35E-04	mg/kg-day	--	--	--	2.34E-03	mg/kg-day	--	--	--				
				Manganese	3.04E+02	mg/kg	1.06E-04	mg/kg-day	--	--	--	2.98E-04	mg/kg-day	2.40E-02	mg/kg-day	1.24E-02				
				Mercury	2.65E-01	mg/kg	9.27E-08	mg/kg-day	--	--	--	2.60E-07	mg/kg-day	3.00E-04	mg/kg-day	8.65E-04				
				Methoxychlor	1.20E-01	mg/kg	4.19E-08	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	5.00E-03	mg/kg-day	2.35E-05				
				Methylene chloride	2.40E-03	mg/kg	8.39E-10	mg/kg-day	7.50E-03	(mg/kg-day)-1	6.29E-12	2.35E-09	mg/kg-day	6.00E-02	mg/kg-day	3.91E-08				
				Molybdenum	2.18E+00	mg/kg	7.62E-07	mg/kg-day	--	--	--	2.13E-06	mg/kg-day	5.00E-03	mg/kg-day	4.27E-04				
				Naphthalene	1.30E+01	mg/kg	4.54E-08	mg/kg-day	--	--	--	1.27E-05	mg/kg-day	2.00E-02	mg/kg-day	6.36E-04				
				Nickel	3.89E+01	mg/kg	1.36E-05	mg/kg-day	--	--	--	3.81E-05	mg/kg-day	2.00E-02	mg/kg-day	1.91E-03				
				Phenanthrene	1.17E+01	mg/kg	4.08E-06	mg/kg-day	--	--	--	1.14E-05	mg/kg-day	3.00E-01	mg/kg-day	3.81E-05				
				Phenol	5.80E-01	mg/kg	2.03E-07	mg/kg-day	--	--	--	5.68E-07	mg/kg-day	3.00E-01	mg/kg-day	1.89E-06				
				p-Isopropyltoluene	1.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	1.08E-07	mg/kg-day	1.00E-01	mg/kg-day	1.08E-06				
				Pyrene	2.03E+01	mg/kg	7.11E-06	mg/kg-day	--	--	--	1.99E-05	mg/kg-day	3.00E-02	mg/kg-day	6.64E-04				
				sec-Butylbenzene	7.10E-02	mg/kg	2.48E-08	mg/kg-day	--	--	--	6.95E-08	mg/kg-day	4.00E-02	mg/kg-day	1.74E-06				
				Selenium	2.84E-01	mg/kg	9.91E-08	mg/kg-day	--	--	--	2.77E-07	mg/kg-day	5.00E-03	mg/kg-day	5.55E-05				
				Silver	9.80E-01	mg/kg	3.42E-07	mg/kg-day	--	--	--	9.59E-07	mg/kg-day	5.00E-03	mg/kg-day	1.92E-04				
				Technical Chlordane	5.41E-01	mg/kg	1.89E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.61E-08	5.29E-07	mg/kg-day	5.00E-04	mg/kg-day	1.06E-03				
				Thallium	4.83E-01	mg/kg	1.69E-07	mg/kg-day	--	--	--	4.72E-07	mg/kg-day	6.60E-05	mg/kg-day	7.15E-03				
				Toluene	4.30E-04	mg/kg	1.50E-10	mg/kg-day	--	--	--	4.21E-10	mg/kg-day	8.00E-02	mg/kg-day	5.26E-09				
				Vanadium	3.37E+01	mg/kg	1.18E-05	mg/kg-day	--	--	--	3.30E-05	mg/kg-day	1.00E-03	mg/kg-day	3.30E-02				
				Zinc	3.32E+02	mg/kg	1.16E-04	mg/kg-day	--	--	--	3.25E-04	mg/kg-day	3.00E-01	mg/kg-day	1.08E-03				
				<b>Exposure Route Total</b>															<b>3.64E-01</b>	
				Dermal	1,2,3-Trichlorobenzene	5.10E+00	mg/kg	1,2,3-Trichlorobenzene	5.98E-07	mg/kg-day	--	--	--	--	1.67E-06	mg/kg-day	1.00E-02	mg/kg-day	1.67E-04	
								1,2,4-Trichlorobenzene	2.03E-07	mg/kg-day	--	--	--	5.69E-07	mg/kg-day	1.00E-02	mg/kg-day	5.69E-05		
								1,2,4-Trimethylbenzene	1.99E-08	mg/kg-day	--	--	--	5.58E-08	mg/kg-day	5.00E-02	mg/kg-day	1.12E-06		
								1,2-Dichlorobenzene	2.60E+01	mg/kg	1.04E-06	mg/kg-day	--	--	2.90E-06	mg/kg-day	9.00E-02	mg/kg-day	3.22E-05	
								1,2-Dichloropropane	3.60E-03	mg/kg	1.43E-10	mg/kg-day	8.80E-02	(mg/kg-day)-1	9.75E-12	4.02E-10	mg/kg-day	1.14E-03	mg/kg-day	3.52E-07
								1,3,5-Trimethylbenzene	1.60E-01	mg/kg	6.37E-09	mg/kg-day	--	--	1.78E-08	mg/kg-day	5.00E-02	mg/kg-day	3.57E-07	
1,3-Dichlorobenzene	1.10E+00	mg/kg	4.38E-08					mg/kg-day	--	--	1.23E-07	mg/kg-day	3.00E-02	mg/kg-day	4.09E-06					
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	8.37E-09					mg/kg-day	--	--	2.34E-08	mg/kg-day	2.00E-02	mg/kg-day	1.17E-06					
2-Methylphenol	8.10E-02	mg/kg	3.23E-08					mg/kg-day	--	--	9.04E-08	mg/kg-day	5.00E-02	mg/kg-day	1.81E-06					
2-Methylnaphthalene	1.45E+00	mg/kg	5.77E-08					mg/kg-day	--	--	1.62E-07	mg/kg-day	4.00E-03	mg/kg-day	4.04E-05					
4,4'-DDD	1.20E-03	mg/kg	4.78E-11					mg/kg-day	2.40E-01	(mg/kg-day)-1	1.15E-11	1.34E-10	mg/kg-day	5.00E-04	mg/kg-day	2.68E-07				
4,4'-DDE	7.50E-02	mg/kg	2.89E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.02E-09	8.37E-09	mg/kg-day	5.00E-04	mg/kg-day	1.67E-05				
4,4'-DDT	4.20E-02	mg/kg	5.02E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.71E-09	1.41E-08	mg/kg-day	5.00E-04	mg/kg-day	2.81E-05				
4-Methylphenol	2.70E-01	mg/kg	1.08E-07					mg/kg-day	--	--	--	3.01E-07	mg/kg-day	5.00E-03	mg/kg-day	6.02E-05				

TABLE H-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	2.47E-07	mg/kg-day	2.10E-02	--	5.19E-09	6.92E-07	mg/kg-day	3.00E-03	mg/kg-day	2.31E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.67E-07	mg/kg-day	--	--	--	4.68E-07	mg/kg-day	5.00E-04	mg/kg-day	9.37E-04
				Acenaphthene	3.47E+00	mg/kg	1.80E-06	mg/kg-day	--	--	--	5.03E-06	mg/kg-day	6.00E-02	mg/kg-day	8.39E-05
				Acenaphthylene	8.96E-02	mg/kg	3.57E-09	mg/kg-day	--	--	--	9.99E-09	mg/kg-day	6.00E-02	mg/kg-day	1.67E-07
				Aldrin	1.30E-02	mg/kg	5.18E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.80E-08	1.45E-08	mg/kg-day	3.00E-05	mg/kg-day	4.83E-04
				alpha-BHC	7.30E-04	mg/kg	2.91E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.83E-10	8.14E-11	mg/kg-day	5.00E-04	mg/kg-day	1.63E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	3.61E-05	mg/kg-day	--	--	--	1.01E-04	mg/kg-day	1.00E+00	mg/kg-day	1.01E-04
				Anthracene	9.13E-01	mg/kg	4.73E-07	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	3.00E-01	mg/kg-day	4.41E-06
				Antimony	2.72E+00	mg/kg	1.09E-08	mg/kg-day	--	--	--	3.04E-08	mg/kg-day	4.00E-04	mg/kg-day	7.60E-05
				Aroclor-1248	1.20E+00	mg/kg	6.69E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.34E-06	1.87E-06	mg/kg-day	2.00E-05	mg/kg-day	9.37E-02
				Aroclor-1254	4.38E-01	mg/kg	2.44E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.88E-07	6.83E-07	mg/kg-day	2.00E-05	mg/kg-day	3.42E-02
				Aroclor-1260	4.88E-01	mg/kg	2.72E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.45E-07	7.62E-07	mg/kg-day	2.00E-05	mg/kg-day	3.81E-02
				Aroclor-1268	2.72E-02	mg/kg	1.52E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.03E-08	4.24E-08	mg/kg-day	2.00E-05	mg/kg-day	2.12E-03
				Arsenic	9.53E+00	mg/kg	1.14E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.71E-06	3.19E-06	mg/kg-day	3.00E-04	mg/kg-day	1.06E-02
				Barium	6.94E+01	mg/kg	2.77E-07	mg/kg-day	--	--	--	7.75E-07	mg/kg-day	7.00E-02	mg/kg-day	1.11E-05
				Benzo(a)anthracene	4.21E+00	mg/kg	2.18E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.59E-06	6.11E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	7.28E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.32E-06	2.04E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.23E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.97E-07	3.44E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	3.35E-07	mg/kg-day	--	--	--	9.39E-07	mg/kg-day	3.00E-02	mg/kg-day	3.13E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.46E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.07E-07	4.10E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	9.07E-10	mg/kg-day	--	--	--	2.54E-09	mg/kg-day	2.00E-03	mg/kg-day	1.27E-06
				Beta-BHC	2.20E-03	mg/kg	8.76E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.58E-10	2.45E-10	mg/kg-day	2.00E-04	mg/kg-day	1.23E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	2.11E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.95E-09	5.91E-07	mg/kg-day	2.00E-02	mg/kg-day	2.95E-05
				Cadmium	8.65E+00	mg/kg	3.45E-08	mg/kg-day	--	--	--	9.65E-08	mg/kg-day	5.00E-04	mg/kg-day	1.93E-04
				Carbon disulfide	2.40E-04	mg/kg	2.39E-10	mg/kg-day	--	--	--	6.69E-10	mg/kg-day	1.00E-01	mg/kg-day	6.69E-09
				Chlorobenzene	1.10E-01	mg/kg	4.38E-09	mg/kg-day	--	--	--	1.23E-08	mg/kg-day	2.00E-02	mg/kg-day	6.14E-07
				Chromium	1.00E+02	mg/kg	3.98E-07	mg/kg-day	--	--	--	1.12E-06	mg/kg-day	1.50E+00	mg/kg-day	7.43E-07
				Chrysene	4.80E+00	mg/kg	2.48E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.81E-08	6.95E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.97E-08	mg/kg-day	--	--	--	8.30E-08	mg/kg-day	2.00E-02	mg/kg-day	4.15E-06
				Copper	6.01E+01	mg/kg	2.39E-07	mg/kg-day	--	--	--	6.70E-07	mg/kg-day	3.70E-02	mg/kg-day	1.81E-05
				Delta-BHC	8.40E-03	mg/kg	1.67E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.01E-09	4.68E-09	mg/kg-day	2.00E-04	mg/kg-day	2.34E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.43E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.04E-06	4.00E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	5.18E-07	mg/kg-day	--	--	--	1.45E-06	mg/kg-day	2.00E-03	mg/kg-day	7.25E-04
				Dieldrin	4.89E-02	mg/kg	1.95E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.12E-08	5.46E-09	mg/kg-day	5.00E-05	mg/kg-day	1.09E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.51E-09	mg/kg-day	--	--	--	4.24E-09	mg/kg-day	1.00E+01	mg/kg-day	4.24E-10
				di-n-Butylphthalate	2.30E+00	mg/kg	9.16E-08	mg/kg-day	--	--	--	2.57E-07	mg/kg-day	1.00E-01	mg/kg-day	2.57E-06
				Endosulfan I	2.30E-02	mg/kg	4.59E-09	mg/kg-day	--	--	--	1.28E-08	mg/kg-day	6.00E-03	mg/kg-day	2.14E-06
				Endosulfan II	2.34E-02	mg/kg	4.65E-09	mg/kg-day	--	--	--	1.30E-08	mg/kg-day	6.00E-03	mg/kg-day	2.17E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	8.57E-09	mg/kg-day	--	--	--	2.40E-08	mg/kg-day	6.00E-03	mg/kg-day	4.00E-06
				Endrin aldehyde	6.30E-02	mg/kg	1.25E-08	mg/kg-day	--	--	--	3.51E-08	mg/kg-day	3.00E-04	mg/kg-day	1.17E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	1.15E-05	mg/kg-day	--	--	--	3.23E-05	mg/kg-day	4.00E-02	mg/kg-day	8.07E-04
				Fluorene	2.53E+00	mg/kg	1.31E-06	mg/kg-day	--	--	--	3.67E-06	mg/kg-day	4.00E-02	mg/kg-day	9.16E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.14E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.39E-10	1.16E-09	mg/kg-day	3.00E-04	mg/kg-day	3.87E-06
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	2.75E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.24E-09	7.70E-10	mg/kg-day	5.00E-04	mg/kg-day	1.54E-06
				Heptachlor Epoxide	9.86E-03	mg/kg	3.93E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.57E-09	1.10E-09	mg/kg-day	1.30E-05	mg/kg-day	8.46E-05
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	2.57E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.88E-07	7.21E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	1.46E-04	mg/kg-day	--	--	--	4.10E-04	mg/kg-day	3.00E-01	mg/kg-day	1.37E-03
				Isophorone	2.00E-01	mg/kg	7.97E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	7.57E-11	2.23E-07	mg/kg-day	2.00E-01	mg/kg-day	1.12E-06

TABLE H-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	9.52E-06	mg/kg-day	--	--	--	--	2.67E-05	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	1.21E-06	mg/kg-day	--	--	--	--	3.39E-06	mg/kg-day	2.40E-02	mg/kg-day	1.41E-04
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	4.78E-09	mg/kg-day	--	--	--	--	1.34E-08	mg/kg-day	5.00E-03	mg/kg-day	2.68E-06
				Methylene chloride	2.40E-03	mg/kg	9.56E-11	mg/kg-day	7.50E-03	(mg/kg-day) <sup>-1</sup>	7.17E-13	--	2.68E-10	mg/kg-day	6.00E-02	mg/kg-day	4.46E-09
				Molybdenum	2.18E+00	mg/kg	8.68E-09	mg/kg-day	--	--	--	--	2.43E-08	mg/kg-day	5.00E-03	mg/kg-day	4.86E-06
				Naphthalene	1.30E+01	mg/kg	6.73E-06	mg/kg-day	--	--	--	--	1.89E-05	mg/kg-day	2.00E-02	mg/kg-day	9.43E-04
				Nickel	3.89E+01	mg/kg	1.56E-07	mg/kg-day	--	--	--	--	4.34E-07	mg/kg-day	2.00E-02	mg/kg-day	2.17E-05
				Phenanthrene	1.17E+01	mg/kg	4.65E-07	mg/kg-day	--	--	--	--	1.30E-06	mg/kg-day	3.00E-01	mg/kg-day	4.34E-06
				Phenol	5.80E-01	mg/kg	2.31E-07	mg/kg-day	--	--	--	--	6.47E-07	mg/kg-day	3.00E-01	mg/kg-day	2.16E-06
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	1.05E-05	mg/kg-day	--	--	--	--	2.95E-05	mg/kg-day	3.00E-02	mg/kg-day	9.83E-04
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	1.13E-09	mg/kg-day	--	--	--	--	3.16E-09	mg/kg-day	5.00E-03	mg/kg-day	6.33E-07
				Silver	9.80E-01	mg/kg	3.90E-09	mg/kg-day	--	--	--	--	1.09E-08	mg/kg-day	5.00E-03	mg/kg-day	2.19E-06
				Technical Chlordane	5.41E-01	mg/kg	8.62E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.02E-08	--	2.41E-07	mg/kg-day	5.00E-04	mg/kg-day	4.83E-04
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	1.71E-11	mg/kg-day	--	--	--	--	4.80E-11	mg/kg-day	8.00E-02	mg/kg-day	6.00E-10
				Vanadium	3.37E+01	mg/kg	1.34E-07	mg/kg-day	--	--	--	--	3.76E-07	mg/kg-day	1.00E-03	mg/kg-day	3.76E-04
				Zinc	3.32E+02	mg/kg	1.32E-06	mg/kg-day	--	--	--	--	3.70E-06	mg/kg-day	3.00E-01	mg/kg-day	1.23E-05
							Exposure Route Total							1.34E-05			
			Exposure Point Total							1.34E-05					1.88E-01		
			Exposure Medium Total							2.67E-05					5.52E-01		
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	7.78E-12	mg/kg-day	--	--	--	--	2.18E-11	mg/kg-day	2.00E-02	mg/kg-day	1.09E-09	
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.00E-12	mg/kg-day	--	--	--	--	8.41E-12	mg/kg-day	--	--	--	
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	4.45E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	1.07E-14	--	1.25E-13	mg/kg-day	5.00E-04	mg/kg-day	2.49E-10	
			4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	1.56E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	5.29E-13	--	4.36E-12	mg/kg-day	5.00E-04	mg/kg-day	8.72E-09	
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.00E-11	mg/kg-day	--	--	--	--	2.80E-11	mg/kg-day	5.00E-03	mg/kg-day	5.60E-09	
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.30E-11	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	4.83E-13	--	6.43E-11	mg/kg-day	1.00E-03	mg/kg-day	6.43E-08	
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.56E-11	mg/kg-day	--	--	--	--	4.36E-11	mg/kg-day	5.70E-04	mg/kg-day	7.65E-08	
			Aluminum	6.86E-06	mg/m <sup>3</sup>	3.36E-07	mg/kg-day	--	--	--	--	9.40E-07	mg/kg-day	1.43E-03	mg/kg-day	6.57E-04	
			Antimony	2.06E-09	mg/m <sup>3</sup>	1.01E-10	mg/kg-day	--	--	--	--	2.83E-10	mg/kg-day	--	--	--	
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	4.45E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	8.90E-11	--	1.25E-10	mg/kg-day	2.00E-05	mg/kg-day	6.23E-06	
			Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	1.62E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.24E-11	--	4.54E-11	mg/kg-day	2.00E-05	mg/kg-day	2.27E-06	
			Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	1.81E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.62E-11	--	5.07E-11	mg/kg-day	2.00E-05	mg/kg-day	2.53E-06	
			Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	1.01E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.01E-12	--	2.82E-12	mg/kg-day	2.00E-05	mg/kg-day	1.41E-07	
			Arsenic	7.22E-09	mg/m <sup>3</sup>	3.53E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	5.30E-09	--	9.89E-10	mg/kg-day	--	--	--	
			Barium	5.26E-08	mg/m <sup>3</sup>	2.57E-09	mg/kg-day	--	--	--	--	7.21E-09	mg/kg-day	1.40E-04	mg/kg-day	5.15E-05	
			Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	1.56E-10	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.14E-10	--	4.37E-10	mg/kg-day	--	--	--	
			Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	5.21E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	3.80E-10	--	1.48E-10	mg/kg-day	--	--	--	
			Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	2.40E-11	mg/kg-day	--	--	--	--	6.72E-11	mg/kg-day	3.00E-02	mg/kg-day	2.24E-09	
			Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	1.05E-10	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	7.64E-12	--	2.93E-10	mg/kg-day	--	--	--	
			Beryllium	1.73E-10	mg/m <sup>3</sup>	8.44E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	7.09E-11	--	2.36E-11	mg/kg-day	5.71E-06	mg/kg-day	4.14E-06	
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	8.15E-14	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	1.51E-13	--	2.28E-13	mg/kg-day	2.00E-04	mg/kg-day	1.14E-09	
			bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	1.96E-10	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	2.75E-12	--	5.50E-10	mg/kg-day	2.00E-02	mg/kg-day	2.75E-08	
			Cadmium	6.55E-09	mg/m <sup>3</sup>	3.21E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	2.02E-09	--	8.97E-10	mg/kg-day	--	--	--	
			Chromium	7.57E-08	mg/m <sup>3</sup>	3.70E-09	mg/kg-day	--	--	--	--	1.04E-08	mg/kg-day	--	--	--	
			Cobalt	5.64E-09	mg/m <sup>3</sup>	2.78E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	2.70E-09	--	7.72E-10	mg/kg-day	5.71E-06	mg/kg-day	1.35E-04	
			Copper	4.55E-08	mg/m <sup>3</sup>	2.23E-09	mg/kg-day	--	--	--	--	6.23E-09	mg/kg-day	--	--	--	
			Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	1.02E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	7.46E-11	--	2.86E-11	mg/kg-day	--	--	--	
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.41E-12	mg/kg-day	--	--	--	--	3.94E-12	mg/kg-day	1.00E+01	mg/kg-day	3.94E-13	

TABLE H-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	8.52E-11	mg/kg-day	--	--	--	2.39E-10	mg/kg-day	1.00E-01	mg/kg-day	2.39E-09				
				Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	2.33E-12	mg/kg-day	--	--	--	6.54E-12	mg/kg-day	3.00E-04	mg/kg-day	2.18E-08				
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	3.71E-13	mg/kg-day	--	--	--	1.04E-12	mg/kg-day	3.00E-04	mg/kg-day	3.46E-09				
				Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	3.65E-13	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.32E-12	1.02E-12	mg/kg-day	1.30E-05	mg/kg-day	7.87E-08				
				Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	1.84E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.35E-11	5.16E-11	mg/kg-day	--	--	--				
				Iron	2.79E-05	mg/m <sup>3</sup>	1.36E-06	mg/kg-day	--	--	--	3.82E-08	mg/kg-day	--	--	--				
				Isophorone	1.52E-10	mg/m <sup>3</sup>	7.41E-12	mg/kg-day	9.50E-04	(mg/kg-day)-1	7.04E-15	2.08E-11	mg/kg-day	2.00E-01	mg/kg-day	1.04E-10				
				Lead	1.81E-06	mg/m <sup>3</sup>	8.86E-08	mg/kg-day	--	--	--	2.48E-07	mg/kg-day	--	--	--				
				Manganese	2.31E-07	mg/m <sup>3</sup>	1.13E-08	mg/kg-day	--	--	--	3.16E-08	mg/kg-day	1.43E-05	mg/kg-day	2.21E-03				
				Mercury	2.01E-10	mg/m <sup>3</sup>	9.83E-12	mg/kg-day	--	--	--	2.75E-11	mg/kg-day	8.60E-05	mg/kg-day	3.20E-07				
				Nickel	2.95E-08	mg/m <sup>3</sup>	1.44E-09	mg/kg-day	--	--	--	4.04E-09	mg/kg-day	--	--	--				
				Phenol	4.39E-10	mg/m <sup>3</sup>	2.15E-11	mg/kg-day	--	--	--	6.02E-11	mg/kg-day	3.00E-01	mg/kg-day	2.01E-10				
				Selenium	2.15E-10	mg/m <sup>3</sup>	1.05E-11	mg/kg-day	--	--	--	2.94E-11	mg/kg-day	--	--	--				
				Silver	7.42E-10	mg/m <sup>3</sup>	3.63E-11	mg/kg-day	--	--	--	1.02E-10	mg/kg-day	--	--	--				
				Thallium	3.66E-10	mg/m <sup>3</sup>	1.79E-11	mg/kg-day	--	--	--	5.01E-11	mg/kg-day	--	--	--				
				Vanadium	2.55E-08	mg/m <sup>3</sup>	1.25E-09	mg/kg-day	--	--	--	3.50E-09	mg/kg-day	--	--	--				
				Zinc	2.51E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	--	--	--	3.44E-08	mg/kg-day	--	--	--				
				<b>Exposure Route Total</b>											<b>1.09E-08</b>					<b>3.07E-03</b>
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.11E-06	mg/kg-day	--	--	--	1.43E-05	mg/kg-day	1.10E-03	mg/kg-day	1.30E-02
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.74E-05	mg/kg-day	--	--	--	4.86E-05	mg/kg-day	1.10E-03	mg/kg-day	4.42E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	5.73E-06	mg/kg-day	--	--	--	1.61E-05	mg/kg-day	1.71E-03	mg/kg-day	9.36E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.60E-04	mg/kg-day	--	--	--	7.29E-04	mg/kg-day	5.70E-02	mg/kg-day	1.28E-02
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.40E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	9.52E-09	3.92E-07	mg/kg-day	1.14E-03	mg/kg-day	3.44E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.79E-06	mg/kg-day	--	--	--	5.01E-06	mg/kg-day	1.71E-03	mg/kg-day	2.92E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	7.97E-06	mg/kg-day	--	--	--	2.23E-05	mg/kg-day	3.00E-02	mg/kg-day	7.44E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	7.64E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.68E-05	2.14E-04	mg/kg-day	2.30E-01	mg/kg-day	9.31E-04
								2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	3.14E-06	mg/kg-day	--	--	--	8.79E-06	mg/kg-day	5.00E-02	mg/kg-day	1.76E-04
4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	4.32E-10					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.47E-10	1.21E-09	mg/kg-day	5.00E-04	mg/kg-day	2.42E-06				
Acenaphthene	4.77E-05	mg/m <sup>3</sup>	2.33E-06					mg/kg-day	--	--	--	6.53E-06	mg/kg-day	6.00E-02	mg/kg-day	1.09E-04				
Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	6.02E-08					mg/kg-day	--	--	--	1.68E-07	mg/kg-day	6.00E-02	mg/kg-day	2.81E-06				
Aldrin	5.63E-09	mg/m <sup>3</sup>	2.76E-10					mg/kg-day	1.70E+01	(mg/kg-day)-1	4.68E-09	7.72E-10	mg/kg-day	3.00E-05	mg/kg-day	2.57E-05				
alpha-BHC	3.84E-09	mg/m <sup>3</sup>	1.78E-10					mg/kg-day	6.30E+00	(mg/kg-day)-1	1.12E-09	4.98E-10	mg/kg-day	5.00E-04	mg/kg-day	9.97E-07				
alpha-Chlordane	8.91E-09	mg/m <sup>3</sup>	3.38E-10					mg/kg-day	3.50E-01	(mg/kg-day)-1	1.18E-10	9.47E-10	mg/kg-day	2.00E-04	mg/kg-day	4.73E-06				
Anthracene	1.25E-05	mg/m <sup>3</sup>	6.13E-07					mg/kg-day	--	--	--	1.72E-06	mg/kg-day	3.00E-01	mg/kg-day	5.72E-06				
Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	7.51E-08					mg/kg-day	7.30E-01	(mg/kg-day)-1	5.48E-08	2.10E-07	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.21E-08					mg/kg-day	--	--	--	6.20E-08	mg/kg-day	2.00E-01	mg/kg-day	3.10E-07				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.53E-06					mg/kg-day	--	--	--	7.09E-06	mg/kg-day	1.70E-02	mg/kg-day	4.17E-04				
Chrysene	5.27E-06	mg/m <sup>3</sup>	2.58E-07					mg/kg-day	7.30E-03	(mg/kg-day)-1	1.88E-09	7.22E-07	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.05E-09					mg/kg-day	1.86E+00	(mg/kg-day)-1	3.80E-09	5.73E-09	mg/kg-day	2.00E-04	mg/kg-day	2.87E-05				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.19E-06					mg/kg-day	--	--	--	6.15E-06	mg/kg-day	2.00E-03	mg/kg-day	3.07E-03				
Dieldrin	6.58E-08	mg/m <sup>3</sup>	3.22E-09					mg/kg-day	1.60E+01	(mg/kg-day)-1	5.15E-08	9.01E-09	mg/kg-day	5.00E-05	mg/kg-day	1.80E-04				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	3.94E-09					mg/kg-day	--	--	--	1.10E-08	mg/kg-day	6.00E-03	mg/kg-day	1.84E-06				
Endosulfan II	8.19E-08	mg/m <sup>3</sup>	4.00E-09					mg/kg-day	--	--	--	1.12E-08	mg/kg-day	6.00E-03	mg/kg-day	1.87E-06				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	7.37E-09					mg/kg-day	--	--	--	2.06E-08	mg/kg-day	6.00E-03	mg/kg-day	3.44E-06				
Fluoranthene	1.44E-05	mg/m <sup>3</sup>	7.04E-07					mg/kg-day	--	--	--	1.97E-06	mg/kg-day	4.00E-02	mg/kg-day	4.93E-05				
Fluorene	1.48E-05	mg/m <sup>3</sup>	7.24E-07	mg/kg-day	--	--	--	2.03E-06	mg/kg-day	4.00E-02	mg/kg-day	5.07E-05								
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	7.80E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.01E-09	2.18E-09	mg/kg-day	3.00E-04	mg/kg-day	7.28E-06								
gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	6.15E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.15E-10	1.72E-09	mg/kg-day	2.00E-04	mg/kg-day	8.61E-06								
Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.65E-08	mg/kg-day	4.55E+00	(mg/kg-day)-1	7.52E-08	4.63E-08	mg/kg-day	5.00E-04	mg/kg-day	9.26E-05								
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.22E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	5.00E-03	mg/kg-day	2.37E-06								
Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.42E-05	mg/kg-day	--	--	--	9.58E-05	mg/kg-day	8.57E-04	mg/kg-day	1.12E-01								

TABLE H-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	1.60E-04	mg/m <sup>3</sup>	7.85E-06	mg/kg-day	--	--	--	2.20E-05	mg/kg-day	3.00E-01	mg/kg-day	7.32E-05
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	9.38E-06	mg/kg-day	--	--	--	2.63E-05	mg/kg-day	1.10E-01	mg/kg-day	2.39E-04
				Pyrene	1.56E-05	mg/m <sup>3</sup>	7.61E-07	mg/kg-day	--	--	--	2.13E-06	mg/kg-day	3.00E-02	mg/kg-day	7.10E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.37E-06	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	4.00E-02	mg/kg-day	9.62E-05
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	2.62E-08	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	9.17E-12	7.33E-08	mg/kg-day	2.00E-04	mg/kg-day	3.67E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.53E-08	mg/kg-day	--	--	--	4.28E-08	mg/kg-day	1.43E+00	mg/kg-day	2.99E-08
				Exposure Route Total							1.89E-06				2.01E-01	
				Exposure Point Total							1.90E-06				2.04E-01	
		Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	3.99E+00	(a) ug/m <sup>3</sup>	1.95E-04	mg/kg-day	--	--	--	5.46E-04	mg/kg-day	1.10E-03	mg/kg-day	4.97E-01
				1,2,4-Trichlorobenzene	1.36E+01	(a) ug/m <sup>3</sup>	6.63E-04	mg/kg-day	--	--	--	1.86E-03	mg/kg-day	1.10E-03	mg/kg-day	1.69E+00
				1,2,4-Trimethylbenzene	1.33E+00	(a) ug/m <sup>3</sup>	6.50E-05	mg/kg-day	--	--	--	1.82E-04	mg/kg-day	1.71E-03	mg/kg-day	1.06E-01
				1,2-Dichlorobenzene	6.91E+01	(a) ug/m <sup>3</sup>	3.38E-03	mg/kg-day	--	--	--	9.47E-03	mg/kg-day	5.70E-02	mg/kg-day	1.66E-01
				1,2-Dichloropropane	9.57E-03	(a) ug/m <sup>3</sup>	4.68E-07	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	3.18E-08	1.31E-06	mg/kg-day	1.14E-03	mg/kg-day	1.15E-03
				1,3,5-Trimethylbenzene	4.25E-01	(a) ug/m <sup>3</sup>	2.08E-05	mg/kg-day	--	--	--	5.83E-05	mg/kg-day	1.71E-03	mg/kg-day	3.40E-02
				1,3-Dichlorobenzene	2.93E+00	(a) ug/m <sup>3</sup>	1.43E-04	mg/kg-day	--	--	--	4.01E-04	mg/kg-day	3.00E-02	mg/kg-day	1.34E-02
				1,3-Dichlorobenzene	1.81E+01	(a) ug/m <sup>3</sup>	8.85E-04	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.95E-05	2.48E-03	mg/kg-day	2.30E-01	mg/kg-day	1.08E-02
				2-Methylnaphthalene	1.96E+00	(a) ug/m <sup>3</sup>	9.60E-05	mg/kg-day	--	--	--	2.69E-04	mg/kg-day	5.00E-02	mg/kg-day	5.38E-03
				4,4'-DDE	2.42E-08	(a) ug/m <sup>3</sup>	1.19E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.03E-11	3.32E-10	mg/kg-day	5.00E-04	mg/kg-day	6.64E-07
				Acenaphthene	6.79E-01	(a) ug/m <sup>3</sup>	3.32E-05	mg/kg-day	--	--	--	9.30E-05	mg/kg-day	6.00E-02	mg/kg-day	1.55E-03
				Acenaphthylene	1.75E-02	(a) ug/m <sup>3</sup>	8.58E-07	mg/kg-day	--	--	--	2.40E-06	mg/kg-day	6.00E-02	mg/kg-day	4.00E-05
				Aldrin	6.43E-06	(a) ug/m <sup>3</sup>	3.14E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	5.34E-09	8.80E-10	mg/kg-day	3.00E-05	mg/kg-day	2.93E-05
				alpha-BHC	4.31E-05	(a) ug/m <sup>3</sup>	2.11E-09	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.33E-08	5.90E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05
				alpha-Chlordane	2.17E-05	(a) ug/m <sup>3</sup>	1.06E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.71E-10	2.97E-09	mg/kg-day	2.00E-04	mg/kg-day	1.48E-05
				Anthracene	1.79E-01	(a) ug/m <sup>3</sup>	8.74E-06	mg/kg-day	--	--	--	2.45E-05	mg/kg-day	3.00E-01	mg/kg-day	8.16E-05
				Benzo(b)fluoranthene	1.26E-03	(a) ug/m <sup>3</sup>	6.16E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.50E-08	1.72E-07	mg/kg-day	--	--	--
				Carbon Disulfide	6.38E-04	(a) ug/m <sup>3</sup>	3.12E-08	mg/kg-day	--	--	--	8.74E-08	mg/kg-day	2.00E-01	mg/kg-day	4.37E-07
				Chlorobenzene	2.93E-01	(a) ug/m <sup>3</sup>	1.43E-05	mg/kg-day	--	--	--	4.01E-05	mg/kg-day	1.70E-02	mg/kg-day	2.36E-03
				Chrysene	7.10E-03	(a) ug/m <sup>3</sup>	3.47E-07	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.54E-09	9.73E-07	mg/kg-day	--	--	--
				Delta-BHC	7.37E-04	(a) ug/m <sup>3</sup>	3.61E-08	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	6.69E-08	1.01E-07	mg/kg-day	2.00E-04	mg/kg-day	5.05E-04
				Dibenzofuran	9.47E-03	(a) ug/m <sup>3</sup>	4.63E-07	mg/kg-day	--	--	--	1.30E-06	mg/kg-day	2.00E-03	mg/kg-day	6.48E-04
				Dieldrin	2.09E-04	(a) ug/m <sup>3</sup>	1.02E-08	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.64E-07	2.87E-08	mg/kg-day	5.00E-05	mg/kg-day	5.74E-04
				Endosulfan I	8.63E-04	(a) ug/m <sup>3</sup>	4.22E-08	mg/kg-day	--	--	--	1.18E-07	mg/kg-day	6.00E-03	mg/kg-day	1.97E-05
				Endosulfan II	8.78E-04	(a) ug/m <sup>3</sup>	4.30E-08	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	6.00E-03	mg/kg-day	2.00E-05
				Endosulfan Sulfate	1.61E-03	(a) ug/m <sup>3</sup>	7.89E-08	mg/kg-day	--	--	--	2.21E-07	mg/kg-day	6.00E-03	mg/kg-day	3.68E-05
				fluoranthene	1.96E-03	(a) ug/m <sup>3</sup>	9.59E-08	mg/kg-day	--	--	--	2.69E-07	mg/kg-day	4.00E-02	mg/kg-day	6.71E-06
				Fluorene	1.07E-01	(a) ug/m <sup>3</sup>	5.24E-06	mg/kg-day	--	--	--	1.47E-05	mg/kg-day	4.00E-02	mg/kg-day	3.67E-04
				gamma-BHC (Lindane)	2.28E-04	(a) ug/m <sup>3</sup>	1.12E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.45E-08	3.13E-08	mg/kg-day	3.00E-04	mg/kg-day	1.04E-04
				gamma-Chlordane	3.94E-07	(a) ug/m <sup>3</sup>	1.93E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	6.75E-12	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07
				Heptachlor	4.34E-05	(a) ug/m <sup>3</sup>	2.12E-09	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	9.65E-09	5.94E-09	mg/kg-day	5.00E-04	mg/kg-day	1.19E-05
				Methoxychlor	1.18E-04	(a) ug/m <sup>3</sup>	5.80E-09	mg/kg-day	--	--	--	1.62E-08	mg/kg-day	5.00E-03	mg/kg-day	3.25E-06
				Methylene Chloride	6.38E-03	(a) ug/m <sup>3</sup>	3.12E-07	mg/kg-day	1.60E-03	(mg/kg-day) <sup>-1</sup>	5.00E-10	8.74E-07	mg/kg-day	8.57E-01	mg/kg-day	1.02E-06
				Naphthalene	2.55E+01	(a) ug/m <sup>3</sup>	1.25E-03	mg/kg-day	--	--	--	3.49E-03	mg/kg-day	8.57E-04	mg/kg-day	4.08E+00
				Phenanthrene	2.29E+00	(a) ug/m <sup>3</sup>	1.12E-04	mg/kg-day	--	--	--	3.14E-04	mg/kg-day	3.00E-01	mg/kg-day	1.05E-03
				p-Isopropyltoluene	2.93E-01	(a) ug/m <sup>3</sup>	1.43E-05	mg/kg-day	--	--	--	4.01E-05	mg/kg-day	1.10E-01	mg/kg-day	3.64E-04
				Pyrene	1.59E-02	(a) ug/m <sup>3</sup>	7.78E-07	mg/kg-day	--	--	--	2.18E-06	mg/kg-day	3.00E-02	mg/kg-day	7.26E-05

TABLE H-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	sec-Butylbenzene	9.25E-02	(a) ug/m <sup>3</sup>	4.53E-08	mg/kg-day	--	--	--	--	1.27E-05	mg/kg-day	4.00E-02	mg/kg-day	3.17E-04
				Technical Chlordane	1.68E-03	(a) ug/m <sup>3</sup>	8.21E-08	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	2.87E-11	2.30E-07	mg/kg-day	2.00E-04	mg/kg-day	1.15E-03	
				Toluene	1.14E-03	(a) ug/m <sup>3</sup>	5.59E-08	mg/kg-day	--	--	--	1.57E-07	mg/kg-day	1.43E+00	mg/kg-day	1.10E-07	
				<b>Exposure Point Total</b>													
				<b>Exposure Route Total</b>													
				<b>Exposure Medium Total</b>													
<b>Medium Total</b>																	
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.1E-08	mg/kg-day	--	--	--	--	5.8E-08	mg/kg-day	1.40E-01	mg/kg-day	4.14E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.2E-09	mg/kg-day	--	--	--	--	1.7E-08	mg/kg-day	1.71E-03	mg/kg-day	1.01E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.0E-08	mg/kg-day	--	--	--	--	1.1E-07	mg/kg-day	5.70E-02	mg/kg-day	1.99E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	2.9E-08	mg/kg-day	9.10E-02	--	2.65E-09	8.2E-08	mg/kg-day	1.40E-03	mg/kg-day	5.82E-05	
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.1E-08	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	7.42E-10	3.1E-08	mg/kg-day	1.14E-03	mg/kg-day	2.68E-05	
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.5E-09	mg/kg-day	--	--	--	9.8E-09	mg/kg-day	1.71E-03	mg/kg-day	5.75E-06	
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.4E-08	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	3.03E-10	3.9E-08	mg/kg-day	2.30E-01	mg/kg-day	1.68E-07	
				2-Hexanone	1.05E-08	mg/m <sup>3</sup>	5.3E-10	mg/kg-day	--	--	--	1.5E-09	mg/kg-day	1.43E+00	mg/kg-day	1.04E-09	
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	4.7E-11	mg/kg-day	--	--	--	1.3E-10	mg/kg-day	5.00E-02	mg/kg-day	2.65E-09	
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	6.3E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.15E-11	1.8E-10	mg/kg-day	5.00E-04	mg/kg-day	3.54E-07	
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.0E-10	mg/kg-day	--	--	--	5.5E-10	mg/kg-day	8.60E-01	mg/kg-day	6.44E-10	
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.9E-09	mg/kg-day	--	--	--	5.3E-09	mg/kg-day	6.00E-02	mg/kg-day	8.85E-08	
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	8.1E-11	mg/kg-day	--	--	--	2.3E-10	mg/kg-day	6.00E-02	mg/kg-day	3.77E-09	
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.1E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.86E-09	3.1E-10	mg/kg-day	3.00E-05	mg/kg-day	1.02E-05	
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.4E-11	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	8.73E-11	3.9E-11	mg/kg-day	5.00E-04	mg/kg-day	7.76E-08	
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.3E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.15E-11	9.2E-11	mg/kg-day	2.00E-04	mg/kg-day	4.59E-07	
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.6E-10	mg/kg-day	--	--	--	4.5E-10	mg/kg-day	3.00E-01	mg/kg-day	1.50E-09	
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.3E-08	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	3.49E-10	3.6E-08	mg/kg-day	8.60E-03	mg/kg-day	4.16E-06	
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.4E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.74E-11	6.7E-11	mg/kg-day	--	--	--	
				Bromofom	7.36E-09	mg/m <sup>3</sup>	3.6E-10	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	1.39E-12	1.0E-09	mg/kg-day	2.00E-02	mg/kg-day	5.04E-08	
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.2E-07	mg/kg-day	--	--	--	6.2E-07	mg/kg-day	2.00E-01	mg/kg-day	3.09E-06	
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	3.6E-09	mg/kg-day	--	--	--	1.0E-08	mg/kg-day	1.70E-02	mg/kg-day	5.90E-07	
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.0E-07	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	8.14E-09	2.8E-07	mg/kg-day	1.40E-02	mg/kg-day	2.02E-05	
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	3.7E-08	mg/kg-day	--	--	--	1.0E-07	mg/kg-day	2.60E-02	mg/kg-day	3.95E-06	
				Chrysene	1.32E-09	mg/m <sup>3</sup>	6.4E-11	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	4.70E-13	1.8E-10	mg/kg-day	--	--	--	
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.6E-08	mg/kg-day	--	--	--	7.3E-08	mg/kg-day	1.00E-02	mg/kg-day	7.26E-06	
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	4.8E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	7.69E-10	1.3E-10	mg/kg-day	5.00E-05	mg/kg-day	2.69E-06	
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.1E-11	mg/kg-day	--	--	--	3.1E-11	mg/kg-day	6.00E-03	mg/kg-day	5.11E-09	
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.8E-14	mg/kg-day	--	--	--	5.0E-14	mg/kg-day	6.00E-03	mg/kg-day	8.40E-12	
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	9.8E-09	mg/kg-day	--	--	--	2.7E-08	mg/kg-day	2.90E-01	mg/kg-day	9.42E-08	
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.5E-11	mg/kg-day	--	--	--	6.9E-11	mg/kg-day	4.00E-02	mg/kg-day	1.73E-09	
				Fluorene	1.00E-09	mg/m <sup>3</sup>	4.9E-11	mg/kg-day	--	--	--	1.4E-10	mg/kg-day	4.00E-02	mg/kg-day	3.42E-09	
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.1E-14	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	7.90E-14	1.7E-13	mg/kg-day	3.00E-04	mg/kg-day	5.67E-10	
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	8.5E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.98E-11	2.4E-10	mg/kg-day	2.00E-04	mg/kg-day	1.19E-06	
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	8.7E-10	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	3.97E-09	2.4E-09	mg/kg-day	5.00E-04	mg/kg-day	4.89E-06	
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.7E-06	mg/kg-day	--	--	--	4.7E-06	mg/kg-day	1.10E-01	mg/kg-day	4.27E-05	
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.4E-08	mg/kg-day	--	--	--	9.5E-08	mg/kg-day	2.90E-02	mg/kg-day	3.29E-06	
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.6E-10	mg/kg-day	--	--	--	4.5E-10	mg/kg-day	5.00E-03	mg/kg-day	8.95E-08	
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	2.7E-10	mg/kg-day	--	--	--	7.4E-10	mg/kg-day	8.57E-04	mg/kg-day	6.68E-07	
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.2E-08	mg/kg-day	--	--	--	3.5E-08	mg/kg-day	8.57E-04	mg/kg-day	4.04E-05	
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.4E-08	mg/kg-day	--	--	--	3.9E-08	mg/kg-day	4.00E-02	mg/kg-day	9.65E-07	
Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.3E-10	mg/kg-day	--	--	--	3.6E-10	mg/kg-day	3.00E-01	mg/kg-day	1.20E-09					
p-isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.7E-06	mg/kg-day	--	--	--	4.7E-06	mg/kg-day	1.10E-01	mg/kg-day	4.27E-05					
Pyrene	4.61E-10	mg/m <sup>3</sup>	2.3E-11	mg/kg-day	--	--	--	6.3E-11	mg/kg-day	3.00E-02	mg/kg-day	2.11E-09					

TABLE H-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	3.9E-08	mg/kg-day	--	--	--	1.1E-07	mg/kg-day	4.00E-02	mg/kg-day	2.74E-06				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	4.4E-08	mg/kg-day	--	--	--	1.2E-07	mg/kg-day	4.00E-02	mg/kg-day	3.11E-06				
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.9E-08	mg/kg-day	--	--	--	5.2E-08	mg/kg-day	1.43E+00	mg/kg-day	3.64E-08				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.4E-08	mg/kg-day	--	--	--	1.2E-07	mg/kg-day	2.00E-02	mg/kg-day	6.14E-06				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	4.6E-08	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	1.82E-08	1.82E-08	1.3E-07	mg/kg-day	1.00E-02	mg/kg-day	1.28E-05			
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	9.4E-08	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	2.92E-09	2.92E-09	2.6E-07	mg/kg-day	2.86E-02	mg/kg-day	9.25E-06			
				Exposure Route Total							4.01E-08					3.28E-04				
				Exposure Point Total							4.01E-08					3.28E-04				
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	5.98E-02	ug/m <sup>3</sup>	2.92E-06	mg/kg-day	--	--	--	8.19E-06	mg/kg-day	1.40E-01	mg/kg-day	5.85E-05
								1,2,4-Trimethylbenzene	2.69E-03	ug/m <sup>3</sup>	1.32E-07	mg/kg-day	--	--	--	3.69E-07	mg/kg-day	1.71E-03	mg/kg-day	2.15E-04
								1,2-Dichlorobenzene	1.72E-02	ug/m <sup>3</sup>	8.43E-07	mg/kg-day	--	--	--	2.36E-06	mg/kg-day	5.70E-02	mg/kg-day	4.14E-05
								1,2-Dichloroethane	1.31E-02	ug/m <sup>3</sup>	6.39E-07	mg/kg-day	9.10E-02	--	5.81E-08	1.79E-06	mg/kg-day	1.40E-03	mg/kg-day	1.28E-03
								1,2-Dichloropropane	5.23E-03	ug/m <sup>3</sup>	2.56E-07	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	1.74E-08	7.16E-07	mg/kg-day	1.14E-03	mg/kg-day	6.28E-04
								1,3,5-Trimethylbenzene	1.54E-03	ug/m <sup>3</sup>	7.52E-08	mg/kg-day	--	--	--	2.10E-07	mg/kg-day	1.71E-03	mg/kg-day	1.23E-04
								1,4-Dichlorobenzene	5.99E-03	ug/m <sup>3</sup>	2.93E-07	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	6.45E-09	8.20E-07	mg/kg-day	2.30E-01	mg/kg-day	3.57E-06
2-Hexanone	2.54E-04	ug/m <sup>3</sup>	1.25E-08					mg/kg-day	--	--	--	3.49E-08	mg/kg-day	1.43E+00	mg/kg-day	2.44E-08				
2-Methylnaphthalene	1.77E-05	ug/m <sup>3</sup>	8.68E-10					mg/kg-day	--	--	--	2.43E-09	mg/kg-day	5.00E-02	mg/kg-day	4.86E-08				
4,4'-DDE	4.94E-08	ug/m <sup>3</sup>	2.41E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	8.21E-13	6.76E-12	mg/kg-day	5.00E-04	mg/kg-day	1.35E-08				
4-Methyl-2-pentanone	9.24E-05	ug/m <sup>3</sup>	4.52E-09					mg/kg-day	--	--	--	1.27E-08	mg/kg-day	8.60E-01	mg/kg-day	1.47E-06				
Acenaphthene	8.04E-04	ug/m <sup>3</sup>	3.93E-08					mg/kg-day	--	--	--	1.10E-07	mg/kg-day	8.00E-02	mg/kg-day	1.84E-06				
Acenaphthylene	3.42E-05	ug/m <sup>3</sup>	1.67E-09					mg/kg-day	--	--	--	4.68E-09	mg/kg-day	8.00E-02	mg/kg-day	7.81E-08				
Aldrin	1.05E-07	ug/m <sup>3</sup>	5.13E-12					mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	8.72E-11	1.44E-11	mg/kg-day	3.00E-05	mg/kg-day	4.79E-07				
alpha-BHC	1.39E-08	ug/m <sup>3</sup>	6.79E-13					mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	4.28E-12	1.90E-12	mg/kg-day	5.00E-04	mg/kg-day	3.80E-09				
alpha-Chlordane	8.38E-08	ug/m <sup>3</sup>	4.10E-12					mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.43E-12	1.15E-11	mg/kg-day	2.00E-04	mg/kg-day	5.74E-08				
Anthracene	6.79E-05	ug/m <sup>3</sup>	3.32E-09					mg/kg-day	--	--	--	9.31E-09	mg/kg-day	3.00E-01	mg/kg-day	3.10E-08				
Benzene	6.09E-03	ug/m <sup>3</sup>	2.98E-07					mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	8.13E-09	8.34E-07	mg/kg-day	8.60E-03	mg/kg-day	9.69E-05				
Benzo(b)fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.19E-10					mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	3.06E-10	1.17E-09	mg/kg-day	--	--	--				
Bromoform	2.09E-04	ug/m <sup>3</sup>	1.02E-08					mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	3.94E-11	2.87E-08	mg/kg-day	2.00E-02	mg/kg-day	1.43E-06				
Carbon disulfide	1.07E-01	ug/m <sup>3</sup>	5.21E-06					mg/kg-day	--	--	--	1.46E-05	mg/kg-day	2.00E-01	mg/kg-day	7.30E-05				
Chlorobenzene	1.65E-03	ug/m <sup>3</sup>	8.08E-08					mg/kg-day	--	--	--	2.26E-07	mg/kg-day	1.70E-02	mg/kg-day	1.33E-05				
Chloroform	4.74E-02	ug/m <sup>3</sup>	2.32E-06					mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	1.87E-07	6.50E-06	mg/kg-day	1.40E-02	mg/kg-day	4.64E-04				
Chloromethane	1.86E-02	ug/m <sup>3</sup>	9.09E-07					mg/kg-day	--	--	--	2.55E-06	mg/kg-day	2.60E-02	mg/kg-day	9.79E-05				
Chrysene	2.39E-05	ug/m <sup>3</sup>	1.17E-09					mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	8.53E-12	3.27E-09	mg/kg-day	--	--	--				
cis-1,2-Dichloroethene	1.31E-02	ug/m <sup>3</sup>	6.43E-07					mg/kg-day	--	--	--	1.80E-06	mg/kg-day	1.00E-02	mg/kg-day	1.80E-04				
Dieldrin	1.62E-08	ug/m <sup>3</sup>	7.91E-13					mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.27E-11	2.21E-12	mg/kg-day	5.00E-05	mg/kg-day	4.43E-08				
Endosulfan I	2.10E-08	ug/m <sup>3</sup>	1.03E-12					mg/kg-day	--	--	--	2.87E-12	mg/kg-day	6.00E-03	mg/kg-day	4.78E-10				
Endosulfan II	7.00E-09	ug/m <sup>3</sup>	3.42E-13					mg/kg-day	--	--	--	9.58E-13	mg/kg-day	6.00E-03	mg/kg-day	1.60E-10				
Ethylbenzene	4.38E-03	ug/m <sup>3</sup>	2.14E-07					mg/kg-day	--	--	--	6.00E-07	mg/kg-day	2.90E-01	mg/kg-day	2.07E-06				
Fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.19E-10					mg/kg-day	--	--	--	1.17E-09	mg/kg-day	4.00E-02	mg/kg-day	2.93E-08				
Fluorene	2.18E-05	ug/m <sup>3</sup>	1.06E-09					mg/kg-day	--	--	--	2.98E-09	mg/kg-day	4.00E-02	mg/kg-day	7.45E-08				
gamma-BHC (Lindane)	1.87E-08	ug/m <sup>3</sup>	9.17E-13					mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.19E-12	2.57E-12	mg/kg-day	3.00E-04	mg/kg-day	8.56E-09				
gamma-Chlordane	4.05E-08	ug/m <sup>3</sup>	1.98E-12					mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	6.94E-13	5.55E-12	mg/kg-day	2.00E-04	mg/kg-day	2.78E-08				
Heptachlor	2.94E-07	ug/m <sup>3</sup>	1.44E-11					mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	6.54E-11	4.03E-11	mg/kg-day	5.00E-04	mg/kg-day	8.05E-08				
Isopropylbenzene	6.87E-01	ug/m <sup>3</sup>	3.36E-05	mg/kg-day	--	--	--	9.41E-05	mg/kg-day	1.10E-01	mg/kg-day	8.56E-04								
m,p-Xylene	1.54E-02	ug/m <sup>3</sup>	7.53E-07	mg/kg-day	--	--	--	2.11E-06	mg/kg-day	2.90E-02	mg/kg-day	7.27E-05								
Methoxychlor	5.41E-08	ug/m <sup>3</sup>	2.65E-12	mg/kg-day	--	--	--	7.41E-12	mg/kg-day	5.00E-03	mg/kg-day	1.48E-09								
Naphthalene	1.13E-04	ug/m <sup>3</sup>	5.51E-09	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	8.57E-04	mg/kg-day	1.80E-05								
n-Butylbenzene	5.41E-03	ug/m <sup>3</sup>	2.65E-07	mg/kg-day	--	--	--	7.41E-07	mg/kg-day	8.57E-04	mg/kg-day	8.64E-04								
n-Propylbenzene	6.10E-03	ug/m <sup>3</sup>	2.99E-07	mg/kg-day	--	--	--	8.36E-07	mg/kg-day	4.00E-02	mg/kg-day	2.09E-05								
Phenanthrene	5.55E-05	ug/m <sup>3</sup>	2.71E-09	mg/kg-day	--	--	--	7.60E-09	mg/kg-day	3.00E-01	mg/kg-day	2.53E-08								
p-Isopropyltoluene	6.87E-01	ug/m <sup>3</sup>	3.36E-05	mg/kg-day	--	--	--	9.41E-05	mg/kg-day	1.10E-01	mg/kg-day	8.56E-04								

TABLE H-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units			
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Pyrene	7.39E-06	ug/m <sup>3</sup>	3.62E-10	mg/kg-day	--	--	--	1.01E-09	mg/kg-day	3.00E-02	mg/kg-day	3.37E-08
				sec-Butylbenzene	2.17E-04	ug/m <sup>3</sup>	1.06E-08	mg/kg-day	--	--	--	2.98E-08	mg/kg-day	4.00E-02	mg/kg-day	7.45E-07
				Tert-Butylbenzene	2.17E-02	ug/m <sup>3</sup>	1.06E-08	mg/kg-day	--	--	--	2.97E-06	mg/kg-day	4.00E-02	mg/kg-day	7.43E-05
				Toluene	8.34E-04	ug/m <sup>3</sup>	4.08E-08	mg/kg-day	--	--	--	1.14E-07	mg/kg-day	1.43E+00	mg/kg-day	8.00E-08
				trans-1,2-Dichloroethene	2.31E-02	ug/m <sup>3</sup>	1.13E-06	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	2.00E-02	mg/kg-day	1.58E-04
				Trichloroethene	2.18E-02	ug/m <sup>3</sup>	1.07E-06	mg/kg-day	4.00E-01	(mg/kg-day)-1	4.27E-07	2.99E-06	mg/kg-day	1.00E-02	mg/kg-day	2.99E-04
				Vinyl chloride	4.98E-02	ug/m <sup>3</sup>	2.44E-06	mg/kg-day	3.10E-02	(mg/kg-day)-1	7.55E-08	6.82E-06	mg/kg-day	2.86E-02	mg/kg-day	2.39E-04
				Exposure Route Total												
		Exposure Point Total														
		Exposure Medium Total														
Medium Total																
Total of Receptor Risks Across All Media										4.92E-05	Total of Receptor Hazards Across All Media				7.37E+00	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	6.92E-08	mg/kg-day	--	--	--	4.84E-06	mg/kg-day	1.00E-02	mg/kg-day	4.84E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.35E-07	mg/kg-day	--	--	--	1.65E-05	mg/kg-day	1.00E-02	mg/kg-day	1.65E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.31E-08	mg/kg-day	--	--	--	1.61E-06	mg/kg-day	5.00E-02	mg/kg-day	3.23E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.20E-06	mg/kg-day	--	--	--	8.40E-05	mg/kg-day	9.00E-02	mg/kg-day	9.33E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.66E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.13E-11	1.16E-08	mg/kg-day	1.14E-03	mg/kg-day	1.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	7.38E-09	mg/kg-day	--	--	--	5.17E-07	mg/kg-day	5.00E-02	mg/kg-day	1.03E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.07E-08	mg/kg-day	--	--	--	3.55E-06	mg/kg-day	3.00E-02	mg/kg-day	1.18E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.14E-07	mg/kg-day	2.40E-02	(mg/kg-day)-1	7.53E-09	2.20E-05	mg/kg-day	3.00E-02	mg/kg-day	7.32E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	9.69E-09	mg/kg-day	--	--	--	6.78E-07	mg/kg-day	2.00E-02	mg/kg-day	3.39E-05
				2-Methylphenol	8.10E-02	mg/kg	3.74E-09	mg/kg-day	--	--	--	2.62E-07	mg/kg-day	5.00E-02	mg/kg-day	5.23E-06
				2-Methylnaphthalene	1.67E+00	mg/kg	7.71E-08	mg/kg-day	--	--	--	5.40E-06	mg/kg-day	4.00E-03	mg/kg-day	1.35E-03
				4,4-DDD	1.20E-03	mg/kg	5.54E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.33E-11	3.87E-09	mg/kg-day	5.00E-04	mg/kg-day	7.75E-06
				4,4-DDE	8.23E-02	mg/kg	3.80E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.29E-09	2.66E-07	mg/kg-day	5.00E-04	mg/kg-day	5.32E-04
				4,4-DDT	4.45E-02	mg/kg	2.05E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.98E-10	1.44E-07	mg/kg-day	5.00E-04	mg/kg-day	2.87E-04
				4-Methylphenol	2.70E-01	mg/kg	1.25E-08	mg/kg-day	--	--	--	8.72E-07	mg/kg-day	5.00E-03	mg/kg-day	1.74E-04
				4-Nitroaniline	6.20E-01	mg/kg	2.86E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.01E-10	2.00E-08	mg/kg-day	3.00E-03	mg/kg-day	6.67E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.94E-08	mg/kg-day	--	--	--	1.36E-08	mg/kg-day	5.00E-04	mg/kg-day	2.71E-03
				Acenaphthene	4.23E+00	mg/kg	1.95E-07	mg/kg-day	--	--	--	1.37E-05	mg/kg-day	6.00E-02	mg/kg-day	2.28E-04
				Acenaphthylene	1.04E-01	mg/kg	4.81E-09	mg/kg-day	--	--	--	3.36E-07	mg/kg-day	6.00E-02	mg/kg-day	5.61E-06
				Aldrin	1.30E-02	mg/kg	6.00E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.02E-08	4.20E-08	mg/kg-day	3.00E-05	mg/kg-day	1.40E-03
				alpha-BHC	7.30E-04	mg/kg	3.37E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.12E-10	2.36E-09	mg/kg-day	5.00E-04	mg/kg-day	4.71E-06
				alpha-Chlordane	8.14E-03	mg/kg	3.76E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.31E-10	2.63E-08	mg/kg-day	5.00E-04	mg/kg-day	5.26E-05
				Aluminum	8.82E+03	mg/kg	4.07E-04	mg/kg-day	--	--	--	2.85E-02	mg/kg-day	1.00E+00	mg/kg-day	2.85E-02
				Anthracene	1.05E+00	mg/kg	4.87E-08	mg/kg-day	--	--	--	3.41E-06	mg/kg-day	3.00E-01	mg/kg-day	1.14E-05
				Antimony	4.08E+00	mg/kg	1.88E-07	mg/kg-day	--	--	--	1.32E-05	mg/kg-day	4.00E-04	mg/kg-day	3.29E-02
				Aroclor-1248	1.20E+00	mg/kg	5.54E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.11E-07	3.87E-08	mg/kg-day	2.00E-05	mg/kg-day	1.94E-01
				Aroclor-1254	4.44E-01	mg/kg	2.05E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.10E-08	1.43E-06	mg/kg-day	2.00E-05	mg/kg-day	7.17E-02
				Aroclor-1260	5.41E-01	mg/kg	2.50E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.99E-08	1.75E-06	mg/kg-day	2.00E-05	mg/kg-day	8.74E-02
				Aroclor-1268	2.78E-02	mg/kg	1.28E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.56E-09	8.96E-08	mg/kg-day	2.00E-05	mg/kg-day	4.48E-03
				Arsenic	6.17E+00	mg/kg	2.84E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.27E-07	1.99E-05	mg/kg-day	3.00E-04	mg/kg-day	6.64E-02
				Barium	6.78E+01	mg/kg	3.13E-06	mg/kg-day	--	--	--	2.19E-04	mg/kg-day	7.00E-02	mg/kg-day	3.13E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	2.31E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.69E-07	1.62E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	7.68E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.61E-07	5.38E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.26E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	9.22E-08	8.84E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.52E-08	mg/kg-day	--	--	--	2.47E-06	mg/kg-day	3.00E-02	mg/kg-day	8.22E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.50E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.10E-08	1.05E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.10E-08	mg/kg-day	--	--	--	7.69E-07	mg/kg-day	2.00E-03	mg/kg-day	3.84E-04
				Beta-BHC	2.20E-03	mg/kg	1.01E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.83E-10	7.10E-09	mg/kg-day	2.00E-04	mg/kg-day	3.55E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.61E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	5.06E-09	2.53E-05	mg/kg-day	2.00E-02	mg/kg-day	1.26E-03
				Cadmium	9.47E+00	mg/kg	4.37E-07	mg/kg-day	--	--	--	3.06E-05	mg/kg-day	5.00E-04	mg/kg-day	6.12E-02
				Carbon disulfide	2.40E-04	mg/kg	1.11E-11	mg/kg-day	--	--	--	7.75E-10	mg/kg-day	1.00E-01	mg/kg-day	7.75E-09
				Chlorobenzene	1.10E-01	mg/kg	5.07E-09	mg/kg-day	--	--	--	3.55E-07	mg/kg-day	2.00E-02	mg/kg-day	1.78E-05
				Chromium	1.11E+02	mg/kg	5.13E-06	mg/kg-day	--	--	--	3.59E-04	mg/kg-day	1.50E+00	mg/kg-day	2.39E-04
Chrysene	5.68E+00	mg/kg	2.62E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.91E-09	1.83E-05	mg/kg-day	--	--	--				
Cobalt	7.57E+00	mg/kg	3.49E-07	mg/kg-day	--	--	--	2.45E-05	mg/kg-day	2.00E-02	mg/kg-day	1.22E-03				
Copper	5.71E+01	mg/kg	2.63E-06	mg/kg-day	--	--	--	1.84E-04	mg/kg-day	3.70E-02	mg/kg-day	4.98E-03				
Delta-BHC	8.40E-03	mg/kg	3.87E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	6.97E-10	2.71E-08	mg/kg-day	2.00E-04	mg/kg-day	1.36E-04				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.46E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.07E-07	1.03E-06	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	6.00E-07	mg/kg-day	--	--	--	4.20E-05	mg/kg-day	2.00E-03	mg/kg-day	2.10E-02				
Dieldrin	5.51E-02	mg/kg	2.54E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.07E-08	1.78E-07	mg/kg-day	5.00E-05	mg/kg-day	3.56E-03				
Dimethylphthalate	3.80E-02	mg/kg	1.75E-09	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	1.00E+01	mg/kg-day	1.23E-08				

TABLE H-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																																																																																																																																																																																				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient																																																																																																																																																																																
							Value	Units	Value	Units		Value	Units	Value	Units																																																																																																																																																																																	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	1.01E-07	mg/kg-day	--	--	--	--	7.10E-06	mg/kg-day	1.00E-01	mg/kg-day	7.10E-05																																																																																																																																																																															
				Endosulfan I	2.30E-02	mg/kg	1.06E-09	mg/kg-day	--	--	--	--	7.43E-08	mg/kg-day	6.00E-03	mg/kg-day	1.24E-05																																																																																																																																																																															
				Endosulfan II	2.38E-02	mg/kg	1.10E-09	mg/kg-day	--	--	--	--	7.69E-08	mg/kg-day	6.00E-03	mg/kg-day	1.28E-05																																																																																																																																																																															
				Endosulfan Sulfate	4.30E-02	mg/kg	1.98E-09	mg/kg-day	--	--	--	--	1.39E-07	mg/kg-day	6.00E-03	mg/kg-day	2.31E-05																																																																																																																																																																															
				Endrin aldehyde	4.21E-02	mg/kg	1.94E-09	mg/kg-day	--	--	--	--	1.36E-07	mg/kg-day	3.00E-04	mg/kg-day	4.53E-04																																																																																																																																																																															
				Endrin Ketone	1.00E-02	mg/kg	4.61E-10	mg/kg-day	--	--	--	--	3.23E-08	mg/kg-day	3.00E-04	mg/kg-day	1.08E-04																																																																																																																																																																															
				Fluoranthene	2.65E+01	mg/kg	1.22E-06	mg/kg-day	--	--	--	--	8.56E-05	mg/kg-day	4.00E-02	mg/kg-day	2.14E-03																																																																																																																																																																															
				Fluorene	2.92E+00	mg/kg	1.35E-07	mg/kg-day	--	--	--	--	9.42E-06	mg/kg-day	4.00E-02	mg/kg-day	2.35E-04																																																																																																																																																																															
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.20E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.56E-10	8.40E-09	mg/kg-day	3.00E-04	mg/kg-day	2.80E-05																																																																																																																																																																																
				gamma-Chlordane	1.31E-02	mg/kg	6.04E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.12E-10	4.23E-08	mg/kg-day	5.00E-04	mg/kg-day	8.46E-05																																																																																																																																																																																
				Heptachlor	6.90E-03	mg/kg	3.18E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.43E-09	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05																																																																																																																																																																																
				Heptachlor Epoxide	1.12E-02	mg/kg	5.15E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	4.68E-09	3.60E-08	mg/kg-day	1.30E-05	mg/kg-day	2.77E-03																																																																																																																																																																																
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.03E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.94E-08	2.82E-06	mg/kg-day	--	--	--																																																																																																																																																																																
				Iron	4.07E+04	mg/kg	1.88E-03	mg/kg-day	--	--	--	1.32E-01	mg/kg-day	3.00E-01	mg/kg-day	4.38E-01																																																																																																																																																																																
				Isophorone	2.00E-01	mg/kg	9.23E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	8.76E-12	6.46E-07	mg/kg-day	2.00E-01	mg/kg-day	3.23E-06																																																																																																																																																																																
				Lead	2.90E+03	mg/kg	1.34E-04	mg/kg-day	--	--	--	9.37E-03	mg/kg-day	--	--	--																																																																																																																																																																																
				Manganese	3.31E+02	mg/kg	1.53E-05	mg/kg-day	--	--	--	1.07E-03	mg/kg-day	2.40E-02	mg/kg-day	4.45E-02																																																																																																																																																																																
				Mercury	3.10E-01	mg/kg	1.43E-08	mg/kg-day	--	--	--	9.99E-07	mg/kg-day	3.00E-04	mg/kg-day	3.33E-03																																																																																																																																																																																
				Methoxychlor	1.20E-01	mg/kg	5.54E-09	mg/kg-day	--	--	--	3.87E-07	mg/kg-day	5.00E-03	mg/kg-day	7.75E-05																																																																																																																																																																																
				Molybdenum	2.50E+00	mg/kg	1.16E-07	mg/kg-day	--	--	--	8.09E-06	mg/kg-day	5.00E-03	mg/kg-day	1.62E-03																																																																																																																																																																																
				Naphthalene	1.30E+01	mg/kg	6.00E-07	mg/kg-day	--	--	--	4.20E-05	mg/kg-day	2.00E-02	mg/kg-day	2.10E-03																																																																																																																																																																																
				Nickel	3.91E+01	mg/kg	1.80E-06	mg/kg-day	--	--	--	1.26E-04	mg/kg-day	2.00E-02	mg/kg-day	6.32E-03																																																																																																																																																																																
				Phenanthrene	1.39E+01	mg/kg	6.42E-07	mg/kg-day	--	--	--	4.49E-05	mg/kg-day	3.00E-01	mg/kg-day	1.50E-04																																																																																																																																																																																
				Phenol	5.80E-01	mg/kg	2.68E-08	mg/kg-day	--	--	--	1.87E-06	mg/kg-day	3.00E-01	mg/kg-day	6.24E-06																																																																																																																																																																																
				p-Isopropyltoluene	1.10E-01	mg/kg	5.07E-09	mg/kg-day	--	--	--	3.55E-07	mg/kg-day	1.00E-01	mg/kg-day	3.55E-06																																																																																																																																																																																
				Pyrene	2.41E+01	mg/kg	1.11E-06	mg/kg-day	--	--	--	7.80E-05	mg/kg-day	3.00E-02	mg/kg-day	2.60E-03																																																																																																																																																																																
				sec-Butylbenzene	7.10E-02	mg/kg	3.28E-09	mg/kg-day	--	--	--	2.29E-07	mg/kg-day	4.00E-02	mg/kg-day	5.73E-06																																																																																																																																																																																
				Selenium	2.24E-01	mg/kg	1.04E-08	mg/kg-day	--	--	--	7.25E-07	mg/kg-day	5.00E-03	mg/kg-day	1.45E-04																																																																																																																																																																																
				Silver	1.16E+00	mg/kg	5.35E-08	mg/kg-day	--	--	--	3.74E-06	mg/kg-day	5.00E-03	mg/kg-day	7.48E-04																																																																																																																																																																																
				Technical Chlordane	5.51E-01	mg/kg	2.54E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	8.90E-09	1.78E-06	mg/kg-day	5.00E-04	mg/kg-day	3.56E-03																																																																																																																																																																																
				Thallium	4.97E-01	mg/kg	2.29E-08	mg/kg-day	--	--	--	1.60E-06	mg/kg-day	6.60E-05	mg/kg-day	2.43E-02																																																																																																																																																																																
				Toluene	4.30E-04	mg/kg	1.98E-11	mg/kg-day	--	--	--	1.39E-09	mg/kg-day	8.00E-02	mg/kg-day	1.74E-08																																																																																																																																																																																
				Vanadium	3.41E+01	mg/kg	1.58E-06	mg/kg-day	--	--	--	1.10E-04	mg/kg-day	1.00E-03	mg/kg-day	1.10E-01																																																																																																																																																																																
				Zinc	4.53E+02	mg/kg	2.09E-05	mg/kg-day	--	--	--	1.46E-03	mg/kg-day	3.00E-01	mg/kg-day	4.88E-03																																																																																																																																																																																
				Exposure Route Total							1.88E-06					1.24E+00																																																																																																																																																																																
				Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	9.56E-08	mg/kg-day	--	--	--	--	6.69E-06	mg/kg-day	1.00E-02	mg/kg-day	6.69E-04																																																																																																																																																																														
																			1,2,4-Trichlorobenzene	5.10E+00	mg/kg	3.25E-08	mg/kg-day	--	--	--	--	2.28E-06	mg/kg-day	1.00E-02	mg/kg-day	2.28E-04																																																																																																																																																																
																																	1,2,4-Trimethylbenzene	5.00E-01	mg/kg	3.19E-09	mg/kg-day	--	--	--	--	2.23E-07	mg/kg-day	5.00E-02	mg/kg-day	4.46E-06																																																																																																																																																		
																																															1,2-Dichlorobenzene	2.60E+01	mg/kg	1.66E-07	mg/kg-day	--	--	--	--	1.16E-05	mg/kg-day	9.00E-02	mg/kg-day	1.29E-04																																																																																																																																				
																																																													1,2-Dichloropropane	3.60E-03	mg/kg	2.29E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.56E-12	1.61E-09	mg/kg-day	1.14E-03	mg/kg-day	1.41E-06																																																																																																																							
																																																																										1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.02E-09	mg/kg-day	--	--	--	--	7.14E-08	mg/kg-day	5.00E-02	mg/kg-day	1.43E-06																																																																																																									
																																																																																								1,3-Dichlorobenzene	1.10E+00	mg/kg	7.01E-09	mg/kg-day	--	--	--	--	4.91E-07	mg/kg-day	3.00E-02	mg/kg-day	1.64E-05																																																																																											
1,4-Dichlorobenzene	6.80E+00	mg/kg	--																																																																																																			mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--																																																																																	
																																																																																																																2,4-Dimethylphenol	2.10E-01	mg/kg	1.34E-09	mg/kg-day	--	--	--	--	9.37E-08	mg/kg-day	2.00E-02	mg/kg-day	4.68E-06																																																																			
																																																																																																																														2-Methylphenol	8.10E-02	mg/kg	5.16E-09	mg/kg-day	--	--	--	--	3.61E-07	mg/kg-day	5.00E-02	mg/kg-day	7.23E-06																																																					
																																																																																																																																												2-Methylnaphthalene	1.67E+00	mg/kg	1.07E-08	mg/kg-day	--	--	--	--	7.46E-07	mg/kg-day	4.00E-03	mg/kg-day	1.86E-04																																							
																																																																																																																																																										4,4'-DDD	1.20E-03	mg/kg	7.65E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.84E-12	5.35E-10	mg/kg-day	5.00E-04	mg/kg-day	1.07E-06																										
																																																																																																																																																																							4,4'-DDE	8.23E-02	mg/kg	5.25E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.78E-10	3.67E-08	mg/kg-day	5.00E-04	mg/kg-day	7.35E-05													
																																																																																																																																																																																				4,4'-DDT	4.45E-02	mg/kg	8.51E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.89E-10	5.96E-08	mg/kg-day	5.00E-04	mg/kg-day	1.19E-04
				4-Nitroaniline	6.20E-01	mg/kg	3.95E-08	mg/kg-day	2.10E-02	--	--	--	8.30E-10	mg/kg-day	3.00E-03	mg/kg-day	9.22E-04																																																																																																																																																																															

TABLE H-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	2.68E-08	mg/kg-day	--	--	--	1.87E-06	mg/kg-day	5.00E-04	mg/kg-day	3.75E-03
				Acenaphthene	4.23E+00	mg/kg	3.51E-07	mg/kg-day	--	--	--	2.46E-05	mg/kg-day	6.00E-02	mg/kg-day	4.09E-04
				Acenaphthylene	1.04E-01	mg/kg	6.64E-10	mg/kg-day	--	--	--	4.65E-08	mg/kg-day	6.00E-02	mg/kg-day	7.75E-07
				Aldrin	1.30E-02	mg/kg	8.29E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.41E-08	5.80E-08	mg/kg-day	3.00E+05	mg/kg-day	1.93E-03
				alpha-BHC	7.30E-04	mg/kg	4.65E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.93E-11	3.26E-10	mg/kg-day	5.00E-04	mg/kg-day	6.51E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	5.62E-08	mg/kg-day	--	--	--	3.94E-04	mg/kg-day	1.00E+00	mg/kg-day	3.94E-04
				Anthracene	1.05E+00	mg/kg	8.74E-08	mg/kg-day	--	--	--	6.12E-08	mg/kg-day	3.00E-01	mg/kg-day	2.04E-05
				Antimony	4.08E+00	mg/kg	2.60E-09	mg/kg-day	--	--	--	1.82E-07	mg/kg-day	4.00E-04	mg/kg-day	4.55E-04
				Aroclor-1248	1.20E+00	mg/kg	1.07E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.14E-07	7.50E-06	mg/kg-day	2.00E-05	mg/kg-day	3.75E-01
				Aroclor-1254	4.44E-01	mg/kg	3.96E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.93E-08	2.77E-08	mg/kg-day	2.00E+05	mg/kg-day	1.39E-01
				Aroclor-1260	5.41E-01	mg/kg	4.83E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.66E-08	3.38E-06	mg/kg-day	2.00E+05	mg/kg-day	1.69E-01
				Aroclor-1268	2.78E-02	mg/kg	2.48E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.95E-09	1.73E-07	mg/kg-day	2.00E+05	mg/kg-day	8.67E-03
				Arsenic	6.17E+00	mg/kg	1.18E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.77E-07	8.25E-06	mg/kg-day	3.00E-04	mg/kg-day	2.75E-02
				Barium	6.78E+01	mg/kg	4.32E-08	mg/kg-day	--	--	--	3.03E-06	mg/kg-day	7.00E-02	mg/kg-day	4.32E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	4.15E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.03E-07	2.90E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.38E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.01E-06	9.66E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.27E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.66E-07	1.59E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	6.33E-08	mg/kg-day	--	--	--	4.43E-06	mg/kg-day	3.00E-02	mg/kg-day	1.48E-04
				Benzo(k)fluoranthene	3.28E+00	mg/kg	2.70E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.97E-08	1.89E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.52E-10	mg/kg-day	--	--	--	1.06E-08	mg/kg-day	2.00E-03	mg/kg-day	5.31E-06
				Beta-BHC	2.20E-03	mg/kg	1.40E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.52E-11	9.82E-10	mg/kg-day	2.00E-04	mg/kg-day	4.91E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	4.99E-08	mg/kg-day	1.40E-02	(mg/kg-day)-1	6.99E-10	3.49E-06	mg/kg-day	2.00E-02	mg/kg-day	1.75E-04
				Cadmium	9.47E+00	mg/kg	8.04E-09	mg/kg-day	--	--	--	4.23E-07	mg/kg-day	5.00E-04	mg/kg-day	8.45E-04
				Carbon disulfide	2.40E-04	mg/kg	3.82E-11	mg/kg-day	--	--	--	2.68E-09	mg/kg-day	1.00E-01	mg/kg-day	2.68E-08
				Chlorobenzene	1.10E-01	mg/kg	7.01E-10	mg/kg-day	--	--	--	4.91E-08	mg/kg-day	2.00E-02	mg/kg-day	2.45E-06
				Chromium	1.11E+02	mg/kg	7.09E-08	mg/kg-day	--	--	--	4.96E-06	mg/kg-day	1.50E+00	mg/kg-day	3.31E-06
				Chrysene	5.68E+00	mg/kg	4.71E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	3.44E-09	3.30E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	4.83E-09	mg/kg-day	--	--	--	3.38E-07	mg/kg-day	2.00E-02	mg/kg-day	1.69E-05
				Copper	5.71E+01	mg/kg	3.64E-08	mg/kg-day	--	--	--	2.55E-08	mg/kg-day	3.70E-02	mg/kg-day	6.88E-05
				Delta-BHC	8.40E-03	mg/kg	2.68E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	4.82E-10	1.87E-08	mg/kg-day	2.00E-04	mg/kg-day	9.37E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	2.63E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.92E-07	1.84E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	8.29E-08	mg/kg-day	--	--	--	5.80E-06	mg/kg-day	2.00E-03	mg/kg-day	2.90E-03
				Dieldrin	5.51E-02	mg/kg	3.51E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	5.62E-09	2.46E-08	mg/kg-day	5.00E-05	mg/kg-day	4.92E-04
				Dimethylphthalate	3.80E-02	mg/kg	2.42E-10	mg/kg-day	--	--	--	1.70E-08	mg/kg-day	1.00E-01	mg/kg-day	1.70E-09
				di-n-Butylphthalate	2.20E+00	mg/kg	1.40E-08	mg/kg-day	--	--	--	9.82E-07	mg/kg-day	1.00E-01	mg/kg-day	9.82E-06
				Endosulfan I	2.30E-02	mg/kg	7.33E-10	mg/kg-day	--	--	--	5.13E-08	mg/kg-day	6.00E-03	mg/kg-day	8.55E-06
				Endosulfan II	2.38E-02	mg/kg	7.59E-10	mg/kg-day	--	--	--	5.31E-08	mg/kg-day	6.00E-03	mg/kg-day	8.86E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	1.37E-09	mg/kg-day	--	--	--	9.59E-08	mg/kg-day	6.00E-03	mg/kg-day	1.60E-05
				Endrin aldehyde	4.21E-02	mg/kg	1.34E-09	mg/kg-day	--	--	--	9.39E-08	mg/kg-day	3.00E-04	mg/kg-day	3.13E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	2.20E-06	mg/kg-day	--	--	--	1.54E-04	mg/kg-day	4.00E-02	mg/kg-day	3.84E-03
				Fluorene	2.92E+00	mg/kg	2.42E-07	mg/kg-day	--	--	--	1.69E-05	mg/kg-day	4.00E-02	mg/kg-day	4.23E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	6.63E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.62E-11	4.64E-09	mg/kg-day	3.00E-04	mg/kg-day	1.55E-05
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	4.40E-11	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.98E-10	3.08E-09	mg/kg-day	5.00E-04	mg/kg-day	6.16E-06
				Heptachlor Epoxide	1.12E-02	mg/kg	7.11E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	8.47E-10	4.98E-09	mg/kg-day	1.30E-05	mg/kg-day	3.83E-04
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	7.23E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.28E-08	5.06E-06	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	2.60E-05	mg/kg-day	--	--	--	1.82E-03	mg/kg-day	3.00E-01	mg/kg-day	6.06E-03
				Isophorone	2.00E-01	mg/kg	1.27E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.21E-11	8.92E-07	mg/kg-day	2.00E-01	mg/kg-day	4.46E-06
				Lead	2.90E+03	mg/kg	1.85E-06	mg/kg-day	--	--	--	1.29E-04	mg/kg-day	--	--	--

TABLE H-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	2.11E-07	mg/kg-day	--	--	--	--	1.48E-05	mg/kg-day	2.40E-02	mg/kg-day	6.15E-04			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	7.65E-10	mg/kg-day	--	--	--	--	5.35E-08	mg/kg-day	5.00E-03	mg/kg-day	1.07E-05	mg/kg-day	2.23E-05	
				Molybdenum	2.50E+00	mg/kg	1.60E-09	mg/kg-day	--	--	--	--	1.12E-07	mg/kg-day	5.00E-03	mg/kg-day	2.23E-05	mg/kg-day	2.23E-05	
				Naphthalene	1.30E+01	mg/kg	1.08E-06	mg/kg-day	--	--	--	--	7.54E-05	mg/kg-day	2.00E-02	mg/kg-day	3.77E-03	mg/kg-day	8.73E-05	
				Nickel	3.91E+01	mg/kg	2.49E-08	mg/kg-day	--	--	--	--	1.75E-06	mg/kg-day	2.00E-02	mg/kg-day	8.73E-05	mg/kg-day	2.07E-05	
				Phenanthrene	1.39E+01	mg/kg	8.87E-08	mg/kg-day	--	--	--	--	6.21E-06	mg/kg-day	3.00E-01	mg/kg-day	2.07E-05	mg/kg-day	8.63E-06	
				Phenol	5.80E-01	mg/kg	3.70E-08	mg/kg-day	--	--	--	--	2.59E-06	mg/kg-day	3.00E-01	mg/kg-day	8.63E-06	mg/kg-day	--	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	1.00E-01	mg/kg-day	--	mg/kg-day	--
				Pyrene	2.41E+01	mg/kg	2.00E-06	mg/kg-day	--	--	--	--	1.40E-04	mg/kg-day	3.00E-02	mg/kg-day	4.67E-03	mg/kg-day	--	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	4.00E-02	mg/kg-day	--	mg/kg-day	--
				Selenium	2.24E-01	mg/kg	1.43E-10	mg/kg-day	--	--	--	--	1.00E-08	mg/kg-day	5.00E-03	mg/kg-day	2.00E-06	mg/kg-day	1.03E-05	
				Silver	1.16E+00	mg/kg	7.39E-10	mg/kg-day	--	--	--	--	5.17E-08	mg/kg-day	5.00E-03	mg/kg-day	1.03E-05	mg/kg-day	1.97E-03	
				Technical Chlordane	5.51E-01	mg/kg	1.41E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	4.92E-09	9.84E-07	mg/kg-day	5.00E-04	mg/kg-day	1.97E-03	mg/kg-day	--	mg/kg-day	--
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	6.60E-05	mg/kg-day	2.40E-09	mg/kg-day	1.52E-03	mg/kg-day	6.74E-05
				Toluene	4.30E-04	mg/kg	2.74E-12	mg/kg-day	--	--	--	--	1.92E-10	mg/kg-day	8.00E-02	mg/kg-day	1.52E-03	mg/kg-day	1.52E-03	
				Vanadium	3.41E+01	mg/kg	2.18E-08	mg/kg-day	--	--	--	--	1.52E-06	mg/kg-day	1.00E-03	mg/kg-day	1.52E-03	mg/kg-day	1.52E-03	
				Zinc	4.53E+02	mg/kg	2.89E-07	mg/kg-day	--	--	--	--	2.02E-05	mg/kg-day	3.00E-01	mg/kg-day	6.74E-05	mg/kg-day	6.74E-05	
				Exposure Point Total										2.34E-06					7.57E-01	
				Exposure Medium Total										4.03E-06					2.00E+00	
Exposure Point Total										4.03E-06					2.00E+00					
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	2.10E-07	mg/m <sup>3</sup>	5.87E-10	mg/kg-day	--	--	--	--	4.11E-08	mg/kg-day	2.00E-02	mg/kg-day	2.05E-08				
			2-Methylphenol	8.10E-08	mg/m <sup>3</sup>	2.28E-10	mg/kg-day	--	--	--	--	1.59E-08	mg/kg-day	--	--	--	--			
			4,4'-DDD	1.20E-09	mg/m <sup>3</sup>	3.35E-12	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	8.05E-13	2.35E-10	mg/kg-day	5.00E-04	mg/kg-day	4.70E-07	mg/kg-day	1.74E-05			
			4,4'-DDT	4.45E-08	mg/m <sup>3</sup>	1.24E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.23E-11	8.71E-09	mg/kg-day	5.00E-04	mg/kg-day	1.74E-05	mg/kg-day	1.74E-05			
			4-Methylphenol	2.70E-07	mg/m <sup>3</sup>	7.55E-10	mg/kg-day	--	--	--	5.28E-08	mg/kg-day	5.00E-03	mg/kg-day	1.06E-05	mg/kg-day	1.06E-05			
			4-Nitroaniline	6.20E-07	mg/m <sup>3</sup>	1.73E-09	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	3.64E-11	1.21E-07	mg/kg-day	1.00E-03	mg/kg-day	1.21E-04	mg/kg-day	1.21E-04			
			4-Nitrophenol	4.20E-07	mg/m <sup>3</sup>	1.17E-09	mg/kg-day	--	--	--	8.22E-08	mg/kg-day	5.70E-04	mg/kg-day	1.44E-04	mg/kg-day	1.44E-04			
			Aluminum	8.82E-03	mg/m <sup>3</sup>	2.47E-05	mg/kg-day	--	--	--	1.73E-03	mg/kg-day	1.43E-03	mg/kg-day	1.21E+00	mg/kg-day	1.21E+00			
			Antimony	4.08E-06	mg/m <sup>3</sup>	1.14E-08	mg/kg-day	--	--	--	7.98E-07	mg/kg-day	--	--	--	--	--			
			Aroclor-1248	1.20E-06	mg/m <sup>3</sup>	3.35E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.71E-09	2.35E-07	mg/kg-day	2.00E-05	mg/kg-day	1.17E-02	mg/kg-day	1.17E-02			
			Aroclor-1254	4.44E-07	mg/m <sup>3</sup>	1.24E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.48E-09	8.69E-08	mg/kg-day	2.00E-05	mg/kg-day	4.35E-03	mg/kg-day	4.35E-03			
			Aroclor-1260	5.41E-07	mg/m <sup>3</sup>	1.51E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.03E-09	1.06E-07	mg/kg-day	2.00E-05	mg/kg-day	5.30E-03	mg/kg-day	5.30E-03			
			Aroclor-1268	2.78E-08	mg/m <sup>3</sup>	7.78E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.55E-10	5.43E-09	mg/kg-day	2.00E-05	mg/kg-day	2.72E-04	mg/kg-day	2.72E-04			
			Arsenic	6.17E-06	mg/m <sup>3</sup>	1.72E-08	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	2.59E-07	1.21E-06	mg/kg-day	--	--	--	--	--			
			Barium	6.78E-05	mg/m <sup>3</sup>	1.90E-07	mg/kg-day	--	--	--	1.33E-05	mg/kg-day	1.40E-04	mg/kg-day	9.48E-02	mg/kg-day	9.48E-02			
			Benzo(a)anthracene	5.00E-06	mg/m <sup>3</sup>	1.40E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.02E-08	9.79E-07	mg/kg-day	--	--	--	--	--			
			Benzo(a)pyrene	1.67E-06	mg/m <sup>3</sup>	4.66E-09	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	3.40E-08	3.26E-07	mg/kg-day	--	--	--	--	--			
			Benzo(g,h,i)perylene	7.64E-07	mg/m <sup>3</sup>	2.13E-09	mg/kg-day	--	--	--	1.49E-07	mg/kg-day	3.00E-02	mg/kg-day	4.98E-06	mg/kg-day	4.98E-06			
			Benzo(k)fluoranthene	3.26E-06	mg/m <sup>3</sup>	9.11E-09	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	6.65E-10	6.38E-07	mg/kg-day	--	--	--	--	--			
			Beryllium	2.38E-07	mg/m <sup>3</sup>	6.66E-10	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	5.59E-09	4.66E-08	mg/kg-day	5.71E-06	mg/kg-day	8.16E-03	mg/kg-day	8.16E-03			
			Beta-BHC	2.20E-09	mg/m <sup>3</sup>	6.15E-12	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	1.14E-11	4.31E-10	mg/kg-day	2.00E-04	mg/kg-day	2.15E-06	mg/kg-day	2.15E-06			
			bis(2-ethylhexyl)phthalate	7.83E-06	mg/m <sup>3</sup>	2.19E-08	mg/kg-day	1.40E+02	(mg/kg-day) <sup>-1</sup>	3.07E-10	1.53E-06	mg/kg-day	2.00E-02	mg/kg-day	7.66E-05	mg/kg-day	7.66E-05			
			Cadmium	9.47E-06	mg/m <sup>3</sup>	2.65E-08	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.67E-07	1.85E-06	mg/kg-day	--	--	--	--	--			
			Chromium	1.11E-04	mg/m <sup>3</sup>	3.11E-07	mg/kg-day	--	--	--	2.18E-05	mg/kg-day	--	--	--	--	--			
			Cobalt	7.57E-06	mg/m <sup>3</sup>	2.12E-08	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	2.07E-07	1.48E-06	mg/kg-day	5.71E-06	mg/kg-day	2.60E-01	mg/kg-day	2.60E-01			
			Copper	5.71E-05	mg/m <sup>3</sup>	1.60E-07	mg/kg-day	--	--	--	1.12E-05	mg/kg-day	--	--	--	--	--			
			Dibenzo(a,h)anthracene	3.17E-07	mg/m <sup>3</sup>	8.88E-10	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	6.48E-09	6.21E-08	mg/kg-day	--	--	--	--	--			
			Dimethylphthalate	3.80E-08	mg/m <sup>3</sup>	1.06E-10	mg/kg-day	--	--	--	7.44E-09	mg/kg-day	1.00E+01	mg/kg-day	7.44E-10	mg/kg-day	7.44E-10			
			di-n-Butylphthalate	2.20E-06	mg/m <sup>3</sup>	6.15E-09	mg/kg-day	--	--	--	4.31E-07	mg/kg-day	4.31E-07	mg/kg-day	4.31E-06	mg/kg-day	4.31E-06			
			Endrin aldehyde	4.21E-08	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	3.00E-04	mg/kg-day	2.74E-05	mg/kg-day	2.74E-05			

TABLE H-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations										
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	1.00E-08	mg/m <sup>3</sup>	2.80E-11	mg/kg-day	--	--	--	--	1.96E-09	mg/kg-day	3.00E-04	mg/kg-day	6.52E-06				
				Heptachlor Epoxide	1.12E-08	mg/m <sup>3</sup>	3.12E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.84E-10	--	2.18E-09	mg/kg-day	1.30E-05	mg/kg-day	1.68E-04				
				Indeno(1,2,3-cd)pyrene	8.73E-07	mg/m <sup>3</sup>	2.44E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.78E-09	--	1.71E-07	mg/kg-day	--	--	--				
				Iron	4.07E-02	mg/m <sup>3</sup>	1.14E-04	mg/kg-day	--	--	--	--	7.97E-03	mg/kg-day	--	--	--				
				Isophorone	2.00E-07	mg/m <sup>3</sup>	5.59E-10	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.31E-13	--	3.91E-08	mg/kg-day	2.00E-01	mg/kg-day	1.96E-07				
				Lead	2.90E-03	mg/m <sup>3</sup>	8.11E-06	mg/kg-day	--	--	--	--	5.68E-04	mg/kg-day	--	--	--				
				Manganese	3.31E-04	mg/m <sup>3</sup>	9.26E-07	mg/kg-day	--	--	--	--	6.48E-05	mg/kg-day	1.43E-05	mg/kg-day	4.54E+00				
				Mercury	3.10E-07	mg/m <sup>3</sup>	8.65E-10	mg/kg-day	--	--	--	--	6.06E-08	mg/kg-day	8.60E-05	mg/kg-day	7.04E-04				
				Molybdenum	2.50E-06	mg/m <sup>3</sup>	7.00E-09	mg/kg-day	--	--	--	--	4.90E-07	mg/kg-day	--	--	--				
				Nickel	3.91E-05	mg/m <sup>3</sup>	1.09E-07	mg/kg-day	--	--	--	--	7.66E-06	mg/kg-day	--	--	--				
				Phenol	5.80E-07	mg/m <sup>3</sup>	1.62E-09	mg/kg-day	--	--	--	--	1.14E-07	mg/kg-day	3.00E-01	mg/kg-day	3.78E-07				
				Selenium	2.24E-07	mg/m <sup>3</sup>	6.27E-10	mg/kg-day	--	--	--	--	4.39E-08	mg/kg-day	--	--	--				
				Silver	1.16E-06	mg/m <sup>3</sup>	3.24E-09	mg/kg-day	--	--	--	--	2.27E-07	mg/kg-day	--	--	--				
				Thallium	4.97E-07	mg/m <sup>3</sup>	1.39E-09	mg/kg-day	--	--	--	--	9.73E-08	mg/kg-day	--	--	--				
				Vanadium	3.41E-05	mg/m <sup>3</sup>	9.55E-08	mg/kg-day	--	--	--	--	6.68E-06	mg/kg-day	--	--	--				
				Zinc	4.53E-04	mg/m <sup>3</sup>	1.27E-06	mg/kg-day	--	--	--	--	8.87E-05	mg/kg-day	--	--	--				
				<b>Exposure Route Total</b>																	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.92E-07	mg/kg-day	--	--	--	--	2.04E-05	mg/kg-day	1.10E-03	mg/kg-day	1.86E-02
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	9.93E-07	mg/kg-day	--	--	--	--	6.95E-05	mg/kg-day	1.10E-03	mg/kg-day	6.32E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	3.28E-07	mg/kg-day	--	--	--	--	2.29E-05	mg/kg-day	1.71E-03	mg/kg-day	1.34E-02
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.49E-05	mg/kg-day	--	--	--	--	1.04E-03	mg/kg-day	5.70E-02	mg/kg-day	1.83E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	8.00E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	5.44E-10	--	5.60E-07	mg/kg-day	1.14E-03	mg/kg-day	4.91E-04				
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.02E-07	mg/kg-day	--	--	--	--	7.15E-05	mg/kg-day	1.71E-03	mg/kg-day	4.17E-03				
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	4.55E-07	mg/kg-day	--	--	--	--	3.19E-05	mg/kg-day	3.00E-02	mg/kg-day	1.06E-03				
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	4.37E-06	mg/kg-day	2.20E-02	(mg/kg-day)-1	9.61E-08	--	3.06E-04	mg/kg-day	2.30E-01	mg/kg-day	1.33E-03				
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	2.07E-07	mg/kg-day	--	--	--	--	1.45E-05	mg/kg-day	5.00E-02	mg/kg-day	2.90E-04				
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	2.71E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.22E-12	--	1.90E-09	mg/kg-day	5.00E-04	mg/kg-day	3.80E-06				
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.63E-07	mg/kg-day	--	--	--	--	1.14E-05	mg/kg-day	6.00E-02	mg/kg-day	1.90E-04				
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	4.00E-09	mg/kg-day	--	--	--	--	2.80E-07	mg/kg-day	6.00E-02	mg/kg-day	4.66E-06				
				Aldrin	5.63E-09	mg/m <sup>3</sup>	1.57E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.68E-10	--	1.10E-09	mg/kg-day	3.00E-05	mg/kg-day	3.67E-05				
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.02E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	6.41E-11	--	7.12E-10	mg/kg-day	5.00E-04	mg/kg-day	1.42E-06				
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	2.25E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	7.89E-12	--	1.58E-09	mg/kg-day	2.00E-04	mg/kg-day	7.89E-06				
				Anthracene	1.45E-05	mg/m <sup>3</sup>	4.05E-08	mg/kg-day	--	--	--	--	2.83E-06	mg/kg-day	3.00E-01	mg/kg-day	9.45E-06				
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	4.95E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.61E-09	--	3.46E-07	mg/kg-day	--	--					
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.26E-09	mg/kg-day	--	--	--	--	8.85E-08	mg/kg-day	2.00E-01	mg/kg-day	4.43E-07				
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.45E-07	mg/kg-day	--	--	--	--	1.01E-05	mg/kg-day	1.70E-02	mg/kg-day	5.96E-04				
				Chrysene	6.25E-06	mg/m <sup>3</sup>	1.75E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.27E-10	--	1.22E-06	mg/kg-day	--	--					
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	1.86E+00	(mg/kg-day)-1	2.17E-10	--	8.19E-09	mg/kg-day	2.00E-04	mg/kg-day	4.10E-05				
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.25E-07	mg/kg-day	--	--	--	--	8.78E-06	mg/kg-day	2.00E-03	mg/kg-day	4.39E-03				
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	2.07E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.32E-09	--	1.45E-08	mg/kg-day	5.00E-05	mg/kg-day	2.90E-04				
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	2.25E-10	mg/kg-day	--	--	--	--	1.58E-08	mg/kg-day	6.00E-03	mg/kg-day	2.63E-06				
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	2.33E-10	mg/kg-day	--	--	--	--	1.63E-08	mg/kg-day	6.00E-03	mg/kg-day	2.72E-06				
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	4.21E-10	mg/kg-day	--	--	--	--	2.95E-08	mg/kg-day	6.00E-03	mg/kg-day	4.91E-06				
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	4.79E-08	mg/kg-day	--	--	--	--	3.35E-06	mg/kg-day	4.00E-02	mg/kg-day	8.39E-05				
				Fluorene	1.71E-05	mg/m <sup>3</sup>	4.77E-08	mg/kg-day	--	--	--	--	3.34E-06	mg/kg-day	4.00E-02	mg/kg-day	8.35E-05				
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	4.46E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.79E-11	--	3.12E-09	mg/kg-day	3.00E-04	mg/kg-day	1.04E-05				
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	3.63E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.27E-11	--	2.54E-09	mg/kg-day	2.00E-04	mg/kg-day	1.27E-05				
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	9.45E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	4.30E-09	--	6.61E-08	mg/kg-day	5.00E-04	mg/kg-day	1.32E-04				
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	2.41E-10	mg/kg-day	--	--	--	--	1.69E-08	mg/kg-day	5.00E-03	mg/kg-day	3.38E-06				
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.96E-06	mg/kg-day	--	--	--	--	1.37E-04	mg/kg-day	8.57E-04	mg/kg-day	1.60E-01				
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	5.34E-07	mg/kg-day	--	--	--	--	3.74E-05	mg/kg-day	3.00E-01	mg/kg-day	1.25E-04				

TABLE H-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	5.36E-07	mg/kg-day	--	--	--	3.75E-05	mg/kg-day	1.10E-01	mg/kg-day	3.41E-04
				Pyrene	1.85E-05	mg/m <sup>3</sup>	5.18E-08	mg/kg-day	--	--	--	3.81E-06	mg/kg-day	3.00E-02	mg/kg-day	1.20E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	7.85E-08	mg/kg-day	--	--	--	5.50E-06	mg/kg-day	4.00E-02	mg/kg-day	1.37E-04
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	1.53E-09	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	5.34E-13	1.07E-07	mg/kg-day	2.00E-04	mg/kg-day	5.34E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	8.73E-10	mg/kg-day	--	--	--	6.11E-08	mg/kg-day	1.43E+00	mg/kg-day	4.28E-08
Exposure Route Total																
Exposure Point Total																
Exposure Medium Total																
Medium Total																
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	1.18E-09	mg/kg-day	--	--	--	8.29E-08	mg/kg-day	1.40E-01	mg/kg-day	5.92E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	3.53E-10	mg/kg-day	--	--	--	2.47E-08	mg/kg-day	1.71E-03	mg/kg-day	1.44E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	5.70E-02	mg/kg-day	2.84E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.68E-09	mg/kg-day	9.10E-02	(mg/kg-day) <sup>-1</sup>	1.51E-10	1.16E-07	mg/kg-day	1.40E-03	mg/kg-day	8.32E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	6.24E-10	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	4.24E-11	4.36E-08	mg/kg-day	1.14E-03	mg/kg-day	3.83E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	2.01E-10	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	1.71E-03	mg/kg-day	8.21E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	7.87E-10	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.73E-11	5.51E-08	mg/kg-day	2.30E-01	mg/kg-day	2.40E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	3.04E-11	mg/kg-day	--	--	--	2.13E-09	mg/kg-day	1.43E+00	mg/kg-day	1.49E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	2.70E-12	mg/kg-day	--	--	--	1.89E-10	mg/kg-day	5.00E-02	mg/kg-day	3.79E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	3.62E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.23E-12	2.53E-10	mg/kg-day	5.00E-04	mg/kg-day	5.06E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	1.13E-11	mg/kg-day	--	--	--	7.92E-11	mg/kg-day	8.60E-01	mg/kg-day	9.20E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.08E-10	mg/kg-day	--	--	--	7.58E-09	mg/kg-day	6.00E-02	mg/kg-day	1.26E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	4.81E-12	mg/kg-day	--	--	--	3.23E-10	mg/kg-day	6.00E-02	mg/kg-day	5.38E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	6.25E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.06E-10	4.37E-10	mg/kg-day	3.00E-05	mg/kg-day	1.46E-05
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	7.92E-13	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	4.99E-12	5.54E-11	mg/kg-day	5.00E-04	mg/kg-day	1.11E-07
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.87E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	6.56E-13	1.31E-10	mg/kg-day	2.00E-04	mg/kg-day	6.56E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	9.18E-12	mg/kg-day	--	--	--	6.43E-10	mg/kg-day	3.00E-01	mg/kg-day	2.14E-09
				Benzene	2.61E-07	mg/m <sup>3</sup>	7.30E-10	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.99E-11	5.11E-08	mg/kg-day	8.60E-03	mg/kg-day	5.94E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.36E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	9.93E-13	9.52E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	2.06E-11	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	7.92E-14	1.44E-09	mg/kg-day	2.00E-02	mg/kg-day	7.20E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.26E-08	mg/kg-day	--	--	--	8.82E-07	mg/kg-day	2.00E-01	mg/kg-day	4.41E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	2.05E-10	mg/kg-day	--	--	--	1.43E-08	mg/kg-day	1.70E-02	mg/kg-day	8.43E-07
				Chloroform	2.07E-06	mg/m <sup>3</sup>	5.78E-09	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	4.65E-10	4.05E-07	mg/kg-day	1.40E-02	mg/kg-day	2.89E-05
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	2.09E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	2.60E-02	mg/kg-day	5.64E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	3.68E-12	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.69E-14	2.58E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.48E-09	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	1.00E-02	mg/kg-day	1.04E-05
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.75E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	4.39E-11	1.92E-10	mg/kg-day	5.00E-05	mg/kg-day	3.84E-06
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	6.26E-13	mg/kg-day	--	--	--	4.38E-11	mg/kg-day	6.00E-03	mg/kg-day	7.30E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.03E-15	mg/kg-day	--	--	--	7.20E-14	mg/kg-day	6.00E-03	mg/kg-day	1.20E-11
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	5.58E-10	mg/kg-day	--	--	--	3.90E-08	mg/kg-day	2.90E-01	mg/kg-day	1.35E-07
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.41E-12	mg/kg-day	--	--	--	9.89E-11	mg/kg-day	4.00E-02	mg/kg-day	2.47E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.79E-12	mg/kg-day	--	--	--	1.96E-10	mg/kg-day	4.00E-02	mg/kg-day	4.89E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	3.47E-15	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	4.52E-15	2.43E-13	mg/kg-day	3.00E-04	mg/kg-day	8.10E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	4.86E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.70E-12	3.41E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	4.99E-11	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	2.27E-10	3.49E-09	mg/kg-day	5.00E-04	mg/kg-day	6.95E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	9.58E-08	mg/kg-day	--	--	--	6.70E-06	mg/kg-day	1.10E-01	mg/kg-day	6.09E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.94E-09	mg/kg-day	--	--	--	1.36E-07	mg/kg-day	2.90E-02	mg/kg-day	4.68E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	9.13E-12	mg/kg-day	--	--	--	6.39E-10	mg/kg-day	5.00E-03	mg/kg-day	1.28E-07
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.52E-11	mg/kg-day	--	--	--	1.06E-09	mg/kg-day	8.57E-04	mg/kg-day	1.24E-06
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	7.07E-10	mg/kg-day	--	--	--	4.95E-08	mg/kg-day	8.57E-04	mg/kg-day	5.78E-05
n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	7.87E-10	mg/kg-day	--	--	--	5.51E-08	mg/kg-day	4.00E-02	mg/kg-day	1.38E-06				
Phenanthrene	2.62E-09	mg/m <sup>3</sup>	7.32E-12	mg/kg-day	--	--	--	5.12E-10	mg/kg-day	3.00E-01	mg/kg-day	1.71E-09				

TABLE H-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	9.58E-08	mg/kg-day	--	--	--	6.70E-08	mg/kg-day	1.10E-01	mg/kg-day	6.09E-05					
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.29E-12	mg/kg-day	--	--	--	9.02E-11	mg/kg-day	3.00E-02	mg/kg-day	3.01E-09					
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	2.24E-09	mg/kg-day	--	--	--	1.57E-07	mg/kg-day	4.00E-02	mg/kg-day	3.92E-06					
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	2.54E-09	mg/kg-day	--	--	--	1.78E-07	mg/kg-day	4.00E-02	mg/kg-day	4.44E-06					
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	7.43E-08	mg/kg-day	1.43E+00	mg/kg-day	5.20E-08					
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	2.51E-09	mg/kg-day	--	--	--	1.75E-07	mg/kg-day	2.00E-02	mg/kg-day	8.77E-06					
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	2.61E-09	mg/kg-day	4.00E-01	(mg/kg-day)-1	1.04E-09	1.82E-07	mg/kg-day	1.00E-02	mg/kg-day	1.82E-05					
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	5.39E-09	mg/kg-day	3.10E-02	(mg/kg-day)-1	1.67E-10	3.77E-07	mg/kg-day	2.86E-02	mg/kg-day	1.32E-05					
				Exposure Route Total																2.29E-09	4.68E-04
				Exposure Point Total																	2.29E-09
Exposure Medium Total																	2.29E-09	4.68E-04			
Medium Total																	2.29E-09	4.68E-04			
										Total of Receptor Risks Across All Media		4.84E-06	Total of Receptor Hazards Across All Media					8.42E+00			

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RID Reference dose
  - RIC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	6.92E-08	mg/kg-day	--	--	--	--	4.84E-06	mg/kg-day	1.00E-02	mg/kg-day	4.84E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.35E-07	mg/kg-day	--	--	--	--	1.65E-05	mg/kg-day	1.00E-02	mg/kg-day	1.65E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.31E-08	mg/kg-day	--	--	--	--	1.61E-06	mg/kg-day	5.00E-02	mg/kg-day	3.23E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.20E-06	mg/kg-day	--	--	--	--	8.40E-05	mg/kg-day	9.00E-02	mg/kg-day	9.33E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.66E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.13E-11	--	1.16E-08	mg/kg-day	1.14E-03	mg/kg-day	1.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	7.38E-09	mg/kg-day	--	--	--	--	5.17E-07	mg/kg-day	5.00E-02	mg/kg-day	1.03E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.07E-08	mg/kg-day	--	--	--	--	3.55E-06	mg/kg-day	3.00E-02	mg/kg-day	1.18E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.14E-07	mg/kg-day	2.40E-02	(mg/kg-day)-1	7.53E-09	--	2.20E-05	mg/kg-day	3.00E-02	mg/kg-day	7.32E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	9.69E-09	mg/kg-day	--	--	--	--	6.78E-07	mg/kg-day	2.00E-02	mg/kg-day	3.39E-05
				2-Methylphenol	8.10E-02	mg/kg	3.74E-09	mg/kg-day	--	--	--	--	2.62E-07	mg/kg-day	5.00E-02	mg/kg-day	5.23E-06
				2-Methylnaphthalene	1.45E+00	mg/kg	6.69E-08	mg/kg-day	--	--	--	--	4.68E-06	mg/kg-day	4.00E-03	mg/kg-day	1.17E-03
				4,4'-DDD	1.20E-03	mg/kg	5.54E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.33E-11	--	3.87E-09	mg/kg-day	5.00E-04	mg/kg-day	7.75E-06
				4,4'-DDE	7.50E-02	mg/kg	3.46E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.18E-09	--	2.42E-07	mg/kg-day	5.00E-04	mg/kg-day	4.84E-04
				4,4'-DDT	4.20E-02	mg/kg	1.94E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.59E-10	--	1.36E-07	mg/kg-day	5.00E-04	mg/kg-day	2.71E-04
				4-Methylphenol	2.70E-01	mg/kg	1.25E-08	mg/kg-day	--	--	--	--	8.72E-07	mg/kg-day	5.00E-03	mg/kg-day	1.74E-04
				4-Nitroaniline	6.20E-01	mg/kg	2.86E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.01E-10	--	2.00E-06	mg/kg-day	3.00E-03	mg/kg-day	6.67E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.94E-08	mg/kg-day	--	--	--	--	1.36E-06	mg/kg-day	5.00E-04	mg/kg-day	2.71E-03
				Acenaphthene	3.47E+00	mg/kg	1.60E-07	mg/kg-day	--	--	--	--	1.12E-05	mg/kg-day	6.00E-02	mg/kg-day	1.87E-04
				Acenaphthylene	8.96E-02	mg/kg	4.13E-09	mg/kg-day	--	--	--	--	2.89E-07	mg/kg-day	6.00E-02	mg/kg-day	4.82E-06
				Aldrin	1.30E-02	mg/kg	6.00E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.02E-08	--	4.20E-08	mg/kg-day	3.00E-05	mg/kg-day	1.40E-03
				alpha-BHC	7.30E-04	mg/kg	3.37E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.12E-10	--	2.36E-09	mg/kg-day	5.00E-04	mg/kg-day	4.71E-06
				alpha-Chlordane	6.98E-03	mg/kg	3.22E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.13E-10	--	2.25E-08	mg/kg-day	5.00E-04	mg/kg-day	4.51E-05
				Aluminum	9.05E+03	mg/kg	4.18E-04	mg/kg-day	--	--	--	--	2.92E-02	mg/kg-day	1.00E+00	mg/kg-day	2.92E-02
				Anthracene	9.13E-01	mg/kg	4.21E-08	mg/kg-day	--	--	--	--	2.95E-06	mg/kg-day	3.00E-01	mg/kg-day	9.83E-06
				Antimony	2.72E+00	mg/kg	1.26E-07	mg/kg-day	--	--	--	--	8.79E-08	mg/kg-day	4.00E-04	mg/kg-day	2.20E-02
				Aroclor-1248	1.20E+00	mg/kg	5.54E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.11E-07	--	3.87E-06	mg/kg-day	2.00E-05	mg/kg-day	1.94E-01
				Aroclor-1254	4.38E-01	mg/kg	2.02E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.04E-08	--	1.41E-06	mg/kg-day	2.00E-05	mg/kg-day	7.07E-02
				Aroclor-1260	4.88E-01	mg/kg	2.25E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.50E-08	--	1.58E-06	mg/kg-day	2.00E-05	mg/kg-day	7.88E-02
				Aroclor-1268	2.72E-02	mg/kg	1.25E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.51E-09	--	8.78E-08	mg/kg-day	2.00E-05	mg/kg-day	4.39E-03
				Arsenic	9.53E+00	mg/kg	4.40E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	6.60E-07	--	3.08E-05	mg/kg-day	3.00E-04	mg/kg-day	1.03E-01
				Barium	6.94E+01	mg/kg	3.20E-06	mg/kg-day	--	--	--	--	2.24E-04	mg/kg-day	7.00E-02	mg/kg-day	3.20E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	1.94E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.42E-07	--	1.36E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	6.49E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.73E-07	--	4.54E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.09E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.99E-08	--	7.66E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	2.99E-08	mg/kg-day	--	--	--	--	2.09E-06	mg/kg-day	3.00E-02	mg/kg-day	6.97E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.30E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	9.51E-09	--	9.12E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.05E-08	mg/kg-day	--	--	--	--	7.36E-07	mg/kg-day	2.00E-03	mg/kg-day	3.68E-04
				Beta-BHC	2.20E-03	mg/kg	1.01E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.83E-10	--	7.10E-09	mg/kg-day	2.00E-04	mg/kg-day	3.55E-05
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	2.44E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.42E-09	--	1.71E-05	mg/kg-day	2.00E-02	mg/kg-day	8.55E-04
				Cadmium	8.65E+00	mg/kg	3.99E-07	mg/kg-day	--	--	--	--	2.79E-05	mg/kg-day	5.00E-04	mg/kg-day	5.58E-02
				Carbon disulfide	2.40E-04	mg/kg	1.11E-11	mg/kg-day	--	--	--	--	7.75E-10	mg/kg-day	1.00E-01	mg/kg-day	7.75E-09
				Chlorobenzene	1.10E-01	mg/kg	5.07E-09	mg/kg-day	--	--	--	--	3.55E-07	mg/kg-day	2.00E-02	mg/kg-day	1.78E-05
				Chromium	1.00E+02	mg/kg	4.61E-06	mg/kg-day	--	--	--	--	3.23E-04	mg/kg-day	1.50E+00	mg/kg-day	2.15E-04
				Chrysene	4.80E+00	mg/kg	2.21E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.61E-09	--	1.55E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	3.43E-07	mg/kg-day	--	--	--	--	2.40E-05	mg/kg-day	2.00E-02	mg/kg-day	1.20E-03
				Copper	6.01E+01	mg/kg	2.77E-06	mg/kg-day	--	--	--	--	1.94E-04	mg/kg-day	3.70E-02	mg/kg-day	5.24E-03
				Delta-BHC	8.40E-03	mg/kg	3.87E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	6.97E-10	--	2.71E-08	mg/kg-day	2.00E-04	mg/kg-day	1.36E-04
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.27E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	9.28E-08	--	8.90E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.00E-07	mg/kg-day	--	--	--	--	4.20E-05	mg/kg-day	2.00E-03	mg/kg-day	2.10E-02
				Dieldrin	4.89E-02	mg/kg	2.26E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.61E-08	--	1.58E-07	mg/kg-day	5.00E-05	mg/kg-day	3.16E-03
Dimethylphthalate	3.80E-02	mg/kg	1.75E-09	mg/kg-day	--	--	--	--	1.23E-07	mg/kg-day	1.00E+01	mg/kg-day	1.23E-08				

TABLE H-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																			
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient															
							Value	Units	Value	Units		Value	Units	Value	Units																
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	1.06E-07	mg/kg-day	--	--	--	7.43E-06	mg/kg-day	1.00E-01	mg/kg-day	7.43E-05															
				Endosulfan I	2.30E-02	mg/kg	1.06E-09	mg/kg-day	--	--	--	7.43E-08	mg/kg-day	6.00E-03	mg/kg-day	1.24E-05															
				Endosulfan II	2.34E-02	mg/kg	1.08E-09	mg/kg-day	--	--	--	7.55E-08	mg/kg-day	6.00E-03	mg/kg-day	1.26E-05															
				Endosulfan Sulfate	4.30E-02	mg/kg	1.98E-09	mg/kg-day	--	--	--	1.39E-07	mg/kg-day	6.00E-03	mg/kg-day	2.31E-05															
				Endrin aldehyde	6.30E-02	mg/kg	2.91E-09	mg/kg-day	--	--	--	2.03E-07	mg/kg-day	3.00E-04	mg/kg-day	6.78E-04															
				Endrin Ketone	1.00E-02	mg/kg	4.61E-10	mg/kg-day	--	--	--	3.23E-08	mg/kg-day	3.00E-04	mg/kg-day	1.08E-04															
				Fluoranthene	2.23E+01	mg/kg	1.03E-06	mg/kg-day	--	--	--	7.18E-05	mg/kg-day	4.00E-02	mg/kg-day	1.80E-03															
				Fluorene	2.53E+00	mg/kg	1.17E-07	mg/kg-day	--	--	--	8.16E-06	mg/kg-day	4.00E-02	mg/kg-day	2.04E-04															
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.20E-10	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.56E-10	8.40E-09	mg/kg-day	3.00E-04	mg/kg-day	2.80E-05															
				gamma-Chlordane	1.27E-02	mg/kg	5.86E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.05E-10	4.10E-08	mg/kg-day	5.00E-04	mg/kg-day	8.20E-05															
				Heptachlor	6.90E-03	mg/kg	3.18E-10	mg/kg-day	4.50E+00	(mg/kg-day) <sup>-1</sup>	1.43E-09	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05															
				Heptachlor Epoxide	9.86E-03	mg/kg	4.55E-10	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	4.14E-09	3.18E-08	mg/kg-day	1.30E-05	mg/kg-day	2.45E-03															
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	2.29E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.67E-08	1.61E-08	mg/kg-day	--	--	--															
				Iron	3.68E+04	mg/kg	1.70E-03	mg/kg-day	--	--	--	1.19E-01	mg/kg-day	3.00E-01	mg/kg-day	3.96E-01															
				Isophorone	2.00E-01	mg/kg	9.23E-09	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	8.76E-12	6.46E-07	mg/kg-day	2.00E-01	mg/kg-day	3.23E-06															
				Lead	2.39E+03	mg/kg	1.10E-04	mg/kg-day	--	--	--	7.72E-03	mg/kg-day	--	--	--															
				Manganese	3.04E+02	mg/kg	1.40E-05	mg/kg-day	--	--	--	9.83E-04	mg/kg-day	2.40E-02	mg/kg-day	4.09E-02															
				Mercury	2.65E-01	mg/kg	1.22E-08	mg/kg-day	--	--	--	8.57E-07	mg/kg-day	3.00E-04	mg/kg-day	2.86E-03															
				Methoxychlor	1.20E-01	mg/kg	5.54E-09	mg/kg-day	--	--	--	3.87E-07	mg/kg-day	5.00E-03	mg/kg-day	7.75E-05															
				Methylene chloride	2.40E-03	mg/kg	1.11E-10	mg/kg-day	7.50E-03	(mg/kg-day) <sup>-1</sup>	8.30E-13	7.75E-09	mg/kg-day	6.00E-02	mg/kg-day	1.29E-07															
				Molybdenum	2.18E+00	mg/kg	1.01E-07	mg/kg-day	--	--	--	7.04E-06	mg/kg-day	5.00E-03	mg/kg-day	1.41E-03															
				Naphthalene	1.30E+01	mg/kg	6.00E-07	mg/kg-day	--	--	--	4.20E-05	mg/kg-day	2.00E-02	mg/kg-day	2.10E-03															
				Nickel	3.89E+01	mg/kg	1.80E-06	mg/kg-day	--	--	--	1.28E-04	mg/kg-day	2.00E-02	mg/kg-day	6.29E-03															
				Phenanthrene	1.17E+01	mg/kg	5.39E-07	mg/kg-day	--	--	--	3.77E-05	mg/kg-day	3.00E-01	mg/kg-day	1.26E-04															
				Phenol	6.80E-01	mg/kg	2.68E-08	mg/kg-day	--	--	--	1.87E-06	mg/kg-day	3.00E-01	mg/kg-day	6.24E-06															
				p-Isopropyltoluene	1.10E-01	mg/kg	5.07E-09	mg/kg-day	--	--	--	3.55E-07	mg/kg-day	1.00E-01	mg/kg-day	3.55E-06															
				Pyrene	2.03E+01	mg/kg	9.38E-07	mg/kg-day	--	--	--	6.57E-05	mg/kg-day	3.00E-02	mg/kg-day	2.19E-03															
				sec-Butylbenzene	7.10E-02	mg/kg	3.28E-09	mg/kg-day	--	--	--	2.29E-07	mg/kg-day	4.00E-02	mg/kg-day	5.73E-06															
				Selenium	2.84E-01	mg/kg	1.31E-08	mg/kg-day	--	--	--	9.16E-07	mg/kg-day	5.00E-03	mg/kg-day	1.83E-04															
				Silver	9.80E-01	mg/kg	4.52E-08	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	5.00E-03	mg/kg-day	6.33E-04															
				Technical Chlordane	5.41E-01	mg/kg	2.49E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	8.73E-09	1.75E-06	mg/kg-day	5.00E-04	mg/kg-day	3.49E-03															
				Thallium	4.83E-01	mg/kg	2.23E-08	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	6.00E-05	mg/kg-day	2.36E-02															
				Toluene	4.30E-04	mg/kg	1.98E-11	mg/kg-day	--	--	--	1.39E-09	mg/kg-day	8.00E-02	mg/kg-day	1.74E-08															
				Vanadium	3.37E+01	mg/kg	1.55E-06	mg/kg-day	--	--	--	1.09E-04	mg/kg-day	1.00E-03	mg/kg-day	1.09E-01															
				Zinc	3.32E+02	mg/kg	1.53E-05	mg/kg-day	--	--	--	1.07E-03	mg/kg-day	3.00E-01	mg/kg-day	3.57E-03															
				<b>Exposure Route Total</b>											<b>1.75E-06</b>				<b>1.20E+00</b>												
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4-DDD	4,4-DDE	4,4-DDT	4-Methylphenol	1.50E+00	mg/kg	9.56E-08	mg/kg-day	--	--	--	6.69E-06	mg/kg-day	1.00E-02	mg/kg-day	6.69E-04
																				5.10E+00	mg/kg	3.25E-08	mg/kg-day	--	--	--	2.28E-06	mg/kg-day	1.00E-02	mg/kg-day	2.28E-04
																				5.00E-01	mg/kg	3.19E-09	mg/kg-day	--	--	--	2.23E-07	mg/kg-day	5.00E-02	mg/kg-day	4.46E-06
																				2.60E-01	mg/kg	1.66E-07	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	9.00E-02	mg/kg-day	1.29E-04
																				3.60E+03	mg/kg	2.29E-11	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	1.56E-12	1.61E-09	mg/kg-day	1.14E-03	mg/kg-day	1.41E-06
																				1.60E-01	mg/kg	1.02E-09	mg/kg-day	--	--	--	7.14E-08	mg/kg-day	5.00E-02	mg/kg-day	1.43E-06
1.10E+00	mg/kg	7.01E-09	mg/kg-day																	--	--	--	4.91E-07	mg/kg-day	3.00E-02	mg/kg-day	1.64E-05				
6.80E+00	mg/kg	--	mg/kg-day																	2.40E-02	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2.10E-01	mg/kg	1.34E-09	mg/kg-day																	--	--	--	9.37E-08	mg/kg-day	2.00E-02	mg/kg-day	4.68E-06				
8.10E-02	mg/kg	5.16E-09	mg/kg-day																	--	--	--	3.61E-07	mg/kg-day	5.00E-02	mg/kg-day	7.23E-06				
1.45E+00	mg/kg	9.24E-09	mg/kg-day																	--	--	--	6.47E-07	mg/kg-day	4.00E-03	mg/kg-day	1.62E-04				
1.20E-03	mg/kg	7.65E-12	mg/kg-day																	2.40E-01	(mg/kg-day) <sup>-1</sup>	1.84E-12	5.35E-10	mg/kg-day	5.00E-04	mg/kg-day	1.07E-06				
7.50E-02	mg/kg	4.78E-10	mg/kg-day																	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.63E-10	3.35E-08	mg/kg-day	5.00E-04	mg/kg-day	6.69E-05				
4.20E-02	mg/kg	8.03E-10	mg/kg-day																	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.73E-10	5.62E-08	mg/kg-day	5.00E-04	mg/kg-day	1.12E-04				
2.70E-01	mg/kg	1.72E-08	mg/kg-day																	--	--	--	1.20E-06	mg/kg-day	5.00E-03	mg/kg-day	2.41E-04				

TABLE H-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	3.95E-08	mg/kg-day	2.10E-02	--	8.30E-10	2.77E-08	mg/kg-day	3.00E-03	mg/kg-day	9.22E-04
				4-Nitrophenol	4.20E-01	mg/kg	2.68E-08	mg/kg-day	--	--	--	1.87E-08	mg/kg-day	5.00E-04	mg/kg-day	3.75E-03
				Acenaphthene	3.47E+00	mg/kg	2.88E-07	mg/kg-day	--	--	--	2.01E-05	mg/kg-day	6.00E-02	mg/kg-day	3.66E-04
				Acenaphthylene	8.96E-02	mg/kg	5.71E-10	mg/kg-day	--	--	--	4.00E-08	mg/kg-day	6.00E-02	mg/kg-day	6.66E-07
				Aldrin	1.30E-02	mg/kg	8.29E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.41E-08	5.80E-08	mg/kg-day	3.00E-05	mg/kg-day	1.93E-03
				alpha-BHC	7.30E-04	mg/kg	4.65E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.93E-11	3.26E-10	mg/kg-day	5.00E-04	mg/kg-day	6.51E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	5.77E-06	mg/kg-day	--	--	--	4.04E-04	mg/kg-day	1.00E+00	mg/kg-day	4.04E-04
				Anthracene	9.13E-01	mg/kg	7.57E-08	mg/kg-day	--	--	--	5.30E-06	mg/kg-day	3.00E-01	mg/kg-day	1.77E-05
				Antimony	2.72E+00	mg/kg	1.74E-09	mg/kg-day	--	--	--	1.22E-07	mg/kg-day	4.00E-04	mg/kg-day	3.04E-04
				Aroclor-1248	1.20E+00	mg/kg	1.07E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.14E-07	7.50E-06	mg/kg-day	2.00E-05	mg/kg-day	3.75E-01
				Aroclor-1254	4.38E-01	mg/kg	3.91E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.81E-08	2.73E-06	mg/kg-day	2.00E-05	mg/kg-day	1.37E-01
				Aroclor-1260	4.88E-01	mg/kg	4.36E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.71E-08	3.05E-06	mg/kg-day	2.00E-05	mg/kg-day	1.52E-01
				Aroclor-1268	2.72E-02	mg/kg	2.43E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.85E-09	1.70E-07	mg/kg-day	2.00E-05	mg/kg-day	8.48E-03
				Arsenic	9.53E+00	mg/kg	1.82E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.73E-07	1.28E-05	mg/kg-day	3.00E-04	mg/kg-day	4.25E-02
				Barium	6.94E+01	mg/kg	4.43E-08	mg/kg-day	--	--	--	3.10E-06	mg/kg-day	7.00E-02	mg/kg-day	4.43E-05
				Benzo(a)anthracene	4.21E+00	mg/kg	3.49E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.55E-07	2.44E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.17E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	8.50E-07	8.16E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.97E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.44E-07	1.38E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	5.37E-08	mg/kg-day	--	--	--	3.76E-06	mg/kg-day	3.00E-02	mg/kg-day	1.25E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	2.34E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.71E-08	1.64E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.45E-10	mg/kg-day	--	--	--	1.02E-08	mg/kg-day	2.00E-03	mg/kg-day	5.08E-06
				Beta-BHC	2.20E-03	mg/kg	1.40E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.52E-11	9.82E-10	mg/kg-day	2.00E-04	mg/kg-day	4.91E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	3.38E-08	mg/kg-day	1.40E-02	(mg/kg-day)-1	4.73E-10	2.36E-06	mg/kg-day	2.00E-02	mg/kg-day	1.18E-04
				Cadmium	8.65E+00	mg/kg	5.51E-09	mg/kg-day	--	--	--	3.86E-07	mg/kg-day	5.00E-04	mg/kg-day	7.72E-04
				Carbon disulfide	2.40E-04	mg/kg	3.82E-11	mg/kg-day	--	--	--	2.68E-09	mg/kg-day	1.00E-01	mg/kg-day	2.68E-08
				Chlorobenzene	1.10E-01	mg/kg	7.01E-10	mg/kg-day	--	--	--	4.91E-08	mg/kg-day	2.00E-02	mg/kg-day	2.45E-06
				Chromium	1.00E+02	mg/kg	6.37E-08	mg/kg-day	--	--	--	4.46E-06	mg/kg-day	1.50E+00	mg/kg-day	2.97E-06
				Chrysene	4.80E+00	mg/kg	3.97E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.90E-09	2.78E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	4.74E-09	mg/kg-day	--	--	--	3.32E-07	mg/kg-day	2.00E-02	mg/kg-day	1.68E-05
				Copper	6.01E+01	mg/kg	3.83E-08	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	3.70E-02	mg/kg-day	7.24E-05
				Delta-BHC	8.40E-03	mg/kg	2.68E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	4.82E-10	1.87E-08	mg/kg-day	2.00E-04	mg/kg-day	9.37E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	2.28E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.67E-07	1.60E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	8.29E-08	mg/kg-day	--	--	--	5.80E-06	mg/kg-day	2.00E-03	mg/kg-day	2.90E-03
				Dieldrin	4.89E-02	mg/kg	3.12E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.99E-09	2.18E-08	mg/kg-day	5.00E-05	mg/kg-day	4.37E-04
				Dimethylphthalate	3.80E-02	mg/kg	2.42E-10	mg/kg-day	--	--	--	1.70E-08	mg/kg-day	1.00E+01	mg/kg-day	1.70E-09
				di-n-Butylphthalate	2.30E+00	mg/kg	1.47E-08	mg/kg-day	--	--	--	1.03E-06	mg/kg-day	1.00E-01	mg/kg-day	1.03E-05
				Endosulfan I	2.30E-02	mg/kg	7.33E-10	mg/kg-day	--	--	--	5.13E-08	mg/kg-day	6.00E-03	mg/kg-day	8.55E-06
				Endosulfan II	2.34E-02	mg/kg	7.45E-10	mg/kg-day	--	--	--	5.21E-08	mg/kg-day	6.00E-03	mg/kg-day	8.69E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	1.37E-09	mg/kg-day	--	--	--	9.59E-08	mg/kg-day	6.00E-03	mg/kg-day	1.60E-05
				Endrin aldehyde	6.30E-02	mg/kg	2.01E-09	mg/kg-day	--	--	--	1.41E-07	mg/kg-day	3.00E-04	mg/kg-day	4.68E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	1.84E-06	mg/kg-day	--	--	--	1.29E-04	mg/kg-day	4.00E-02	mg/kg-day	3.23E-03
				Fluorene	2.53E+00	mg/kg	2.09E-07	mg/kg-day	--	--	--	1.47E-05	mg/kg-day	4.00E-02	mg/kg-day	3.67E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	6.63E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.62E-11	4.64E-09	mg/kg-day	3.00E-04	mg/kg-day	1.55E-05
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Hepachlor	6.90E-03	mg/kg	4.40E-11	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.98E-10	3.08E-09	mg/kg-day	5.00E-04	mg/kg-day	6.18E-06
				Hepachlor Epoxide	9.86E-03	mg/kg	6.28E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	5.72E-10	4.40E-09	mg/kg-day	1.30E-05	mg/kg-day	3.38E-04
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	4.12E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.01E-08	2.88E-06	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	2.34E-05	mg/kg-day	--	--	--	1.64E-03	mg/kg-day	3.00E-01	mg/kg-day	5.47E-03
				Isophorone	2.00E-01	mg/kg	1.27E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.21E-11	8.92E-07	mg/kg-day	2.00E-01	mg/kg-day	4.46E-06

TABLE H-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	1.52E-06	mg/kg-day	--	--	--	--	1.07E-04	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	1.94E-07	mg/kg-day	--	--	--	--	1.36E-05	mg/kg-day	2.40E-02	mg/kg-day	5.66E-04
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	7.65E-10	mg/kg-day	--	--	--	--	5.35E-08	mg/kg-day	5.00E-03	mg/kg-day	1.07E-05
				Methylene chloride	2.40E-03	mg/kg	1.53E-11	mg/kg-day	7.50E-03	(mg/kg-day) <sup>-1</sup>	1.15E-13	--	1.07E-09	mg/kg-day	6.00E-02	mg/kg-day	1.78E-08
				Molybdenum	2.18E+00	mg/kg	1.39E-09	mg/kg-day	--	--	--	--	9.72E-08	mg/kg-day	5.00E-03	mg/kg-day	1.94E-05
				Naphthalene	1.30E+01	mg/kg	1.08E-06	mg/kg-day	--	--	--	--	7.54E-05	mg/kg-day	2.00E-02	mg/kg-day	3.77E-03
				Nickel	3.89E+01	mg/kg	2.48E-08	mg/kg-day	--	--	--	--	1.74E-06	mg/kg-day	2.00E-02	mg/kg-day	8.69E-05
				Phenanthrene	1.17E+01	mg/kg	7.45E-08	mg/kg-day	--	--	--	--	5.21E-06	mg/kg-day	3.00E-01	mg/kg-day	1.74E-05
				Phenol	5.80E-01	mg/kg	3.70E-08	mg/kg-day	--	--	--	--	2.59E-06	mg/kg-day	3.00E-01	mg/kg-day	8.63E-06
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	1.69E-06	mg/kg-day	--	--	--	--	1.18E-04	mg/kg-day	3.00E-02	mg/kg-day	3.93E-03
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	1.81E-10	mg/kg-day	--	--	--	--	1.27E-08	mg/kg-day	5.00E-03	mg/kg-day	2.53E-06
				Silver	9.80E-01	mg/kg	6.25E-10	mg/kg-day	--	--	--	--	4.37E-08	mg/kg-day	5.00E-03	mg/kg-day	8.75E-06
				Technical Chlordane	5.41E-01	mg/kg	1.38E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	4.83E-09	--	9.65E-07	mg/kg-day	5.00E-04	mg/kg-day	1.93E-03
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	2.74E-12	mg/kg-day	--	--	--	--	1.92E-10	mg/kg-day	8.00E-02	mg/kg-day	2.40E-09
				Vanadium	3.37E+01	mg/kg	2.15E-08	mg/kg-day	--	--	--	--	1.50E-06	mg/kg-day	1.00E-03	mg/kg-day	1.60E-03
				Zinc	3.32E+02	mg/kg	2.11E-07	mg/kg-day	--	--	--	--	1.48E-05	mg/kg-day	3.00E-01	mg/kg-day	4.93E-05
				Exposure Route Total										2.15E-08			
Exposure Point Total										3.90E-06							1.95E+00
Exposure Medium Total										3.90E-06							1.95E+00
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	2.10E-07	mg/m <sup>3</sup>	5.87E-10	mg/kg-day	--	--	--	--	4.11E-08	mg/kg-day	2.00E-02	mg/kg-day	2.05E-06	
			2-Methylphenol	8.10E-08	mg/m <sup>3</sup>	2.26E-10	mg/kg-day	--	--	--	--	1.59E-08	mg/kg-day	--	--	--	
			4,4'-DDD	1.20E-09	mg/m <sup>3</sup>	3.35E-12	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	8.05E-13	--	2.35E-10	mg/kg-day	5.00E-04	mg/kg-day	4.70E-07	
			4,4'-DDT	4.20E-08	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.99E-11	--	8.22E-09	mg/kg-day	5.00E-04	mg/kg-day	1.64E-05	
			4-Methylphenol	2.70E-07	mg/m <sup>3</sup>	7.55E-10	mg/kg-day	--	--	--	--	5.28E-08	mg/kg-day	5.00E-03	mg/kg-day	1.06E-05	
			4-Nitroaniline	6.20E-07	mg/m <sup>3</sup>	1.73E-09	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	3.64E-11	--	1.21E-07	mg/kg-day	1.00E-03	mg/kg-day	1.21E-04	
			4-Nitrophenol	4.20E-07	mg/m <sup>3</sup>	1.17E-09	mg/kg-day	--	--	--	--	8.22E-08	mg/kg-day	5.70E-04	mg/kg-day	1.44E-04	
			Aluminum	9.05E-03	mg/m <sup>3</sup>	2.53E-05	mg/kg-day	--	--	--	--	1.77E-03	mg/kg-day	1.43E-03	mg/kg-day	1.24E+00	
			Antimony	2.72E-06	mg/m <sup>3</sup>	7.61E-09	mg/kg-day	--	--	--	--	5.33E-07	mg/kg-day	--	--	--	
			Aroclor-1248	1.20E-06	mg/m <sup>3</sup>	3.35E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.71E-09	--	2.35E-07	mg/kg-day	2.00E-05	mg/kg-day	1.17E-02	
			Aroclor-1254	4.38E-07	mg/m <sup>3</sup>	1.22E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.45E-09	--	8.56E-08	mg/kg-day	2.00E-05	mg/kg-day	4.28E-03	
			Aroclor-1260	4.88E-07	mg/m <sup>3</sup>	1.36E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.73E-09	--	9.55E-08	mg/kg-day	2.00E-05	mg/kg-day	4.78E-03	
			Aroclor-1268	2.72E-08	mg/m <sup>3</sup>	7.60E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.52E-10	--	5.32E-09	mg/kg-day	2.00E-05	mg/kg-day	2.66E-04	
			Arsenic	9.53E-06	mg/m <sup>3</sup>	2.67E-08	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	4.00E-07	--	1.87E-06	mg/kg-day	--	--	--	
			Barium	6.94E-05	mg/m <sup>3</sup>	1.94E-07	mg/kg-day	--	--	--	--	1.36E-05	mg/kg-day	1.40E-04	mg/kg-day	9.71E-02	
			Benzo(a)anthracene	4.21E-06	mg/m <sup>3</sup>	1.18E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	8.60E-09	--	8.24E-07	mg/kg-day	--	--	--	
			Benzo(a)pyrene	1.41E-06	mg/m <sup>3</sup>	3.93E-09	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	2.87E-08	--	2.75E-07	mg/kg-day	--	--	--	
			Benzo(g,h,i)perylene	6.48E-07	mg/m <sup>3</sup>	1.81E-09	mg/kg-day	--	--	--	--	1.27E-07	mg/kg-day	3.00E-02	mg/kg-day	4.23E-06	
			Benzo(k)fluoranthene	2.82E-06	mg/m <sup>3</sup>	7.90E-09	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	5.76E-10	--	5.53E-07	mg/kg-day	--	--	--	
			Beryllium	2.28E-07	mg/m <sup>3</sup>	6.37E-10	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	5.35E-09	--	4.46E-08	mg/kg-day	5.71E-06	mg/kg-day	7.80E-03	
			Beta-BHC	2.20E-09	mg/m <sup>3</sup>	6.15E-12	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	1.14E-11	--	4.31E-10	mg/kg-day	2.00E-04	mg/kg-day	2.15E-06	
			bis(2-ethylhexyl)phthalate	5.30E-06	mg/m <sup>3</sup>	1.48E-08	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	2.07E-10	--	1.04E-06	mg/kg-day	2.00E-02	mg/kg-day	5.18E-05	
			Cadmium	8.65E-06	mg/m <sup>3</sup>	2.42E-08	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.52E-07	--	1.69E-06	mg/kg-day	--	--	--	
			Chromium	1.00E-04	mg/m <sup>3</sup>	2.79E-07	mg/kg-day	--	--	--	--	1.96E-05	mg/kg-day	--	--	--	
			Cobalt	7.44E-06	mg/m <sup>3</sup>	2.08E-08	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	2.04E-07	--	1.46E-06	mg/kg-day	5.71E-06	mg/kg-day	2.55E-01	
			Copper	6.01E-05	mg/m <sup>3</sup>	1.68E-07	mg/kg-day	--	--	--	--	1.18E-05	mg/kg-day	--	--	--	
			Dibenzo(a,h)anthracene	2.76E-07	mg/m <sup>3</sup>	7.71E-10	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	5.63E-09	--	5.39E-08	mg/kg-day	--	--	--	
			Dimethylphthalate	3.80E-08	mg/m <sup>3</sup>	1.06E-10	mg/kg-day	--	--	--	--	7.44E-09	mg/kg-day	1.00E+01	mg/kg-day	7.44E-10	

TABLE H-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	di-n-Butylphthalate	2.30E-06	mg/m <sup>3</sup>	6.43E-09	mg/kg-day	--	--	--	4.50E-07	mg/kg-day	1.00E-01	mg/kg-day	4.50E-06				
				Endrin aldehyde	6.30E-08	mg/m <sup>3</sup>	1.76E-10	mg/kg-day	--	--	--	1.23E-08	mg/kg-day	3.00E-04	mg/kg-day	4.11E-05				
				Endrin Ketone	1.00E-08	mg/m <sup>3</sup>	2.80E-11	mg/kg-day	--	--	--	1.96E-09	mg/kg-day	3.00E-04	mg/kg-day	6.52E-06				
				Heptachlor Epoxide	9.86E-09	mg/m <sup>3</sup>	2.76E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.51E-10	1.93E-09	mg/kg-day	1.30E-05	mg/kg-day	1.48E-04				
				Indeno(1,2,3-cd)pyrene	4.97E-07	mg/m <sup>3</sup>	1.39E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.01E-09	9.73E-08	mg/kg-day	--	--	--				
				Iron	3.68E-02	mg/m <sup>3</sup>	1.03E-04	mg/kg-day	--	--	--	7.19E-03	mg/kg-day	--	--	--				
				Isophorone	2.00E-07	mg/m <sup>3</sup>	5.58E-10	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.31E-13	3.91E-08	mg/kg-day	2.00E-01	mg/kg-day	1.98E-07				
				Lead	2.39E-03	mg/m <sup>3</sup>	6.68E-06	mg/kg-day	--	--	--	4.68E-04	mg/kg-day	--	--	--				
				Manganese	3.04E-04	mg/m <sup>3</sup>	8.51E-07	mg/kg-day	--	--	--	5.96E-05	mg/kg-day	1.43E-05	mg/kg-day	4.17E+00				
				Mercury	2.65E-07	mg/m <sup>3</sup>	7.42E-10	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	8.60E-05	mg/kg-day	6.04E-04				
				Nickel	3.89E-05	mg/m <sup>3</sup>	1.09E-07	mg/kg-day	--	--	--	7.62E-06	mg/kg-day	--	--	--				
				Phenol	5.80E-07	mg/m <sup>3</sup>	1.62E-09	mg/kg-day	--	--	--	1.14E-07	mg/kg-day	3.00E-01	mg/kg-day	3.78E-07				
				Selenium	2.84E-07	mg/m <sup>3</sup>	7.93E-10	mg/kg-day	--	--	--	5.55E-08	mg/kg-day	--	--	--				
				Silver	9.80E-07	mg/m <sup>3</sup>	2.74E-09	mg/kg-day	--	--	--	1.92E-07	mg/kg-day	--	--	--				
				Thallium	4.83E-07	mg/m <sup>3</sup>	1.35E-09	mg/kg-day	--	--	--	9.44E-08	mg/kg-day	--	--	--				
				Vanadium	3.37E-05	mg/m <sup>3</sup>	9.42E-08	mg/kg-day	--	--	--	6.59E-06	mg/kg-day	--	--	--				
				Zinc	3.32E-04	mg/m <sup>3</sup>	9.28E-07	mg/kg-day	--	--	--	6.49E-05	mg/kg-day	--	--	--				
				<b>Exposure Route Total</b>										<b>8.18E-07</b>				<b>5.79E+00</b>		
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.92E-07	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	1.10E-03	mg/kg-day	1.86E-02
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	9.93E-07	mg/kg-day	--	--	--	6.95E-05	mg/kg-day	1.10E-03	mg/kg-day	6.32E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	3.28E-07	mg/kg-day	--	--	--	2.29E-05	mg/kg-day	1.71E-03	mg/kg-day	1.34E-02
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.49E-05	mg/kg-day	--	--	--	1.04E-03	mg/kg-day	5.70E-02	mg/kg-day	1.83E-02
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	8.00E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	5.44E-10	5.60E-07	mg/kg-day	1.14E-03	mg/kg-day	4.91E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.02E-07	mg/kg-day	--	--	--	7.15E-06	mg/kg-day	1.71E-03	mg/kg-day	4.17E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	4.55E-07	mg/kg-day	--	--	--	3.19E-05	mg/kg-day	3.00E-02	mg/kg-day	1.08E-03
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	4.37E-06	mg/kg-day	2.20E-02	(mg/kg-day)-1	9.61E-08	3.06E-04	mg/kg-day	2.30E-01	mg/kg-day	1.33E-03
								2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	1.79E-07	mg/kg-day	--	--	--	1.26E-05	mg/kg-day	5.00E-02	mg/kg-day	2.51E-04
								4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	2.47E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	8.40E-12	1.73E-09	mg/kg-day	5.00E-04	mg/kg-day	3.68E-06
Acenaphthene	4.77E-05	mg/m <sup>3</sup>	1.33E-07					mg/kg-day	--	--	--	9.33E-06	mg/kg-day	6.00E-02	mg/kg-day	1.55E-04				
Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	3.44E-09					mg/kg-day	--	--	--	2.41E-07	mg/kg-day	6.00E-02	mg/kg-day	4.01E-06				
Aldrin	5.63E-09	mg/m <sup>3</sup>	1.57E-11					mg/kg-day	1.70E+01	(mg/kg-day)-1	2.68E-10	1.10E-09	mg/kg-day	3.00E-05	mg/kg-day	3.67E-05				
alpha-BHC	3.84E-09	mg/m <sup>3</sup>	1.02E-11					mg/kg-day	6.30E+00	(mg/kg-day)-1	6.41E-11	7.12E-10	mg/kg-day	5.00E-04	mg/kg-day	1.42E-06				
alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	1.93E-11					mg/kg-day	3.50E-01	(mg/kg-day)-1	6.76E-12	1.35E-09	mg/kg-day	2.00E-04	mg/kg-day	6.78E-06				
Anthracene	1.25E-05	mg/m <sup>3</sup>	3.51E-08					mg/kg-day	--	--	--	2.45E-06	mg/kg-day	3.00E-01	mg/kg-day	8.18E-06				
Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	4.29E-09					mg/kg-day	7.30E-01	(mg/kg-day)-1	3.13E-09	3.00E-07	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.26E-09					mg/kg-day	--	--	--	8.85E-08	mg/kg-day	2.00E-01	mg/kg-day	4.48E-07				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.45E-07					mg/kg-day	--	--	--	1.01E-05	mg/kg-day	1.70E-02	mg/kg-day	5.96E-04				
Chrysene	5.27E-06	mg/m <sup>3</sup>	1.47E-08					mg/kg-day	7.30E-03	(mg/kg-day)-1	1.08E-10	1.03E-05	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	1.17E-10					mg/kg-day	1.86E+00	(mg/kg-day)-1	2.17E-10	8.19E-09	mg/kg-day	2.00E-04	mg/kg-day	4.10E-05				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.25E-07					mg/kg-day	--	--	--	8.78E-06	mg/kg-day	2.00E-03	mg/kg-day	4.39E-03				
Diendrin	6.58E-08	mg/m <sup>3</sup>	1.84E-10					mg/kg-day	1.60E+01	(mg/kg-day)-1	2.94E-09	1.29E-08	mg/kg-day	5.00E-05	mg/kg-day	2.58E-04				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	2.25E-10					mg/kg-day	--	--	--	1.58E-08	mg/kg-day	6.00E-03	mg/kg-day	2.63E-06				
Endosulfan II	8.19E-08	mg/m <sup>3</sup>	2.29E-10					mg/kg-day	--	--	--	1.60E-08	mg/kg-day	6.00E-03	mg/kg-day	2.67E-06				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	4.21E-10					mg/kg-day	--	--	--	2.95E-08	mg/kg-day	6.00E-03	mg/kg-day	4.91E-06				
Fluoranthene	1.44E-05	mg/m <sup>3</sup>	4.02E-08					mg/kg-day	--	--	--	2.82E-06	mg/kg-day	4.00E-02	mg/kg-day	7.04E-05				
Fluorene	1.48E-05	mg/m <sup>3</sup>	4.14E-08					mg/kg-day	--	--	--	2.89E-06	mg/kg-day	4.00E-02	mg/kg-day	7.24E-05				
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	4.46E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.79E-11	3.12E-09	mg/kg-day	3.00E-04	mg/kg-day	1.04E-05								
gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	3.51E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.23E-11	2.46E-09	mg/kg-day	2.00E-04	mg/kg-day	1.23E-05								
Heptachlor	3.38E-07	mg/m <sup>3</sup>	9.45E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	4.30E-09	6.61E-08	mg/kg-day	5.00E-04	mg/kg-day	1.32E-04								
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	2.41E-10	mg/kg-day	--	--	--	1.69E-08	mg/kg-day	5.00E-03	mg/kg-day	3.38E-06								
Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.96E-06	mg/kg-day	--	--	--	1.37E-04	mg/kg-day	8.57E-04	mg/kg-day	1.60E-01								

TABLE H-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	1.60E-04	mg/m <sup>3</sup>	4.48E-07	mg/kg-day	--	--	--	3.14E-05	mg/kg-day	3.00E-01	mg/kg-day	1.05E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	5.36E-07	mg/kg-day	--	--	--	3.75E-05	mg/kg-day	1.10E-01	mg/kg-day	3.41E-04
				Pyrene	1.58E-05	mg/m <sup>3</sup>	4.35E-08	mg/kg-day	--	--	--	3.04E-06	mg/kg-day	3.00E-02	mg/kg-day	1.01E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	7.85E-08	mg/kg-day	--	--	--	5.50E-06	mg/kg-day	4.00E-02	mg/kg-day	1.37E-04
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	1.50E-09	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	5.24E-13	1.05E-07	mg/kg-day	2.00E-04	mg/kg-day	5.24E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	8.73E-10	mg/kg-day	--	--	--	6.11E-08	mg/kg-day	1.43E+00	mg/kg-day	4.28E-08
				Exposure Route Total												
		Exposure Point Total								1.08E-07					2.87E-01	
	Exposure Medium Total									9.26E-07					6.08E+00	
Medium Total										9.26E-07					6.08E+00	
										4.83E-06					8.03E+00	
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	1.18E-09	mg/kg-day	--	--	--	8.29E-08	mg/kg-day	1.40E-01	mg/kg-day	5.92E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	3.53E-10	mg/kg-day	--	--	--	2.47E-08	mg/kg-day	1.71E-03	mg/kg-day	1.44E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	5.70E-02	mg/kg-day	2.84E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.68E-09	mg/kg-day	9.10E-02	--	1.51E-10	1.16E-07	mg/kg-day	1.40E-03	mg/kg-day	8.32E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	6.24E-10	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	4.24E-11	4.36E-08	mg/kg-day	1.14E-03	mg/kg-day	3.83E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	2.01E-10	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	1.71E-03	mg/kg-day	8.21E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	7.87E-10	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.73E-11	5.51E-08	mg/kg-day	2.30E-01	mg/kg-day	2.40E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	3.04E-11	mg/kg-day	--	--	--	2.13E-09	mg/kg-day	1.43E+00	mg/kg-day	1.49E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	2.70E-12	mg/kg-day	--	--	--	1.89E-10	mg/kg-day	5.00E-02	mg/kg-day	3.79E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	3.62E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.23E-12	2.53E-10	mg/kg-day	5.00E-04	mg/kg-day	5.06E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	1.13E-11	mg/kg-day	--	--	--	7.92E-10	mg/kg-day	8.60E-01	mg/kg-day	9.20E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.08E-10	mg/kg-day	--	--	--	7.58E-09	mg/kg-day	6.00E-02	mg/kg-day	1.26E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	4.61E-12	mg/kg-day	--	--	--	3.23E-10	mg/kg-day	6.00E-02	mg/kg-day	5.38E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	6.25E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.06E-10	4.37E-10	mg/kg-day	3.00E-05	mg/kg-day	1.46E-05
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	7.92E-13	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	4.99E-12	5.54E-11	mg/kg-day	5.00E-04	mg/kg-day	1.11E-07
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.87E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	6.56E-13	1.31E-10	mg/kg-day	2.00E-04	mg/kg-day	6.56E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	9.18E-12	mg/kg-day	--	--	--	6.43E-10	mg/kg-day	3.00E-01	mg/kg-day	2.14E-09
				Benzene	2.61E-07	mg/m <sup>3</sup>	7.30E-10	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.99E-11	5.11E-08	mg/kg-day	8.60E-03	mg/kg-day	5.94E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.36E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	9.93E-13	9.52E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	2.06E-11	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	7.92E-14	1.44E-09	mg/kg-day	2.00E-02	mg/kg-day	7.20E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.26E-08	mg/kg-day	--	--	--	8.82E-07	mg/kg-day	2.00E-01	mg/kg-day	4.41E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	2.05E-10	mg/kg-day	--	--	--	1.43E-08	mg/kg-day	1.70E-02	mg/kg-day	8.43E-07
				Chloroform	2.07E-06	mg/m <sup>3</sup>	5.78E-09	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	4.85E-10	4.05E-07	mg/kg-day	1.40E-02	mg/kg-day	2.89E-05
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	2.09E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	2.60E-02	mg/kg-day	5.64E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	3.68E-12	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.69E-14	2.58E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.48E-09	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	1.00E-02	mg/kg-day	1.04E-05
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.75E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	4.39E-11	1.92E-10	mg/kg-day	5.00E-05	mg/kg-day	3.84E-06
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	6.26E-13	mg/kg-day	--	--	--	4.38E-11	mg/kg-day	6.00E-03	mg/kg-day	7.30E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.03E-15	mg/kg-day	--	--	--	7.20E-14	mg/kg-day	6.00E-03	mg/kg-day	1.20E-11
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	5.58E-10	mg/kg-day	--	--	--	3.90E-08	mg/kg-day	2.90E-01	mg/kg-day	1.35E-07
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.41E-12	mg/kg-day	--	--	--	9.89E-11	mg/kg-day	4.00E-02	mg/kg-day	2.47E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.79E-12	mg/kg-day	--	--	--	1.96E-10	mg/kg-day	4.00E-02	mg/kg-day	4.89E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	3.47E-15	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	4.52E-15	2.43E-13	mg/kg-day	3.00E-04	mg/kg-day	8.10E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	4.86E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.70E-12	3.41E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	4.99E-11	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	2.27E-10	3.49E-09	mg/kg-day	5.00E-04	mg/kg-day	6.99E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	9.58E-08	mg/kg-day	--	--	--	6.70E-06	mg/kg-day	1.10E-01	mg/kg-day	6.09E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.94E-09	mg/kg-day	--	--	--	1.36E-07	mg/kg-day	2.90E-02	mg/kg-day	4.68E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	9.13E-12	mg/kg-day	--	--	--	6.39E-10	mg/kg-day	5.00E-03	mg/kg-day	1.28E-07
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.52E-11	mg/kg-day	--	--	--	1.06E-09	mg/kg-day	8.57E-04	mg/kg-day	1.24E-06
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	7.07E-10	mg/kg-day	--	--	--	4.95E-08	mg/kg-day	8.57E-04	mg/kg-day	5.78E-05
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	7.87E-10	mg/kg-day	--	--	--	5.51E-08	mg/kg-day	4.00E-02	mg/kg-day	1.38E-06

TABLE H-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	2.62E-09	mg/m <sup>3</sup>	7.32E-12	mg/kg-day	--	--	--	5.12E-10	mg/kg-day	3.00E-01	mg/kg-day	1.71E-09
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	9.58E-08	mg/kg-day	--	--	--	6.70E-06	mg/kg-day	1.10E-01	mg/kg-day	6.09E-05
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.29E-12	mg/kg-day	--	--	--	9.02E-11	mg/kg-day	3.00E-02	mg/kg-day	3.01E-09
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	2.24E-09	mg/kg-day	--	--	--	1.57E-07	mg/kg-day	4.00E-02	mg/kg-day	3.92E-06
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	2.54E-09	mg/kg-day	--	--	--	1.78E-07	mg/kg-day	4.00E-02	mg/kg-day	4.44E-06
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	7.43E-08	mg/kg-day	1.43E+00	mg/kg-day	5.20E-08
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	2.51E-09	mg/kg-day	--	--	--	1.75E-07	mg/kg-day	2.00E-02	mg/kg-day	8.77E-08
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	2.61E-09	mg/kg-day	4.00E-01	(mg/kg-day)-1	1.04E-09	1.82E-07	mg/kg-day	1.00E-02	mg/kg-day	1.82E-05
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	5.39E-09	mg/kg-day	3.10E-02	(mg/kg-day)-1	1.67E-10	3.77E-07	mg/kg-day	2.86E-02	mg/kg-day	1.32E-05
				Exposure Route Total										2.29E-09		
Exposure Point Total										2.29E-09					4.68E-04	
Exposure Medium Total										2.29E-09					4.68E-04	
Medium Total										2.29E-09					4.68E-04	
Total of Receptor Risks Across All Media										4.83E-06	Total of Receptor Hazards Across All Media					8.03E+00

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units			
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.05E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	1.00E-02	mg/kg-day	2.05E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.40E-06	mg/kg-day	--	--	--	6.99E-06	mg/kg-day	1.00E-02	mg/kg-day	6.99E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.35E-07	mg/kg-day	--	--	--	6.85E-07	mg/kg-day	5.00E-02	mg/kg-day	1.37E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.22E-05	mg/kg-day	--	--	--	3.58E-05	mg/kg-day	9.00E-02	mg/kg-day	3.96E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.69E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.15E-10	4.93E-09	mg/kg-day	1.14E-03	mg/kg-day	4.33E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	7.51E-08	mg/kg-day	--	--	--	2.19E-07	mg/kg-day	5.00E-02	mg/kg-day	4.38E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.17E-07	mg/kg-day	--	--	--	1.51E-06	mg/kg-day	3.00E-02	mg/kg-day	5.02E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.19E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	7.66E-08	9.32E-06	mg/kg-day	3.00E-02	mg/kg-day	3.11E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	9.86E-08	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	2.00E-02	mg/kg-day	1.44E-05
				2-Methylphenol	9.10E-02	mg/kg	3.80E-08	mg/kg-day	--	--	--	1.11E-07	mg/kg-day	5.00E-02	mg/kg-day	2.22E-06
				2-Methylnaphthalene	1.67E+00	mg/kg	7.85E-07	mg/kg-day	--	--	--	2.29E-06	mg/kg-day	4.00E-03	mg/kg-day	5.73E-04
				4,4-DDD	1.20E-03	mg/kg	5.64E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.35E-10	1.64E-09	mg/kg-day	5.00E-04	mg/kg-day	3.29E-06
				4,4'-DDE	8.23E-02	mg/kg	3.87E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.31E-08	1.13E-07	mg/kg-day	5.00E-04	mg/kg-day	2.26E-04
				4,4'-DDT	4.45E-02	mg/kg	2.09E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.10E-09	6.09E-08	mg/kg-day	5.00E-04	mg/kg-day	1.22E-04
				4-Methylphenol	2.70E-01	mg/kg	1.27E-07	mg/kg-day	--	--	--	3.70E-07	mg/kg-day	5.00E-03	mg/kg-day	7.40E-05
				4-Nitroaniline	6.20E-01	mg/kg	2.91E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.12E-09	8.49E-07	mg/kg-day	3.00E-03	mg/kg-day	2.83E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.97E-07	mg/kg-day	--	--	--	5.75E-07	mg/kg-day	5.00E-04	mg/kg-day	1.15E-03
				Acenaphthene	4.23E+00	mg/kg	1.99E-06	mg/kg-day	--	--	--	5.80E-06	mg/kg-day	6.00E-02	mg/kg-day	9.67E-05
				Acenaphthylene	1.04E-01	mg/kg	4.89E-08	mg/kg-day	--	--	--	1.43E-07	mg/kg-day	6.00E-02	mg/kg-day	2.38E-06
				Aldrin	1.30E-02	mg/kg	6.11E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.04E-07	1.78E-08	mg/kg-day	3.00E-05	mg/kg-day	5.94E-04
				alpha-BHC	7.30E-04	mg/kg	3.43E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.16E-09	1.00E-09	mg/kg-day	5.00E-04	mg/kg-day	2.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	3.82E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.34E-09	1.12E-08	mg/kg-day	5.00E-04	mg/kg-day	2.23E-05
				Aluminum	8.82E+03	mg/kg	4.14E-03	mg/kg-day	--	--	--	1.21E-02	mg/kg-day	1.00E+00	mg/kg-day	1.21E-02
				Anthracene	1.05E+00	mg/kg	4.95E-07	mg/kg-day	--	--	--	1.45E-06	mg/kg-day	3.00E-01	mg/kg-day	4.82E-06
				Antimony	4.08E+00	mg/kg	1.92E-06	mg/kg-day	--	--	--	5.59E-06	mg/kg-day	4.00E-04	mg/kg-day	1.40E-02
				Aroclor-1248	1.20E+00	mg/kg	5.64E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.13E-06	1.64E-06	mg/kg-day	2.00E-05	mg/kg-day	8.22E-02
				Aroclor-1254	4.44E-01	mg/kg	2.09E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.17E-07	6.08E-07	mg/kg-day	2.00E-05	mg/kg-day	3.04E-02
				Aroclor-1260	5.41E-01	mg/kg	2.54E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.09E-07	7.42E-07	mg/kg-day	2.00E-05	mg/kg-day	3.71E-02
				Aroclor-1268	2.78E-02	mg/kg	1.30E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.61E-08	3.80E-08	mg/kg-day	2.00E-05	mg/kg-day	1.90E-03
				Arsenic	6.17E+00	mg/kg	2.90E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.34E-06	8.45E-06	mg/kg-day	3.00E-04	mg/kg-day	2.82E-02
				Barium	6.78E+01	mg/kg	3.19E-05	mg/kg-day	--	--	--	9.29E-05	mg/kg-day	7.00E-02	mg/kg-day	1.33E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	2.35E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.72E-06	6.86E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	7.82E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.71E-06	2.28E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.29E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	9.39E-07	3.75E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.59E-07	mg/kg-day	--	--	--	1.05E-06	mg/kg-day	3.00E-02	mg/kg-day	3.49E-05
				Benzo(k)fluoranthene	3.28E+00	mg/kg	1.53E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.12E-07	4.47E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.12E-07	mg/kg-day	--	--	--	3.26E-07	mg/kg-day	2.00E-03	mg/kg-day	1.63E-04
				Beta-BHC	2.20E-03	mg/kg	1.03E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.86E-09	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.51E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.68E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	5.15E-08	1.07E-05	mg/kg-day	2.00E-02	mg/kg-day	5.36E-04
				Cadmium	9.47E+00	mg/kg	4.45E-06	mg/kg-day	--	--	--	1.30E-05	mg/kg-day	5.00E-04	mg/kg-day	2.60E-02
				Carbon disulfide	2.40E-04	mg/kg	1.13E-10	mg/kg-day	--	--	--	3.29E-10	mg/kg-day	1.00E-01	mg/kg-day	3.29E-09
				Chlorobenzene	1.10E-01	mg/kg	5.17E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	2.00E-02	mg/kg-day	7.53E-06
				Chromium	1.11E+02	mg/kg	5.22E-05	mg/kg-day	--	--	--	1.52E-04	mg/kg-day	1.50E+00	mg/kg-day	1.02E-04
				Chrysene	5.68E+00	mg/kg	2.67E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.95E-08	7.78E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.56E-06	mg/kg-day	--	--	--	1.04E-05	mg/kg-day	2.00E-02	mg/kg-day	5.19E-04
				Copper	5.71E+01	mg/kg	2.68E-05	mg/kg-day	--	--	--	7.82E-05	mg/kg-day	3.70E-02	mg/kg-day	2.11E-03
				Delta-BHC	8.40E-03	mg/kg	3.95E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	7.10E-09	1.15E-08	mg/kg-day	2.00E-04	mg/kg-day	5.75E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.49E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.09E-06	4.35E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.11E-06	mg/kg-day	--	--	--	1.78E-05	mg/kg-day	2.00E-03	mg/kg-day	8.90E-03
				Dieldrin	5.51E-02	mg/kg	2.59E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.14E-07	7.55E-08	mg/kg-day	5.00E-05	mg/kg-day	1.51E-03
				Dimethylphthalate	3.80E-02	mg/kg	1.78E-08	mg/kg-day	--	--	--	5.21E-08	mg/kg-day	1.00E+01	mg/kg-day	5.21E-09

TABLE H-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	1.03E-06	mg/kg-day	--	--	--	--	3.01E-06	mg/kg-day	1.00E-01	mg/kg-day	3.01E-05				
				Endosulfan I	2.30E-02	mg/kg	1.08E-08	mg/kg-day	--	--	--	--	3.15E-08	mg/kg-day	6.00E-03	mg/kg-day	5.25E-06				
				Endosulfan II	2.38E-02	mg/kg	1.12E-08	mg/kg-day	--	--	--	--	3.26E-08	mg/kg-day	6.00E-03	mg/kg-day	5.44E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	2.02E-08	mg/kg-day	--	--	--	--	5.89E-08	mg/kg-day	6.00E-03	mg/kg-day	9.82E-06				
				Endrin aldehyde	4.21E-02	mg/kg	1.99E-08	mg/kg-day	--	--	--	--	5.76E-08	mg/kg-day	3.00E-04	mg/kg-day	1.92E-04				
				Endrin Ketone	1.00E-02	mg/kg	4.70E-09	mg/kg-day	--	--	--	--	1.37E-08	mg/kg-day	3.00E-04	mg/kg-day	4.57E-05				
				Fluoranthene	2.65E+01	mg/kg	1.24E-05	mg/kg-day	--	--	--	--	3.63E-05	mg/kg-day	4.00E-02	mg/kg-day	9.08E-04				
				Fluorene	2.92E+00	mg/kg	1.37E-06	mg/kg-day	--	--	--	--	3.99E-06	mg/kg-day	4.00E-02	mg/kg-day	9.99E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.22E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.59E-09	3.56E-09	mg/kg-day	3.00E-04	mg/kg-day	1.19E-05					
				gamma-Chlordane	1.31E-02	mg/kg	6.15E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.15E-09	1.79E-08	mg/kg-day	5.00E-04	mg/kg-day	3.59E-05					
				Heptachlor	6.90E-03	mg/kg	3.24E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.46E-08	9.45E-09	mg/kg-day	5.00E-04	mg/kg-day	1.89E-05					
				Heptachlor Epoxide	1.12E-02	mg/kg	5.24E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	4.77E-08	1.53E-08	mg/kg-day	1.30E-05	mg/kg-day	1.18E-03					
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.10E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.99E-07	1.20E-06	mg/kg-day	--	--	--					
				Iron	4.07E+04	mg/kg	1.91E-02	mg/kg-day	--	--	--	5.58E-02	mg/kg-day	3.00E-01	mg/kg-day	1.86E-01					
				isophorone	2.00E-01	mg/kg	9.39E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	8.92E-11	2.74E-07	mg/kg-day	2.00E-01	mg/kg-day	1.37E-06					
				Lead	2.90E+03	mg/kg	1.36E-03	mg/kg-day	--	--	--	3.98E-03	mg/kg-day	--	--	--					
				Manganese	3.31E+02	mg/kg	1.55E-04	mg/kg-day	--	--	--	4.54E-04	mg/kg-day	2.40E-02	mg/kg-day	1.89E-02					
				Mercury	3.10E-01	mg/kg	1.45E-07	mg/kg-day	--	--	--	4.24E-07	mg/kg-day	3.00E-04	mg/kg-day	1.41E-03					
				Methoxychlor	1.20E-01	mg/kg	5.64E-08	mg/kg-day	--	--	--	1.64E-07	mg/kg-day	5.00E-03	mg/kg-day	3.29E-05					
				Molybdenum	2.50E+00	mg/kg	1.18E-06	mg/kg-day	--	--	--	3.43E-06	mg/kg-day	5.00E-03	mg/kg-day	6.86E-04					
				Naphthalene	1.30E+01	mg/kg	6.11E-08	mg/kg-day	--	--	--	1.78E-05	mg/kg-day	2.00E-02	mg/kg-day	8.90E-04					
				Nickel	3.91E+01	mg/kg	1.84E-05	mg/kg-day	--	--	--	5.36E-05	mg/kg-day	2.00E-02	mg/kg-day	2.68E-03					
				Phenanthrene	1.39E+01	mg/kg	6.54E-06	mg/kg-day	--	--	--	1.91E-05	mg/kg-day	3.00E-01	mg/kg-day	6.36E-05					
				Phenol	5.80E-01	mg/kg	2.72E-07	mg/kg-day	--	--	--	7.95E-07	mg/kg-day	3.00E-01	mg/kg-day	2.65E-06					
				p-Isopropyltoluene	1.10E-01	mg/kg	5.17E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	1.00E-01	mg/kg-day	1.51E-06					
				Pyrene	2.41E+01	mg/kg	1.13E-05	mg/kg-day	--	--	--	3.31E-05	mg/kg-day	3.00E-02	mg/kg-day	1.10E-03					
				sec-Butylbenzene	7.10E-02	mg/kg	3.33E-08	mg/kg-day	--	--	--	9.73E-08	mg/kg-day	4.00E-02	mg/kg-day	2.43E-06					
				Selenium	2.24E-01	mg/kg	1.05E-07	mg/kg-day	--	--	--	3.07E-07	mg/kg-day	5.00E-03	mg/kg-day	6.15E-05					
				Silver	1.16E+00	mg/kg	5.44E-07	mg/kg-day	--	--	--	1.59E-06	mg/kg-day	5.00E-03	mg/kg-day	3.18E-04					
				Technical Chlordane	5.51E-01	mg/kg	2.59E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	9.06E-08	7.55E-07	mg/kg-day	5.00E-04	mg/kg-day	1.51E-03					
				Thallium	4.97E-01	mg/kg	2.33E-07	mg/kg-day	--	--	--	6.81E-07	mg/kg-day	6.60E-05	mg/kg-day	1.03E-02					
				Toluene	4.30E-04	mg/kg	2.02E-10	mg/kg-day	--	--	--	5.89E-10	mg/kg-day	8.00E-02	mg/kg-day	7.36E-09					
				Vanadium	3.41E+01	mg/kg	1.60E-05	mg/kg-day	--	--	--	4.68E-05	mg/kg-day	1.00E-03	mg/kg-day	4.68E-02					
				Zinc	4.53E+02	mg/kg	2.13E-04	mg/kg-day	--	--	--	6.21E-04	mg/kg-day	3.00E-01	mg/kg-day	2.07E-03					
				Exposure Route Total										1.71E-05						5.27E-01	
				Dermal	Dermal	Dermal	Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.81E-07	mg/kg-day	--	--	--	--	8.20E-07	mg/kg-day	1.00E-02	mg/kg-day	8.20E-05
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	9.56E-08	mg/kg-day	--	--	--	--	2.79E-07	mg/kg-day	1.00E-02	mg/kg-day	2.79E-05
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	9.37E-09	mg/kg-day	--	--	--	--	2.73E-08	mg/kg-day	5.00E-02	mg/kg-day	5.47E-07
								1,2-Dichlorobenzene	2.60E+01	mg/kg	4.87E-07	mg/kg-day	--	--	--	--	1.42E-06	mg/kg-day	9.00E-02	mg/kg-day	1.58E-05
								1,2-Dichloropropane	3.60E-03	mg/kg	6.75E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	4.59E-12	1.97E-10	mg/kg-day	1.14E-03	mg/kg-day	1.73E-07	
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	3.00E-09					mg/kg-day	--	--	--	--	8.75E-09	mg/kg-day	5.00E-02	mg/kg-day	1.75E-07				
1,3-Dichlorobenzene	1.10E+00	mg/kg	2.06E-08					mg/kg-day	--	--	--	--	6.01E-08	mg/kg-day	3.00E-02	mg/kg-day	2.00E-06				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	3.94E-09					mg/kg-day	--	--	--	--	1.15E-08	mg/kg-day	2.00E-02	mg/kg-day	5.74E-07				
2-Methylphenol	8.10E-02	mg/kg	1.52E-08					mg/kg-day	--	--	--	--	4.43E-08	mg/kg-day	5.00E-02	mg/kg-day	8.85E-07				
2-Methylnaphthalene	1.67E+00	mg/kg	3.13E-08					mg/kg-day	--	--	--	--	9.14E-08	mg/kg-day	4.00E-03	mg/kg-day	2.28E-05				
4,4'-DDD	1.20E-03	mg/kg	2.25E-11					mg/kg-day	2.40E-01	(mg/kg-day)-1	5.40E-12	6.56E-11	mg/kg-day	5.00E-04	mg/kg-day	1.31E-07					
4,4'-DDE	8.23E-02	mg/kg	1.54E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	5.24E-10	4.50E-09	mg/kg-day	5.00E-04	mg/kg-day	9.00E-06					
4,4'-DDT	4.45E-02	mg/kg	2.50E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	8.50E-10	7.30E-09	mg/kg-day	5.00E-04	mg/kg-day	1.46E-05					
4-Methylphenol	2.70E-01	mg/kg	5.06E-08					mg/kg-day	--	--	--	--	1.48E-07	mg/kg-day	5.00E-03	mg/kg-day	2.95E-05				
4-Nitroaniline	6.20E-01	mg/kg	1.16E-07					mg/kg-day	2.10E-02	--	--	2.44E-09	3.39E-07	mg/kg-day	3.00E-03	mg/kg-day	1.13E-04				

TABLE H-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	7.87E-08	mg/kg-day	--	--	--	2.30E-07	mg/kg-day	5.00E-04	mg/kg-day	4.59E-04
				Acenaphthene	4.23E+00	mg/kg	1.03E-06	mg/kg-day	--	--	--	3.01E-06	mg/kg-day	6.00E-02	mg/kg-day	5.01E-05
				Acenaphthylene	1.04E-01	mg/kg	1.95E-09	mg/kg-day	--	--	--	5.69E-09	mg/kg-day	6.00E-02	mg/kg-day	9.49E-08
				Aldrin	1.30E-02	mg/kg	2.44E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.14E-08	7.11E-09	mg/kg-day	3.00E-05	mg/kg-day	2.37E-04
				alpha-BHC	7.30E-04	mg/kg	1.37E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	8.62E-11	3.99E-11	mg/kg-day	5.00E-04	mg/kg-day	7.98E-08
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	1.65E-05	mg/kg-day	--	--	--	4.82E-05	mg/kg-day	1.00E+00	mg/kg-day	4.82E-05
				Anthracene	1.05E+00	mg/kg	2.57E-07	mg/kg-day	--	--	--	7.50E-07	mg/kg-day	3.00E-01	mg/kg-day	2.50E-06
				Antimony	4.08E+00	mg/kg	7.64E-09	mg/kg-day	--	--	--	2.23E-08	mg/kg-day	4.00E-04	mg/kg-day	5.57E-05
				Aroclor-1248	1.20E+00	mg/kg	3.15E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.30E-07	9.18E-07	mg/kg-day	2.00E-05	mg/kg-day	4.59E-02
				Aroclor-1254	4.44E-01	mg/kg	1.17E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.33E-07	3.40E-07	mg/kg-day	2.00E-05	mg/kg-day	1.70E-02
				Aroclor-1260	5.41E-01	mg/kg	1.42E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.84E-07	4.14E-07	mg/kg-day	2.00E-05	mg/kg-day	2.07E-02
				Aroclor-1268	2.78E-02	mg/kg	7.28E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.46E-08	2.12E-08	mg/kg-day	2.00E-05	mg/kg-day	1.06E-03
				Arsenic	6.17E+00	mg/kg	3.47E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.20E-07	1.01E-06	mg/kg-day	3.00E-04	mg/kg-day	3.37E-03
				Barium	6.78E+01	mg/kg	1.27E-07	mg/kg-day	--	--	--	3.71E-07	mg/kg-day	7.00E-02	mg/kg-day	5.30E-06
				Benzo(a)anthracene	5.00E+00	mg/kg	1.22E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.90E-07	3.56E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.06E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.96E-06	1.18E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	6.67E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.87E-07	1.95E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.86E-07	mg/kg-day	--	--	--	5.43E-07	mg/kg-day	3.00E-02	mg/kg-day	1.81E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	7.94E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	5.80E-08	2.32E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	4.46E-10	mg/kg-day	--	--	--	1.30E-09	mg/kg-day	2.00E-03	mg/kg-day	6.51E-07
				Beta-BHC	2.20E-03	mg/kg	4.12E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	7.42E-11	1.20E-10	mg/kg-day	2.00E-04	mg/kg-day	6.01E-07
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.47E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.05E-09	4.28E-07	mg/kg-day	2.00E-02	mg/kg-day	2.14E-05
				Cadmium	9.47E+00	mg/kg	1.78E-08	mg/kg-day	--	--	--	5.18E-08	mg/kg-day	5.00E-04	mg/kg-day	1.04E-04
				Carbon disulfide	2.40E-04	mg/kg	1.12E-10	mg/kg-day	--	--	--	3.28E-10	mg/kg-day	1.00E-01	mg/kg-day	3.28E-09
				Chlorobenzene	1.10E-01	mg/kg	2.06E-09	mg/kg-day	--	--	--	6.01E-09	mg/kg-day	2.00E-02	mg/kg-day	3.01E-07
				Chromium	1.11E+02	mg/kg	2.08E-07	mg/kg-day	--	--	--	6.08E-07	mg/kg-day	1.50E+00	mg/kg-day	4.05E-07
				Chrysene	5.68E+00	mg/kg	1.38E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.01E-08	4.04E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.42E-08	mg/kg-day	--	--	--	4.14E-08	mg/kg-day	2.00E-02	mg/kg-day	2.07E-06
				Copper	5.71E+01	mg/kg	1.07E-07	mg/kg-day	--	--	--	3.12E-07	mg/kg-day	3.70E-02	mg/kg-day	8.43E-06
				Delta-BHC	8.40E-03	mg/kg	7.87E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.42E-09	2.30E-09	mg/kg-day	2.00E-04	mg/kg-day	1.15E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	7.73E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.65E-07	2.26E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.44E-07	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	2.00E-03	mg/kg-day	3.55E-04
				Dieldrin	5.51E-02	mg/kg	1.03E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.65E-08	3.01E-09	mg/kg-day	5.00E-05	mg/kg-day	6.03E-05
				Dimethylphthalate	3.80E-02	mg/kg	7.12E-10	mg/kg-day	--	--	--	2.08E-09	mg/kg-day	1.00E+01	mg/kg-day	2.08E-10
				di-n-Butylphthalate	2.20E+00	mg/kg	4.12E-08	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	1.00E-01	mg/kg-day	1.20E-06
				Endosulfan I	2.30E-02	mg/kg	2.16E-09	mg/kg-day	--	--	--	6.29E-09	mg/kg-day	6.00E-03	mg/kg-day	1.05E-06
				Endosulfan II	2.38E-02	mg/kg	2.23E-09	mg/kg-day	--	--	--	6.51E-09	mg/kg-day	6.00E-03	mg/kg-day	1.08E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	4.03E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	6.00E-03	mg/kg-day	1.96E-06
				Endrin aldehyde	4.21E-02	mg/kg	3.94E-09	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	3.00E-04	mg/kg-day	3.83E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	6.46E-06	mg/kg-day	--	--	--	1.88E-05	mg/kg-day	4.00E-02	mg/kg-day	4.71E-04
				Fluorene	2.92E+00	mg/kg	7.10E-07	mg/kg-day	--	--	--	2.07E-06	mg/kg-day	4.00E-02	mg/kg-day	5.18E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.95E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.53E-10	5.68E-10	mg/kg-day	3.00E-04	mg/kg-day	1.89E-06
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.29E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	5.82E-10	3.77E-10	mg/kg-day	5.00E-04	mg/kg-day	7.54E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	2.09E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.90E-09	6.10E-10	mg/kg-day	1.30E-05	mg/kg-day	4.69E-05
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.13E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.55E-07	6.20E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	7.63E-05	mg/kg-day	--	--	--	2.23E-04	mg/kg-day	3.00E-01	mg/kg-day	7.42E-04
				Isophorone	2.00E-01	mg/kg	3.75E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.56E-11	1.09E-07	mg/kg-day	2.00E-01	mg/kg-day	5.47E-07
				Lead	2.90E+03	mg/kg	5.44E-06	mg/kg-day	--	--	--	1.59E-05	mg/kg-day	--	--	--

TABLE H-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	6.20E-07	mg/kg-day	--	--	--	--	1.81E-06	mg/kg-day	2.40E-02	mg/kg-day	7.54E-05			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	3.00E-04	mg/kg-day	--	--		
				Methoxychlor	1.20E-01	mg/kg	2.25E-09	mg/kg-day	--	--	--	--	--	6.56E-09	mg/kg-day	5.00E-03	mg/kg-day	1.31E-06		
				Molybdenum	2.50E+00	mg/kg	4.69E-09	mg/kg-day	--	--	--	--	--	1.37E-08	mg/kg-day	5.00E-03	mg/kg-day	2.74E-06		
				Naphthalene	1.30E+01	mg/kg	3.17E-06	mg/kg-day	--	--	--	--	--	9.24E-06	mg/kg-day	2.00E-02	mg/kg-day	4.62E-04		
				Nickel	3.91E+01	mg/kg	7.33E-08	mg/kg-day	--	--	--	--	--	2.14E-07	mg/kg-day	2.00E-02	mg/kg-day	1.07E-05		
				Phenanthrene	1.39E+01	mg/kg	2.61E-07	mg/kg-day	--	--	--	--	--	7.61E-07	mg/kg-day	3.00E-01	mg/kg-day	2.54E-06		
				Phenol	5.80E-01	mg/kg	1.09E-07	mg/kg-day	--	--	--	--	--	3.17E-07	mg/kg-day	3.00E-01	mg/kg-day	1.06E-06		
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	1.00E-01	mg/kg-day	--	--		
				Pyrene	2.41E+01	mg/kg	5.88E-06	mg/kg-day	--	--	--	--	--	1.72E-05	mg/kg-day	3.00E-02	mg/kg-day	5.72E-04		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	--	4.00E-02	mg/kg-day	--	--		
				Selenium	2.24E-01	mg/kg	4.21E-10	mg/kg-day	--	--	--	--	--	1.23E-09	mg/kg-day	5.00E-03	mg/kg-day	2.45E-07		
				Silver	1.16E+00	mg/kg	2.17E-09	mg/kg-day	--	--	--	--	--	6.33E-09	mg/kg-day	5.00E-03	mg/kg-day	1.27E-06		
				Technical Chlordane	5.51E-01	mg/kg	4.13E-08	mg/kg-day	--	--	3.50E-01	(mg/kg-day)-1	1.45E-08	1.20E-07	mg/kg-day	5.00E-04	mg/kg-day	2.41E-04		
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	6.60E-05	mg/kg-day	--	--		
				Toluene	4.30E-04	mg/kg	8.06E-12	mg/kg-day	--	--	--	--	--	2.35E-11	mg/kg-day	8.00E-02	mg/kg-day	2.94E-10		
				Vanadium	3.41E+01	mg/kg	6.40E-08	mg/kg-day	--	--	--	--	--	1.87E-07	mg/kg-day	1.00E-03	mg/kg-day	1.87E-04		
				Zinc	4.53E+02	mg/kg	8.50E-07	mg/kg-day	--	--	--	--	--	2.48E-06	mg/kg-day	3.00E-01	mg/kg-day	8.26E-06		
				Exposure Route Total											6.89E-06					8.27E-02
				Exposure Point Total											2.40E-05					
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--				
		1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--			
		1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
		1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--			
		1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	6.80E-02	(mg/kg-day)-1	--	--	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--			
		1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
		1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
		1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
		2,4-Dimethylphenol	2.10E-01	mg/kg	1.09E-05	mg/kg-day	--	--	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03				
		2-Methylphenol	8.10E-02	mg/kg	9.97E-06	mg/kg-day	--	--	--	--	--	2.91E-05	mg/kg-day	5.00E-02	mg/kg-day	5.82E-04				
		2-Methylnaphthalene	1.67E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	--	mg/kg-day	4.00E-03	mg/kg-day	--			
		4,4'-DDD	1.20E-03	mg/kg	1.06E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.54E-11	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07						
		4,4'-DDE	8.23E-02	mg/kg	5.25E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.79E-09	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05						
		4,4'-DDT	4.45E-02	mg/kg	1.22E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.16E-09	3.57E-08	mg/kg-day	5.00E-04	mg/kg-day	7.14E-05						
		4-Methylphenol	2.70E-01	mg/kg	3.42E-05	mg/kg-day	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02						
		4-Nitroaniline	6.20E-01	mg/kg	5.37E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.13E-06	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02						
		4-Nitrophenol	4.20E-01	mg/kg	5.48E-05	mg/kg-day	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.18E-01						
		Acenaphthene	4.23E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--						
		Acenaphthylene	1.04E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--						
		Aldrin	1.30E-02	mg/kg	1.87E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.19E-08	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04						
		alpha-BHC	7.30E-04	mg/kg	2.27E-08	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.43E-07	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04						
		alpha-Chlordane	8.14E-03	mg/kg	2.58E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	9.02E-10	7.52E-09	mg/kg-day	5.00E-04	mg/kg-day	1.50E-05						
		Aluminum	8.82E+03	mg/kg	3.81E-04	mg/kg-day	--	--	--	1.11E-03	mg/kg-day	1.00E+00	mg/kg-day	1.11E-03						
		Anthracene	1.05E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--						
		Antimony	4.08E+00	mg/kg	8.12E-06	mg/kg-day	--	--	--	2.37E-05	mg/kg-day	4.00E-04	mg/kg-day	5.92E-02						
		Aroclor-1248	1.20E+00	mg/kg	1.06E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.12E-07	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02						
		Aroclor-1254	4.44E-01	mg/kg	5.25E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.05E-06	1.53E-06	mg/kg-day	2.00E-05	mg/kg-day	7.66E-02						
Aroclor-1260	5.41E-01	mg/kg	2.29E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.58E-08	6.68E-08	mg/kg-day	2.00E-05	mg/kg-day	3.34E-03								
Aroclor-1268	2.78E-02	mg/kg	3.26E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.57E-08	9.58E-08	mg/kg-day	2.00E-05	mg/kg-day	4.79E-03								
Arsenic	6.17E+00	mg/kg	2.46E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.68E-06	7.16E-06	mg/kg-day	3.00E-04	mg/kg-day	2.39E-02								
Barium	6.78E+01	mg/kg	6.75E-05	mg/kg-day	--	--	--	1.97E-04	mg/kg-day	7.00E-02	mg/kg-day	2.81E-03								

TABLE H-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	8.52E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	6.22E-08	2.49E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.87E+00	mg/kg	1.61E-08	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.17E-07	4.69E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.65E-07	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.93E-07	7.72E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	5.63E-08	mg/kg-day	--	--	--	1.64E-07	mg/kg-day	3.00E-02	mg/kg-day	5.47E-06
				Benzo(k)fluoranthene	3.28E+00	mg/kg	3.15E-07	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	2.30E-08	9.19E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.37E-08	mg/kg-day	--	--	--	6.91E-08	mg/kg-day	2.00E-03	mg/kg-day	3.46E-05
				Beta-BHC	2.20E-03	mg/kg	6.85E-08	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	1.23E-07	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.80E-04	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	2.52E-06	5.24E-04	mg/kg-day	2.00E-02	mg/kg-day	2.62E-02
				Cadmium	8.47E+00	mg/kg	9.43E-05	mg/kg-day	--	--	--	2.75E-04	mg/kg-day	5.00E-04	mg/kg-day	5.50E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	3.32E-05	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	1.50E+00	mg/kg-day	6.46E-05
				Chrysene	5.68E+00	mg/kg	6.79E-07	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	4.96E-09	1.98E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.52E-06	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	2.00E-02	mg/kg-day	5.13E-04
				Copper	5.71E+01	mg/kg	9.47E-04	mg/kg-day	--	--	--	2.76E-03	mg/kg-day	3.70E-02	mg/kg-day	7.46E-02
				Delta-BHC	8.40E-03	mg/kg	2.13E-09	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	3.84E-09	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.90E-08	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.38E-07	5.53E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	1.94E-06	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.10E-05	5.66E-06	mg/kg-day	5.00E-05	mg/kg-day	1.13E-01
				Dimethylphthalate	3.80E-02	mg/kg	3.75E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	1.00E+01	mg/kg-day	1.09E-06
				di-n-Butylphthalate	2.20E+00	mg/kg	3.04E-07	mg/kg-day	--	--	--	8.87E-07	mg/kg-day	1.00E-01	mg/kg-day	8.87E-06
				Endosulfan I	2.30E-02	mg/kg	6.84E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.38E-02	mg/kg	6.79E-07	mg/kg-day	--	--	--	1.98E-06	mg/kg-day	6.00E-03	mg/kg-day	3.30E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.20E-06	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endrin aldehyde	4.21E-02	mg/kg	4.63E-09	mg/kg-day	--	--	--	1.35E-08	mg/kg-day	3.00E-04	mg/kg-day	4.50E-05
				Endrin Ketone	1.00E-02	mg/kg	1.10E-09	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.65E+01	mg/kg	4.75E-06	mg/kg-day	--	--	--	1.39E-05	mg/kg-day	4.00E-02	mg/kg-day	3.47E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.85E-07	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	3.70E-07	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.31E-02	mg/kg	4.15E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.45E-09	1.21E-08	mg/kg-day	5.00E-04	mg/kg-day	2.42E-05
				Heptachlor	6.90E-03	mg/kg	1.62E-09	mg/kg-day	4.50E+00	(mg/kg-day) <sup>-1</sup>	7.31E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06
				Heptachlor Epoxide	1.12E-02	mg/kg	8.54E-07	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	7.77E-06	2.49E-06	mg/kg-day	1.30E-05	mg/kg-day	1.92E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	6.31E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.61E-08	1.84E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	2.69E-03	mg/kg-day	--	--	--	7.84E-03	mg/kg-day	3.00E-01	mg/kg-day	2.61E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	1.73E-03	mg/kg-day	--	--	--	5.06E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	1.10E-03	mg/kg-day	--	--	--	3.20E-03	mg/kg-day	2.40E-02	mg/kg-day	1.33E-01
				Mercury	3.10E-01	mg/kg	4.11E-06	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	3.00E-04	mg/kg-day	3.99E-02
				Methoxychlor	1.20E-01	mg/kg	6.90E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06
				Molybdenum	2.50E+00	mg/kg	9.97E-06	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	5.00E-03	mg/kg-day	5.82E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.91E+01	mg/kg	1.56E-04	mg/kg-day	--	--	--	4.54E-04	mg/kg-day	2.00E-02	mg/kg-day	2.27E-02
				Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
				Phenol	5.80E-01	mg/kg	1.90E-04	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.24E-01	mg/kg	3.72E-07	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	5.00E-03	mg/kg-day	2.17E-04
				Silver	1.16E+00	mg/kg	7.69E-06	mg/kg-day	--	--	--	2.24E-05	mg/kg-day	5.00E-03	mg/kg-day	4.49E-03
				Technical Chlordane	5.51E-01	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Thallium	4.97E-01	mg/kg	1.32E-08	mg/kg-day	--	--	--	3.85E-08	mg/kg-day	6.60E-05	mg/kg-day	5.83E-04

TABLE H-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	1.98E-05	mg/kg-day	8.00E-02	mg/kg-day	1.98E-02
				Vanadium	3.41E+01	mg/kg	6.80E-06	mg/kg-day	--	--	--	7.90E-02	mg/kg-day	1.00E-03	mg/kg-day	2.63E-01	
				Zinc	4.53E+02	mg/kg	2.71E-02	mg/kg-day	--	--	--	--	--	3.00E-01	mg/kg-day	--	
Exposure Route Total															2.06E+00		
Exposure Point Total															2.06E+00		
Exposure Medium Total															2.68E+00		
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.6E-10	mg/m <sup>3</sup>	1.48E-11	mg/kg-day	--	--	--	--	4.34E-11	mg/kg-day	2.0E-02	mg/kg-day	2.17E-09	
			2-Methylphenol	6.1E-11	mg/m <sup>3</sup>	5.74E-12	mg/kg-day	--	--	--	--	1.67E-11	mg/kg-day	--	--	--	
			4,4'-DDD	9.1E-13	mg/m <sup>3</sup>	8.51E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	2.04E-14	2.40E-01	(mg/kg-day) <sup>-1</sup>	2.48E-13	mg/kg-day	5.00E-04	mg/kg-day	4.96E-10
			4,4'-DDT	3.4E-11	mg/m <sup>3</sup>	3.15E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.07E-12	3.40E-01	(mg/kg-day) <sup>-1</sup>	9.20E-12	mg/kg-day	5.00E-04	mg/kg-day	1.84E-08
			4-Methylphenol	2.0E-10	mg/m <sup>3</sup>	1.91E-11	mg/kg-day	--	--	--	--	--	5.58E-11	mg/kg-day	5.00E-03	mg/kg-day	1.12E-08
			4-Nitroaniline	4.7E-10	mg/m <sup>3</sup>	4.39E-11	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	9.23E-13	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.28E-10	mg/kg-day	1.00E-03	mg/kg-day	1.28E-07
			4-Nitrophenol	3.2E-10	mg/m <sup>3</sup>	2.98E-11	mg/kg-day	--	--	--	--	--	8.68E-11	mg/kg-day	5.70E-04	mg/kg-day	1.52E-07
			Aluminum	6.7E-06	mg/m <sup>3</sup>	6.25E-07	mg/kg-day	--	--	--	--	--	1.82E-06	mg/kg-day	1.43E-03	mg/kg-day	1.28E-03
			Antimony	3.1E-09	mg/m <sup>3</sup>	2.89E-10	mg/kg-day	--	--	--	--	--	8.43E-10	mg/kg-day	--	--	--
			Aroclor-1248	9.1E-10	mg/m <sup>3</sup>	8.51E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.70E-10	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.48E-10	mg/kg-day	2.00E-05	mg/kg-day	1.24E-05
			Aroclor-1254	3.4E-10	mg/m <sup>3</sup>	3.15E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.30E-11	2.00E+00	(mg/kg-day) <sup>-1</sup>	9.18E-11	mg/kg-day	2.00E-05	mg/kg-day	4.59E-06
			Aroclor-1260	4.1E-10	mg/m <sup>3</sup>	3.84E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	7.67E-11	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.12E-10	mg/kg-day	2.00E-05	mg/kg-day	5.60E-06
			Aroclor-1268	2.1E-11	mg/m <sup>3</sup>	1.97E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.93E-12	2.00E+00	(mg/kg-day) <sup>-1</sup>	5.74E-12	mg/kg-day	2.00E-05	mg/kg-day	2.87E-07
			Arsenic	4.7E-09	mg/m <sup>3</sup>	4.37E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	6.56E-09	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.27E-09	mg/kg-day	--	--	--
			Barium	5.1E-08	mg/m <sup>3</sup>	4.81E-09	mg/kg-day	--	--	--	--	--	1.40E-08	mg/kg-day	1.40E-04	mg/kg-day	1.00E-04
			Benzo(a)anthracene	3.8E-09	mg/m <sup>3</sup>	3.55E-10	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	2.59E-10	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.03E-09	mg/kg-day	--	--	--
			Benzo(a)pyrene	1.3E-09	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	8.62E-10	7.30E+00	(mg/kg-day) <sup>-1</sup>	3.44E-10	mg/kg-day	--	--	--
			Benzo(g,h,i)perylene	5.8E-10	mg/m <sup>3</sup>	5.41E-11	mg/kg-day	--	--	--	--	--	1.58E-10	mg/kg-day	3.00E-02	mg/kg-day	5.26E-09
			Benzo(k)fluoranthene	2.5E-09	mg/m <sup>3</sup>	2.31E-10	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	1.69E-11	7.30E-02	(mg/kg-day) <sup>-1</sup>	6.74E-10	mg/kg-day	--	--	--
			Beryllium	1.8E-10	mg/m <sup>3</sup>	1.69E-11	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	1.42E-10	8.40E+00	(mg/kg-day) <sup>-1</sup>	4.92E-11	mg/kg-day	5.71E-06	mg/kg-day	8.61E-06
			Beta-BHC	1.7E-12	mg/m <sup>3</sup>	1.56E-13	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	2.89E-13	1.86E+00	(mg/kg-day) <sup>-1</sup>	4.55E-13	mg/kg-day	2.00E-04	mg/kg-day	2.27E-09
			bis(2-ethylhexyl)phthalate	5.9E-09	mg/m <sup>3</sup>	5.55E-10	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	7.77E-12	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.62E-09	mg/kg-day	2.00E-02	mg/kg-day	8.10E-08
			Cadmium	7.2E-09	mg/m <sup>3</sup>	6.71E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	4.23E-09	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.96E-09	mg/kg-day	--	--	--
			Chromium	8.4E-08	mg/m <sup>3</sup>	7.88E-09	mg/kg-day	--	--	--	--	--	2.30E-08	mg/kg-day	--	--	--
			Cobalt	5.7E-09	mg/m <sup>3</sup>	5.37E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	5.26E-09	9.80E+00	(mg/kg-day) <sup>-1</sup>	1.57E-09	mg/kg-day	5.71E-06	mg/kg-day	2.74E-04
			Copper	4.3E-08	mg/m <sup>3</sup>	4.04E-09	mg/kg-day	--	--	--	--	--	1.18E-08	mg/kg-day	--	--	--
			Dibenzo(a,h)anthracene	2.4E-10	mg/m <sup>3</sup>	2.25E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.64E-10	7.30E+00	(mg/kg-day) <sup>-1</sup>	6.56E-11	mg/kg-day	--	--	--
			Dimethylphthalate	2.9E-11	mg/m <sup>3</sup>	2.69E-12	mg/kg-day	--	--	--	--	--	7.86E-12	mg/kg-day	1.00E+01	mg/kg-day	7.86E-13
			di-n-Butylphthalate	1.7E-09	mg/m <sup>3</sup>	1.56E-10	mg/kg-day	--	--	--	--	--	4.55E-10	mg/kg-day	1.00E-01	mg/kg-day	4.55E-09
			Endrin aldehyde	3.2E-11	mg/m <sup>3</sup>	2.98E-12	mg/kg-day	--	--	--	--	--	8.70E-12	mg/kg-day	3.00E-04	mg/kg-day	2.90E-08
			Endrin Ketone	7.6E-12	mg/m <sup>3</sup>	7.09E-13	mg/kg-day	--	--	--	--	--	2.07E-12	mg/kg-day	3.00E-04	mg/kg-day	6.89E-09
			Heptachlor Epoxide	8.5E-12	mg/m <sup>3</sup>	7.91E-13	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	7.19E-12	9.10E+00	(mg/kg-day) <sup>-1</sup>	2.31E-12	mg/kg-day	1.30E-05	mg/kg-day	1.77E-07
			Indeno(1,2,3-cd)pyrene	6.6E-10	mg/m <sup>3</sup>	6.19E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.52E-11	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.80E-10	mg/kg-day	--	--	--
			Iron	3.1E-05	mg/m <sup>3</sup>	2.89E-06	mg/kg-day	--	--	--	--	--	8.42E-06	mg/kg-day	--	--	--
			Isophorone	1.5E-10	mg/m <sup>3</sup>	1.42E-11	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	1.35E-14	9.50E-04	(mg/kg-day) <sup>-1</sup>	4.13E-11	mg/kg-day	2.00E-01	mg/kg-day	2.07E-10
			Lead	2.2E-06	mg/m <sup>3</sup>	2.06E-07	mg/kg-day	--	--	--	--	--	6.00E-07	mg/kg-day	--	--	--
			Manganese	2.5E-07	mg/m <sup>3</sup>	2.35E-08	mg/kg-day	--	--	--	--	--	6.84E-08	mg/kg-day	1.43E-05	mg/kg-day	4.79E-03
			Mercury	2.3E-10	mg/m <sup>3</sup>	2.19E-11	mg/kg-day	--	--	--	--	--	6.40E-11	mg/kg-day	8.60E-05	mg/kg-day	7.44E-07
			Molybdenum	1.9E-09	mg/m <sup>3</sup>	1.78E-10	mg/kg-day	--	--	--	--	--	5.18E-10	mg/kg-day	--	--	--
			Nickel	3.0E-08	mg/m <sup>3</sup>	2.77E-09	mg/kg-day	--	--	--	--	--	8.09E-09	mg/kg-day	--	--	--
			Phenol	4.4E-10	mg/m <sup>3</sup>	4.11E-11	mg/kg-day	--	--	--	--	--	1.20E-10	mg/kg-day	3.00E-01	mg/kg-day	4.00E-10
			Selenium	1.7E-10	mg/m <sup>3</sup>	1.59E-11	mg/kg-day	--	--	--	--	--	4.64E-11	mg/kg-day	--	--	--
Silver	8.8E-10	mg/m <sup>3</sup>	8.21E-11	mg/kg-day	--	--	--	--	--	2.40E-10	mg/kg-day	--	--	--			

TABLE H-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.8E-10	mg/m <sup>3</sup>	3.52E-11	mg/kg-day	--	--	--	1.03E-10	mg/kg-day	--	--	--
				Vanadium	2.6E-08	mg/m <sup>3</sup>	2.42E-09	mg/kg-day	--	--	--	7.06E-09	mg/kg-day	--	--	--
				Zinc	3.4E-07	mg/m <sup>3</sup>	3.21E-08	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	--	--	--
				<b>Exposure Route Total</b>												<b>6.47E-03</b>
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	9.77E-06	mg/kg-day	--	--	--	2.85E-05	mg/kg-day	1.10E-03	mg/kg-day	2.59E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	3.32E-05	mg/kg-day	--	--	--	9.69E-05	mg/kg-day	1.10E-03	mg/kg-day	8.81E-02
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.10E-05	mg/kg-day	--	--	--	3.20E-05	mg/kg-day	1.71E-03	mg/kg-day	1.87E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	4.98E-04	mg/kg-day	--	--	--	1.45E-03	mg/kg-day	5.70E-02	mg/kg-day	2.55E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	2.68E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.82E-08	7.81E-07	mg/kg-day	1.14E-03	mg/kg-day	6.85E-04
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	3.42E-06	mg/kg-day	--	--	--	9.97E-06	mg/kg-day	1.71E-03	mg/kg-day	5.82E-03
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	1.52E-05	mg/kg-day	--	--	--	4.44E-05	mg/kg-day	3.00E-02	mg/kg-day	1.48E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	1.46E-04	mg/kg-day	2.20E-02	(mg/kg-day)-1	3.22E-06	4.26E-04	mg/kg-day	2.30E-01	mg/kg-day	1.85E-03
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	6.92E-06	mg/kg-day	--	--	--	2.02E-05	mg/kg-day	5.00E-02	mg/kg-day	4.04E-04
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	9.07E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.09E-10	2.65E-09	mg/kg-day	5.00E-04	mg/kg-day	5.29E-06
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	5.44E-06	mg/kg-day	--	--	--	1.59E-05	mg/kg-day	6.00E-02	mg/kg-day	2.64E-04
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	1.34E-07	mg/kg-day	--	--	--	3.90E-07	mg/kg-day	6.00E-02	mg/kg-day	6.50E-06
				Aldrin	5.63E-09	mg/m <sup>3</sup>	5.27E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.96E-09	1.54E-09	mg/kg-day	3.00E-05	mg/kg-day	5.12E-05
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	3.40E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.14E-09	9.93E-10	mg/kg-day	5.00E-04	mg/kg-day	1.99E-06
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	7.54E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.64E-10	2.20E-09	mg/kg-day	2.00E-04	mg/kg-day	1.10E-05
				Anthracene	1.45E-05	mg/m <sup>3</sup>	1.35E-06	mg/kg-day	--	--	--	3.95E-06	mg/kg-day	3.00E-01	mg/kg-day	1.32E-05
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	1.66E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.21E-07	4.83E-07	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	4.23E-08	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	2.00E-01	mg/kg-day	6.17E-07
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	4.84E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	1.70E-02	mg/kg-day	8.31E-04
				Chrysene	6.25E-06	mg/m <sup>3</sup>	5.84E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.27E-09	1.70E-06	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	3.92E-09	mg/kg-day	1.86E+00	(mg/kg-day)-1	7.26E-09	1.14E-08	mg/kg-day	2.00E-04	mg/kg-day	5.71E-05
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	4.20E-06	mg/kg-day	--	--	--	1.22E-05	mg/kg-day	2.00E-03	mg/kg-day	6.12E-03
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	6.94E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.11E-07	2.02E-08	mg/kg-day	5.00E-05	mg/kg-day	4.05E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	7.54E-09	mg/kg-day	--	--	--	2.20E-08	mg/kg-day	6.00E-03	mg/kg-day	3.66E-06
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	7.81E-09	mg/kg-day	--	--	--	2.28E-08	mg/kg-day	6.00E-03	mg/kg-day	3.79E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	1.41E-08	mg/kg-day	--	--	--	4.11E-08	mg/kg-day	6.00E-03	mg/kg-day	6.85E-06
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	1.60E-06	mg/kg-day	--	--	--	4.68E-06	mg/kg-day	4.00E-02	mg/kg-day	1.17E-04
				Fluorene	1.71E-05	mg/m <sup>3</sup>	1.60E-06	mg/kg-day	--	--	--	4.68E-06	mg/kg-day	4.00E-02	mg/kg-day	1.16E-04
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	1.49E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.94E-09	4.35E-09	mg/kg-day	3.00E-04	mg/kg-day	1.45E-05
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	1.21E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.25E-10	3.54E-09	mg/kg-day	2.00E-04	mg/kg-day	1.77E-05
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	3.16E-08	mg/kg-day	4.55E+00	(mg/kg-day)-1	1.44E-07	9.22E-08	mg/kg-day	5.00E-04	mg/kg-day	1.84E-04
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	8.08E-09	mg/kg-day	--	--	--	2.36E-08	mg/kg-day	5.00E-03	mg/kg-day	4.71E-06
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	6.54E-05	mg/kg-day	--	--	--	1.91E-04	mg/kg-day	8.57E-04	mg/kg-day	2.23E-01
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	1.79E-05	mg/kg-day	--	--	--	5.21E-05	mg/kg-day	3.00E-01	mg/kg-day	1.74E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.79E-05	mg/kg-day	--	--	--	5.23E-05	mg/kg-day	1.10E-01	mg/kg-day	4.75E-04
				Pyrene	1.85E-05	mg/m <sup>3</sup>	1.73E-06	mg/kg-day	--	--	--	5.04E-06	mg/kg-day	3.00E-02	mg/kg-day	1.68E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	2.63E-06	mg/kg-day	--	--	--	7.68E-06	mg/kg-day	4.00E-02	mg/kg-day	1.92E-04
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	5.10E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	1.79E-11	1.49E-07	mg/kg-day	2.00E-04	mg/kg-day	7.44E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	2.92E-08	mg/kg-day	--	--	--	8.52E-08	mg/kg-day	1.43E+00	mg/kg-day	5.96E-08
				<b>Exposure Route Total</b>												<b>4.01E-01</b>
				<b>Exposure Point Total</b>												<b>4.07E-01</b>
		Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	8.24E-04	mg/kg-day	--	--	--	2.40E-03	mg/kg-day	1.10E-03	mg/kg-day	2.19E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	2.80E-03	mg/kg-day	--	--	--	8.17E-03	mg/kg-day	1.10E-03	mg/kg-day	7.43E+00
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	2.75E-04	mg/kg-day	--	--	--	8.01E-04	mg/kg-day	1.71E-03	mg/kg-day	4.67E-01
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	1.43E-02	mg/kg-day	--	--	--	4.17E-02	mg/kg-day	5.70E-02	mg/kg-day	7.31E-01
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	1.98E-06	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.34E-07	5.77E-06	mg/kg-day	1.14E-03	mg/kg-day	5.06E-03
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	8.79E-05	mg/kg-day	--	--	--	2.56E-04	mg/kg-day	1.71E-03	mg/kg-day	1.50E-01

TABLE H-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	6.04E-04	mg/kg-day	--	--	--	1.76E-03	mg/kg-day	3.00E-02	mg/kg-day	5.88E-02
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	3.74E-03	mg/kg-day	2.20E-02	(mg/kg-day)-1	8.22E-05	1.09E-02	mg/kg-day	2.30E-01	mg/kg-day	4.74E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	4.54E-04	mg/kg-day	--	--	--	1.32E-03	mg/kg-day	5.00E-02	mg/kg-day	2.65E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	5.68E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.93E-10	1.66E-09	mg/kg-day	5.00E-04	mg/kg-day	3.31E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	1.59E-04	mg/kg-day	--	--	--	4.62E-04	mg/kg-day	6.00E-02	mg/kg-day	7.70E-03
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	4.09E-06	mg/kg-day	--	--	--	1.19E-05	mg/kg-day	6.00E-02	mg/kg-day	1.99E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	1.51E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.56E-08	4.39E-09	mg/kg-day	3.00E-05	mg/kg-day	1.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.01E-08	mg/kg-day	6.30E+00	(mg/kg-day)-1	6.34E-08	2.94E-08	mg/kg-day	5.00E-04	mg/kg-day	5.87E-05
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	5.08E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.78E-09	1.48E-08	mg/kg-day	2.00E-04	mg/kg-day	7.40E-05
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	4.17E-05	mg/kg-day	--	--	--	1.22E-04	mg/kg-day	3.00E-01	mg/kg-day	4.05E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	2.95E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.15E-07	8.60E-07	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	1.32E-07	mg/kg-day	--	--	--	3.85E-07	mg/kg-day	2.00E-01	mg/kg-day	1.92E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	6.04E-05	mg/kg-day	--	--	--	1.76E-04	mg/kg-day	1.70E-02	mg/kg-day	1.04E-02
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	1.66E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.21E-08	4.85E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	1.72E-07	mg/kg-day	1.86E+00	(mg/kg-day)-1	3.19E-07	5.02E-07	mg/kg-day	2.00E-04	mg/kg-day	2.51E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	2.22E-06	mg/kg-day	--	--	--	6.46E-06	mg/kg-day	2.00E-03	mg/kg-day	3.23E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	4.91E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	7.85E-07	1.43E-07	mg/kg-day	5.00E-05	mg/kg-day	2.86E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	2.02E-07	mg/kg-day	--	--	--	5.89E-07	mg/kg-day	6.00E-03	mg/kg-day	9.81E-05
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	2.05E-07	mg/kg-day	--	--	--	5.99E-07	mg/kg-day	6.00E-03	mg/kg-day	9.98E-05
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	3.77E-07	mg/kg-day	--	--	--	1.10E-06	mg/kg-day	6.00E-03	mg/kg-day	1.83E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	4.59E-07	mg/kg-day	--	--	--	1.34E-06	mg/kg-day	4.00E-02	mg/kg-day	3.35E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	2.51E-05	mg/kg-day	--	--	--	7.31E-05	mg/kg-day	4.00E-02	mg/kg-day	1.83E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	5.33E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	6.92E-08	1.55E-07	mg/kg-day	3.00E-04	mg/kg-day	5.18E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	9.24E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.23E-11	2.69E-10	mg/kg-day	2.00E-04	mg/kg-day	1.35E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.02E-08	mg/kg-day	4.55E+00	(mg/kg-day)-1	4.62E-08	2.96E-08	mg/kg-day	5.00E-04	mg/kg-day	5.93E-05
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	2.78E-08	mg/kg-day	--	--	--	8.09E-08	mg/kg-day	5.00E-03	mg/kg-day	1.62E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	1.32E-06	mg/kg-day	1.60E-03	(mg/kg-day)-1	2.11E-09	3.85E-06	mg/kg-day	8.57E-01	mg/kg-day	4.49E-06
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	5.89E-03	mg/kg-day	--	--	--	1.72E-02	mg/kg-day	8.57E-04	mg/kg-day	2.00E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	5.34E-04	mg/kg-day	--	--	--	1.56E-03	mg/kg-day	3.00E-01	mg/kg-day	5.19E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	6.04E-05	mg/kg-day	--	--	--	1.76E-04	mg/kg-day	1.10E-01	mg/kg-day	1.60E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	3.72E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	3.00E-02	mg/kg-day	3.62E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	2.14E-05	mg/kg-day	--	--	--	6.25E-05	mg/kg-day	4.00E-02	mg/kg-day	1.56E-03
Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	3.93E-07	mg/kg-day	3.50E-04	(mg/kg-day)-1	1.38E-10	1.15E-06	mg/kg-day	2.00E-04	mg/kg-day	5.74E-03				
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	2.36E-07	mg/kg-day	--	--	--	6.89E-07	mg/kg-day	1.43E+00	mg/kg-day	4.82E-07				
				Exposure Route Total							8.39E-05					3.12E+01
				Exposure Point Total							8.39E-05					3.12E+01
				Exposure Medium Total							8.75E-05					3.16E+01
				Medium Total							1.60E-04					3.43E+01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	3.96E-08	mg/kg-day	--	--	--	1.16E-07	mg/kg-day	1.40E-01	mg/kg-day	8.25E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.18E-08	mg/kg-day	--	--	--	3.44E-08	mg/kg-day	1.71E-03	mg/kg-day	2.01E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	7.74E-08	mg/kg-day	--	--	--	2.26E-07	mg/kg-day	5.70E-02	mg/kg-day	3.96E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	5.57E-08	mg/kg-day	9.10E-02	--	5.07E-09	1.62E-07	mg/kg-day	1.40E-03	mg/kg-day	1.16E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	2.09E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.42E-09	6.09E-08	mg/kg-day	1.14E-03	mg/kg-day	5.34E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	6.73E-09	mg/kg-day	--	--	--	1.96E-08	mg/kg-day	1.71E-03	mg/kg-day	1.14E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	2.63E-08	mg/kg-day	2.20E-02	(mg/kg-day)-1	5.80E-10	7.68E-08	mg/kg-day	2.30E-01	mg/kg-day	3.34E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.02E-09	mg/kg-day	--	--	--	2.97E-09	mg/kg-day	1.43E+00	mg/kg-day	2.08E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	9.05E-11	mg/kg-day	--	--	--	2.64E-10	mg/kg-day	5.00E-02	mg/kg-day	5.28E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.21E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.12E-11	3.53E-10	mg/kg-day	5.00E-04	mg/kg-day	7.06E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	3.78E-10	mg/kg-day	--	--	--	1.10E-09	mg/kg-day	8.60E-01	mg/kg-day	1.28E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	3.63E-09	mg/kg-day	--	--	--	1.06E-08	mg/kg-day	6.00E-02	mg/kg-day	1.76E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	1.54E-10	mg/kg-day	--	--	--	4.50E-10	mg/kg-day	6.00E-02	mg/kg-day	7.51E-09

TABLE H-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	2.09E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	3.56E-09	6.10E-10	mg/kg-day	3.00E-05	mg/kg-day	2.03E-05		
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	2.65E-11	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.67E-10	7.73E-11	mg/kg-day	5.00E-04	mg/kg-day	1.55E-07		
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	6.27E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.19E-11	1.83E-10	mg/kg-day	2.00E-04	mg/kg-day	9.14E-07		
				Anthracene	3.29E-09	mg/m <sup>3</sup>	3.07E-10	mg/kg-day	--	--	--	8.97E-10	mg/kg-day	3.00E-01	mg/kg-day	2.99E-09		
				Benzene	2.61E-07	mg/m <sup>3</sup>	2.44E-08	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	6.66E-10	7.12E-08	mg/kg-day	8.60E-03	mg/kg-day	8.28E-06		
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	4.55E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	3.32E-11	1.33E-10	mg/kg-day	--	--	--		
				Bromoform	7.36E-09	mg/m <sup>3</sup>	6.89E-10	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	2.65E-12	2.01E-09	mg/kg-day	2.00E-02	mg/kg-day	1.00E-07		
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	4.22E-07	mg/kg-day	--	--	--	1.23E-06	mg/kg-day	2.00E-01	mg/kg-day	6.15E-08		
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	6.85E-09	mg/kg-day	--	--	--	2.00E-08	mg/kg-day	1.70E-02	mg/kg-day	1.18E-06		
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.93E-07	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	1.56E-08	5.64E-07	mg/kg-day	1.40E-02	mg/kg-day	4.03E-05		
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	7.01E-08	mg/kg-day	--	--	--	2.04E-07	mg/kg-day	2.60E-02	mg/kg-day	7.86E-06		
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.23E-10	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	8.99E-13	3.59E-10	mg/kg-day	--	--	--		
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	4.96E-08	mg/kg-day	--	--	--	1.45E-07	mg/kg-day	1.00E-02	mg/kg-day	1.45E-05		
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	9.19E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.47E-09	2.68E-10	mg/kg-day	5.00E-05	mg/kg-day	5.36E-06		
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	2.09E-11	mg/kg-day	--	--	--	6.11E-11	mg/kg-day	6.00E-03	mg/kg-day	1.02E-08		
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	3.44E-14	mg/kg-day	--	--	--	1.00E-13	mg/kg-day	6.00E-03	mg/kg-day	1.67E-11		
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.87E-08	mg/kg-day	--	--	--	5.44E-08	mg/kg-day	2.90E-01	mg/kg-day	1.88E-07		
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	4.73E-11	mg/kg-day	--	--	--	1.38E-10	mg/kg-day	4.00E-02	mg/kg-day	3.45E-09		
				Fluorene	1.00E-09	mg/m <sup>3</sup>	9.35E-11	mg/kg-day	--	--	--	2.73E-10	mg/kg-day	4.00E-02	mg/kg-day	6.82E-09		
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.16E-13	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.51E-13	3.39E-13	mg/kg-day	3.00E-04	mg/kg-day	1.13E-09		
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	1.63E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	5.70E-11	4.75E-10	mg/kg-day	2.00E-04	mg/kg-day	2.37E-06		
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	1.67E-09	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	7.60E-09	4.87E-09	mg/kg-day	5.00E-04	mg/kg-day	9.74E-06		
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	9.35E-06	mg/kg-day	1.10E-01	mg/kg-day	8.50E-05		
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	6.49E-08	mg/kg-day	--	--	--	1.89E-07	mg/kg-day	2.90E-02	mg/kg-day	6.53E-06		
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	3.06E-10	mg/kg-day	--	--	--	8.91E-10	mg/kg-day	5.00E-03	mg/kg-day	1.78E-07		
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	5.08E-10	mg/kg-day	--	--	--	1.48E-09	mg/kg-day	8.57E-04	mg/kg-day	1.73E-06		
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	2.37E-08	mg/kg-day	--	--	--	6.90E-08	mg/kg-day	8.57E-04	mg/kg-day	8.08E-05		
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	2.64E-08	mg/kg-day	--	--	--	7.69E-08	mg/kg-day	4.00E-02	mg/kg-day	1.92E-06		
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	2.45E-10	mg/kg-day	--	--	--	7.14E-10	mg/kg-day	3.00E-01	mg/kg-day	2.38E-09		
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	9.35E-06	mg/kg-day	1.10E-01	mg/kg-day	8.50E-05		
				Pyrene	4.61E-10	mg/m <sup>3</sup>	4.31E-11	mg/kg-day	--	--	--	1.26E-10	mg/kg-day	3.00E-02	mg/kg-day	4.19E-09		
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	7.50E-08	mg/kg-day	--	--	--	2.19E-07	mg/kg-day	4.00E-02	mg/kg-day	5.47E-06		
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	8.49E-08	mg/kg-day	--	--	--	2.48E-07	mg/kg-day	4.00E-02	mg/kg-day	6.19E-06		
				Toluene	3.80E-07	mg/m <sup>3</sup>	3.55E-08	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	1.43E+00	mg/kg-day	7.28E-08		
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	8.39E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	2.00E-02	mg/kg-day	1.22E-05		
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	8.72E-08	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	3.49E-08	2.54E-07	mg/kg-day	1.00E-02	mg/kg-day	2.54E-05		
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.80E-07	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	5.59E-09	5.26E-07	mg/kg-day	2.86E-02	mg/kg-day	1.84E-05		
				Exposure Route Total										7.67E-08				6.53E-04
				Exposure Point Total										7.67E-08				6.53E-04
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	6.97E-06	mg/kg-day	--	--	--	2.03E-05	mg/kg-day	1.40E-01
1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	3.06E-07					mg/kg-day	--	--	--	8.91E-07	mg/kg-day	1.71E-03	mg/kg-day	5.20E-04		
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	2.06E-06					mg/kg-day	--	--	--	6.00E-06	mg/kg-day	5.70E-02	mg/kg-day	1.05E-04		
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	1.67E-06					mg/kg-day	9.10E-02	--	1.52E-07	4.86E-06	mg/kg-day	1.40E-03	mg/kg-day	3.47E-03		
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	6.17E-07					mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	4.20E-08	1.80E-06	mg/kg-day	1.14E-03	mg/kg-day	1.58E-03		
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	1.75E-07					mg/kg-day	--	--	--	5.10E-07	mg/kg-day	1.71E-03	mg/kg-day	2.98E-04		
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	7.06E-07					mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.55E-08	2.06E-06	mg/kg-day	2.30E-01	mg/kg-day	8.95E-08		
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	5.24E-08					mg/kg-day	--	--	--	1.53E-07	mg/kg-day	1.43E+00	mg/kg-day	1.07E-07		
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	2.54E-09					mg/kg-day	--	--	--	7.40E-09	mg/kg-day	5.00E-02	mg/kg-day	1.48E-07		
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	1.09E-11					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.71E-12	3.18E-11	mg/kg-day	5.00E-04	mg/kg-day	6.36E-08		
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	1.56E-08					mg/kg-day	--	--	--	4.54E-08	mg/kg-day	8.60E-01	mg/kg-day	5.28E-08		
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	1.55E-07					mg/kg-day	--	--	--	4.51E-07	mg/kg-day	6.00E-02	mg/kg-day	7.51E-06		



**TABLE H-7.5**

**EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:**
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.05E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	1.00E-02	mg/kg-day	2.05E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.40E-06	mg/kg-day	--	--	--	6.99E-06	mg/kg-day	1.00E-02	mg/kg-day	6.99E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.35E-07	mg/kg-day	--	--	--	6.85E-07	mg/kg-day	5.00E-02	mg/kg-day	1.37E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.22E-05	mg/kg-day	--	--	--	3.56E-05	mg/kg-day	9.00E-02	mg/kg-day	3.96E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.69E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.15E-10	4.93E-09	mg/kg-day	1.14E-03	mg/kg-day	4.33E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	7.51E-08	mg/kg-day	--	--	--	2.19E-07	mg/kg-day	5.00E-02	mg/kg-day	4.38E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.17E-07	mg/kg-day	--	--	--	1.51E-06	mg/kg-day	3.00E-02	mg/kg-day	5.02E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.19E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	7.66E-08	9.32E-06	mg/kg-day	3.00E-02	mg/kg-day	3.11E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	9.86E-08	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	2.00E-02	mg/kg-day	1.44E-05
				2-Methylphenol	8.10E-02	mg/kg	3.80E-08	mg/kg-day	--	--	--	1.11E-07	mg/kg-day	5.00E-02	mg/kg-day	2.22E-06
				2-Methylnaphthalene	1.45E+00	mg/kg	6.81E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	4.00E-03	mg/kg-day	4.96E-04
				4,4'-DDD	1.20E-03	mg/kg	5.64E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.35E-10	1.64E-09	mg/kg-day	5.00E-04	mg/kg-day	3.29E-06
				4,4'-DDE	7.50E-02	mg/kg	3.52E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.20E-08	1.03E-07	mg/kg-day	5.00E-04	mg/kg-day	2.05E-04
				4,4'-DDT	4.20E-02	mg/kg	1.97E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.71E-09	5.75E-08	mg/kg-day	5.00E-04	mg/kg-day	1.15E-04
				4-Methylphenol	2.70E-01	mg/kg	1.27E-07	mg/kg-day	--	--	--	3.70E-07	mg/kg-day	5.00E-03	mg/kg-day	7.40E-05
				4-Nitroaniline	6.20E-01	mg/kg	2.91E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.12E-09	8.49E-07	mg/kg-day	3.00E-03	mg/kg-day	2.83E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.97E-07	mg/kg-day	--	--	--	5.75E-07	mg/kg-day	5.00E-04	mg/kg-day	1.15E-03
				Acenaphthene	3.47E+00	mg/kg	1.63E-06	mg/kg-day	--	--	--	4.76E-06	mg/kg-day	6.00E-02	mg/kg-day	7.93E-05
				Acenaphthylene	8.96E-02	mg/kg	4.21E-08	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	6.00E-02	mg/kg-day	2.05E-06
				Aldrin	1.30E-02	mg/kg	6.11E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.04E-07	1.78E-08	mg/kg-day	3.00E-05	mg/kg-day	5.94E-04
				alpha-BHC	7.30E-04	mg/kg	3.43E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.16E-09	1.00E-09	mg/kg-day	5.00E-04	mg/kg-day	2.00E-06
				alpha-Chlordane	6.98E-03	mg/kg	3.28E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.15E-09	9.56E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05
				Aluminum	9.05E+03	mg/kg	4.25E-03	mg/kg-day	--	--	--	1.24E-02	mg/kg-day	1.00E+00	mg/kg-day	1.24E-02
				Anthracene	9.13E-01	mg/kg	4.29E-07	mg/kg-day	--	--	--	1.25E-06	mg/kg-day	3.00E-01	mg/kg-day	4.17E-06
				Antimony	2.72E+00	mg/kg	1.28E-06	mg/kg-day	--	--	--	3.73E-06	mg/kg-day	4.00E-04	mg/kg-day	9.33E-03
				Aroclor-1248	1.20E+00	mg/kg	5.64E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.13E-06	1.64E-06	mg/kg-day	2.00E-05	mg/kg-day	8.22E-02
				Aroclor-1254	4.38E-01	mg/kg	2.06E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.11E-07	6.00E-07	mg/kg-day	2.00E-05	mg/kg-day	3.00E-02
				Aroclor-1260	4.88E-01	mg/kg	2.29E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.59E-07	6.69E-07	mg/kg-day	2.00E-05	mg/kg-day	3.34E-02
				Aroclor-1268	2.72E-02	mg/kg	1.28E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.55E-08	3.72E-08	mg/kg-day	2.00E-05	mg/kg-day	1.86E-03
				Arsenic	9.53E+00	mg/kg	4.48E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	6.72E-06	1.31E-05	mg/kg-day	3.00E-04	mg/kg-day	4.35E-02
				Barium	6.94E+01	mg/kg	3.26E-05	mg/kg-day	--	--	--	9.51E-05	mg/kg-day	7.00E-02	mg/kg-day	1.36E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	1.98E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.44E-06	5.77E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	6.60E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.82E-06	1.93E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.11E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.14E-07	3.25E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	3.04E-07	mg/kg-day	--	--	--	8.87E-07	mg/kg-day	3.00E-02	mg/kg-day	2.96E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.33E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	9.69E-08	3.87E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.07E-07	mg/kg-day	--	--	--	3.12E-07	mg/kg-day	2.00E-03	mg/kg-day	1.56E-04
				Beta-BHC	2.20E-03	mg/kg	1.03E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.86E-09	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.51E-05
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	2.49E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.48E-08	7.25E-06	mg/kg-day	2.00E-02	mg/kg-day	3.63E-04
				Cadmium	8.65E+00	mg/kg	4.06E-06	mg/kg-day	--	--	--	1.18E-05	mg/kg-day	5.00E-04	mg/kg-day	2.37E-02
				Carbon disulfide	2.40E-04	mg/kg	1.13E-10	mg/kg-day	--	--	--	3.29E-10	mg/kg-day	1.00E-01	mg/kg-day	3.29E-09
				Chlorobenzene	1.10E-01	mg/kg	5.17E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	2.00E-02	mg/kg-day	7.53E-06
				Chromium	1.00E+02	mg/kg	4.69E-05	mg/kg-day	--	--	--	1.37E-04	mg/kg-day	1.50E+00	mg/kg-day	9.13E-05
				Chrysene	4.80E+00	mg/kg	2.25E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.64E-08	6.57E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	3.50E-06	mg/kg-day	--	--	--	1.02E-05	mg/kg-day	2.00E-02	mg/kg-day	5.10E-04
				Copper	6.01E+01	mg/kg	2.82E-05	mg/kg-day	--	--	--	8.23E-05	mg/kg-day	3.70E-02	mg/kg-day	2.22E-03
				Delta-BHC	8.40E-03	mg/kg	3.95E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	7.10E-09	1.15E-08	mg/kg-day	2.00E-04	mg/kg-day	5.75E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.29E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	9.45E-07	3.78E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.11E-06	mg/kg-day	--	--	--	1.78E-05	mg/kg-day	2.00E-03	mg/kg-day	8.90E-03
				Dieldrin	4.89E-02	mg/kg	2.30E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.68E-07	6.70E-08	mg/kg-day	5.00E-05	mg/kg-day	1.34E-03
				Dimethylphthalate	3.80E-02	mg/kg	1.78E-08	mg/kg-day	--	--	--	5.21E-08	mg/kg-day	1.00E+01	mg/kg-day	5.21E-09

TABLE H-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	1.08E-06	mg/kg-day	--	--	--	3.15E-06	mg/kg-day	1.00E-01	mg/kg-day	3.15E-05			
				Endosulfan I	2.30E-02	mg/kg	1.08E-08	mg/kg-day	--	--	--	3.15E-08	mg/kg-day	6.00E-03	mg/kg-day	5.25E-06			
				Endosulfan II	2.34E-02	mg/kg	1.10E-08	mg/kg-day	--	--	--	3.20E-08	mg/kg-day	6.00E-03	mg/kg-day	5.33E-06			
				Endosulfan Sulfate	4.30E-02	mg/kg	2.02E-08	mg/kg-day	--	--	--	5.89E-08	mg/kg-day	6.00E-03	mg/kg-day	9.82E-06			
				Endnn aldehyde	6.30E-02	mg/kg	2.96E-08	mg/kg-day	--	--	--	8.63E-08	mg/kg-day	3.00E-04	mg/kg-day	2.88E-04			
				Endnn Ketone	1.00E-02	mg/kg	4.70E-09	mg/kg-day	--	--	--	1.37E-08	mg/kg-day	3.00E-04	mg/kg-day	4.57E-05			
				Fluoranthene	2.23E+01	mg/kg	1.05E-05	mg/kg-day	--	--	--	3.05E-05	mg/kg-day	4.00E-02	mg/kg-day	7.62E-04			
				Fluorene	2.53E+00	mg/kg	1.19E-06	mg/kg-day	--	--	--	3.46E-06	mg/kg-day	4.00E-02	mg/kg-day	8.66E-05			
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.22E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.59E-09	3.56E-09	mg/kg-day	3.00E-04	mg/kg-day	1.19E-05			
				gamma-Chlordane	1.27E-02	mg/kg	5.96E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.09E-09	1.74E-08	mg/kg-day	5.00E-04	mg/kg-day	3.48E-05			
				Heptachlor	6.90E-03	mg/kg	3.24E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.46E-08	9.45E-09	mg/kg-day	5.00E-04	mg/kg-day	1.89E-05			
				Heptachlor Epoxide	9.86E-03	mg/kg	4.63E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	4.21E-08	1.35E-08	mg/kg-day	1.30E-05	mg/kg-day	1.04E-03			
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	2.33E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.70E-07	6.81E-07	mg/kg-day	--	--	--			
				Iron	3.68E+04	mg/kg	1.73E-02	mg/kg-day	--	--	--	5.04E-02	mg/kg-day	3.00E-01	mg/kg-day	1.68E-01			
				Isophorone	2.00E-01	mg/kg	9.39E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	8.92E-11	2.74E-07	mg/kg-day	2.00E-01	mg/kg-day	1.37E-06			
				Lead	2.39E+03	mg/kg	1.12E-03	mg/kg-day	--	--	--	3.27E-03	mg/kg-day	--	--	--			
				Manganese	3.04E+02	mg/kg	1.43E-04	mg/kg-day	--	--	--	4.17E-04	mg/kg-day	2.40E-02	mg/kg-day	1.74E-02			
				Mercury	2.65E-01	mg/kg	1.25E-07	mg/kg-day	--	--	--	3.63E-07	mg/kg-day	3.00E-04	mg/kg-day	1.21E-03			
				Methoxychlor	1.20E-01	mg/kg	5.64E-08	mg/kg-day	--	--	--	1.64E-07	mg/kg-day	5.00E-03	mg/kg-day	3.29E-05			
				Methylene chloride	2.40E-03	mg/kg	1.13E-09	mg/kg-day	7.50E-03	(mg/kg-day)-1	8.45E-12	3.28E-09	mg/kg-day	6.00E-02	mg/kg-day	5.48E-08			
				Molybdenum	2.18E+00	mg/kg	1.02E-06	mg/kg-day	--	--	--	2.99E-06	mg/kg-day	5.00E-03	mg/kg-day	5.97E-04			
				Naphthalene	1.30E+01	mg/kg	6.11E-06	mg/kg-day	--	--	--	1.78E-05	mg/kg-day	2.00E-02	mg/kg-day	8.90E-04			
				Nickel	3.89E+01	mg/kg	1.83E-05	mg/kg-day	--	--	--	5.33E-05	mg/kg-day	2.00E-02	mg/kg-day	2.67E-03			
				Phenanthrene	1.17E+01	mg/kg	5.49E-06	mg/kg-day	--	--	--	1.60E-05	mg/kg-day	3.00E-01	mg/kg-day	5.33E-05			
				Phenol	5.80E-01	mg/kg	2.72E-07	mg/kg-day	--	--	--	7.95E-07	mg/kg-day	3.00E-01	mg/kg-day	2.65E-06			
				p-Isopropyltoluene	1.10E-01	mg/kg	5.17E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	1.00E-01	mg/kg-day	1.51E-06			
				Pyrene	2.03E+01	mg/kg	9.55E-06	mg/kg-day	--	--	--	2.79E-05	mg/kg-day	3.00E-02	mg/kg-day	9.29E-04			
				sec-Butylbenzene	7.10E-02	mg/kg	3.33E-08	mg/kg-day	--	--	--	9.73E-08	mg/kg-day	4.00E-02	mg/kg-day	2.43E-06			
				Selenium	2.84E-01	mg/kg	1.33E-07	mg/kg-day	--	--	--	3.88E-07	mg/kg-day	5.00E-03	mg/kg-day	7.77E-05			
				Silver	9.80E-01	mg/kg	4.60E-07	mg/kg-day	--	--	--	1.34E-06	mg/kg-day	5.00E-03	mg/kg-day	2.68E-04			
				Technical Chlordane	5.41E-01	mg/kg	2.54E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	8.89E-08	7.41E-07	mg/kg-day	5.00E-04	mg/kg-day	1.48E-03			
				Thallium	4.83E-01	mg/kg	2.27E-07	mg/kg-day	--	--	--	6.61E-07	mg/kg-day	6.60E-05	mg/kg-day	1.00E-02			
				Toluene	4.30E-04	mg/kg	2.02E-10	mg/kg-day	--	--	--	5.89E-10	mg/kg-day	8.00E-02	mg/kg-day	7.36E-09			
				Vanadium	3.37E+01	mg/kg	1.58E-05	mg/kg-day	--	--	--	4.61E-05	mg/kg-day	1.00E-03	mg/kg-day	4.61E-02			
				Zinc	3.32E+02	mg/kg	1.56E-04	mg/kg-day	--	--	--	4.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.51E-03			
				Exposure Route Total										1.78E-05					5.10E-01
				Dermal	1,2,3-Trichlorobenzene	5.10E+00	mg/kg	1,2,3-Trichlorobenzene	2.81E-07	mg/kg-day	--	--	--	8.20E-07	mg/kg-day	1.00E-02	mg/kg-day	8.20E-05	
								1,2,4-Trichlorobenzene	9.56E-08	mg/kg-day	--	--	--	2.79E-07	mg/kg-day	1.00E-02	mg/kg-day	2.79E-05	
								1,2,4-Trimethylbenzene	9.37E-09	mg/kg-day	--	--	--	2.73E-08	mg/kg-day	5.00E-02	mg/kg-day	5.47E-07	
								1,2-Dichlorobenzene	4.87E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	9.00E-02	mg/kg-day	1.58E-05	
								1,2-Dichloropropane	6.75E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	4.59E-12	1.97E-10	mg/kg-day	1.14E-03	mg/kg-day	1.73E-07	
								1,3,5-Trimethylbenzene	3.00E-09	mg/kg-day	--	--	--	8.75E-09	mg/kg-day	5.00E-02	mg/kg-day	1.75E-07	
1,3-Dichlorobenzene	2.06E-08	mg/kg-day	--					--	--	6.01E-08	mg/kg-day	3.00E-02	mg/kg-day	2.00E-06					
1,4-Dichlorobenzene	--	mg/kg-day	2.40E-02					(mg/kg-day)-1	--	--	--	3.00E-02	mg/kg-day	--					
2,4-Dimethylphenol	3.94E-09	mg/kg-day	--					--	--	1.15E-08	mg/kg-day	2.00E-02	mg/kg-day	5.74E-07					
2-Methylphenol	1.52E-08	mg/kg-day	--					--	--	4.43E-08	mg/kg-day	5.00E-02	mg/kg-day	8.85E-07					
2-Methylnaphthalene	2.72E-08	mg/kg-day	--					--	--	7.92E-08	mg/kg-day	4.00E-03	mg/kg-day	1.98E-05					
4,4'-DDD	2.25E-11	mg/kg-day	2.40E-01					(mg/kg-day)-1	5.40E-12	6.56E-11	mg/kg-day	5.00E-04	mg/kg-day	1.31E-07					
4,4'-DDE	1.41E-09	mg/kg-day	3.40E-01					(mg/kg-day)-1	4.78E-10	4.10E-09	mg/kg-day	5.00E-04	mg/kg-day	8.20E-08					
4,4'-DDT	2.36E-09	mg/kg-day	3.40E-01					(mg/kg-day)-1	8.03E-10	6.89E-09	mg/kg-day	5.00E-04	mg/kg-day	1.38E-05					
4-Methylphenol	5.06E-08	mg/kg-day	--					--	--	1.48E-07	mg/kg-day	5.00E-03	mg/kg-day	2.95E-05					

TABLE H-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	1.16E-07	mg/kg-day	2.10E-02	--	--	2.44E-09	3.39E-07	mg/kg-day	3.00E-03	mg/kg-day	1.13E-04
				4-Nitrophenol	4.20E-01	mg/kg	7.87E-08	mg/kg-day	--	--	--	--	2.30E-07	mg/kg-day	5.00E-04	mg/kg-day	4.59E-04
				Acenaphthene	3.47E+00	mg/kg	8.46E-07	mg/kg-day	--	--	--	--	2.47E-06	mg/kg-day	6.00E-02	mg/kg-day	4.11E-05
				Acenaphthylene	8.96E-02	mg/kg	1.68E-09	mg/kg-day	--	--	--	--	4.90E-09	mg/kg-day	6.00E-02	mg/kg-day	8.16E-08
				Aldrin	1.30E-02	mg/kg	2.44E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.14E-08	7.11E-09	mg/kg-day	3.00E-05	mg/kg-day	2.37E-04	
				alpha-BHC	7.30E-04	mg/kg	1.37E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	8.62E-11	3.99E-11	mg/kg-day	5.00E-04	mg/kg-day	7.98E-08	
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	5.00E-04	mg/kg-day	--	
				Aluminum	9.05E+03	mg/kg	1.70E-05	mg/kg-day	--	--	--	4.95E-05	mg/kg-day	1.00E+00	mg/kg-day	4.95E-05	
				Anthracene	9.13E-01	mg/kg	2.22E-07	mg/kg-day	--	--	--	6.49E-07	mg/kg-day	3.00E-01	mg/kg-day	2.16E-06	
				Antimony	2.72E+00	mg/kg	5.10E-09	mg/kg-day	--	--	--	1.49E-08	mg/kg-day	4.00E-04	mg/kg-day	3.72E-05	
				Aroclor-1248	1.20E+00	mg/kg	3.15E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.30E-07	9.18E-07	mg/kg-day	2.00E-05	mg/kg-day	4.59E-02	
				Aroclor-1254	4.38E-01	mg/kg	1.15E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.30E-07	3.35E-07	mg/kg-day	2.00E-05	mg/kg-day	1.67E-02	
				Aroclor-1260	4.88E-01	mg/kg	1.28E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.56E-07	3.74E-07	mg/kg-day	2.00E-05	mg/kg-day	1.87E-02	
				Aroclor-1268	2.72E-02	mg/kg	7.13E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.43E-08	2.08E-08	mg/kg-day	2.00E-05	mg/kg-day	1.04E-03	
				Arsenic	9.53E+00	mg/kg	5.36E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	8.04E-07	1.56E-08	mg/kg-day	3.00E-04	mg/kg-day	5.21E-03	
				Barium	6.94E+01	mg/kg	1.30E-07	mg/kg-day	--	--	--	3.80E-07	mg/kg-day	7.00E-02	mg/kg-day	5.42E-06	
				Benzo(a)anthracene	4.21E+00	mg/kg	1.03E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.49E-07	2.99E-06	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.41E+00	mg/kg	3.43E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.50E-06	9.99E-07	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.37E+00	mg/kg	5.78E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.22E-07	1.69E-06	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.58E-07	mg/kg-day	--	--	--	4.60E-07	mg/kg-day	3.00E-02	mg/kg-day	1.53E-05	
				Benzo(k)fluoranthene	2.82E+00	mg/kg	6.88E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	5.02E-08	2.01E-06	mg/kg-day	--	--	--	
				Beryllium	2.28E-01	mg/kg	4.27E-10	mg/kg-day	--	--	--	1.25E-09	mg/kg-day	2.00E-03	mg/kg-day	6.23E-07	
				Beta-BHC	2.20E-03	mg/kg	4.12E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	7.42E-11	1.20E-10	mg/kg-day	2.00E-04	mg/kg-day	6.01E-07	
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	9.92E-08	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.39E-09	2.89E-07	mg/kg-day	2.00E-02	mg/kg-day	1.45E-05	
				Cadmium	8.65E+00	mg/kg	1.62E-08	mg/kg-day	--	--	--	4.73E-08	mg/kg-day	5.00E-04	mg/kg-day	9.45E-05	
				Carbon disulfide	2.40E-04	mg/kg	1.12E-10	mg/kg-day	--	--	--	3.28E-10	mg/kg-day	1.00E-01	mg/kg-day	3.28E-09	
				Chlorobenzene	1.10E-01	mg/kg	2.06E-09	mg/kg-day	--	--	--	6.01E-09	mg/kg-day	2.00E-02	mg/kg-day	3.01E-07	
				Chromium	1.00E+02	mg/kg	1.87E-07	mg/kg-day	--	--	--	5.46E-07	mg/kg-day	1.50E+00	mg/kg-day	3.64E-07	
				Chrysene	4.80E+00	mg/kg	1.17E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	8.53E-09	3.41E-06	mg/kg-day	--	--	--	
				Cobalt	7.44E+00	mg/kg	1.39E-08	mg/kg-day	--	--	--	4.07E-08	mg/kg-day	2.00E-02	mg/kg-day	2.03E-06	
				Copper	6.01E+01	mg/kg	1.13E-07	mg/kg-day	--	--	--	3.28E-07	mg/kg-day	3.70E-02	mg/kg-day	8.87E-06	
				Delta-BHC	8.40E-03	mg/kg	7.87E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.42E-09	2.30E-09	mg/kg-day	2.00E-04	mg/kg-day	1.15E-05	
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	6.71E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.90E-07	1.96E-07	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	2.44E-07	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	2.00E-03	mg/kg-day	3.55E-04	
				Dieldrin	4.89E-02	mg/kg	9.17E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.47E-08	2.67E-09	mg/kg-day	5.00E-05	mg/kg-day	5.35E-05	
				Dimethylphthalate	3.80E-02	mg/kg	7.12E-10	mg/kg-day	--	--	--	2.08E-09	mg/kg-day	1.00E+01	mg/kg-day	2.08E-10	
				di-n-Butylphthalate	2.30E+00	mg/kg	4.31E-08	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	1.00E-01	mg/kg-day	1.26E-06	
				Endosulfan I	2.30E-02	mg/kg	2.16E-09	mg/kg-day	--	--	--	6.29E-09	mg/kg-day	6.00E-03	mg/kg-day	1.05E-06	
				Endosulfan II	2.34E-02	mg/kg	2.19E-09	mg/kg-day	--	--	--	6.39E-09	mg/kg-day	6.00E-03	mg/kg-day	1.06E-06	
				Endosulfan Sulfate	4.30E-02	mg/kg	4.03E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	6.00E-03	mg/kg-day	1.96E-06	
				Endrin aldehyde	6.30E-02	mg/kg	5.90E-09	mg/kg-day	--	--	--	1.72E-08	mg/kg-day	3.00E-04	mg/kg-day	5.74E-05	
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	
				Fluoranthene	2.23E+01	mg/kg	5.42E-06	mg/kg-day	--	--	--	1.58E-05	mg/kg-day	4.00E-02	mg/kg-day	3.95E-04	
				Fluorene	2.53E+00	mg/kg	6.16E-07	mg/kg-day	--	--	--	1.80E-06	mg/kg-day	4.00E-02	mg/kg-day	4.49E-05	
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.95E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.53E-10	5.68E-10	mg/kg-day	3.00E-04	mg/kg-day	1.89E-06	
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--	
				Heptachlor	6.90E-03	mg/kg	1.29E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	5.82E-10	3.77E-10	mg/kg-day	5.00E-04	mg/kg-day	7.54E-07	
				Heptachlor Epoxide	9.86E-03	mg/kg	1.85E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.68E-09	5.39E-10	mg/kg-day	1.30E-05	mg/kg-day	4.14E-05	
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.21E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.84E-08	3.53E-07	mg/kg-day	--	--	--	
				Iron	3.68E+04	mg/kg	6.89E-05	mg/kg-day	--	--	--	2.01E-04	mg/kg-day	3.00E-01	mg/kg-day	6.70E-04	
Isophorone	2.00E-01	mg/kg	3.75E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.56E-11	1.09E-07	mg/kg-day	2.00E-01	mg/kg-day	5.47E-07					

TABLE H-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	4.48E-06	mg/kg-day	--	--	--	--	1.31E-05	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	5.70E-07	mg/kg-day	--	--	--	--	1.66E-08	mg/kg-day	2.40E-02	mg/kg-day	6.93E-05
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	2.25E-09	mg/kg-day	--	--	--	--	6.56E-09	mg/kg-day	5.00E-03	mg/kg-day	1.31E-06
				Methylene chloride	2.40E-03	mg/kg	4.50E-11	mg/kg-day	7.50E-03	(mg/kg-day) <sup>-1</sup>	3.37E-13	--	1.31E-10	mg/kg-day	6.00E-02	mg/kg-day	2.19E-09
				Molybdenum	2.18E+00	mg/kg	4.08E-09	mg/kg-day	--	--	--	--	1.19E-08	mg/kg-day	5.00E-03	mg/kg-day	2.38E-06
				Naphthalene	1.30E+01	mg/kg	3.17E-06	mg/kg-day	--	--	--	--	9.24E-06	mg/kg-day	2.00E-02	mg/kg-day	4.62E-04
				Nickel	3.89E+01	mg/kg	7.30E-08	mg/kg-day	--	--	--	--	2.13E-07	mg/kg-day	2.00E-02	mg/kg-day	1.06E-05
				Phenanthrene	1.17E+01	mg/kg	2.19E-07	mg/kg-day	--	--	--	--	6.39E-07	mg/kg-day	3.00E-01	mg/kg-day	2.13E-06
				Phenol	5.80E-01	mg/kg	1.09E-07	mg/kg-day	--	--	--	--	3.17E-07	mg/kg-day	3.00E-01	mg/kg-day	1.06E-06
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	4.96E-06	mg/kg-day	--	--	--	--	1.45E-05	mg/kg-day	3.00E-02	mg/kg-day	4.82E-04
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	5.31E-10	mg/kg-day	--	--	--	--	1.55E-09	mg/kg-day	5.00E-03	mg/kg-day	3.10E-07
				Silver	9.80E-01	mg/kg	1.84E-09	mg/kg-day	--	--	--	--	5.36E-09	mg/kg-day	5.00E-03	mg/kg-day	1.07E-06
				Technical Chlordane	5.41E-01	mg/kg	4.05E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.42E-08	--	1.18E-07	mg/kg-day	5.00E-04	mg/kg-day	2.36E-04
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	8.06E-12	mg/kg-day	--	--	--	--	2.35E-11	mg/kg-day	8.00E-02	mg/kg-day	2.94E-10
				Vanadium	3.37E+01	mg/kg	6.31E-08	mg/kg-day	--	--	--	--	1.84E-07	mg/kg-day	1.00E-03	mg/kg-day	1.84E-04
				Zinc	3.32E+02	mg/kg	6.22E-07	mg/kg-day	--	--	--	--	1.81E-06	mg/kg-day	3.00E-01	mg/kg-day	6.04E-06
Exposure Route Total							6.32E-08					9.20E-02					
Exposure Point Total							2.41E-05					6.02E-01					
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--		
		1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--		
		1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
		1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--		
		1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--		
		1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
		1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
		1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
		2,4-Dimethylphenol	2.10E-01	mg/kg	1.09E-05	mg/kg-day	--	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03		
		2-Methylphenol	8.10E-02	mg/kg	9.97E-06	mg/kg-day	--	--	--	--	2.91E-05	mg/kg-day	5.00E-02	mg/kg-day	5.82E-04		
		2-Methylnaphthalene	1.45E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-03	mg/kg-day	--		
		4,4'-DDD	1.20E-03	mg/kg	1.06E-10	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	2.54E-11	3.08E-10	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07		
		4,4'-DDE	7.50E-02	mg/kg	4.79E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.63E-09	1.40E-08	1.40E-08	mg/kg-day	5.00E-04	mg/kg-day	2.79E-05		
		4,4'-DDT	4.20E-02	mg/kg	1.16E-08	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.93E-09	3.37E-08	3.37E-08	mg/kg-day	5.00E-04	mg/kg-day	6.74E-05		
		4-Methylphenol	2.70E-01	mg/kg	3.42E-05	mg/kg-day	--	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02		
		4-Nitroaniline	6.20E-01	mg/kg	5.37E-05	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.13E-06	1.57E-04	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02		
		4-Nitrophenol	4.20E-01	mg/kg	5.46E-05	mg/kg-day	--	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.18E-01		
		Acenaphthene	3.47E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
		Acenaphthylene	8.96E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
		Aldrin	1.30E-02	mg/kg	1.87E-09	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	3.19E-08	5.47E-09	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04		
		alpha-BHC	7.30E-04	mg/kg	2.27E-08	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.43E-07	6.63E-08	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04		
		alpha-Chlordane	6.98E-03	mg/kg	2.21E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	7.74E-10	6.45E-09	6.45E-09	mg/kg-day	5.00E-04	mg/kg-day	1.29E-05		
		Aluminum	9.05E+03	mg/kg	3.91E-04	mg/kg-day	--	--	--	--	1.14E-03	mg/kg-day	1.00E+00	mg/kg-day	1.14E-03		
		Anthracene	9.13E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--		
		Antimony	2.72E+00	mg/kg	5.42E-06	mg/kg-day	--	--	--	--	1.58E-05	mg/kg-day	4.00E-04	mg/kg-day	3.95E-02		
		Aroclor-1248	1.20E+00	mg/kg	1.06E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.12E-07	3.09E-07	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02		
		Aroclor-1254	4.38E-01	mg/kg	5.18E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.04E-06	1.51E-06	1.51E-06	mg/kg-day	2.00E-05	mg/kg-day	7.55E-02		
Aroclor-1260	4.88E-01	mg/kg	2.07E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.13E-08	6.02E-08	6.02E-08	mg/kg-day	2.00E-05	mg/kg-day	3.01E-03				
Aroclor-1268	2.72E-02	mg/kg	3.22E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.43E-08	9.38E-08	9.38E-08	mg/kg-day	2.00E-05	mg/kg-day	4.69E-03				

TABLE H-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	3.80E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.69E-08	1.11E-05	mg/kg-day	3.00E-04	mg/kg-day	3.69E-02
				Barium	6.94E+01	mg/kg	6.91E-05	mg/kg-day	--	--	--	2.02E-04	mg/kg-day	7.00E-02	mg/kg-day	2.88E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	7.17E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.24E-08	2.09E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.36E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	9.92E-08	3.96E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	2.29E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.67E-07	6.69E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	4.78E-08	mg/kg-day	--	--	--	1.39E-07	mg/kg-day	3.00E-02	mg/kg-day	4.64E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	2.73E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.99E-08	7.96E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	2.27E-08	mg/kg-day	--	--	--	6.61E-08	mg/kg-day	2.00E-03	mg/kg-day	3.31E-05
				Beta-BHC	2.20E-03	mg/kg	6.85E-08	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.23E-07	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.21E-04	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.70E-06	3.54E-04	mg/kg-day	2.00E-02	mg/kg-day	1.77E-02
				Cadmium	8.65E+00	mg/kg	8.61E-05	mg/kg-day	--	--	--	2.51E-04	mg/kg-day	5.00E-04	mg/kg-day	5.02E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	2.99E-05	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	1.50E+00	mg/kg-day	5.80E-05
				Chrysene	4.80E+00	mg/kg	5.73E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.18E-09	1.67E-08	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	3.46E-06	mg/kg-day	--	--	--	1.01E-05	mg/kg-day	2.00E-02	mg/kg-day	5.04E-04
				Copper	6.01E+01	mg/kg	9.97E-04	mg/kg-day	--	--	--	2.91E-03	mg/kg-day	3.70E-02	mg/kg-day	7.86E-02
				Delta-BHC	8.40E-03	mg/kg	2.13E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.84E-09	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.65E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.20E-07	4.80E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	1.72E-06	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.75E-05	5.02E-06	mg/kg-day	5.00E-05	mg/kg-day	1.00E-01
				Dimethylphthalate	3.80E-02	mg/kg	3.75E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	1.00E+01	mg/kg-day	1.09E-06
				di-n-Butylphthalate	2.30E+00	mg/kg	3.18E-07	mg/kg-day	--	--	--	9.27E-07	mg/kg-day	1.00E-01	mg/kg-day	9.27E-06
				Endosulfan I	2.30E-02	mg/kg	6.84E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.34E-02	mg/kg	6.66E-07	mg/kg-day	--	--	--	1.94E-06	mg/kg-day	6.00E-03	mg/kg-day	3.24E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.20E-06	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endrin aldehyde	6.30E-02	mg/kg	6.93E-09	mg/kg-day	--	--	--	2.02E-08	mg/kg-day	3.00E-04	mg/kg-day	6.74E-05
				Endrin Ketone	1.00E-02	mg/kg	1.10E-09	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.23E+01	mg/kg	3.99E-06	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	4.00E-02	mg/kg-day	2.91E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.85E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.70E-07	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.27E-02	mg/kg	4.02E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.41E-09	1.17E-08	mg/kg-day	5.00E-04	mg/kg-day	2.35E-05
				Heptachlor	6.90E-03	mg/kg	1.62E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	7.31E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06
				Heptachlor Epoxide	9.86E-03	mg/kg	7.55E-07	mg/kg-day	9.10E+00	(mg/kg-day)-1	6.87E-06	2.20E-06	mg/kg-day	1.30E-05	mg/kg-day	1.69E-01
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	3.59E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.62E-08	1.05E-07	mg/kg-day	--	--	--
Iron	3.68E+04	mg/kg	2.43E-03	mg/kg-day	--	--	--	7.07E-03	mg/kg-day	3.00E-01	mg/kg-day	2.36E-02				
Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--				
Lead	2.39E+03	mg/kg	1.43E-03	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	--	--	--				
Manganese	3.04E+02	mg/kg	1.01E-03	mg/kg-day	--	--	--	2.95E-03	mg/kg-day	2.40E-02	mg/kg-day	1.23E-01				
Mercury	2.65E-01	mg/kg	3.52E-06	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	3.00E-04	mg/kg-day	3.42E-02				
Methoxychlor	1.20E-01	mg/kg	6.90E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06				
Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	7.50E-03	(mg/kg-day)-1	--	--	mg/kg-day	6.00E-02	mg/kg-day	--				
Molybdenum	2.18E+00	mg/kg	8.68E-06	mg/kg-day	--	--	--	2.53E-05	mg/kg-day	5.00E-03	mg/kg-day	5.06E-03				
Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--				
Nickel	3.89E+01	mg/kg	1.55E-04	mg/kg-day	--	--	--	4.52E-04	mg/kg-day	2.00E-02	mg/kg-day	2.26E-02				
Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	1.90E-04	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.84E-01	mg/kg	4.70E-07	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	5.00E-03	mg/kg-day	2.74E-04				

**TABLE H-7.6**  
**EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	6.50E-06	mg/kg-day	--	--	--	1.90E-05	mg/kg-day	5.00E-03	mg/kg-day	3.79E-03		
				Technical Chlordane	5.41E-01	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	--	5.00E-04	mg/kg-day	--	--	
				Thallium	4.83E-01	mg/kg	1.28E-08	mg/kg-day	--	--	--	--	3.74E-08	mg/kg-day	6.60E-05	mg/kg-day	5.66E-04	
				Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	--	8.00E-02	mg/kg-day	--	--	
				Vanadium	3.37E+01	mg/kg	6.70E-06	mg/kg-day	--	--	--	--	1.96E-05	mg/kg-day	1.00E-03	mg/kg-day	1.96E-02	
				Zinc	3.32E+02	mg/kg	1.99E-02	mg/kg-day	--	--	--	--	5.78E-02	mg/kg-day	3.00E-01	mg/kg-day	1.93E-01	
				Exposure Route Total									4.54E-05					1.87E+00
				Exposure Point Total									4.54E-05					1.87E+00
				Exposure Medium Total									6.96E-05					2.47E+00
				Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	1.49E-11	mg/kg-day	--	--	--	4.34E-11	mg/kg-day	2.00E-02	mg/kg-day
2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	5.74E-12				mg/kg-day	--	--	--	1.67E-11	mg/kg-day	--	--	--			
4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	8.51E-14				mg/kg-day	2.40E-01	(mg/kg-day)-1	2.04E-14	2.48E-13	mg/kg-day	5.00E-04	mg/kg-day	4.96E-10			
4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	2.98E-12				mg/kg-day	3.40E-01	(mg/kg-day)-1	1.01E-12	8.68E-12	mg/kg-day	5.00E-04	mg/kg-day	1.74E-08			
4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.91E-11				mg/kg-day	--	--	--	5.58E-11	mg/kg-day	5.00E-03	mg/kg-day	1.12E-08			
4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	4.39E-11				mg/kg-day	2.10E-02	(mg/kg-day)-1	9.23E-13	1.28E-10	mg/kg-day	1.00E-03	mg/kg-day	1.28E-07			
4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	2.98E-11				mg/kg-day	--	--	--	8.68E-11	mg/kg-day	5.70E-04	mg/kg-day	1.52E-07			
Aluminum	6.86E-06	mg/m <sup>3</sup>	6.42E-07				mg/kg-day	--	--	--	1.87E-06	mg/kg-day	1.43E-03	mg/kg-day	1.31E-03			
Antimony	2.06E-09	mg/m <sup>3</sup>	1.93E-10				mg/kg-day	--	--	--	5.63E-10	mg/kg-day	--	--	--			
Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	8.51E-11				mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-10	2.48E-10	mg/kg-day	2.00E-05	mg/kg-day	1.24E-05			
Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	3.10E-11				mg/kg-day	2.00E+00	(mg/kg-day)-1	6.20E-11	9.05E-11	mg/kg-day	2.00E-05	mg/kg-day	4.52E-06			
Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	3.46E-11				mg/kg-day	2.00E+00	(mg/kg-day)-1	6.92E-11	1.01E-10	mg/kg-day	2.00E-05	mg/kg-day	5.05E-06			
Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	1.93E-12				mg/kg-day	2.00E+00	(mg/kg-day)-1	3.85E-12	5.62E-12	mg/kg-day	2.00E-05	mg/kg-day	2.81E-07			
Arsenic	7.22E-09	mg/m <sup>3</sup>	6.76E-10				mg/kg-day	1.50E+01	(mg/kg-day)-1	1.01E-08	1.97E-09	mg/kg-day	--	--	--			
Barium	5.26E-08	mg/m <sup>3</sup>	4.92E-09				mg/kg-day	--	--	--	1.44E-08	mg/kg-day	1.40E-04	mg/kg-day	1.03E-04			
Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	2.99E-10				mg/kg-day	7.30E-01	(mg/kg-day)-1	2.18E-10	8.71E-10	mg/kg-day	--	--	--			
Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	9.97E-11				mg/kg-day	7.30E+00	(mg/kg-day)-1	7.27E-10	2.91E-10	mg/kg-day	--	--	--			
Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	4.59E-11				mg/kg-day	--	--	--	1.34E-10	mg/kg-day	3.00E-02	mg/kg-day	4.46E-09			
Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	2.00E-10				mg/kg-day	7.30E-02	(mg/kg-day)-1	1.46E-11	5.84E-10	mg/kg-day	--	--	--			
Beryllium	1.73E-10	mg/m <sup>3</sup>	1.61E-11				mg/kg-day	8.40E+00	(mg/kg-day)-1	1.36E-10	4.71E-11	mg/kg-day	5.71E-06	mg/kg-day	8.24E-08			
Beta-BHC	1.67E-12	mg/m <sup>3</sup>	1.56E-13				mg/kg-day	1.86E+00	(mg/kg-day)-1	2.89E-13	4.55E-13	mg/kg-day	2.00E-04	mg/kg-day	2.27E-09			
bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	3.75E-10				mg/kg-day	1.40E-02	(mg/kg-day)-1	5.25E-12	1.09E-09	mg/kg-day	2.00E-02	mg/kg-day	5.47E-08			
Cadmium	6.55E-09	mg/m <sup>3</sup>	6.13E-10				mg/kg-day	6.30E+00	(mg/kg-day)-1	3.86E-09	1.79E-09	mg/kg-day	--	--	--			
Chromium	7.57E-08	mg/m <sup>3</sup>	7.09E-09				mg/kg-day	--	--	--	2.07E-08	mg/kg-day	--	--	--			
Cobalt	5.64E-09	mg/m <sup>3</sup>	5.28E-10				mg/kg-day	9.80E+00	(mg/kg-day)-1	5.17E-09	1.54E-09	mg/kg-day	5.71E-06	mg/kg-day	2.69E-04			
Copper	4.55E-08	mg/m <sup>3</sup>	4.26E-09				mg/kg-day	--	--	--	1.24E-08	mg/kg-day	--	--	--			
Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	1.95E-11				mg/kg-day	7.30E+00	(mg/kg-day)-1	1.43E-10	5.70E-11	mg/kg-day	--	--	--			
Dimethylphthalate	2.89E-11	mg/m <sup>3</sup>	2.69E-12				mg/kg-day	--	--	--	7.86E-12	mg/kg-day	1.00E+01	mg/kg-day	7.86E-13			
di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	1.63E-10				mg/kg-day	--	--	--	4.75E-10	mg/kg-day	1.00E-01	mg/kg-day	4.75E-09			
Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	4.47E-12				mg/kg-day	--	--	--	1.30E-11	mg/kg-day	3.00E-04	mg/kg-day	4.34E-08			
Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	7.09E-13				mg/kg-day	--	--	--	2.07E-12	mg/kg-day	3.00E-04	mg/kg-day	6.89E-09			
Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	6.99E-13				mg/kg-day	9.10E+00	(mg/kg-day)-1	6.36E-12	2.04E-12	mg/kg-day	1.30E-05	mg/kg-day	1.57E-07			
Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	3.52E-11				mg/kg-day	7.30E-01	(mg/kg-day)-1	2.57E-11	1.03E-10	mg/kg-day	--	--	--			
Iron	2.79E-05	mg/m <sup>3</sup>	2.61E-06				mg/kg-day	--	--	--	7.60E-06	mg/kg-day	--	--	--			
Isophorone	1.52E-10	mg/m <sup>3</sup>	1.42E-11				mg/kg-day	9.50E-04	(mg/kg-day)-1	1.35E-14	4.13E-11	mg/kg-day	2.00E-01	mg/kg-day	2.07E-10			
Lead	1.81E-06	mg/m <sup>3</sup>	1.69E-07				mg/kg-day	--	--	--	4.94E-07	mg/kg-day	--	--	--			
Manganese	2.31E-07	mg/m <sup>3</sup>	2.16E-08				mg/kg-day	--	--	--	6.29E-08	mg/kg-day	1.43E-05	mg/kg-day	4.40E-03			
Mercury	2.01E-10	mg/m <sup>3</sup>	1.88E-11				mg/kg-day	--	--	--	5.48E-11	mg/kg-day	8.60E-05	mg/kg-day	6.38E-07			
Nickel	2.95E-08	mg/m <sup>3</sup>	2.76E-09				mg/kg-day	--	--	--	8.05E-09	mg/kg-day	--	--	--			
Phenol	4.39E-10	mg/m <sup>3</sup>	4.11E-11				mg/kg-day	--	--	--	1.20E-10	mg/kg-day	3.00E-01	mg/kg-day	4.00E-10			
Selenium	2.15E-10	mg/m <sup>3</sup>	2.01E-11	mg/kg-day	--	--	--	5.86E-11	mg/kg-day	--	--	--						
Silver	7.42E-10	mg/m <sup>3</sup>	6.95E-11	mg/kg-day	--	--	--	2.03E-10	mg/kg-day	--	--	--						

TABLE H-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.66E-10	mg/m <sup>3</sup>	3.42E-11	mg/kg-day	--	--	--	9.98E-11	mg/kg-day	--	--	--
				Vanadium	2.55E-08	mg/m <sup>3</sup>	2.39E-09	mg/kg-day	--	--	--	6.96E-09	mg/kg-day	--	--	--
				Zinc	2.51E-07	mg/m <sup>3</sup>	2.35E-08	mg/kg-day	--	--	--	6.86E-08	mg/kg-day	--	--	
				<b>Exposure Route Total</b>							<b>2.07E-08</b>				<b>6.12E-03</b>	
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	9.77E-06	mg/kg-day	--	--	--	2.85E-05	mg/kg-day	1.10E-03	mg/kg-day	2.59E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	3.32E-05	mg/kg-day	--	--	--	9.69E-05	mg/kg-day	1.10E-03	mg/kg-day	8.81E-02
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.10E-05	mg/kg-day	--	--	--	3.20E-05	mg/kg-day	1.71E-03	mg/kg-day	1.87E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	4.98E-04	mg/kg-day	--	--	--	1.45E-03	mg/kg-day	5.70E-02	mg/kg-day	2.55E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	2.68E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.82E-08	7.81E-07	mg/kg-day	1.14E-03	mg/kg-day	6.85E-04
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	3.42E-06	mg/kg-day	--	--	--	9.97E-06	mg/kg-day	1.71E-03	mg/kg-day	5.82E-03
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	1.52E-05	mg/kg-day	--	--	--	4.44E-05	mg/kg-day	3.00E-02	mg/kg-day	1.48E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	1.46E-04	mg/kg-day	2.20E-02	(mg/kg-day)-1	3.22E-06	4.26E-04	mg/kg-day	2.30E-01	mg/kg-day	1.85E-03
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	6.00E-06	mg/kg-day	--	--	--	1.75E-05	mg/kg-day	5.00E-02	mg/kg-day	3.50E-04
				4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	8.27E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.81E-10	2.41E-09	mg/kg-day	5.00E-04	mg/kg-day	4.82E-06
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	4.46E-06	mg/kg-day	--	--	--	1.30E-05	mg/kg-day	6.00E-02	mg/kg-day	2.17E-04
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	1.15E-07	mg/kg-day	--	--	--	3.36E-07	mg/kg-day	6.00E-02	mg/kg-day	5.59E-06
				Aldrin	5.63E-09	mg/m <sup>3</sup>	5.27E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.96E-09	1.54E-09	mg/kg-day	3.00E-05	mg/kg-day	5.12E-05
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	3.40E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.14E-09	9.93E-10	mg/kg-day	5.00E-04	mg/kg-day	1.99E-06
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	6.47E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.26E-10	1.89E-09	mg/kg-day	2.00E-04	mg/kg-day	9.43E-06
				Anthracene	1.25E-05	mg/m <sup>3</sup>	1.17E-06	mg/kg-day	--	--	--	3.42E-06	mg/kg-day	3.00E-01	mg/kg-day	1.14E-05
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	1.44E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.05E-07	4.19E-07	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	4.23E-08	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	2.00E-01	mg/kg-day	6.17E-07
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	4.84E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	1.70E-02	mg/kg-day	8.31E-04
				Chrysene	5.27E-06	mg/m <sup>3</sup>	4.93E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	3.60E-09	1.44E-06	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	3.92E-09	mg/kg-day	1.86E+00	(mg/kg-day)-1	7.26E-09	1.14E-08	mg/kg-day	2.00E-04	mg/kg-day	5.71E-05
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	4.20E-06	mg/kg-day	--	--	--	1.22E-05	mg/kg-day	2.00E-03	mg/kg-day	6.12E-03
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	6.16E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	9.85E-08	1.80E-08	mg/kg-day	5.00E-05	mg/kg-day	3.59E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	7.54E-09	mg/kg-day	--	--	--	2.20E-08	mg/kg-day	6.00E-03	mg/kg-day	3.66E-06
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	7.66E-09	mg/kg-day	--	--	--	2.23E-08	mg/kg-day	6.00E-03	mg/kg-day	3.72E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	1.41E-08	mg/kg-day	--	--	--	4.11E-08	mg/kg-day	6.00E-03	mg/kg-day	6.85E-06
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	1.35E-06	mg/kg-day	--	--	--	3.93E-06	mg/kg-day	4.00E-02	mg/kg-day	9.81E-05
				Fluorene	1.48E-05	mg/m <sup>3</sup>	1.38E-06	mg/kg-day	--	--	--	4.04E-06	mg/kg-day	4.00E-02	mg/kg-day	1.01E-04
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	1.49E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.94E-09	4.35E-09	mg/kg-day	3.00E-04	mg/kg-day	1.45E-05
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	1.18E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.12E-10	3.43E-09	mg/kg-day	2.00E-04	mg/kg-day	1.72E-05
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	3.16E-08	mg/kg-day	4.55E+00	(mg/kg-day)-1	1.44E-07	9.22E-08	mg/kg-day	5.00E-04	mg/kg-day	1.84E-04
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	8.08E-09	mg/kg-day	--	--	--	2.38E-08	mg/kg-day	5.00E-03	mg/kg-day	4.71E-06
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	6.54E-05	mg/kg-day	--	--	--	1.91E-04	mg/kg-day	8.57E-04	mg/kg-day	2.23E-01
				Phenanthrene	1.60E-04	mg/m <sup>3</sup>	1.50E-05	mg/kg-day	--	--	--	4.38E-05	mg/kg-day	3.00E-01	mg/kg-day	1.46E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.79E-05	mg/kg-day	--	--	--	5.23E-05	mg/kg-day	1.10E-01	mg/kg-day	4.75E-04
				Pyrene	1.56E-05	mg/m <sup>3</sup>	1.46E-06	mg/kg-day	--	--	--	4.25E-06	mg/kg-day	3.00E-02	mg/kg-day	1.42E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	2.63E-06	mg/kg-day	--	--	--	7.66E-06	mg/kg-day	4.00E-02	mg/kg-day	1.92E-04
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	5.01E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	1.75E-11	1.46E-07	mg/kg-day	2.00E-04	mg/kg-day	7.30E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	2.92E-08	mg/kg-day	--	--	--	8.52E-08	mg/kg-day	1.43E+00	mg/kg-day	5.96E-08
				<b>Exposure Route Total</b>							<b>3.81E-06</b>				<b>4.01E-01</b>	
				<b>Exposure Point Total</b>							<b>3.83E-06</b>				<b>4.07E-01</b>	
		Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	8.24E-04	mg/kg-day	--	--	--	2.40E-03	mg/kg-day	1.10E-03	mg/kg-day	2.19E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	2.80E-03	mg/kg-day	--	--	--	8.17E-03	mg/kg-day	1.10E-03	mg/kg-day	7.43E+00
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	2.75E-04	mg/kg-day	--	--	--	8.01E-04	mg/kg-day	1.71E-03	mg/kg-day	4.67E-01
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	1.43E-02	mg/kg-day	--	--	--	4.17E-02	mg/kg-day	5.70E-02	mg/kg-day	7.31E-01
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	1.98E-06	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.34E-07	5.77E-06	mg/kg-day	1.14E-03	mg/kg-day	5.06E-03
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	8.79E-05	mg/kg-day	--	--	--	2.56E-04	mg/kg-day	1.71E-03	mg/kg-day	1.50E-01

TABLE H-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	6.04E-04	mg/kg-day	--	--	--	--	1.76E-03	mg/kg-day	3.00E-02	mg/kg-day	5.88E-02
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	3.74E-03	mg/kg-day	2.20E-02	(mg/kg-day)-1	8.22E-05	--	1.09E-02	mg/kg-day	2.30E-01	mg/kg-day	4.74E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	4.54E-04	mg/kg-day	--	--	--	--	1.32E-03	mg/kg-day	5.00E-02	mg/kg-day	2.65E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	5.68E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.93E-10	--	1.66E-09	mg/kg-day	5.00E-04	mg/kg-day	3.31E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	1.58E-04	mg/kg-day	--	--	--	--	4.62E-04	mg/kg-day	6.00E-02	mg/kg-day	7.70E-03
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	4.09E-06	mg/kg-day	--	--	--	--	1.19E-05	mg/kg-day	6.00E-02	mg/kg-day	1.99E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	1.51E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.56E-08	--	4.39E-09	mg/kg-day	3.00E-05	mg/kg-day	1.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.01E-08	mg/kg-day	6.30E+00	(mg/kg-day)-1	6.34E-08	--	2.94E-08	mg/kg-day	5.00E-04	mg/kg-day	5.87E-05
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	5.08E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.78E-09	--	1.48E-08	mg/kg-day	2.00E-04	mg/kg-day	7.40E-05
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	4.17E-05	mg/kg-day	--	--	--	--	1.22E-04	mg/kg-day	3.00E-01	mg/kg-day	4.05E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	2.95E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.15E-07	--	8.60E-07	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	1.32E-07	mg/kg-day	--	--	--	--	3.85E-07	mg/kg-day	2.00E-01	mg/kg-day	1.92E-06
				Chlorobenzene	6.48E-01	(a) ug/m <sup>3</sup>	6.04E-05	mg/kg-day	--	--	--	--	1.76E-04	mg/kg-day	1.70E-02	mg/kg-day	1.04E-02
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	1.66E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.21E-08	--	4.85E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	1.72E-07	mg/kg-day	1.86E+00	(mg/kg-day)-1	3.19E-07	--	5.02E-07	mg/kg-day	2.00E-04	mg/kg-day	2.51E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	2.22E-06	mg/kg-day	--	--	--	--	6.46E-06	mg/kg-day	2.00E-03	mg/kg-day	3.23E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	4.91E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	7.85E-07	--	1.43E-07	mg/kg-day	5.00E-05	mg/kg-day	2.86E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	2.02E-07	mg/kg-day	--	--	--	--	5.89E-07	mg/kg-day	6.00E-03	mg/kg-day	9.81E-05
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	2.05E-07	mg/kg-day	--	--	--	--	5.89E-07	mg/kg-day	6.00E-03	mg/kg-day	9.88E-05
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	3.77E-07	mg/kg-day	--	--	--	--	1.10E-06	mg/kg-day	6.00E-03	mg/kg-day	1.83E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	4.59E-07	mg/kg-day	--	--	--	--	1.34E-06	mg/kg-day	4.00E-02	mg/kg-day	3.35E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	2.51E-05	mg/kg-day	--	--	--	--	7.31E-05	mg/kg-day	4.00E-02	mg/kg-day	1.83E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	5.33E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	6.92E-08	--	1.55E-07	mg/kg-day	3.00E-04	mg/kg-day	5.18E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	9.24E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.23E-11	--	2.69E-10	mg/kg-day	2.00E-04	mg/kg-day	1.35E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.02E-08	mg/kg-day	4.55E+00	(mg/kg-day)-1	4.62E-08	--	2.96E-08	mg/kg-day	5.00E-04	mg/kg-day	5.93E-05
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	2.78E-08	mg/kg-day	--	--	--	--	8.09E-08	mg/kg-day	5.00E-03	mg/kg-day	1.62E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	1.32E-06	mg/kg-day	1.60E-03	(mg/kg-day)-1	2.11E-09	--	3.85E-06	mg/kg-day	8.57E-01	mg/kg-day	4.49E-06
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	5.88E-03	mg/kg-day	--	--	--	--	1.72E-02	mg/kg-day	8.57E-04	mg/kg-day	2.00E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	5.34E-04	mg/kg-day	--	--	--	--	1.56E-03	mg/kg-day	3.00E-01	mg/kg-day	5.19E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	6.04E-05	mg/kg-day	--	--	--	--	1.78E-04	mg/kg-day	1.10E-01	mg/kg-day	1.60E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	3.72E-06	mg/kg-day	--	--	--	--	1.09E-05	mg/kg-day	3.00E-02	mg/kg-day	3.62E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	2.14E-05	mg/kg-day	--	--	--	--	6.25E-05	mg/kg-day	4.00E-02	mg/kg-day	1.56E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	3.93E-07	mg/kg-day	3.50E-04	(mg/kg-day)-1	1.38E-10	--	1.15E-06	mg/kg-day	2.00E-04	mg/kg-day	5.74E-03
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	2.36E-07	mg/kg-day	--	--	--	--	6.89E-07	mg/kg-day	1.43E+00	mg/kg-day	4.82E-07				
				Exposure Point Total							8.39E-05					3.12E+01	
				Exposure Route Total							8.39E-05					3.12E+01	
				Exposure Medium Total							8.75E-05					3.16E+01	
				Medium Total							1.57E-04					3.41E+01	
			(Volatiles)	1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.18E-08	mg/kg-day	--	--	--	--	3.44E-08	mg/kg-day	1.71E-03	mg/kg-day	2.01E-05
			1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	7.74E-08	mg/kg-day	--	--	--	--	2.26E-07	mg/kg-day	5.70E-02	mg/kg-day	3.96E-06	
			1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	5.57E-08	mg/kg-day	9.10E-02	--	5.07E-09	--	1.62E-07	mg/kg-day	1.40E-03	mg/kg-day	1.16E-04	
			1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	2.09E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.42E-09	--	6.09E-08	mg/kg-day	1.14E-03	mg/kg-day	5.34E-05	
			1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	6.73E-09	mg/kg-day	--	--	--	--	1.96E-08	mg/kg-day	1.71E-03	mg/kg-day	1.14E-05	
			1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	2.63E-08	mg/kg-day	2.20E-02	(mg/kg-day)-1	5.80E-10	--	7.68E-08	mg/kg-day	2.30E-01	mg/kg-day	3.34E-07	
			2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.02E-09	mg/kg-day	--	--	--	--	2.97E-09	mg/kg-day	1.43E+00	mg/kg-day	2.08E-09	
			2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	9.05E-11	mg/kg-day	--	--	--	--	2.64E-10	mg/kg-day	5.00E-02	mg/kg-day	5.28E-09	
			4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.21E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.12E-11	--	3.53E-10	mg/kg-day	5.00E-04	mg/kg-day	7.06E-07	
			4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	3.78E-10	mg/kg-day	--	--	--	--	1.10E-09	mg/kg-day	8.60E-01	mg/kg-day	1.28E-09	
			Acenaphthene	3.87E-08	mg/m <sup>3</sup>	3.63E-09	mg/kg-day	--	--	--	--	1.06E-08	mg/kg-day	6.00E-02	mg/kg-day	1.76E-07	
			Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	1.54E-10	mg/kg-day	--	--	--	--	4.50E-10	mg/kg-day	6.00E-02	mg/kg-day	7.51E-09	

TABLE H-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	2.09E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	3.56E-09	6.10E-10	mg/kg-day	3.00E-05	mg/kg-day	2.03E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	2.65E-11	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.67E-10	7.73E-11	mg/kg-day	5.00E-04	mg/kg-day	1.55E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	6.27E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.19E-11	1.83E-10	mg/kg-day	2.00E-04	mg/kg-day	9.14E-07				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	3.07E-10	mg/kg-day	--	--	--	8.97E-10	mg/kg-day	3.00E-01	mg/kg-day	2.99E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	2.44E-08	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	6.68E-10	7.12E-08	mg/kg-day	8.60E-03	mg/kg-day	8.28E-06				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	4.55E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	3.32E-11	1.33E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	6.89E-10	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	2.65E-12	2.01E-09	mg/kg-day	2.00E-02	mg/kg-day	1.00E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	4.22E-07	mg/kg-day	--	--	--	1.23E-08	mg/kg-day	2.00E-01	mg/kg-day	6.15E-06				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	6.85E-09	mg/kg-day	--	--	--	2.00E-08	mg/kg-day	1.70E-02	mg/kg-day	1.18E-08				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.93E-07	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	1.56E-08	5.64E-07	mg/kg-day	1.40E-02	mg/kg-day	4.03E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	7.01E-08	mg/kg-day	--	--	--	2.04E-07	mg/kg-day	2.60E-02	mg/kg-day	7.86E-06				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.23E-10	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	8.99E-13	3.59E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	4.96E-08	mg/kg-day	--	--	--	1.45E-07	mg/kg-day	1.00E-02	mg/kg-day	1.45E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	9.19E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.47E-09	2.68E-10	mg/kg-day	5.00E-05	mg/kg-day	5.36E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	2.09E-11	mg/kg-day	--	--	--	6.11E-11	mg/kg-day	6.00E-03	mg/kg-day	1.02E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	3.44E-14	mg/kg-day	--	--	--	1.00E-13	mg/kg-day	6.00E-03	mg/kg-day	1.67E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.87E-08	mg/kg-day	--	--	--	5.44E-08	mg/kg-day	2.90E-01	mg/kg-day	1.88E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	4.73E-11	mg/kg-day	--	--	--	1.38E-10	mg/kg-day	4.00E-02	mg/kg-day	3.45E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	9.35E-11	mg/kg-day	--	--	--	2.73E-10	mg/kg-day	4.00E-02	mg/kg-day	6.82E-09				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.16E-13	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.51E-13	3.39E-13	mg/kg-day	3.00E-04	mg/kg-day	1.15E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	1.63E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	5.70E-11	4.75E-10	mg/kg-day	2.00E-04	mg/kg-day	2.37E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	1.67E-09	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	7.60E-09	4.87E-09	mg/kg-day	5.00E-04	mg/kg-day	9.74E-06				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	9.35E-06	mg/kg-day	1.10E-01	mg/kg-day	8.50E-05				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	6.49E-08	mg/kg-day	--	--	--	1.89E-07	mg/kg-day	2.90E-02	mg/kg-day	6.53E-06				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	3.06E-10	mg/kg-day	--	--	--	8.91E-10	mg/kg-day	5.00E-03	mg/kg-day	1.78E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	5.08E-10	mg/kg-day	--	--	--	1.48E-09	mg/kg-day	8.57E-04	mg/kg-day	1.73E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	2.37E-08	mg/kg-day	--	--	--	6.90E-08	mg/kg-day	8.57E-04	mg/kg-day	8.06E-05				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	2.64E-08	mg/kg-day	--	--	--	7.69E-08	mg/kg-day	4.00E-02	mg/kg-day	1.92E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	2.45E-10	mg/kg-day	--	--	--	7.14E-10	mg/kg-day	3.00E-01	mg/kg-day	2.38E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	9.35E-06	mg/kg-day	1.10E-01	mg/kg-day	8.50E-05				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	4.31E-11	mg/kg-day	--	--	--	1.26E-10	mg/kg-day	3.00E-02	mg/kg-day	4.19E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	7.50E-08	mg/kg-day	--	--	--	2.19E-07	mg/kg-day	4.00E-02	mg/kg-day	5.47E-06				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	8.49E-08	mg/kg-day	--	--	--	2.48E-07	mg/kg-day	4.00E-02	mg/kg-day	6.19E-06				
				Toluene	3.80E-07	mg/m <sup>3</sup>	3.55E-08	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	1.43E+00	mg/kg-day	7.26E-08				
				trans-1,2-Dichloroethene	8.86E-07	mg/m <sup>3</sup>	8.39E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	2.00E-02	mg/kg-day	1.22E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	8.72E-08	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	3.49E-08	2.54E-07	mg/kg-day	1.00E-02	mg/kg-day	2.54E-05				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.80E-07	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	5.59E-09	5.26E-07	mg/kg-day	2.86E-02	mg/kg-day	1.84E-05				
				Exposure Route Total																
				Exposure Point Total																
					Indoor Air		Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	6.97E-06	mg/kg-day	--	--	--	2.03E-05	mg/kg-day	1.40E-01	mg/kg-day	1.45E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	3.06E-07	mg/kg-day	--	--	--	8.91E-07	mg/kg-day	1.71E-03	mg/kg-day	5.20E-04
				1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	2.06E-06	mg/kg-day	--	--	--	6.00E-06	mg/kg-day	5.70E-02	mg/kg-day	1.05E-04				
				1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	1.67E-06	mg/kg-day	9.10E-02	--	1.52E-07	4.86E-06	mg/kg-day	1.40E-03	mg/kg-day	3.47E-03				
				1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	6.17E-07	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	4.20E-08	1.80E-06	mg/kg-day	1.14E-03	mg/kg-day	1.59E-03				
				1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	1.75E-07	mg/kg-day	--	--	--	5.10E-07	mg/kg-day	1.71E-03	mg/kg-day	2.99E-04				
				1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	7.06E-07	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.55E-08	2.06E-06	mg/kg-day	2.30E-01	mg/kg-day	8.95E-06				
				2-Hexanone	5.60E-04	ug/m <sup>3</sup>	5.24E-08	mg/kg-day	--	--	--	1.53E-07	mg/kg-day	1.43E+00	mg/kg-day	1.07E-07				
				2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	2.54E-09	mg/kg-day	--	--	--	7.40E-09	mg/kg-day	5.00E-02	mg/kg-day	1.48E-07				
				4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	1.09E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.71E-12	3.18E-11	mg/kg-day	5.00E-04	mg/kg-day	6.36E-08				
				4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	1.56E-08	mg/kg-day	--	--	--	4.54E-08	mg/kg-day	8.60E-01	mg/kg-day	5.28E-08				
				Acenaphthene	1.85E-03	ug/m <sup>3</sup>	1.55E-07	mg/kg-day	--	--	--	4.51E-07	mg/kg-day	6.00E-02	mg/kg-day	7.51E-06				

TABLE H-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	6.57E-09	mg/kg-day	--	--	--	1.92E-08	mg/kg-day	6.00E-02	mg/kg-day	3.20E-07			
				Aldrin	2.44E-07	ug/m <sup>3</sup>	2.28E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.88E-10	6.65E-11	mg/kg-day	3.00E-05	mg/kg-day	2.22E-06			
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	3.40E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.14E-11	9.91E-12	mg/kg-day	5.00E-04	mg/kg-day	1.98E-08			
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	2.06E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	7.21E-11	6.01E-11	mg/kg-day	2.00E-04	mg/kg-day	3.01E-07			
				Anthracene	1.40E-04	ug/m <sup>3</sup>	1.31E-08	mg/kg-day	--	--	--	3.81E-08	mg/kg-day	3.00E-01	mg/kg-day	1.27E-07			
				Benzene	7.66E-03	ug/m <sup>3</sup>	7.17E-07	mg/kg-day	2.73E-02	(mg/kg-day)-1	1.96E-08	2.09E-06	mg/kg-day	8.60E-03	mg/kg-day	2.43E-04			
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	1.91E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.40E-09	5.58E-09	mg/kg-day	--	--	--			
				Bromoform	3.95E-04	ug/m <sup>3</sup>	3.70E-08	mg/kg-day	3.85E-03	(mg/kg-day)-1	1.42E-10	1.08E-07	mg/kg-day	2.00E-02	mg/kg-day	5.39E-06			
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	1.26E-05	mg/kg-day	--	--	--	3.69E-05	mg/kg-day	2.00E-01	mg/kg-day	1.84E-04			
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	1.92E-07	mg/kg-day	--	--	--	5.60E-07	mg/kg-day	1.70E-02	mg/kg-day	3.30E-05			
				Chloroform	6.13E-02	ug/m <sup>3</sup>	5.73E-06	mg/kg-day	8.05E-02	(mg/kg-day)-1	4.62E-07	1.67E-05	mg/kg-day	1.40E-02	mg/kg-day	1.19E-03			
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	2.27E-06	mg/kg-day	--	--	--	6.63E-06	mg/kg-day	2.60E-02	mg/kg-day	2.55E-04			
				Chrysene	5.75E-05	ug/m <sup>3</sup>	5.38E-09	mg/kg-day	7.30E-03	(mg/kg-day)-1	3.93E-11	1.57E-08	mg/kg-day	--	--	--			
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	9.38E-06	mg/kg-day	1.00E-02	mg/kg-day	9.38E-04			
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	3.52E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	5.63E-11	1.03E-11	mg/kg-day	5.00E-05	mg/kg-day	2.05E-07			
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	4.54E-12	mg/kg-day	--	--	--	1.32E-11	mg/kg-day	6.00E-03	mg/kg-day	2.21E-09			
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	1.52E-12	mg/kg-day	--	--	--	4.42E-12	mg/kg-day	6.00E-03	mg/kg-day	7.37E-10			
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	5.04E-07	mg/kg-day	--	--	--	1.47E-06	mg/kg-day	2.90E-01	mg/kg-day	5.07E-06			
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	1.91E-09	mg/kg-day	--	--	--	5.58E-09	mg/kg-day	4.00E-02	mg/kg-day	1.40E-07			
				Fluorene	5.21E-05	ug/m <sup>3</sup>	4.87E-09	mg/kg-day	--	--	--	1.42E-08	mg/kg-day	4.00E-02	mg/kg-day	3.55E-07			
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	4.59E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.97E-12	1.34E-11	mg/kg-day	3.00E-04	mg/kg-day	4.46E-08			
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	9.98E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.49E-12	2.91E-11	mg/kg-day	2.00E-04	mg/kg-day	1.45E-07			
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	4.50E-11	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.05E-10	1.31E-10	mg/kg-day	5.00E-04	mg/kg-day	2.63E-07			
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	1.68E-04	mg/kg-day	--	--	--	4.91E-04	mg/kg-day	1.10E-01	mg/kg-day	4.46E-03			
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	3.77E-06	mg/kg-day	--	--	--	1.10E-05	mg/kg-day	2.90E-02	mg/kg-day	3.79E-04			
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	1.33E-11	mg/kg-day	--	--	--	3.86E-11	mg/kg-day	5.00E-03	mg/kg-day	7.73E-09			
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	2.76E-08	mg/kg-day	--	--	--	8.04E-08	mg/kg-day	8.57E-04	mg/kg-day	9.38E-05			
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	1.33E-06	mg/kg-day	--	--	--	3.87E-06	mg/kg-day	8.57E-04	mg/kg-day	4.51E-03			
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	1.50E-06	mg/kg-day	--	--	--	4.37E-06	mg/kg-day	4.00E-02	mg/kg-day	1.09E-04			
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	1.36E-08	mg/kg-day	--	--	--	3.97E-08	mg/kg-day	3.00E-01	mg/kg-day	1.32E-07			
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	1.68E-04	mg/kg-day	--	--	--	4.91E-04	mg/kg-day	1.10E-01	mg/kg-day	4.46E-03			
				Pyrene	1.92E-05	ug/m <sup>3</sup>	1.80E-09	mg/kg-day	--	--	--	5.24E-09	mg/kg-day	3.00E-02	mg/kg-day	1.75E-07			
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	5.32E-08	mg/kg-day	--	--	--	1.55E-07	mg/kg-day	4.00E-02	mg/kg-day	3.88E-06			
				Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	5.32E-06	mg/kg-day	--	--	--	1.55E-05	mg/kg-day	4.00E-02	mg/kg-day	3.88E-04			
				Toluene	2.18E-03	ug/m <sup>3</sup>	2.04E-07	mg/kg-day	--	--	--	5.94E-07	mg/kg-day	1.43E+00	mg/kg-day	4.16E-07			
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	5.64E-06	mg/kg-day	--	--	--	1.65E-05	mg/kg-day	2.00E-02	mg/kg-day	8.23E-04			
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	5.34E-06	mg/kg-day	4.00E-01	(mg/kg-day)-1	2.14E-06	1.56E-05	mg/kg-day	1.00E-02	mg/kg-day	1.56E-03			
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	1.21E-05	mg/kg-day	3.10E-02	(mg/kg-day)-1	3.76E-07	3.54E-05	mg/kg-day	2.86E-02	mg/kg-day	1.24E-03			
								Exposure Route Total											2.70E-02
								Exposure Point Total											2.70E-02
								Exposure Medium Total											2.77E-02
Medium Total														2.77E-02					
Total of Receptor Risks Across All Media										1.60E-04		Total of Receptor Hazards Across All Media				3.41E+01			

**TABLE H-7.6**

**EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:**
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.64E-06	mg/kg-day	--	--	--	1.92E-05	mg/kg-day	1.00E-02	mg/kg-day	1.92E-03
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	5.59E-06	mg/kg-day	--	--	--	6.52E-05	mg/kg-day	1.00E-02	mg/kg-day	6.52E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	5.48E-07	mg/kg-day	--	--	--	6.39E-06	mg/kg-day	5.00E-02	mg/kg-day	1.28E-04
				1,2-Dichlorobenzene	2.60E+01	mg/kg	2.85E-05	mg/kg-day	--	--	--	3.32E-04	mg/kg-day	9.00E-02	mg/kg-day	3.69E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	3.95E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.68E-10	4.60E-08	mg/kg-day	1.14E-03	mg/kg-day	4.04E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.75E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.09E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.21E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	3.00E-02	mg/kg-day	4.69E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	7.45E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	1.79E-07	6.69E-05	mg/kg-day	3.00E-02	mg/kg-day	2.90E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	2.30E-07	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	2.00E-02	mg/kg-day	1.34E-04
				2-Methylphenol	8.10E-02	mg/kg	8.88E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	5.00E-02	mg/kg-day	2.07E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	1.83E-06	mg/kg-day	--	--	--	2.14E-05	mg/kg-day	4.00E-03	mg/kg-day	5.34E-03
				4,4'-DDD	1.20E-03	mg/kg	1.32E-09	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.16E-10	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05
				4,4'-DDE	8.23E-02	mg/kg	9.02E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.07E-08	1.05E-06	mg/kg-day	5.00E-04	mg/kg-day	2.10E-03
				4,4'-DDT	4.45E-02	mg/kg	4.88E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.66E-08	5.69E-07	mg/kg-day	5.00E-04	mg/kg-day	1.14E-03
				4-Methylphenol	2.70E-01	mg/kg	2.96E-07	mg/kg-day	--	--	--	3.45E-06	mg/kg-day	5.00E-03	mg/kg-day	6.80E-04
				4-Nitroaniline	6.20E-01	mg/kg	6.79E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.43E-08	7.93E-06	mg/kg-day	3.00E-03	mg/kg-day	2.64E-03
				4-Nitrophenol	4.20E-01	mg/kg	4.60E-07	mg/kg-day	--	--	--	5.37E-06	mg/kg-day	5.00E-04	mg/kg-day	1.07E-02
				Acenaphthene	4.23E+00	mg/kg	4.64E-06	mg/kg-day	--	--	--	5.41E-05	mg/kg-day	6.00E-02	mg/kg-day	9.02E-04
				Acenaphthylene	1.04E-01	mg/kg	1.14E-07	mg/kg-day	--	--	--	1.33E-06	mg/kg-day	6.00E-02	mg/kg-day	2.22E-05
				Aldrin	1.30E-02	mg/kg	1.42E-08	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.42E-07	1.66E-07	mg/kg-day	3.00E-05	mg/kg-day	5.54E-03
				alpha-BHC	7.30E-04	mg/kg	8.00E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	5.04E-09	9.33E-09	mg/kg-day	5.00E-04	mg/kg-day	1.87E-05
				alpha-Chlordane	8.14E-03	mg/kg	8.92E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.12E-09	1.04E-07	mg/kg-day	5.00E-04	mg/kg-day	2.08E-04
				Aluminum	8.82E+03	mg/kg	9.67E-03	mg/kg-day	--	--	--	1.13E-01	mg/kg-day	1.00E+00	mg/kg-day	1.13E-01
				Anthracene	1.05E+00	mg/kg	1.16E-06	mg/kg-day	--	--	--	1.35E-05	mg/kg-day	3.00E-01	mg/kg-day	4.50E-05
				Antimony	4.08E+00	mg/kg	4.47E-06	mg/kg-day	--	--	--	5.21E-05	mg/kg-day	4.00E-04	mg/kg-day	1.30E-01
				Aroclor-1248	1.20E+00	mg/kg	1.32E-06	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.63E-06	1.53E-05	mg/kg-day	2.00E-05	mg/kg-day	7.67E-01
				Aroclor-1254	4.44E-01	mg/kg	4.87E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.73E-07	5.68E-06	mg/kg-day	2.00E-05	mg/kg-day	2.84E-01
				Aroclor-1260	5.41E-01	mg/kg	5.93E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.19E-06	6.92E-06	mg/kg-day	2.00E-05	mg/kg-day	3.46E-01
				Aroclor-1268	2.78E-02	mg/kg	3.04E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.08E-08	3.55E-07	mg/kg-day	2.00E-05	mg/kg-day	1.77E-02
				Arsenic	6.17E+00	mg/kg	6.76E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.01E-05	7.88E-05	mg/kg-day	3.00E-04	mg/kg-day	2.63E-01
				Barium	6.78E+01	mg/kg	7.43E-05	mg/kg-day	--	--	--	8.67E-04	mg/kg-day	7.00E-02	mg/kg-day	1.24E-02
				Benzo(a)anthracene	5.00E+00	mg/kg	5.48E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.00E-06	6.40E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.82E-06	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.33E-05	2.13E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	3.00E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.19E-06	3.50E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	8.37E-07	mg/kg-day	--	--	--	9.76E-06	mg/kg-day	3.00E-02	mg/kg-day	3.25E-04
				Benzo(k)fluoranthene	3.28E+00	mg/kg	3.57E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	2.61E-07	4.17E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.61E-07	mg/kg-day	--	--	--	3.04E-06	mg/kg-day	2.00E-03	mg/kg-day	1.52E-03
				Beta-BHC	2.20E-03	mg/kg	2.41E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	4.34E-09	2.81E-08	mg/kg-day	2.00E-04	mg/kg-day	1.41E-04
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	8.58E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.20E-07	1.00E-04	mg/kg-day	2.00E-02	mg/kg-day	5.01E-03
				Cadmium	9.47E+00	mg/kg	1.04E-05	mg/kg-day	--	--	--	1.21E-04	mg/kg-day	5.00E-04	mg/kg-day	2.42E-01
				Carbon disulfide	2.40E-04	mg/kg	2.63E-10	mg/kg-day	--	--	--	3.07E-09	mg/kg-day	1.00E-01	mg/kg-day	3.07E-08
				Chlorobenzene	1.10E-01	mg/kg	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	2.00E-02	mg/kg-day	7.03E-05
				Chromium	1.11E+02	mg/kg	1.22E-04	mg/kg-day	--	--	--	1.42E-03	mg/kg-day	1.50E+00	mg/kg-day	9.48E-04
				Chrysene	5.68E+00	mg/kg	6.23E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.55E-08	7.27E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	8.30E-06	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	2.00E-02	mg/kg-day	4.84E-03
Copper	5.71E+01	mg/kg	6.25E-05	mg/kg-day	--	--	--	7.30E-04	mg/kg-day	3.70E-02	mg/kg-day	1.97E-02				
Delta-BHC	8.40E-03	mg/kg	9.21E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.66E-08	1.07E-07	mg/kg-day	2.00E-04	mg/kg-day	5.37E-04				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	3.48E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.54E-06	4.06E-06	mg/kg-day	--	--	--				
Dibenzofuran	1.30E-01	mg/kg	1.42E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-03	mg/kg-day	8.31E-02				
Dieldrin	5.51E-02	mg/kg	6.04E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	9.67E-07	7.05E-07	mg/kg-day	5.00E-05	mg/kg-day	1.41E-02				
Dimethylphthalate	3.80E-02	mg/kg	4.16E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	1.00E+01	mg/kg-day	4.86E-08				

TABLE H-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient																	
							Value	Units	Value	Units		Value	Units	Value	Units																		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	2.41E-06	mg/kg-day	--	--	--	--	2.81E-05	mg/kg-day	1.00E-01	mg/kg-day	2.81E-04																
				Endosulfan I	2.30E-02	mg/kg	2.52E-08	mg/kg-day	--	--	--	--	2.94E-07	mg/kg-day	6.00E-03	mg/kg-day	4.90E-05																
				Endosulfan II	2.38E-02	mg/kg	2.61E-08	mg/kg-day	--	--	--	--	3.05E-07	mg/kg-day	6.00E-03	mg/kg-day	5.08E-05																
				Endosulfan Sulfate	4.30E-02	mg/kg	4.71E-08	mg/kg-day	--	--	--	--	5.50E-07	mg/kg-day	6.00E-03	mg/kg-day	9.16E-05																
				Endrin aldehyde	4.21E-02	mg/kg	4.61E-08	mg/kg-day	--	--	--	--	5.38E-07	mg/kg-day	3.00E-04	mg/kg-day	1.79E-03																
				Endrin Ketone	1.00E-02	mg/kg	1.10E-08	mg/kg-day	--	--	--	--	1.28E-07	mg/kg-day	3.00E-04	mg/kg-day	4.26E-04																
				Fluoranthene	2.65E+01	mg/kg	2.90E-05	mg/kg-day	--	--	--	--	3.39E-04	mg/kg-day	4.00E-02	mg/kg-day	8.47E-03																
				Fluorene	2.92E+00	mg/kg	3.20E-06	mg/kg-day	--	--	--	--	3.73E-05	mg/kg-day	4.00E-02	mg/kg-day	9.32E-04																
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.85E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.70E-09	3.32E-08	mg/kg-day	3.00E-04	mg/kg-day	1.11E-04																	
				gamma-Chlordane	1.31E-02	mg/kg	1.44E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.03E-09	1.68E-07	mg/kg-day	5.00E-04	mg/kg-day	3.35E-04																	
				Heptachlor	6.90E-03	mg/kg	7.56E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	3.40E-08	8.82E-08	mg/kg-day	5.00E-04	mg/kg-day	1.76E-04																	
				Heptachlor Epoxide	1.12E-02	mg/kg	1.22E-08	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.11E-07	1.43E-07	mg/kg-day	1.30E-05	mg/kg-day	1.10E-02																	
				Indeno(1,2,3-cd)pyrene	6.73E-01	mg/kg	9.57E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.98E-07	1.12E-05	mg/kg-day	--	--	--																	
				Iron	4.07E+04	mg/kg	4.46E-02	mg/kg-day	--	--	--	5.21E-01	mg/kg-day	3.00E-01	mg/kg-day	1.74E+00																	
				Isophorone	2.00E-01	mg/kg	2.19E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.08E-10	2.56E-06	mg/kg-day	2.00E-01	mg/kg-day	1.28E-05																	
				Lead	2.90E+03	mg/kg	3.18E-03	mg/kg-day	--	--	--	3.71E-02	mg/kg-day	--	--	--																	
				Manganese	3.31E-02	mg/kg	3.63E-04	mg/kg-day	--	--	--	4.23E-03	mg/kg-day	2.40E-02	mg/kg-day	1.76E-01																	
				Mercury	3.10E-01	mg/kg	3.39E-07	mg/kg-day	--	--	--	3.96E-06	mg/kg-day	3.00E-04	mg/kg-day	1.32E-02																	
				Methoxychlor	1.20E-01	mg/kg	1.32E-07	mg/kg-day	--	--	--	1.53E-06	mg/kg-day	5.00E-03	mg/kg-day	3.07E-04																	
				Molybdenum	2.50E+00	mg/kg	2.74E-06	mg/kg-day	--	--	--	3.20E-05	mg/kg-day	5.00E-03	mg/kg-day	6.40E-03																	
				Naphthalene	1.30E+01	mg/kg	1.42E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-02	mg/kg-day	8.31E-03																	
				Nickel	3.91E+01	mg/kg	4.29E-05	mg/kg-day	--	--	--	5.00E-04	mg/kg-day	2.00E-02	mg/kg-day	2.50E-02																	
				Phenanthrene	1.39E+01	mg/kg	1.53E-05	mg/kg-day	--	--	--	1.78E-04	mg/kg-day	3.00E-01	mg/kg-day	5.93E-04																	
				Phenol	5.80E-01	mg/kg	6.36E-07	mg/kg-day	--	--	--	7.42E-06	mg/kg-day	3.00E-01	mg/kg-day	2.47E-05																	
				p-Isopropyltoluene	1.10E-01	mg/kg	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	1.00E-01	mg/kg-day	1.41E-05																	
				Pyrene	2.41E+01	mg/kg	2.65E-05	mg/kg-day	--	--	--	3.09E-04	mg/kg-day	3.00E-02	mg/kg-day	1.03E-02																	
				sec-Butylbenzene	7.10E-02	mg/kg	7.78E-08	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	4.00E-02	mg/kg-day	2.27E-05																	
				Selenium	2.24E-01	mg/kg	2.46E-07	mg/kg-day	--	--	--	2.87E-06	mg/kg-day	5.00E-03	mg/kg-day	5.74E-04																	
				Silver	1.16E+00	mg/kg	1.27E-06	mg/kg-day	--	--	--	1.48E-05	mg/kg-day	5.00E-03	mg/kg-day	2.96E-03																	
				Technical Chlordane	5.51E-01	mg/kg	6.04E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.11E-07	7.05E-06	mg/kg-day	5.00E-04	mg/kg-day	1.41E-02																	
				Thallium	4.97E-01	mg/kg	5.45E-07	mg/kg-day	--	--	--	6.35E-06	mg/kg-day	6.60E-05	mg/kg-day	9.63E-02																	
				Toluene	4.30E-04	mg/kg	4.71E-10	mg/kg-day	--	--	--	5.50E-09	mg/kg-day	8.00E-02	mg/kg-day	6.87E-08																	
				Vanadium	3.41E+01	mg/kg	3.74E-05	mg/kg-day	--	--	--	4.37E-04	mg/kg-day	1.00E-03	mg/kg-day	4.37E-01																	
				Zinc	4.53E+02	mg/kg	4.97E-04	mg/kg-day	--	--	--	5.80E-03	mg/kg-day	3.00E-01	mg/kg-day	1.93E-04																	
				<b>Exposure Route Total</b>							<b>4.00E-05</b>					<b>4.92E+00</b>																	
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4'-DDD	4,4'-DDE	4,4'-DDT	4-Methylphenol	4-Nitroaniline	1.50E+00	mg/kg	4.77E-07	mg/kg-day	--	--	--	--	5.56E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04
																					5.10E+00	mg/kg	1.62E-07	mg/kg-day	--	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04
																					5.00E-01	mg/kg	1.59E-08	mg/kg-day	--	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06
																					2.60E+01	mg/kg	8.26E-07	mg/kg-day	--	--	--	--	9.64E-06	mg/kg-day	9.00E-02	mg/kg-day	1.07E-04
																					3.60E-03	mg/kg	1.14E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	7.78E-12	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06	
																					1.60E-01	mg/kg	5.08E-09	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.19E-06	
1.10E+00	mg/kg	3.50E-08	mg/kg-day																		--	--	--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05					
6.80E+00	mg/kg	--	mg/kg-day																		2.40E-02	(mg/kg-day)-1	--	--	--	3.00E-02	mg/kg-day	--					
2.10E-01	mg/kg	6.67E-09	mg/kg-day																		--	--	--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06					
8.10E-02	mg/kg	2.57E-08	mg/kg-day																		--	--	--	3.00E-07	mg/kg-day	5.00E-02	mg/kg-day	6.01E-06					
1.67E+00	mg/kg	5.31E-08	mg/kg-day																		--	--	--	6.20E-07	mg/kg-day	4.00E-03	mg/kg-day	1.55E-04					
1.20E-03	mg/kg	3.81E-11	mg/kg-day																		2.40E-01	(mg/kg-day)-1	9.15E-12	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07					
8.23E-02	mg/kg	2.62E-09	mg/kg-day																		3.40E-01	(mg/kg-day)-1	8.89E-10	3.05E-08	mg/kg-day	5.00E-04	mg/kg-day	6.10E-05					
4.45E-02	mg/kg	4.24E-09	mg/kg-day																		3.40E-01	(mg/kg-day)-1	1.44E-09	4.95E-08	mg/kg-day	5.00E-04	mg/kg-day	9.90E-05					
2.70E-01	mg/kg	8.58E-08	mg/kg-day																		--	--	--	1.00E-06	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04					
6.20E-01	mg/kg	1.97E-07	mg/kg-day	2.10E-02	--	--	4.14E-09	mg/kg-day	3.00E-03	mg/kg-day	7.66E-04																						

TABLE H-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.33E-07	mg/kg-day	--	--	--	1.56E-08	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	4.23E+00	mg/kg	1.75E-06	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	6.00E-02	mg/kg-day	3.40E-04
				Acenaphthylene	1.04E-01	mg/kg	3.31E-09	mg/kg-day	--	--	--	3.86E-08	mg/kg-day	6.00E-02	mg/kg-day	6.44E-07
				Aldrin	1.30E-02	mg/kg	4.13E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.02E-08	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03
				alpha-BHC	7.30E-04	mg/kg	2.32E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.46E-10	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	2.80E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.00E+00	mg/kg-day	3.27E-04
				Anthracene	1.05E+00	mg/kg	4.36E-07	mg/kg-day	--	--	--	5.08E-06	mg/kg-day	3.00E-01	mg/kg-day	1.69E-05
				Antimony	4.08E+00	mg/kg	1.30E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	4.00E-04	mg/kg-day	3.78E-04
				Aroclor-1248	1.20E+00	mg/kg	5.34E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.07E-06	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.44E-01	mg/kg	1.98E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.95E-07	2.31E-06	mg/kg-day	2.00E-05	mg/kg-day	1.15E-01
				Aroclor-1260	5.41E-01	mg/kg	2.41E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.82E-07	2.81E-06	mg/kg-day	2.00E-05	mg/kg-day	1.41E-01
				Aroclor-1268	2.78E-02	mg/kg	1.24E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.47E-08	1.44E-07	mg/kg-day	2.00E-05	mg/kg-day	7.20E-03
				Arsenic	6.17E+00	mg/kg	5.88E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	8.82E-07	6.86E-06	mg/kg-day	3.00E-04	mg/kg-day	2.29E-02
				Barium	6.78E+01	mg/kg	2.16E-07	mg/kg-day	--	--	--	2.51E-06	mg/kg-day	7.00E-02	mg/kg-day	3.59E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	2.07E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.51E-06	2.41E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	6.88E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.02E-08	8.03E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.13E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.26E-07	1.32E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.15E-07	mg/kg-day	--	--	--	3.68E-06	mg/kg-day	3.00E-02	mg/kg-day	1.23E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.35E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	9.83E-08	1.57E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	7.57E-10	mg/kg-day	--	--	--	8.83E-09	mg/kg-day	2.00E-03	mg/kg-day	4.41E-06
				Beta-BHC	2.20E-03	mg/kg	6.99E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.26E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.49E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.48E-09	2.90E-06	mg/kg-day	2.00E-02	mg/kg-day	1.45E-04
				Cadmium	9.47E+00	mg/kg	3.01E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	5.00E-04	mg/kg-day	7.02E-04
				Carbon disulfide	2.40E-04	mg/kg	1.91E-10	mg/kg-day	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	3.50E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.11E+02	mg/kg	3.53E-07	mg/kg-day	--	--	--	4.12E-06	mg/kg-day	1.50E+00	mg/kg-day	2.75E-06
				Chrysene	5.68E+00	mg/kg	2.35E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.71E-08	2.74E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.41E-08	mg/kg-day	--	--	--	2.81E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05
				Copper	5.71E+01	mg/kg	1.81E-07	mg/kg-day	--	--	--	2.12E-06	mg/kg-day	3.70E-02	mg/kg-day	5.72E-05
				Delta-BHC	8.40E-03	mg/kg	1.33E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.40E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.31E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	9.58E-07	1.53E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.13E-07	mg/kg-day	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	5.51E-02	mg/kg	1.75E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.80E-08	2.04E-08	mg/kg-day	5.00E-05	mg/kg-day	4.09E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.21E-09	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	1.00E+01	mg/kg-day	1.41E-09
				di-n-Butylphthalate	2.20E+00	mg/kg	6.99E-08	mg/kg-day	--	--	--	8.16E-07	mg/kg-day	1.00E-01	mg/kg-day	8.16E-06
				Endosulfan I	2.30E-02	mg/kg	3.65E-09	mg/kg-day	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.38E-02	mg/kg	3.78E-09	mg/kg-day	--	--	--	4.42E-08	mg/kg-day	6.00E-03	mg/kg-day	7.36E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.83E-09	mg/kg-day	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	4.21E-02	mg/kg	6.69E-09	mg/kg-day	--	--	--	7.80E-08	mg/kg-day	3.00E-04	mg/kg-day	2.60E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.10E-05	mg/kg-day	--	--	--	1.28E-04	mg/kg-day	4.00E-02	mg/kg-day	3.19E-03
				Fluorene	2.92E+00	mg/kg	1.20E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	4.00E-02	mg/kg-day	3.51E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.31E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.30E-10	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05
gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Heptachlor	6.90E-03	mg/kg	2.19E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	9.87E-10	2.58E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06				
Heptachlor Epoxide	1.12E-02	mg/kg	3.54E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.23E-09	4.14E-09	mg/kg-day	1.30E-05	mg/kg-day	3.18E-04				
Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	3.61E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.63E-07	4.21E-06	mg/kg-day	--	--	--				
Iron	4.07E+04	mg/kg	1.29E-04	mg/kg-day	--	--	--	1.51E-03	mg/kg-day	3.00E-01	mg/kg-day	5.03E-03				
Isophorone	2.00E-01	mg/kg	6.36E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.04E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06				
Lead	2.90E+03	mg/kg	9.22E-06	mg/kg-day	--	--	--	1.08E-04	mg/kg-day	--	--	--				

TABLE H-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	1.05E-06	mg/kg-day	--	--	--	--	1.23E-05	mg/kg-day	2.40E-02	mg/kg-day	5.11E-04			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	3.81E-09	mg/kg-day	--	--	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06		
				Molybdenum	2.50E+00	mg/kg	7.96E-09	mg/kg-day	--	--	--	--	--	9.29E-08	mg/kg-day	5.00E-03	mg/kg-day	1.86E-05		
				Naphthalene	1.30E+01	mg/kg	5.37E-06	mg/kg-day	--	--	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03		
				Nickel	3.91E+01	mg/kg	1.24E-07	mg/kg-day	--	--	--	--	--	1.45E-06	mg/kg-day	2.00E-02	mg/kg-day	7.25E-05		
				Phenanthrene	1.39E+01	mg/kg	4.42E-07	mg/kg-day	--	--	--	--	--	5.16E-06	mg/kg-day	3.00E-01	mg/kg-day	1.72E-05		
				Phenol	5.80E-01	mg/kg	1.84E-07	mg/kg-day	--	--	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06		
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	1.00E-01	mg/kg-day	--	mg/kg-day	--	
				Pyrene	2.41E+01	mg/kg	9.98E-06	mg/kg-day	--	--	--	--	--	1.16E-04	mg/kg-day	3.00E-02	mg/kg-day	3.88E-03		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	--	4.00E-02	mg/kg-day	--	mg/kg-day	--	
				Selenium	2.24E-01	mg/kg	7.13E-10	mg/kg-day	--	--	--	--	--	8.32E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06		
				Silver	1.16E+00	mg/kg	3.68E-09	mg/kg-day	--	--	--	--	--	4.30E-08	mg/kg-day	5.00E-03	mg/kg-day	8.59E-06		
				Technical Chlordane	5.51E-01	mg/kg	7.01E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.45E-08	--	--	8.17E-07	mg/kg-day	5.00E-04	mg/kg-day	1.63E-03		
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	6.60E-05	mg/kg-day	--	mg/kg-day	--	
				Toluene	4.30E-04	mg/kg	1.37E-11	mg/kg-day	--	--	--	--	--	1.59E-10	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09		
				Vanadium	3.41E+01	mg/kg	1.09E-07	mg/kg-day	--	--	--	--	--	1.27E-06	mg/kg-day	1.00E-03	mg/kg-day	1.27E-03		
				Zinc	4.53E+02	mg/kg	1.44E-06	mg/kg-day	--	--	--	--	--	1.68E-05	mg/kg-day	3.00E-01	mg/kg-day	5.60E-05		
				Exposure Point Total											1.17E-05					6.29E-01
				Exposure Route Total											5.17E-05					5.55E+00
				Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--
1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--				
1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--				
1,2-Dichlorobenzene	2.60E+01	mg/kg	--			mg/kg-day	--	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--				
1,2-Dichloropropane	3.60E-03	mg/kg	--			mg/kg-day	6.80E-02	(mg/kg-day)-1	--	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--				
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--				
1,3-Dichlorobenzene	1.10E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--			mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	2.71E-06			mg/kg-day	--	--	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03				
2-Methylphenol	8.10E-02	mg/kg	2.49E-06			mg/kg-day	--	--	--	--	--	2.91E-05	mg/kg-day	5.00E-02	mg/kg-day	5.82E-04				
2-Methylnaphthalene	1.67E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	--	mg/kg-day	4.00E-03	mg/kg-day	--				
4,4'-DDD	1.20E-03	mg/kg	2.64E-11			mg/kg-day	2.40E-01	(mg/kg-day)-1	6.35E-12	3.08E-10	3.08E-10	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07				
4,4'-DDE	8.23E-02	mg/kg	1.31E-09			mg/kg-day	3.40E-01	(mg/kg-day)-1	4.47E-10	1.53E-08	1.53E-08	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05				
4,4'-DDT	4.45E-02	mg/kg	3.06E-09			mg/kg-day	3.40E-01	(mg/kg-day)-1	1.04E-09	3.57E-08	3.57E-08	3.57E-08	mg/kg-day	5.00E-04	mg/kg-day	7.14E-05				
4-Methylphenol	2.70E-01	mg/kg	8.54E-06			mg/kg-day	--	--	--	9.97E-05	9.97E-05	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02				
4-Nitroaniline	6.20E-01	mg/kg	1.34E-05			mg/kg-day	2.10E-02	(mg/kg-day)-1	2.82E-07	1.57E-04	1.57E-04	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02				
4-Nitrophenol	4.20E-01	mg/kg	1.36E-05			mg/kg-day	--	--	--	1.59E-04	1.59E-04	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.16E-01				
Acenaphthene	4.23E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--				
Acenaphthylene	1.04E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--				
Aldrin	1.30E-02	mg/kg	4.69E-10			mg/kg-day	1.70E+01	(mg/kg-day)-1	7.97E-09	5.47E-09	5.47E-09	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04				
alpha-BHC	7.30E-04	mg/kg	5.68E-09			mg/kg-day	6.30E+00	(mg/kg-day)-1	3.58E-08	6.63E-08	6.63E-08	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04				
alpha-Chlordane	8.14E-03	mg/kg	6.45E-10			mg/kg-day	3.50E-01	(mg/kg-day)-1	2.26E-10	7.52E-09	7.52E-09	7.52E-09	mg/kg-day	5.00E-04	mg/kg-day	1.50E-05				
Aluminum	8.82E+03	mg/kg	9.51E-05			mg/kg-day	--	--	--	1.11E-03	1.11E-03	1.11E-03	mg/kg-day	1.00E+00	mg/kg-day	1.11E-03				
Anthracene	1.05E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Antimony	4.08E+00	mg/kg	2.03E-06			mg/kg-day	--	--	--	2.37E-05	2.37E-05	2.37E-05	mg/kg-day	4.00E-04	mg/kg-day	5.92E-02				
Aroclor-1248	1.20E+00	mg/kg	2.65E-08			mg/kg-day	2.00E+00	(mg/kg-day)-1	5.30E-08	3.09E-07	3.09E-07	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02				
Aroclor-1254	4.44E-01	mg/kg	1.31E-07			mg/kg-day	2.00E+00	(mg/kg-day)-1	2.63E-07	1.53E-06	1.53E-06	1.53E-06	mg/kg-day	2.00E-05	mg/kg-day	7.66E-02				
Aroclor-1260	5.41E-01	mg/kg	5.72E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.14E-08	6.68E-08	6.68E-08	6.68E-08	mg/kg-day	2.00E-05	mg/kg-day	3.34E-03						
Aroclor-1268	2.78E-02	mg/kg	8.21E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.64E-08	9.58E-08	9.58E-08	9.58E-08	mg/kg-day	2.00E-05	mg/kg-day	4.79E-03						
Arsenic	6.17E+00	mg/kg	6.14E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.21E-07	7.16E-06	7.16E-06	7.16E-06	mg/kg-day	3.00E-04	mg/kg-day	2.39E-02						
Barium	6.78E+01	mg/kg	1.69E-05	mg/kg-day	--	--	--	1.97E-04	1.97E-04	1.97E-04	mg/kg-day	7.00E-02	mg/kg-day	2.81E-03						

TABLE H-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	2.13E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.55E-08	2.49E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.02E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.94E-08	4.69E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	8.61E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.83E-08	7.72E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.41E-08	mg/kg-day	--	--	--	1.64E-07	mg/kg-day	3.00E-02	mg/kg-day	5.47E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	7.88E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	5.75E-09	9.19E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	5.93E-09	mg/kg-day	--	--	--	6.91E-08	mg/kg-day	2.00E-03	mg/kg-day	3.46E-05
				Beta-BHC	2.20E-03	mg/kg	1.71E-08	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.08E-08	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	4.49E-05	mg/kg-day	1.40E-02	(mg/kg-day)-1	6.29E-07	5.24E-04	mg/kg-day	2.00E-02	mg/kg-day	2.62E-02
				Cadmium	9.47E+00	mg/kg	2.36E-05	mg/kg-day	--	--	--	2.75E-04	mg/kg-day	5.00E-04	mg/kg-day	5.50E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	8.30E-06	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	1.50E+00	mg/kg-day	6.46E-05
				Chrysene	5.68E+00	mg/kg	1.70E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.24E-09	1.98E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	8.80E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	2.00E-02	mg/kg-day	5.13E-04
				Copper	6.71E+01	mg/kg	2.37E-04	mg/kg-day	--	--	--	2.76E-03	mg/kg-day	3.70E-02	mg/kg-day	7.46E-02
				Delta-BHC	8.40E-03	mg/kg	5.33E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	9.59E-10	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	4.74E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.46E-08	5.53E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	4.85E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	7.76E-06	5.66E-06	mg/kg-day	6.00E-05	mg/kg-day	1.13E-01
				Dimethylphthalate	3.80E-02	mg/kg	9.38E-07	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	1.00E+01	mg/kg-day	1.09E-06
				di-n-Butylphthalate	2.20E+00	mg/kg	7.60E-08	mg/kg-day	--	--	--	8.87E-07	mg/kg-day	1.00E-01	mg/kg-day	8.87E-06
				Endosulfan I	2.30E-02	mg/kg	1.71E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.38E-02	mg/kg	1.70E-07	mg/kg-day	--	--	--	1.98E-06	mg/kg-day	6.00E-03	mg/kg-day	3.30E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	2.99E-07	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endnn aldehyde	4.21E-02	mg/kg	1.16E-09	mg/kg-day	--	--	--	1.35E-08	mg/kg-day	3.00E-04	mg/kg-day	4.50E-05
				Endnn Ketone	1.00E-02	mg/kg	2.75E-10	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.65E+01	mg/kg	1.19E-06	mg/kg-day	--	--	--	1.39E-05	mg/kg-day	4.00E-02	mg/kg-day	3.47E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	7.12E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	9.26E-08	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.31E-02	mg/kg	1.04E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.63E-10	1.21E-08	mg/kg-day	5.00E-04	mg/kg-day	2.42E-05
				Heptachlor	6.90E-03	mg/kg	4.06E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.83E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06
				Heptachlor Epoxide	1.12E-02	mg/kg	2.14E-07	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.94E-06	2.49E-06	mg/kg-day	1.30E-05	mg/kg-day	1.92E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.58E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.15E-08	1.84E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	6.72E-04	mg/kg-day	--	--	--	7.84E-03	mg/kg-day	3.00E-01	mg/kg-day	2.61E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	4.33E-04	mg/kg-day	--	--	--	5.06E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	2.75E-04	mg/kg-day	--	--	--	3.20E-03	mg/kg-day	2.40E-02	mg/kg-day	1.33E-01
				Mercury	3.10E-01	mg/kg	1.03E-06	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	3.00E-04	mg/kg-day	3.99E-02
				Methoxychlor	1.20E-01	mg/kg	1.72E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06
				Molybdenum	2.50E+00	mg/kg	2.49E-06	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	5.00E-03	mg/kg-day	5.82E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.91E+01	mg/kg	3.89E-05	mg/kg-day	--	--	--	4.54E-04	mg/kg-day	2.00E-02	mg/kg-day	2.27E-02
				Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
Phenol	5.80E-01	mg/kg	4.75E-05	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.24E-01	mg/kg	9.31E-08	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	5.00E-03	mg/kg-day	2.17E-04				
Silver	1.16E+00	mg/kg	1.92E-06	mg/kg-day	--	--	--	2.24E-05	mg/kg-day	5.00E-03	mg/kg-day	4.49E-03				
Technical Chlordane	5.51E-01	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Thallium	4.97E-01	mg/kg	3.30E-09	mg/kg-day	--	--	--	3.85E-08	mg/kg-day	6.60E-05	mg/kg-day	5.83E-04				

**TABLE H-7.7**  
**EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	1.98E-05	mg/kg-day	8.00E-02	mg/kg-day	1.98E-02	
				Vanadium	3.41E+01	mg/kg	1.70E-06	mg/kg-day	--	--	--	7.90E-02	mg/kg-day	3.00E-01	mg/kg-day	2.63E-01		
				Zinc	4.53E+02	mg/kg	6.77E-03	mg/kg-day	--	--	--	--	--	--	--	--		
<b>Exposure Route Total</b>															<b>1.22E-05</b>			
<b>Exposure Point Total</b>															<b>1.22E-05</b>			
<b>Exposure Medium Total</b>																	<b>6.39E-05</b>	
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	8.79E-12	mg/kg-day	--	--	--	--	1.03E-10	mg/kg-day	2.00E-02	mg/kg-day	5.13E-09		
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.39E-12	mg/kg-day	--	--	--	--	3.95E-11	mg/kg-day	--	--	--		
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	5.02E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.21E-14	5.86E-13	mg/kg-day	5.00E-04	mg/kg-day	1.17E-09			
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	1.86E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.33E-13	2.17E-11	mg/kg-day	5.00E-04	mg/kg-day	4.34E-08			
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.13E-11	mg/kg-day	--	--	--	1.32E-10	mg/kg-day	5.00E-03	mg/kg-day	2.64E-08			
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.59E-11	mg/kg-day	2.10E-02	(mg/kg-day)-1	5.45E-13	3.03E-10	mg/kg-day	1.00E-03	mg/kg-day	3.03E-07			
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.76E-11	mg/kg-day	--	--	--	2.05E-10	mg/kg-day	5.70E-04	mg/kg-day	3.60E-07			
			Aluminum	6.68E-06	mg/m <sup>3</sup>	3.69E-07	mg/kg-day	--	--	--	4.31E-06	mg/kg-day	1.43E-03	mg/kg-day	3.01E-03			
			Antimony	3.09E-09	mg/m <sup>3</sup>	1.71E-10	mg/kg-day	--	--	--	1.99E-09	mg/kg-day	--	--	--			
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	5.02E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.00E-10	5.86E-10	mg/kg-day	2.00E-05	mg/kg-day	2.93E-05			
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	1.86E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.72E-11	2.17E-10	mg/kg-day	2.00E-05	mg/kg-day	1.08E-05			
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	2.27E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.53E-11	2.64E-10	mg/kg-day	2.00E-05	mg/kg-day	1.32E-05			
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	1.16E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.32E-12	1.36E-11	mg/kg-day	2.00E-05	mg/kg-day	6.78E-07			
			Arsenic	4.67E-09	mg/m <sup>3</sup>	2.58E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	3.87E-09	3.01E-09	mg/kg-day	--	--	--			
			Barium	5.14E-08	mg/m <sup>3</sup>	2.84E-09	mg/kg-day	--	--	--	3.31E-08	mg/kg-day	1.40E-04	mg/kg-day	2.36E-04			
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	2.09E-10	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.53E-10	2.44E-09	mg/kg-day	--	--	--			
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	6.97E-11	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.09E-10	8.13E-10	mg/kg-day	--	--	--			
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	3.19E-11	mg/kg-day	--	--	--	3.73E-10	mg/kg-day	3.00E-02	mg/kg-day	1.24E-08			
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	1.36E-10	mg/kg-day	7.30E-02	(mg/kg-day)-1	9.96E-12	1.59E-09	mg/kg-day	--	--	--			
			Beryllium	1.80E-10	mg/m <sup>3</sup>	9.96E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	8.37E-11	1.16E-10	mg/kg-day	5.71E-06	mg/kg-day	2.03E-05			
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	9.21E-14	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.71E-13	1.07E-12	mg/kg-day	2.00E-04	mg/kg-day	5.37E-09			
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	3.28E-10	mg/kg-day	1.40E-02	(mg/kg-day)-1	4.59E-12	3.82E-09	mg/kg-day	2.00E-02	mg/kg-day	1.91E-07			
			Cadmium	7.18E-09	mg/m <sup>3</sup>	3.96E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.50E-09	4.62E-09	mg/kg-day	--	--	--			
			Chromium	8.42E-08	mg/m <sup>3</sup>	4.65E-09	mg/kg-day	--	--	--	5.43E-08	mg/kg-day	--	--	--			
			Cobalt	5.74E-09	mg/m <sup>3</sup>	3.17E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	3.11E-09	3.70E-09	mg/kg-day	5.71E-06	mg/kg-day	6.48E-04			
			Copper	4.32E-08	mg/m <sup>3</sup>	2.39E-09	mg/kg-day	--	--	--	2.79E-08	mg/kg-day	--	--	--			
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	1.33E-11	mg/kg-day	7.30E+00	(mg/kg-day)-1	9.70E-11	1.55E-10	mg/kg-day	--	--	--			
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.59E-12	mg/kg-day	--	--	--	1.86E-11	mg/kg-day	1.00E+01	mg/kg-day	1.86E-12			
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	9.21E-11	mg/kg-day	--	--	--	1.07E-09	mg/kg-day	1.00E-01	mg/kg-day	1.07E-08			
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	1.76E-12	mg/kg-day	--	--	--	2.05E-11	mg/kg-day	3.00E-04	mg/kg-day	6.85E-08			
			Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	4.18E-13	mg/kg-day	--	--	--	4.88E-12	mg/kg-day	3.00E-04	mg/kg-day	1.63E-08			
			Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	4.67E-13	mg/kg-day	9.10E+00	(mg/kg-day)-1	4.25E-12	5.45E-12	mg/kg-day	1.30E-05	mg/kg-day	4.19E-07			
			Indeno(1,2,3-cd)pyrene	6.81E-10	mg/m <sup>3</sup>	3.65E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.67E-11	4.26E-10	mg/kg-day	--	--	--			
			Iron	3.09E-05	mg/m <sup>3</sup>	1.70E-06	mg/kg-day	--	--	--	1.99E-05	mg/kg-day	--	--	--			
			Isophorone	1.52E-10	mg/m <sup>3</sup>	8.37E-12	mg/kg-day	9.50E-04	(mg/kg-day)-1	7.95E-15	9.76E-11	mg/kg-day	2.00E-01	mg/kg-day	4.88E-10			
			Lead	2.20E-06	mg/m <sup>3</sup>	1.21E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	--	--	--			
Manganese	2.51E-07	mg/m <sup>3</sup>	1.39E-08	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	1.43E-05	mg/kg-day	1.13E-02						
Mercury	2.34E-10	mg/m <sup>3</sup>	1.30E-11	mg/kg-day	--	--	--	1.51E-10	mg/kg-day	8.60E-05	mg/kg-day	1.76E-06						
Molybdenum	1.90E-09	mg/m <sup>3</sup>	1.05E-10	mg/kg-day	--	--	--	1.22E-09	mg/kg-day	--	--	--						
Nickel	2.96E-08	mg/m <sup>3</sup>	1.64E-09	mg/kg-day	--	--	--	1.91E-08	mg/kg-day	--	--	--						
Phenol	4.39E-10	mg/m <sup>3</sup>	2.43E-11	mg/kg-day	--	--	--	2.83E-10	mg/kg-day	3.00E-01	mg/kg-day	9.44E-10						
Selenium	1.70E-10	mg/m <sup>3</sup>	9.39E-12	mg/kg-day	--	--	--	1.10E-10	mg/kg-day	--	--	--						
Silver	8.78E-10	mg/m <sup>3</sup>	4.85E-11	mg/kg-day	--	--	--	5.66E-10	mg/kg-day	--	--	--						

TABLE H-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.77E-10	mg/m <sup>3</sup>	2.08E-11	mg/kg-day	--	--	--	2.43E-10	mg/kg-day	--	--	--
				Vanadium	2.59E-08	mg/m <sup>3</sup>	1.43E-09	mg/kg-day	--	--	--	1.67E-08	mg/kg-day	--	--	--
				Zinc	3.44E-07	mg/m <sup>3</sup>	1.90E-08	mg/kg-day	--	--	--	2.21E-07	mg/kg-day	--	--	--
				<b>Exposure Route Total</b>												<b>1.05E-08</b>
				Inhalation (Volatiles)	1.04E-04	mg/m <sup>3</sup>	5.77E-06	mg/kg-day	--	--	--	6.73E-05	mg/kg-day	1.10E-03	mg/kg-day	6.12E-02
				1,2,3-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.96E-05	mg/kg-day	--	--	--	2.29E-04	mg/kg-day	1.10E-03	mg/kg-day	2.08E-01
				1,2,4-Trichlorobenzene	1.17E-04	mg/m <sup>3</sup>	6.47E-08	mg/kg-day	--	--	--	7.55E-05	mg/kg-day	1.71E-03	mg/kg-day	4.41E-02
				1,2,4-Trimethylbenzene	5.32E-03	mg/m <sup>3</sup>	2.94E-04	mg/kg-day	--	--	--	3.43E-03	mg/kg-day	5.70E-02	mg/kg-day	6.02E-02
				1,2-Dichlorobenzene	2.86E-06	mg/m <sup>3</sup>	1.58E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.07E-08	1.84E-06	mg/kg-day	1.14E-03	mg/kg-day	1.62E-03
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	2.02E-06	mg/kg-day	--	--	--	2.35E-05	mg/kg-day	1.71E-03	mg/kg-day	1.37E-02
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	9.00E-06	mg/kg-day	--	--	--	1.05E-04	mg/kg-day	3.00E-02	mg/kg-day	3.50E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.63E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.90E-06	1.01E-03	mg/kg-day	2.30E-01	mg/kg-day	4.38E-03
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	4.09E-06	mg/kg-day	--	--	--	4.77E-05	mg/kg-day	5.00E-02	mg/kg-day	9.53E-04
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	5.36E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.82E-10	6.25E-09	mg/kg-day	5.00E-04	mg/kg-day	1.25E-05
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	3.75E-05	mg/kg-day	6.00E-02	mg/kg-day	6.24E-04
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	7.90E-08	mg/kg-day	--	--	--	9.22E-07	mg/kg-day	6.00E-02	mg/kg-day	1.54E-05
				Aldrin	5.63E-09	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.29E-09	3.63E-09	mg/kg-day	3.00E-05	mg/kg-day	1.21E-04
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	2.01E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.27E-09	2.34E-09	mg/kg-day	5.00E-04	mg/kg-day	4.69E-06
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	4.45E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.56E-10	5.19E-09	mg/kg-day	2.00E-04	mg/kg-day	2.60E-05
				Anthracene	1.45E-05	mg/m <sup>3</sup>	8.00E-07	mg/kg-day	--	--	--	9.33E-06	mg/kg-day	3.00E-01	mg/kg-day	3.11E-05
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	9.78E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.14E-08	1.14E-06	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.50E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.86E-06	mg/kg-day	--	--	--	3.34E-05	mg/kg-day	1.70E-02	mg/kg-day	1.96E-03
				Chrysene	6.25E-06	mg/m <sup>3</sup>	3.45E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.52E-09	4.03E-06	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	1.86E+00	(mg/kg-day)-1	4.29E-09	2.70E-08	mg/kg-day	2.00E-04	mg/kg-day	1.35E-04
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.48E-06	mg/kg-day	--	--	--	2.89E-05	mg/kg-day	2.00E-03	mg/kg-day	1.45E-02
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	4.10E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.56E-08	4.78E-08	mg/kg-day	5.00E-05	mg/kg-day	9.56E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.45E-09	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	6.00E-03	mg/kg-day	8.65E-06
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	4.81E-09	mg/kg-day	--	--	--	5.38E-08	mg/kg-day	6.00E-03	mg/kg-day	8.96E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	8.32E-09	mg/kg-day	--	--	--	9.71E-08	mg/kg-day	6.00E-03	mg/kg-day	1.62E-05
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	9.47E-07	mg/kg-day	--	--	--	1.10E-05	mg/kg-day	4.00E-02	mg/kg-day	2.76E-04
				Fluorene	1.71E-05	mg/m <sup>3</sup>	9.43E-07	mg/kg-day	--	--	--	1.10E-05	mg/kg-day	4.00E-02	mg/kg-day	2.75E-04
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	8.81E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.14E-09	1.03E-08	mg/kg-day	3.00E-04	mg/kg-day	3.42E-05
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	7.16E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.51E-10	8.36E-09	mg/kg-day	2.00E-04	mg/kg-day	4.18E-05
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.87E-08	mg/kg-day	4.55E+00	(mg/kg-day)-1	8.49E-08	2.18E-07	mg/kg-day	5.00E-04	mg/kg-day	4.36E-04
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.77E-09	mg/kg-day	--	--	--	5.56E-08	mg/kg-day	5.00E-03	mg/kg-day	1.11E-05
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.86E-05	mg/kg-day	--	--	--	4.51E-04	mg/kg-day	8.57E-04	mg/kg-day	5.26E-01
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	1.06E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	3.00E-01	mg/kg-day	4.10E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.06E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	1.10E-01	mg/kg-day	1.12E-03
				Pyrene	1.85E-05	mg/m <sup>3</sup>	1.02E-06	mg/kg-day	--	--	--	1.19E-05	mg/kg-day	3.00E-02	mg/kg-day	3.97E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.55E-06	mg/kg-day	--	--	--	1.81E-05	mg/kg-day	4.00E-02	mg/kg-day	4.52E-04
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	3.01E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	1.05E-11	3.52E-07	mg/kg-day	2.00E-04	mg/kg-day	1.76E-03
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.72E-08	mg/kg-day	--	--	--	2.01E-07	mg/kg-day	1.43E+00	mg/kg-day	1.41E-07
				<b>Exposure Route Total</b>												<b>2.15E-06</b>
				<b>Exposure Point Total</b>												<b>2.16E-06</b>
				Inhalation (Vapor Intrusion)	8.81E+00	(a) ug/m <sup>3</sup>	4.87E-04	mg/kg-day	--	--	--	5.68E-03	mg/kg-day	1.10E-03	mg/kg-day	5.16E+00
				1,2,3-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	1.65E-03	mg/kg-day	--	--	--	1.93E-02	mg/kg-day	1.10E-03	mg/kg-day	1.75E+01
				1,2,4-Trichlorobenzene	2.94E+00	(a) ug/m <sup>3</sup>	1.62E-04	mg/kg-day	--	--	--	1.89E-03	mg/kg-day	1.71E-03	mg/kg-day	1.10E+00
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	8.43E-03	mg/kg-day	--	--	--	9.84E-02	mg/kg-day	5.70E-02	mg/kg-day	1.73E+00
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	1.17E-06	mg/kg-day	6.80E-02	(mg/kg-day)-1	7.94E-08	1.36E-05	mg/kg-day	1.14E-03	mg/kg-day	1.19E-02
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	5.19E-05	mg/kg-day	--	--	--	6.05E-04	mg/kg-day	1.71E-03	mg/kg-day	3.53E-01

TABLE H-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	3.57E-04	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	3.00E-02	mg/kg-day	1.39E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	2.21E-03	mg/kg-day	2.20E-02	(mg/kg-day)-1	4.85E-05	2.57E-02	mg/kg-day	2.30E-01	mg/kg-day	1.12E-01
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	2.68E-04	mg/kg-day	--	--	--	3.12E-03	mg/kg-day	5.00E-02	mg/kg-day	6.25E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	3.35E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.14E-10	3.91E-09	mg/kg-day	5.00E-04	mg/kg-day	7.82E-06
				Acenaphthene	1.68E+00	(a) ug/m <sup>3</sup>	9.35E-05	mg/kg-day	--	--	--	1.08E-03	mg/kg-day	6.00E-02	mg/kg-day	1.82E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	2.42E-06	mg/kg-day	--	--	--	2.82E-05	mg/kg-day	6.00E-02	mg/kg-day	4.70E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	8.89E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.51E-08	1.04E-08	mg/kg-day	3.00E-05	mg/kg-day	3.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	5.95E-09	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.75E-08	6.94E-08	mg/kg-day	5.00E-04	mg/kg-day	1.39E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	3.00E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.05E-09	3.50E-08	mg/kg-day	2.00E-04	mg/kg-day	1.75E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	2.46E-05	mg/kg-day	--	--	--	2.87E-04	mg/kg-day	3.00E-01	mg/kg-day	9.57E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	1.74E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.27E-07	2.03E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	7.78E-08	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	2.00E-01	mg/kg-day	4.54E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	3.57E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.70E-02	mg/kg-day	2.45E-02
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	9.81E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	7.16E-09	1.14E-05	mg/kg-day	--	--	--
				Deita-BHC	1.84E-03	(a) ug/m <sup>3</sup>	1.02E-07	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.88E-07	1.18E-06	mg/kg-day	2.00E-04	mg/kg-day	5.92E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	1.31E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	2.00E-03	mg/kg-day	7.63E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	2.90E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.64E-07	3.38E-07	mg/kg-day	5.00E-05	mg/kg-day	6.76E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	1.19E-07	mg/kg-day	--	--	--	1.39E-06	mg/kg-day	6.00E-03	mg/kg-day	2.32E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	6.00E-03	mg/kg-day	2.36E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	2.23E-07	mg/kg-day	--	--	--	2.60E-06	mg/kg-day	6.00E-03	mg/kg-day	4.33E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	2.71E-07	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	4.00E-02	mg/kg-day	7.90E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	1.48E-05	mg/kg-day	--	--	--	1.73E-04	mg/kg-day	4.00E-02	mg/kg-day	4.32E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	3.14E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.09E-08	3.67E-07	mg/kg-day	3.00E-04	mg/kg-day	1.22E-03
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	5.45E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.91E-11	6.36E-10	mg/kg-day	2.00E-04	mg/kg-day	3.18E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	6.00E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.73E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	1.64E-08	mg/kg-day	--	--	--	1.91E-07	mg/kg-day	5.00E-03	mg/kg-day	3.82E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	7.78E-07	mg/kg-day	1.60E-03	(mg/kg-day)-1	1.25E-09	9.08E-06	mg/kg-day	8.57E-01	mg/kg-day	1.06E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	3.47E-03	mg/kg-day	--	--	--	4.05E-02	mg/kg-day	8.57E-04	mg/kg-day	4.73E-01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	3.15E-04	mg/kg-day	--	--	--	3.68E-03	mg/kg-day	3.00E-01	mg/kg-day	1.23E-02
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	3.57E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.10E-01	mg/kg-day	3.78E-03
Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	2.20E-06	mg/kg-day	--	--	--	2.56E-05	mg/kg-day	3.00E-02	mg/kg-day	8.54E-04				
sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	1.26E-05	mg/kg-day	--	--	--	1.47E-04	mg/kg-day	4.00E-02	mg/kg-day	3.69E-03				
Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	2.32E-07	mg/kg-day	3.50E-04	(mg/kg-day)-1	8.13E-11	2.71E-06	mg/kg-day	2.00E-04	mg/kg-day	1.35E-02				
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	1.39E-07	mg/kg-day	--	--	--	1.63E-06	mg/kg-day	1.43E+00	mg/kg-day	1.14E-06				
				Exposure Route Total											7.36E+01	
				Exposure Point Total											7.36E+01	
				Exposure Medium Total											7.46E+01	
<b>Medium Total</b>																
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.34E-08	mg/kg-day	--	--	--	2.73E-07	mg/kg-day	1.40E-01	mg/kg-day	1.95E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.97E-09	mg/kg-day	--	--	--	8.13E-08	mg/kg-day	1.71E-03	mg/kg-day	4.74E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.57E-08	mg/kg-day	--	--	--	5.33E-07	mg/kg-day	5.70E-02	mg/kg-day	9.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.29E-08	mg/kg-day	9.10E-02	--	2.99E-09	3.83E-07	mg/kg-day	1.40E-03	mg/kg-day	2.74E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	8.38E-10	1.44E-07	mg/kg-day	1.14E-03	mg/kg-day	1.26E-04
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.97E-09	mg/kg-day	--	--	--	4.63E-08	mg/kg-day	1.71E-03	mg/kg-day	2.70E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.56E-08	mg/kg-day	2.20E-02	(mg/kg-day)-1	3.42E-10	1.81E-07	mg/kg-day	2.30E-01	mg/kg-day	7.89E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	6.01E-10	mg/kg-day	--	--	--	7.01E-09	mg/kg-day	1.43E+00	mg/kg-day	4.91E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.34E-11	mg/kg-day	--	--	--	6.23E-10	mg/kg-day	5.00E-02	mg/kg-day	1.25E-08
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	7.15E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.43E-11	8.34E-10	mg/kg-day	5.00E-04	mg/kg-day	1.67E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.23E-10	mg/kg-day	--	--	--	2.61E-09	mg/kg-day	8.60E-01	mg/kg-day	3.03E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.14E-09	mg/kg-day	--	--	--	2.50E-08	mg/kg-day	6.00E-02	mg/kg-day	4.16E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	9.12E-11	mg/kg-day	--	--	--	1.06E-09	mg/kg-day	6.00E-02	mg/kg-day	1.77E-08

TABLE H-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	1.23E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	2.10E-09	1.44E-09	mg/kg-day	3.00E-05	mg/kg-day	4.80E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.56E-11	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	9.85E-11	1.82E-10	mg/kg-day	5.00E-04	mg/kg-day	3.65E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.70E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.30E-11	4.32E-10	mg/kg-day	2.00E-04	mg/kg-day	2.16E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.81E-10	mg/kg-day	--	--	--	2.12E-09	mg/kg-day	3.00E-01	mg/kg-day	7.06E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.44E-08	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	3.93E-10	1.68E-07	mg/kg-day	8.60E-03	mg/kg-day	1.96E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.69E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.96E-11	3.13E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	4.07E-10	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	1.57E-12	4.74E-09	mg/kg-day	2.00E-02	mg/kg-day	2.37E-07				
				Carbon disulfide	4.51E-08	mg/m <sup>3</sup>	2.49E-07	mg/kg-day	--	--	--	2.90E-08	mg/kg-day	2.00E-01	mg/kg-day	1.45E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	4.05E-09	mg/kg-day	--	--	--	4.72E-08	mg/kg-day	1.70E-02	mg/kg-day	2.78E-06				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.14E-07	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	9.19E-09	1.33E-06	mg/kg-day	1.40E-02	mg/kg-day	9.52E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	4.14E-08	mg/kg-day	--	--	--	4.83E-07	mg/kg-day	2.60E-02	mg/kg-day	1.86E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	7.27E-11	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	5.31E-13	8.48E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.93E-08	mg/kg-day	--	--	--	3.41E-07	mg/kg-day	1.00E-02	mg/kg-day	3.41E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.43E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	8.88E-10	6.33E-10	mg/kg-day	5.00E-05	mg/kg-day	1.27E-05				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.24E-11	mg/kg-day	--	--	--	1.44E-10	mg/kg-day	6.00E-03	mg/kg-day	2.40E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	2.03E-14	mg/kg-day	--	--	--	2.37E-13	mg/kg-day	6.00E-03	mg/kg-day	3.95E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.29E-07	mg/kg-day	2.90E-01	mg/kg-day	4.43E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.79E-11	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	4.00E-02	mg/kg-day	8.14E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.52E-11	mg/kg-day	--	--	--	6.44E-10	mg/kg-day	4.00E-02	mg/kg-day	1.61E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.86E-14	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	8.92E-14	8.01E-13	mg/kg-day	3.00E-04	mg/kg-day	2.67E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	9.61E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.36E-11	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.61E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	9.86E-10	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	4.49E-09	1.15E-08	mg/kg-day	5.00E-04	mg/kg-day	2.30E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.89E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.83E-08	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	2.90E-02	mg/kg-day	1.54E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.80E-10	mg/kg-day	--	--	--	2.10E-09	mg/kg-day	5.00E-03	mg/kg-day	4.21E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	3.00E-10	mg/kg-day	--	--	--	3.50E-09	mg/kg-day	8.57E-04	mg/kg-day	4.08E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.40E-08	mg/kg-day	--	--	--	1.63E-07	mg/kg-day	8.57E-04	mg/kg-day	1.90E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.56E-08	mg/kg-day	--	--	--	1.82E-07	mg/kg-day	4.00E-02	mg/kg-day	4.54E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.45E-10	mg/kg-day	--	--	--	1.69E-09	mg/kg-day	3.00E-01	mg/kg-day	5.62E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.89E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	2.55E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	3.00E-02	mg/kg-day	9.90E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.42E-08	mg/kg-day	--	--	--	5.16E-07	mg/kg-day	4.00E-02	mg/kg-day	1.29E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	5.01E-08	mg/kg-day	--	--	--	5.85E-07	mg/kg-day	4.00E-02	mg/kg-day	1.46E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	2.10E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	1.43E+00	mg/kg-day	1.71E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.95E-08	mg/kg-day	--	--	--	5.78E-07	mg/kg-day	2.00E-02	mg/kg-day	2.89E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	5.15E-08	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	2.08E-08	6.01E-07	mg/kg-day	1.00E-02	mg/kg-day	6.01E-05				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.07E-07	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	3.30E-09	1.24E-06	mg/kg-day	2.86E-02	mg/kg-day	4.35E-05				
				Exposure Route Total										4.53E-08				1.54E-03		
				Exposure Point Total										4.53E-08				1.54E-03		
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	4.11E-06	mg/kg-day	--	--	--	4.80E-05	mg/kg-day	1.40E-01	mg/kg-day	3.43E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	1.80E-07	mg/kg-day	--	--	--	2.10E-06	mg/kg-day	1.71E-03	mg/kg-day	1.23E-03
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	1.21E-06					mg/kg-day	--	--	--	1.42E-05	mg/kg-day	5.70E-02	mg/kg-day	2.49E-04				
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	9.84E-07					mg/kg-day	9.10E-02	--	8.96E-08	1.15E-05	mg/kg-day	1.40E-03	mg/kg-day	8.20E-03				
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	3.65E-07					mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	2.48E-08	4.25E-06	mg/kg-day	1.14E-03	mg/kg-day	3.73E-03				
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	1.03E-07					mg/kg-day	--	--	--	1.20E-06	mg/kg-day	1.71E-03	mg/kg-day	7.03E-04				
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	4.17E-07					mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	9.17E-09	4.86E-06	mg/kg-day	2.30E-01	mg/kg-day	2.11E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	3.09E-08					mg/kg-day	--	--	--	3.61E-07	mg/kg-day	1.43E+00	mg/kg-day	2.53E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	1.50E-09					mg/kg-day	--	--	--	1.75E-08	mg/kg-day	5.00E-02	mg/kg-day	3.50E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	6.44E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.19E-12	7.51E-11	mg/kg-day	5.00E-04	mg/kg-day	1.50E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	9.18E-09					mg/kg-day	--	--	--	1.07E-07	mg/kg-day	8.60E-01	mg/kg-day	1.25E-07				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	9.13E-08					mg/kg-day	--	--	--	1.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.77E-05				

TABLE H-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	3.88E-09	mg/kg-day	--	--	--	4.53E-08	mg/kg-day	6.00E-02	mg/kg-day	7.55E-07				
				Aldrin	2.44E-07	ug/m <sup>3</sup>	1.35E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	2.29E-10	1.57E-10	mg/kg-day	3.00E-05	mg/kg-day	5.24E-06				
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	2.01E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.26E-11	2.34E-11	mg/kg-day	5.00E-04	mg/kg-day	4.68E-08				
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	1.22E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	4.26E-12	1.42E-10	mg/kg-day	2.00E-04	mg/kg-day	7.10E-07				
				Anthracene	1.40E-04	ug/m <sup>3</sup>	7.71E-09	mg/kg-day	--	--	--	9.00E-08	mg/kg-day	3.00E-01	mg/kg-day	3.00E-07				
				Benzene	7.66E-03	ug/m <sup>3</sup>	4.23E-07	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.16E-08	4.94E-06	mg/kg-day	8.60E-03	mg/kg-day	5.74E-04				
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	1.13E-09	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	8.25E-10	1.32E-08	mg/kg-day	--	--	--				
				Bromoform	3.95E-04	ug/m <sup>3</sup>	2.18E-08	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	8.41E-11	2.55E-07	mg/kg-day	2.00E-02	mg/kg-day	1.27E-05				
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	7.47E-06	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	2.00E-01	mg/kg-day	4.36E-04				
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	1.13E-07	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	1.70E-02	mg/kg-day	7.78E-05				
				Chloroform	6.13E-02	ug/m <sup>3</sup>	3.39E-06	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	2.72E-07	3.95E-05	mg/kg-day	1.40E-02	mg/kg-day	2.82E-03				
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	1.34E-06	mg/kg-day	--	--	--	1.56E-05	mg/kg-day	2.60E-02	mg/kg-day	6.02E-04				
				Chrysene	5.75E-05	ug/m <sup>3</sup>	3.18E-09	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.32E-11	3.71E-08	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	1.90E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.00E-02	mg/kg-day	2.21E-03				
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	2.08E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.33E-11	2.43E-11	mg/kg-day	5.00E-05	mg/kg-day	4.85E-07				
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	2.68E-12	mg/kg-day	--	--	--	3.13E-11	mg/kg-day	6.00E-03	mg/kg-day	5.21E-09				
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	8.95E-13	mg/kg-day	--	--	--	1.04E-11	mg/kg-day	6.00E-03	mg/kg-day	1.74E-09				
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	2.98E-07	mg/kg-day	--	--	--	3.47E-06	mg/kg-day	2.90E-01	mg/kg-day	1.20E-05				
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	1.13E-09	mg/kg-day	--	--	--	1.32E-08	mg/kg-day	4.00E-02	mg/kg-day	3.29E-07				
				Fluorene	5.21E-05	ug/m <sup>3</sup>	2.88E-09	mg/kg-day	--	--	--	3.36E-08	mg/kg-day	4.00E-02	mg/kg-day	8.39E-07				
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	2.71E-12	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	3.52E-12	3.16E-11	mg/kg-day	3.00E-04	mg/kg-day	1.05E-07				
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	5.89E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.06E-12	6.87E-11	mg/kg-day	2.00E-04	mg/kg-day	3.44E-07				
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	2.66E-11	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.21E-10	3.10E-10	mg/kg-day	5.00E-04	mg/kg-day	6.20E-07				
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	9.94E-05	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	1.10E-01	mg/kg-day	1.05E-02				
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	2.23E-06	mg/kg-day	--	--	--	2.60E-05	mg/kg-day	2.90E-02	mg/kg-day	8.95E-04				
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	7.82E-12	mg/kg-day	--	--	--	9.13E-11	mg/kg-day	5.00E-03	mg/kg-day	1.83E-08				
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	1.63E-08	mg/kg-day	--	--	--	1.90E-07	mg/kg-day	8.57E-04	mg/kg-day	2.22E-04				
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	7.83E-07	mg/kg-day	--	--	--	9.14E-06	mg/kg-day	8.57E-04	mg/kg-day	1.07E-02				
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	8.84E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	4.00E-02	mg/kg-day	2.58E-04				
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	8.03E-09	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	3.00E-01	mg/kg-day	3.12E-07				
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	9.94E-05	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	1.10E-01	mg/kg-day	1.05E-02				
				Pyrene	1.92E-05	ug/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	1.24E-08	mg/kg-day	3.00E-02	mg/kg-day	4.13E-07				
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	3.14E-08	mg/kg-day	--	--	--	3.66E-07	mg/kg-day	4.00E-02	mg/kg-day	9.16E-06				
				Tert-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	3.14E-08	mg/kg-day	--	--	--	3.67E-05	mg/kg-day	4.00E-02	mg/kg-day	9.17E-04				
				Toluene	2.18E-03	ug/m <sup>3</sup>	1.20E-07	mg/kg-day	--	--	--	1.40E-06	mg/kg-day	1.43E+00	mg/kg-day	9.82E-07				
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	3.33E-06	mg/kg-day	--	--	--	3.89E-05	mg/kg-day	2.00E-02	mg/kg-day	1.94E-03				
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	3.15E-06	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	1.26E-06	3.68E-05	mg/kg-day	1.00E-02	mg/kg-day	3.68E-03				
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	7.16E-06	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	2.22E-07	8.36E-05	mg/kg-day	2.86E-02	mg/kg-day	2.93E-03				
				Exposure Route Total										1.89E-06					6.38E-02	
				Exposure Point Total										1.89E-06						6.38E-02
				Exposure Medium Total										1.94E-06						6.54E-02
Medium Total										1.94E-06						6.54E-02				
Total of Receptor Risks Across All Media										1.17E-04	Total of Receptor Hazards Across All Media					8.22E+01				

**TABLE H-7.7**

**EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:**
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.64E-08	mg/kg-day	--	--	--	1.92E-05	mg/kg-day	1.00E-02	mg/kg-day	1.92E-03
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	5.59E-08	mg/kg-day	--	--	--	6.52E-05	mg/kg-day	1.00E-02	mg/kg-day	6.52E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	5.48E-07	mg/kg-day	--	--	--	6.39E-06	mg/kg-day	5.00E-02	mg/kg-day	1.28E-04
				1,2-Dichlorobenzene	2.60E+01	mg/kg	2.85E-05	mg/kg-day	--	--	--	3.32E-04	mg/kg-day	9.00E-02	mg/kg-day	3.69E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	3.95E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.68E-10	4.60E-08	mg/kg-day	1.14E-03	mg/kg-day	4.04E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.75E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.09E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.21E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	3.00E-02	mg/kg-day	4.69E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	7.45E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	1.79E-07	8.69E-05	mg/kg-day	3.00E-02	mg/kg-day	2.90E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	2.30E-07	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	2.00E-02	mg/kg-day	1.34E-04
				2-Methylphenol	8.10E-02	mg/kg	8.88E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	5.00E-02	mg/kg-day	2.07E-05
				2-Methylnaphthalene	1.45E+00	mg/kg	1.59E-06	mg/kg-day	--	--	--	1.85E-05	mg/kg-day	4.00E-03	mg/kg-day	4.63E-03
				4,4'-DDD	1.20E-03	mg/kg	1.32E-09	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.16E-10	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05
				4,4'-DDE	7.50E-02	mg/kg	8.22E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.79E-08	9.59E-07	mg/kg-day	5.00E-04	mg/kg-day	1.92E-03
				4,4'-DDT	4.20E-02	mg/kg	4.60E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.56E-08	5.37E-07	mg/kg-day	5.00E-04	mg/kg-day	1.07E-03
				4-Methylphenol	2.70E-01	mg/kg	2.96E-07	mg/kg-day	--	--	--	3.45E-06	mg/kg-day	5.00E-03	mg/kg-day	6.90E-04
				4-Nitroaniline	6.20E-01	mg/kg	6.79E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.43E-08	7.93E-06	mg/kg-day	3.00E-03	mg/kg-day	2.64E-03
				4-Nitrophenol	4.20E-01	mg/kg	4.60E-07	mg/kg-day	--	--	--	5.37E-06	mg/kg-day	5.00E-04	mg/kg-day	1.07E-02
				Acenaphthene	3.47E+00	mg/kg	3.80E-06	mg/kg-day	--	--	--	4.44E-05	mg/kg-day	6.00E-02	mg/kg-day	7.40E-04
				Acenaphthylene	8.96E-02	mg/kg	9.82E-08	mg/kg-day	--	--	--	1.15E-06	mg/kg-day	6.00E-02	mg/kg-day	1.91E-05
				Aldrin	1.30E-02	mg/kg	1.42E-08	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.42E-07	1.66E-07	mg/kg-day	3.00E-05	mg/kg-day	5.54E-03
				alpha-BHC	7.30E-04	mg/kg	8.00E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	5.04E-09	9.33E-09	mg/kg-day	5.00E-04	mg/kg-day	1.87E-05
				alpha-Chlordane	6.98E-03	mg/kg	7.65E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.68E-09	8.93E-08	mg/kg-day	5.00E-04	mg/kg-day	1.79E-04
				Aluminum	9.05E+03	mg/kg	9.92E-03	mg/kg-day	--	--	--	1.16E-01	mg/kg-day	1.00E+00	mg/kg-day	1.16E-01
				Anthracene	9.13E-01	mg/kg	1.00E-06	mg/kg-day	--	--	--	1.17E-05	mg/kg-day	3.00E-01	mg/kg-day	3.89E-05
				Antimony	2.72E+00	mg/kg	2.98E-06	mg/kg-day	--	--	--	3.48E-05	mg/kg-day	4.00E-04	mg/kg-day	8.71E-02
				Aroclor-1248	1.20E+00	mg/kg	1.32E-06	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.63E-06	1.53E-05	mg/kg-day	2.00E-05	mg/kg-day	7.67E-01
				Aroclor-1254	4.38E-01	mg/kg	4.80E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.59E-07	5.60E-06	mg/kg-day	2.00E-05	mg/kg-day	2.80E-01
				Aroclor-1260	4.88E-01	mg/kg	5.35E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.07E-06	6.24E-06	mg/kg-day	2.00E-05	mg/kg-day	3.12E-01
				Aroclor-1268	2.72E-02	mg/kg	2.98E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.96E-08	3.48E-07	mg/kg-day	2.00E-05	mg/kg-day	1.74E-02
				Arsenic	9.53E+00	mg/kg	1.04E-05	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.57E-05	1.22E-04	mg/kg-day	3.00E-04	mg/kg-day	4.06E-01
				Barium	6.94E+01	mg/kg	7.61E-05	mg/kg-day	--	--	--	8.88E-04	mg/kg-day	7.00E-02	mg/kg-day	1.27E-02
				Benzo(a)anthracene	4.21E+00	mg/kg	4.62E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.37E-06	5.39E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.54E-06	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.12E-05	1.80E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	2.60E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.90E-06	3.03E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	7.10E-07	mg/kg-day	--	--	--	8.28E-06	mg/kg-day	3.00E-02	mg/kg-day	2.76E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	3.10E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	2.26E-07	3.61E-05	mg/kg-day	--	--	--
				Beryllium	2.29E-01	mg/kg	2.50E-07	mg/kg-day	--	--	--	2.91E-06	mg/kg-day	2.00E-03	mg/kg-day	1.46E-03
				Beta-BHC	2.20E-03	mg/kg	2.41E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	4.34E-09	2.81E-08	mg/kg-day	2.00E-04	mg/kg-day	1.41E-04
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	5.80E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	8.12E-08	6.77E-05	mg/kg-day	2.00E-02	mg/kg-day	3.99E-03
				Cadmium	8.65E+00	mg/kg	9.48E-06	mg/kg-day	--	--	--	1.11E-04	mg/kg-day	5.00E-04	mg/kg-day	2.21E-01
				Carbon disulfide	2.40E-04	mg/kg	2.63E-10	mg/kg-day	--	--	--	3.07E-09	mg/kg-day	1.00E-01	mg/kg-day	3.07E-08
				Chlorobenzene	1.10E-01	mg/kg	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	2.00E-02	mg/kg-day	7.03E-05
				Chromium	1.00E+02	mg/kg	1.10E-04	mg/kg-day	--	--	--	1.28E-03	mg/kg-day	1.50E+00	mg/kg-day	8.52E-04
				Chrysene	4.80E+00	mg/kg	5.26E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	3.84E-08	6.13E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	8.16E-06	mg/kg-day	--	--	--	9.52E-05	mg/kg-day	2.00E-02	mg/kg-day	4.76E-03
				Copper	6.01E+01	mg/kg	6.58E-05	mg/kg-day	--	--	--	7.68E-04	mg/kg-day	3.70E-02	mg/kg-day	2.08E-02
				Delta-BHC	8.40E-03	mg/kg	9.21E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.66E-08	1.07E-07	mg/kg-day	2.00E-04	mg/kg-day	5.37E-04
				Dibenzo(a,h)anthracene	2.78E-01	mg/kg	3.02E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.21E-06	3.52E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	1.42E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-03	mg/kg-day	8.31E-02
				Dieldrin	4.89E-02	mg/kg	5.36E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.58E-07	6.26E-07	mg/kg-day	5.00E-05	mg/kg-day	1.25E-02
Dimethylphthalate	3.80E-02	mg/kg	4.16E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	1.00E+01	mg/kg-day	4.86E-08				

TABLE H-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	2.52E-06	mg/kg-day	--	--	--	2.94E-05	mg/kg-day	1.00E-01	mg/kg-day	2.94E-04				
				Endosulfan I	2.30E-02	mg/kg	2.52E-08	mg/kg-day	--	--	--	2.94E-07	mg/kg-day	6.00E-03	mg/kg-day	4.90E-05				
				Endosulfan II	2.34E-02	mg/kg	2.56E-08	mg/kg-day	--	--	--	2.99E-07	mg/kg-day	6.00E-03	mg/kg-day	4.98E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	4.71E-08	mg/kg-day	--	--	--	5.50E-07	mg/kg-day	6.00E-03	mg/kg-day	9.16E-05				
				Endrin aldehyde	6.30E-02	mg/kg	6.90E-08	mg/kg-day	--	--	--	8.05E-07	mg/kg-day	3.00E-04	mg/kg-day	2.68E-03				
				Endrin Ketone	1.00E-02	mg/kg	1.10E-08	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	3.00E-04	mg/kg-day	4.26E-04				
				Fluoranthene	2.23E+01	mg/kg	2.44E-05	mg/kg-day	--	--	--	2.84E-04	mg/kg-day	4.00E-02	mg/kg-day	7.11E-03				
				Fluorene	2.53E+00	mg/kg	2.77E-06	mg/kg-day	--	--	--	3.23E-05	mg/kg-day	4.00E-02	mg/kg-day	8.08E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.85E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.70E-09	3.32E-08	mg/kg-day	3.00E-04	mg/kg-day	1.11E-04				
				gamma-Chlordane	1.27E-02	mg/kg	1.39E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.87E-09	1.62E-07	mg/kg-day	5.00E-04	mg/kg-day	3.25E-04				
				Heptachlor	6.80E-03	mg/kg	7.56E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	3.40E-08	8.82E-08	mg/kg-day	5.00E-04	mg/kg-day	1.76E-04				
				Heptachlor Epoxide	9.88E-03	mg/kg	1.08E-08	mg/kg-day	9.10E+00	(mg/kg-day)-1	9.83E-08	1.26E-07	mg/kg-day	1.30E-05	mg/kg-day	9.69E-03				
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	5.45E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.98E-07	6.36E-06	mg/kg-day	--	--	--				
				Iron	3.68E+04	mg/kg	4.03E-02	mg/kg-day	--	--	--	4.70E-01	mg/kg-day	3.00E-01	mg/kg-day	1.57E+00				
				Isophorone	2.00E-01	mg/kg	2.19E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.08E-10	2.56E-06	mg/kg-day	2.00E-01	mg/kg-day	1.28E-05				
				Lead	2.39E+03	mg/kg	2.62E-03	mg/kg-day	--	--	--	3.06E-02	mg/kg-day	--	--	--				
				Manganese	3.04E+02	mg/kg	3.34E-04	mg/kg-day	--	--	--	3.89E-03	mg/kg-day	2.40E-02	mg/kg-day	1.62E-01				
				Mercury	2.65E-01	mg/kg	2.91E-07	mg/kg-day	--	--	--	3.39E-06	mg/kg-day	3.00E-04	mg/kg-day	1.13E-02				
				Methoxychlor	1.20E-01	mg/kg	1.32E-07	mg/kg-day	--	--	--	1.53E-06	mg/kg-day	5.00E-03	mg/kg-day	3.07E-04				
				Methylene chloride	2.40E-03	mg/kg	2.63E-09	mg/kg-day	7.50E-03	(mg/kg-day)-1	1.97E-11	3.07E-08	mg/kg-day	6.00E-02	mg/kg-day	5.11E-07				
				Molybdenum	2.18E+00	mg/kg	2.39E-06	mg/kg-day	--	--	--	2.78E-05	mg/kg-day	5.00E-03	mg/kg-day	5.57E-03				
				Naphthalene	1.30E+01	mg/kg	1.42E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-02	mg/kg-day	8.31E-03				
				Nickel	3.89E+01	mg/kg	4.27E-05	mg/kg-day	--	--	--	4.98E-04	mg/kg-day	2.00E-02	mg/kg-day	2.49E-02				
				Phenanthrene	1.17E+01	mg/kg	1.28E-05	mg/kg-day	--	--	--	1.49E-04	mg/kg-day	3.00E-01	mg/kg-day	4.98E-04				
				Phenol	5.80E-01	mg/kg	6.36E-07	mg/kg-day	--	--	--	7.42E-06	mg/kg-day	3.00E-01	mg/kg-day	2.47E-05				
				p-Isopropyltoluene	1.10E-01	mg/kg	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	1.00E-01	mg/kg-day	1.41E-05				
				Pyrene	2.03E+01	mg/kg	2.23E-05	mg/kg-day	--	--	--	2.60E-04	mg/kg-day	3.00E-02	mg/kg-day	8.67E-03				
				sec-Butylbenzene	7.10E-02	mg/kg	7.78E-08	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	4.00E-02	mg/kg-day	2.27E-05				
				Selenium	2.84E-01	mg/kg	3.11E-07	mg/kg-day	--	--	--	3.63E-06	mg/kg-day	5.00E-03	mg/kg-day	7.25E-04				
				Silver	9.80E-01	mg/kg	1.07E-06	mg/kg-day	--	--	--	1.25E-05	mg/kg-day	5.00E-03	mg/kg-day	2.51E-03				
				Technical Chlordane	5.41E-01	mg/kg	5.93E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.07E-07	6.91E-06	mg/kg-day	5.00E-04	mg/kg-day	1.38E-02				
				Thallium	4.83E-01	mg/kg	5.29E-07	mg/kg-day	--	--	--	6.17E-06	mg/kg-day	6.60E-05	mg/kg-day	9.35E-02				
				Toluene	4.30E-04	mg/kg	4.71E-10	mg/kg-day	--	--	--	5.50E-09	mg/kg-day	8.00E-02	mg/kg-day	6.87E-08				
				Vanadium	3.37E+01	mg/kg	3.69E-05	mg/kg-day	--	--	--	4.31E-04	mg/kg-day	1.00E-03	mg/kg-day	4.31E-01				
				Zinc	3.32E+02	mg/kg	3.64E-04	mg/kg-day	--	--	--	4.24E-03	mg/kg-day	3.00E-01	mg/kg-day	1.41E-02				
				<b>Exposure Route Total</b>										<b>4.16E-05</b>			<b>4.78E+00</b>			
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	4.77E-07	mg/kg-day	--	--	--	5.56E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.62E-07	mg/kg-day	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.59E-08	mg/kg-day	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06
								1,2-Dichlorobenzene	2.60E+01	mg/kg	8.26E-07	mg/kg-day	--	--	--	9.64E-06	mg/kg-day	9.00E-02	mg/kg-day	1.07E-04
								1,2-Dichloropropane	3.60E-03	mg/kg	1.14E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	7.78E-12	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06
								1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.08E-09	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.19E-06
								1,3-Dichlorobenzene	1.10E+00	mg/kg	3.50E-08	mg/kg-day	--	--	--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05
								1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
								2,4-Dimethylphenol	2.10E-01	mg/kg	6.67E-09	mg/kg-day	--	--	--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06
2-Methylphenol	8.10E-02	mg/kg	2.57E-08					mg/kg-day	--	--	--	3.00E-07	mg/kg-day	5.00E-02	mg/kg-day	6.01E-06				
2-Methylnaphthalene	1.45E+00	mg/kg	4.61E-08					mg/kg-day	--	--	--	5.37E-07	mg/kg-day	4.00E-03	mg/kg-day	1.34E-04				
4,4'-DDD	1.20E-03	mg/kg	3.81E-11					mg/kg-day	2.40E-01	(mg/kg-day)-1	9.15E-12	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07				
4,4'-DDE	7.50E-02	mg/kg	2.38E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	8.10E-10	2.78E-08	mg/kg-day	5.00E-04	mg/kg-day	5.56E-05				
4,4'-DDT	4.20E-02	mg/kg	4.00E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.36E-09	4.67E-08	mg/kg-day	5.00E-04	mg/kg-day	9.34E-05				
4-Methylphenol	2.70E-01	mg/kg	8.58E-08					mg/kg-day	--	--	--	1.00E-06	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04				

TABLE H-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	1.97E-07	mg/kg-day	2.10E-02	--	4.14E-09	2.30E-06	mg/kg-day	3.00E-03	mg/kg-day	7.66E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.33E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	3.47E+00	mg/kg	1.43E-06	mg/kg-day	--	--	--	1.67E-05	mg/kg-day	6.00E-02	mg/kg-day	2.79E-04
				Acenaphthylene	8.96E-02	mg/kg	2.85E-09	mg/kg-day	--	--	--	3.32E-08	mg/kg-day	6.00E-02	mg/kg-day	5.54E-07
				Aldrin	1.30E-02	mg/kg	4.13E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.02E-08	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03
				alpha-BHC	7.30E-04	mg/kg	2.32E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.46E-10	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	2.88E-05	mg/kg-day	--	--	--	3.36E-04	mg/kg-day	1.00E+00	mg/kg-day	3.36E-04
				Anthracene	9.13E-01	mg/kg	3.77E-07	mg/kg-day	--	--	--	4.40E-06	mg/kg-day	3.00E-01	mg/kg-day	1.47E-05
				Antimony	2.72E+00	mg/kg	8.66E-09	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	4.00E-04	mg/kg-day	2.52E-04
				Aroclor-1248	1.20E+00	mg/kg	5.34E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.07E-06	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.38E-01	mg/kg	1.95E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.89E-07	2.27E-06	mg/kg-day	2.00E-05	mg/kg-day	1.14E-01
				Aroclor-1260	4.88E-01	mg/kg	2.17E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.34E-07	2.53E-06	mg/kg-day	2.00E-05	mg/kg-day	1.27E-01
				Aroclor-1268	2.72E-02	mg/kg	1.21E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.42E-08	1.41E-07	mg/kg-day	2.00E-05	mg/kg-day	7.05E-03
				Arsenic	9.53E+00	mg/kg	9.09E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.36E-06	1.06E-05	mg/kg-day	3.00E-04	mg/kg-day	3.53E-02
				Barium	6.94E+01	mg/kg	2.21E-07	mg/kg-day	--	--	--	2.57E-06	mg/kg-day	7.00E-02	mg/kg-day	3.68E-05
				Benzo(a)anthracene	4.21E+00	mg/kg	1.74E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.27E-06	2.03E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	5.81E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.24E-06	6.78E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	9.80E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.16E-07	1.14E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	2.68E-07	mg/kg-day	--	--	--	3.12E-06	mg/kg-day	3.00E-02	mg/kg-day	1.04E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.17E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	8.52E-08	1.36E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	7.24E-10	mg/kg-day	--	--	--	8.45E-09	mg/kg-day	2.00E-03	mg/kg-day	4.22E-08
				Beta-BHC	2.20E-03	mg/kg	6.99E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.28E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.68E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.36E-09	1.96E-06	mg/kg-day	2.00E-02	mg/kg-day	9.82E-05
				Cadmium	8.65E+00	mg/kg	2.75E-08	mg/kg-day	--	--	--	3.21E-07	mg/kg-day	5.00E-04	mg/kg-day	6.41E-04
				Carbon disulfide	2.40E-04	mg/kg	1.91E-10	mg/kg-day	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	3.50E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.00E+02	mg/kg	3.18E-07	mg/kg-day	--	--	--	3.71E-06	mg/kg-day	1.50E+00	mg/kg-day	2.47E-06
				Chrysene	4.80E+00	mg/kg	1.98E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.45E-08	2.31E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.37E-08	mg/kg-day	--	--	--	2.76E-07	mg/kg-day	2.00E-02	mg/kg-day	1.38E-05
				Copper	6.01E+01	mg/kg	1.91E-07	mg/kg-day	--	--	--	2.23E-06	mg/kg-day	3.70E-02	mg/kg-day	6.02E-05
				Delta-BHC	8.40E-03	mg/kg	1.33E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.40E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.14E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	8.31E-07	1.33E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.13E-07	mg/kg-day	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	4.89E-02	mg/kg	1.55E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.49E-08	1.81E-08	mg/kg-day	5.00E-05	mg/kg-day	3.63E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.21E-09	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	1.00E+01	mg/kg-day	1.41E-09
				di-n-Butylphthalate	2.30E+00	mg/kg	7.31E-08	mg/kg-day	--	--	--	8.53E-07	mg/kg-day	1.00E-01	mg/kg-day	8.53E-06
				Endosulfan I	2.30E-02	mg/kg	3.65E-09	mg/kg-day	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.34E-02	mg/kg	3.71E-09	mg/kg-day	--	--	--	4.33E-08	mg/kg-day	6.00E-03	mg/kg-day	7.22E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.83E-09	mg/kg-day	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	6.30E-02	mg/kg	1.00E-08	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.89E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	9.19E-06	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	4.00E-02	mg/kg-day	2.68E-03
				Fluorene	2.53E+00	mg/kg	1.04E-06	mg/kg-day	--	--	--	1.22E-05	mg/kg-day	4.00E-02	mg/kg-day	3.05E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.31E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.30E-10	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	2.19E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	9.87E-10	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06
				Heptachlor Epoxide	9.86E-03	mg/kg	3.13E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.85E-09	3.65E-09	mg/kg-day	1.30E-05	mg/kg-day	2.81E-04
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	2.05E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.50E-07	2.40E-06	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	1.17E-04	mg/kg-day	--	--	--	1.36E-03	mg/kg-day	3.00E-01	mg/kg-day	4.54E-03
				Isophorone	2.00E-01	mg/kg	6.36E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.04E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06

TABLE H-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	7.59E-06	mg/kg-day	--	--	--	--	8.86E-05	mg/kg-day	--	--	--	
				Manganese	3.04E+02	mg/kg	9.67E-07	mg/kg-day	--	--	--	--	1.13E-05	mg/kg-day	2.40E-02	mg/kg-day	4.70E-04	--
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	--
				Methoxychlor	1.20E-01	mg/kg	3.81E-09	mg/kg-day	--	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06	--
				Methylene chloride	2.40E-03	mg/kg	7.63E-11	mg/kg-day	7.50E-03	(mg/kg-day) <sup>-1</sup>	5.72E-13	--	8.90E-10	mg/kg-day	6.00E-02	mg/kg-day	1.48E-08	--
				Molybdenum	2.18E+00	mg/kg	6.93E-09	mg/kg-day	--	--	--	--	8.08E-08	mg/kg-day	5.00E-03	mg/kg-day	1.62E-05	--
				Naphthalene	1.30E+01	mg/kg	5.37E-06	mg/kg-day	--	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03	--
				Nickel	3.89E+01	mg/kg	1.24E-07	mg/kg-day	--	--	--	--	1.44E-06	mg/kg-day	2.00E-02	mg/kg-day	7.22E-05	--
				Phenanthrene	1.17E+01	mg/kg	3.71E-07	mg/kg-day	--	--	--	--	4.33E-06	mg/kg-day	3.00E-01	mg/kg-day	1.44E-05	--
				Phenol	5.80E-01	mg/kg	1.84E-07	mg/kg-day	--	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06	--
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	--
				Pyrene	2.03E+01	mg/kg	8.40E-06	mg/kg-day	--	--	--	--	9.81E-05	mg/kg-day	3.00E-02	mg/kg-day	3.27E-03	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	--
				Selenium	2.84E-01	mg/kg	9.01E-10	mg/kg-day	--	--	--	--	1.05E-08	mg/kg-day	5.00E-03	mg/kg-day	2.10E-06	--
				Silver	9.80E-01	mg/kg	3.11E-09	mg/kg-day	--	--	--	--	3.63E-08	mg/kg-day	5.00E-03	mg/kg-day	7.27E-06	--
				Technical Chlordane	5.41E-01	mg/kg	6.87E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.41E-08	--	8.02E-07	mg/kg-day	5.00E-04	mg/kg-day	1.60E-03	--
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--	--
				Toluene	4.30E-04	mg/kg	1.37E-11	mg/kg-day	--	--	--	--	1.59E-10	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09	--
				Vanadium	3.37E+01	mg/kg	1.07E-07	mg/kg-day	--	--	--	--	1.25E-06	mg/kg-day	1.00E-03	mg/kg-day	1.25E-03	--
				Zinc	3.32E+02	mg/kg	1.05E-06	mg/kg-day	--	--	--	--	1.23E-05	mg/kg-day	3.00E-01	mg/kg-day	4.10E-05	--
				Exposure Point Total			Exposure Route Total							1.07E-05				
Exposure Point Total			Exposure Route Total							5.23E-05					5.38E+00			
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--			
		1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--			
		1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
		1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--			
		1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--			
		1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
		1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
		1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
		2,4-Dimethylphenol	2.10E-01	mg/kg	2.71E-06	mg/kg-day	--	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03			
		2-Methylphenol	8.10E-02	mg/kg	2.49E-06	mg/kg-day	--	--	--	--	2.91E-05	mg/kg-day	5.00E-02	mg/kg-day	5.82E-04			
		2-Methylnaphthalene	1.45E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-03	mg/kg-day	--			
		4,4'-DDD	1.20E-03	mg/kg	2.64E-11	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	6.35E-12	3.08E-10	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07			
		4,4'-DDE	7.50E-02	mg/kg	1.20E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.07E-10	1.40E-08	mg/kg-day	5.00E-04	mg/kg-day	2.79E-05				
		4,4'-DDT	4.20E-02	mg/kg	2.89E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	9.82E-10	3.37E-08	mg/kg-day	5.00E-04	mg/kg-day	6.74E-05				
		4-Methylphenol	2.70E-01	mg/kg	8.54E-06	mg/kg-day	--	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02			
		4-Nitroaniline	6.20E-01	mg/kg	1.34E-05	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.82E-07	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02				
		4-Nitrophenol	4.20E-01	mg/kg	1.36E-05	mg/kg-day	--	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.18E-01			
		Acenaphthene	3.47E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--			
		Acenaphthylene	8.96E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--			
		Aldrin	1.30E-02	mg/kg	4.69E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	7.97E-09	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04				
		alpha-BHC	7.30E-04	mg/kg	5.68E-09	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	3.58E-08	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04				
alpha-Chlordane	6.68E-03	mg/kg	5.53E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.93E-10	6.45E-09	mg/kg-day	5.00E-04	mg/kg-day	1.29E-05						
Aluminum	8.05E+03	mg/kg	9.76E-05	mg/kg-day	--	--	--	--	1.14E-03	mg/kg-day	1.00E+00	mg/kg-day	1.14E-03					
Anthracene	9.13E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--					
Antimony	2.72E+00	mg/kg	1.36E-06	mg/kg-day	--	--	--	--	1.58E-05	mg/kg-day	4.00E-04	mg/kg-day	3.95E-02					
Aroclor-1248	1.20E+00	mg/kg	2.65E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	5.30E-08	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02						
Aroclor-1254	4.38E-01	mg/kg	1.29E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.59E-07	1.51E-06	mg/kg-day	2.00E-05	mg/kg-day	7.55E-02						
Aroclor-1260	4.88E-01	mg/kg	5.16E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.03E-08	6.02E-08	mg/kg-day	2.00E-05	mg/kg-day	3.01E-03						
Aroclor-1268	2.72E-02	mg/kg	8.04E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.61E-08	9.38E-08	mg/kg-day	2.00E-05	mg/kg-day	4.69E-03						

TABLE H-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	9.49E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.42E-06	1.11E-05	mg/kg-day	3.00E-04	mg/kg-day	3.69E-02
				Barium	6.94E+01	mg/kg	1.73E-05	mg/kg-day	--	--	--	2.02E-04	mg/kg-day	7.00E-02	mg/kg-day	2.88E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	1.79E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.31E-08	2.09E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	3.40E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.48E-08	3.96E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	5.73E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.18E-08	6.69E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	1.39E-07	mg/kg-day	3.00E-02	mg/kg-day	4.64E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	6.82E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	4.98E-09	7.96E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	5.67E-09	mg/kg-day	--	--	--	6.61E-08	mg/kg-day	2.00E-03	mg/kg-day	3.31E-05
				Beta-BHC	2.20E-03	mg/kg	1.71E-08	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.08E-08	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	3.04E-05	mg/kg-day	1.40E-02	(mg/kg-day)-1	4.25E-07	3.54E-04	mg/kg-day	2.00E-02	mg/kg-day	1.77E-02
				Cadmium	8.65E+00	mg/kg	2.15E-05	mg/kg-day	--	--	--	2.51E-04	mg/kg-day	5.00E-04	mg/kg-day	5.02E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	7.46E-06	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	1.50E+00	mg/kg-day	5.80E-05
				Chrysene	4.80E+00	mg/kg	1.43E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.05E-09	1.67E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	8.64E-07	mg/kg-day	--	--	--	1.01E-05	mg/kg-day	2.00E-02	mg/kg-day	5.04E-04
				Copper	6.01E+01	mg/kg	2.49E-04	mg/kg-day	--	--	--	2.91E-03	mg/kg-day	3.70E-02	mg/kg-day	7.86E-02
				Delta-BHC	8.40E-03	mg/kg	5.33E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	9.99E-10	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	4.11E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.00E-08	4.80E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	4.30E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.88E-06	5.02E-08	mg/kg-day	5.00E-05	mg/kg-day	1.00E-01
				Dimethylphthalate	3.80E-02	mg/kg	9.38E-07	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	1.00E+01	mg/kg-day	1.09E-06
				di-n-Butylphthalate	2.30E+00	mg/kg	7.95E-08	mg/kg-day	--	--	--	9.27E-07	mg/kg-day	1.00E-01	mg/kg-day	9.27E-06
				Endosulfan I	2.30E-02	mg/kg	1.71E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.34E-02	mg/kg	1.66E-07	mg/kg-day	--	--	--	1.94E-06	mg/kg-day	6.00E-03	mg/kg-day	3.24E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	2.99E-07	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endrin aldehyde	6.30E-02	mg/kg	1.73E-09	mg/kg-day	--	--	--	2.02E-08	mg/kg-day	3.00E-04	mg/kg-day	6.74E-05
				Endrin Ketone	1.00E-02	mg/kg	2.76E-10	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.23E+01	mg/kg	9.97E-07	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	4.00E-02	mg/kg-day	2.91E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	7.12E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	9.26E-08	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.27E-02	mg/kg	1.01E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.52E-10	1.17E-08	mg/kg-day	5.00E-04	mg/kg-day	2.35E-05
				Heptachlor	6.90E-03	mg/kg	4.06E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.83E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06
				Heptachlor Epoxide	9.86E-03	mg/kg	1.89E-07	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.72E-06	2.20E-06	mg/kg-day	1.30E-05	mg/kg-day	1.69E-01
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	8.99E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.56E-09	1.05E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	6.06E-04	mg/kg-day	--	--	--	7.07E-03	mg/kg-day	3.00E-01	mg/kg-day	2.36E-02
Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--				
Lead	2.39E+03	mg/kg	3.57E-04	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	--	--	--				
Manganese	3.04E+02	mg/kg	2.52E-04	mg/kg-day	--	--	--	2.95E-03	mg/kg-day	2.40E-02	mg/kg-day	1.23E-01				
Mercury	2.65E-01	mg/kg	8.80E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	3.00E-04	mg/kg-day	3.42E-02				
Methoxychlor	1.20E-01	mg/kg	1.72E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06				
Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	7.50E-03	(mg/kg-day)-1	--	--	mg/kg-day	6.00E-02	mg/kg-day	--				
Molybdenum	2.18E+00	mg/kg	2.17E-06	mg/kg-day	--	--	--	2.53E-05	mg/kg-day	5.00E-03	mg/kg-day	5.06E-03				
Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--				
Nickel	3.89E+01	mg/kg	3.88E-05	mg/kg-day	--	--	--	4.52E-04	mg/kg-day	2.00E-02	mg/kg-day	2.26E-02				
Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	4.75E-05	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.84E-01	mg/kg	1.18E-07	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	5.00E-03	mg/kg-day	2.74E-04				

TABLE H-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	1.63E-06	mg/kg-day	--	--	--	--	1.90E-05	mg/kg-day	5.00E-03	mg/kg-day	3.79E-03		
				Technical Chlordane	5.41E-01	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	--	--	--	--	5.00E-04	mg/kg-day	--	--	
				Thallium	4.83E-01	mg/kg	3.20E-09	mg/kg-day	--	--	--	--	--	3.74E-08	mg/kg-day	6.60E-05	mg/kg-day	5.66E-04	--
				Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	--	--	8.00E-02	mg/kg-day	--	--	
				Vanadium	3.37E+01	mg/kg	1.68E-06	mg/kg-day	--	--	--	--	--	1.96E-05	mg/kg-day	1.00E-03	mg/kg-day	1.96E-02	--
				Zinc	3.32E+02	mg/kg	4.95E-03	mg/kg-day	--	--	--	--	--	5.78E-02	mg/kg-day	3.00E-01	mg/kg-day	1.93E-01	--
Exposure Route Total											1.14E-05					1.87E+00			
Exposure Point Total											1.14E-05					1.87E+00			
Exposure Medium Total											6.37E-05					7.25E+00			
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	8.79E-12	mg/kg-day	--	--	--	--	1.03E-10	mg/kg-day	2.00E-02	mg/kg-day	5.13E-09			
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.39E-12	mg/kg-day	--	--	--	--	3.95E-11	mg/kg-day	--	--	--			
			4'-DDD	9.09E-13	mg/m <sup>3</sup>	5.02E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	1.21E-14	5.86E-13	mg/kg-day	5.00E-04	mg/kg-day	4.10E-08				
			4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	1.76E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	5.97E-13	2.05E-11	mg/kg-day	5.00E-04	mg/kg-day	4.10E-08				
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.13E-11	mg/kg-day	--	--	--	--	1.32E-10	mg/kg-day	5.00E-03	mg/kg-day	2.64E-08			
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.59E-11	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	5.45E-13	3.03E-10	mg/kg-day	1.00E-03	mg/kg-day	3.03E-07				
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.76E-11	mg/kg-day	--	--	--	--	2.05E-10	mg/kg-day	5.70E-04	mg/kg-day	3.60E-07			
			Aluminum	6.86E-06	mg/m <sup>3</sup>	3.79E-07	mg/kg-day	--	--	--	--	4.42E-06	mg/kg-day	1.43E-03	mg/kg-day	3.09E-03			
			Antimony	2.06E-09	mg/m <sup>3</sup>	1.14E-10	mg/kg-day	--	--	--	--	1.33E-09	mg/kg-day	--	--	--			
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	5.02E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.00E-10	5.86E-10	mg/kg-day	2.00E-05	mg/kg-day	2.93E-05				
			Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	1.83E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.66E-11	2.14E-10	mg/kg-day	2.00E-05	mg/kg-day	1.07E-05				
			Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	2.04E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.09E-11	2.38E-10	mg/kg-day	2.00E-05	mg/kg-day	1.19E-05				
			Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	1.14E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.27E-12	1.33E-11	mg/kg-day	2.00E-05	mg/kg-day	6.63E-07				
			Arsenic	7.22E-09	mg/m <sup>3</sup>	3.99E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	5.98E-09	4.65E-09	mg/kg-day	--	--	--				
			Barium	5.26E-08	mg/m <sup>3</sup>	2.91E-09	mg/kg-day	--	--	--	3.39E-08	mg/kg-day	1.40E-04	mg/kg-day	2.42E-04				
			Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	1.76E-10	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.29E-10	2.06E-09	mg/kg-day	--	--	--				
			Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	5.88E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	4.29E-10	6.86E-10	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	2.71E-11	mg/kg-day	--	--	--	3.16E-10	mg/kg-day	3.00E-02	mg/kg-day	1.05E-08				
			Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	8.63E-12	1.38E-09	mg/kg-day	--	--	--				
			Beryllium	1.73E-10	mg/m <sup>3</sup>	9.53E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	8.01E-11	1.11E-10	mg/kg-day	5.71E-06	mg/kg-day	1.95E-05				
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	9.21E-14	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	1.71E-13	1.07E-12	mg/kg-day	2.00E-04	mg/kg-day	5.37E-09				
			bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	2.22E-10	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	3.10E-12	2.58E-09	mg/kg-day	2.00E-02	mg/kg-day	1.29E-07				
			Cadmium	6.55E-09	mg/m <sup>3</sup>	3.62E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	2.28E-09	4.22E-09	mg/kg-day	--	--	--				
			Chromium	7.57E-08	mg/m <sup>3</sup>	4.18E-09	mg/kg-day	--	--	--	4.88E-08	mg/kg-day	--	--	--				
			Cobalt	5.64E-09	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	3.05E-09	3.63E-09	mg/kg-day	5.71E-06	mg/kg-day	6.36E-04				
			Copper	4.55E-08	mg/m <sup>3</sup>	2.51E-09	mg/kg-day	--	--	--	2.93E-08	mg/kg-day	--	--	--				
			Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	1.15E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	8.42E-11	1.35E-10	mg/kg-day	--	--	--				
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.59E-12	mg/kg-day	--	--	--	1.86E-11	mg/kg-day	1.00E+01	mg/kg-day	1.86E-12				
			di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	9.62E-11	mg/kg-day	--	--	--	1.12E-09	mg/kg-day	1.00E-01	mg/kg-day	1.12E-08				
			Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	2.64E-12	mg/kg-day	--	--	--	3.08E-11	mg/kg-day	3.00E-04	mg/kg-day	1.03E-07				
			Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	4.18E-13	mg/kg-day	--	--	--	4.88E-12	mg/kg-day	3.00E-04	mg/kg-day	1.63E-08				
			Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	4.12E-13	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	3.75E-12	4.81E-12	mg/kg-day	1.30E-05	mg/kg-day	3.70E-07				
			Indeno(1,2,3-d)pyrene	3.77E-10	mg/m <sup>3</sup>	2.08E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.52E-11	2.43E-10	mg/kg-day	--	--	--				
			Iron	2.79E-05	mg/m <sup>3</sup>	1.54E-06	mg/kg-day	--	--	--	1.79E-05	mg/kg-day	--	--	--				
			Isophorone	1.52E-10	mg/m <sup>3</sup>	8.37E-12	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	7.95E-15	9.76E-11	mg/kg-day	2.00E-01	mg/kg-day	4.88E-10				
			Lead	1.81E-06	mg/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	1.17E-06	mg/kg-day	--	--	--				
			Manganese	2.31E-07	mg/m <sup>3</sup>	1.27E-08	mg/kg-day	--	--	--	1.49E-07	mg/kg-day	1.43E-05	mg/kg-day	1.04E-02				
			Mercury	2.01E-10	mg/m <sup>3</sup>	1.11E-11	mg/kg-day	--	--	--	1.30E-10	mg/kg-day	8.60E-05	mg/kg-day	1.51E-06				
			Nickel	2.95E-08	mg/m <sup>3</sup>	1.63E-09	mg/kg-day	--	--	--	1.90E-08	mg/kg-day	--	--	--				
			Phenol	4.39E-10	mg/m <sup>3</sup>	2.43E-11	mg/kg-day	--	--	--	2.83E-10	mg/kg-day	3.00E-01	mg/kg-day	9.44E-10				
			Selenium	2.15E-10	mg/m <sup>3</sup>	1.19E-11	mg/kg-day	--	--	--	1.38E-10	mg/kg-day	--	--	--				
Silver	7.42E-10	mg/m <sup>3</sup>	4.10E-11	mg/kg-day	--	--	--	4.78E-10	mg/kg-day	--	--	--							

TABLE H-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.66E-10	mg/m <sup>3</sup>	2.02E-11	mg/kg-day	--	--	--	2.36E-10	mg/kg-day	--	--	--	
			Vanadium	2.55E-08	mg/m <sup>3</sup>	1.41E-09	mg/kg-day	--	--	--	1.64E-08	mg/kg-day	--	--	--	--	
				Zinc	2.51E-07	mg/m <sup>3</sup>	1.39E-08	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	--	--	--	
			Exposure Route Total									1.22E-08					1.44E-02
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.77E-06	mg/kg-day	--	--	--	6.73E-05	mg/kg-day	1.10E-03	mg/kg-day	6.12E-02	
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.96E-05	mg/kg-day	--	--	--	2.29E-04	mg/kg-day	1.10E-03	mg/kg-day	2.09E-01	
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.47E-06	mg/kg-day	--	--	--	7.55E-05	mg/kg-day	1.71E-03	mg/kg-day	4.41E-02	
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.94E-04	mg/kg-day	--	--	--	3.43E-03	mg/kg-day	5.70E-02	mg/kg-day	6.02E-02	
				1,2-Dichloropropane	2.86E-08	mg/m <sup>3</sup>	1.58E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.07E-08	1.84E-06	mg/kg-day	1.14E-03	mg/kg-day	1.62E-03	
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	2.02E-06	mg/kg-day	--	--	--	2.35E-05	mg/kg-day	1.71E-03	mg/kg-day	1.37E-02	
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	9.00E-06	mg/kg-day	--	--	--	1.05E-04	mg/kg-day	3.00E-02	mg/kg-day	3.50E-03	
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.63E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.90E-06	1.01E-03	mg/kg-day	2.30E-01	mg/kg-day	4.38E-03	
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	3.54E-06	mg/kg-day	--	--	--	4.13E-05	mg/kg-day	5.00E-02	mg/kg-day	8.27E-04	
				4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	4.88E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.66E-10	5.69E-09	mg/kg-day	5.00E-04	mg/kg-day	1.14E-05	
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	2.63E-06	mg/kg-day	--	--	--	3.07E-05	mg/kg-day	6.00E-02	mg/kg-day	5.12E-04	
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	6.79E-08	mg/kg-day	--	--	--	7.92E-07	mg/kg-day	6.00E-02	mg/kg-day	1.32E-05	
				Aldrin	5.63E-09	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.29E-09	3.63E-09	mg/kg-day	3.00E-05	mg/kg-day	1.21E-04	
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	2.01E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.27E-09	2.34E-09	mg/kg-day	5.00E-04	mg/kg-day	4.69E-06	
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	3.82E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.34E-10	4.45E-09	mg/kg-day	2.00E-04	mg/kg-day	2.23E-05	
				Anthracene	1.25E-05	mg/m <sup>3</sup>	6.92E-07	mg/kg-day	--	--	--	8.08E-06	mg/kg-day	3.00E-01	mg/kg-day	2.69E-05	
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	8.47E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.19E-08	9.89E-07	mg/kg-day	--	--	--	
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.50E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06	
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.86E-06	mg/kg-day	--	--	--	3.34E-05	mg/kg-day	1.70E-02	mg/kg-day	1.96E-03	
				Chrysene	5.27E-06	mg/m <sup>3</sup>	2.91E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.13E-09	3.40E-06	mg/kg-day	--	--	--	
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	1.86E+00	(mg/kg-day)-1	4.29E-09	2.70E-08	mg/kg-day	2.00E-04	mg/kg-day	1.35E-04	
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.48E-06	mg/kg-day	--	--	--	2.89E-05	mg/kg-day	2.00E-03	mg/kg-day	1.45E-02	
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	3.63E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	5.82E-08	4.24E-08	mg/kg-day	5.00E-05	mg/kg-day	8.89E-04	
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.45E-09	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	6.00E-03	mg/kg-day	8.65E-06	
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	4.52E-09	mg/kg-day	--	--	--	5.27E-08	mg/kg-day	6.00E-03	mg/kg-day	8.79E-06	
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	8.32E-09	mg/kg-day	--	--	--	9.71E-08	mg/kg-day	6.00E-03	mg/kg-day	1.62E-05	
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	7.95E-07	mg/kg-day	--	--	--	9.27E-06	mg/kg-day	4.00E-02	mg/kg-day	2.32E-04	
				Fluorene	1.48E-05	mg/m <sup>3</sup>	8.17E-07	mg/kg-day	--	--	--	9.53E-06	mg/kg-day	4.00E-02	mg/kg-day	2.38E-04	
				gamma-BHC (Lindane)	1.56E-08	mg/m <sup>3</sup>	8.81E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.14E-09	1.03E-08	mg/kg-day	3.00E-04	mg/kg-day	3.42E-05	
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	6.94E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.43E-10	8.10E-09	mg/kg-day	2.00E-04	mg/kg-day	4.05E-05	
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.87E-08	mg/kg-day	4.55E+00	(mg/kg-day)-1	8.49E-08	2.18E-07	mg/kg-day	5.00E-04	mg/kg-day	4.36E-04	
				Methoxychlor	8.63E-06	mg/m <sup>3</sup>	4.77E-09	mg/kg-day	--	--	--	5.56E-06	mg/kg-day	5.00E-03	mg/kg-day	1.11E-05	
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.86E-05	mg/kg-day	--	--	--	4.51E-04	mg/kg-day	8.57E-04	mg/kg-day	5.26E-01	
				Phenanthrene	1.60E-04	mg/m <sup>3</sup>	8.86E-06	mg/kg-day	--	--	--	1.03E-04	mg/kg-day	3.00E-01	mg/kg-day	3.44E-04	
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.06E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	1.10E-01	mg/kg-day	1.12E-03	
				Pyrene	1.56E-05	mg/m <sup>3</sup>	8.59E-07	mg/kg-day	--	--	--	1.00E-05	mg/kg-day	3.00E-02	mg/kg-day	3.34E-04	
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.55E-06	mg/kg-day	--	--	--	1.81E-05	mg/kg-day	4.00E-02	mg/kg-day	4.52E-04	
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	2.96E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	1.03E-11	3.45E-07	mg/kg-day	2.00E-04	mg/kg-day	1.72E-03	
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.72E-08	mg/kg-day	--	--	--	2.01E-07	mg/kg-day	1.43E+00	mg/kg-day	1.41E-07	
			Exposure Route Total									2.13E-06					9.46E-01
			Exposure Point Total									2.14E-06					9.61E-01
		Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	4.87E-04	mg/kg-day	--	--	--	5.68E-03	mg/kg-day	1.10E-03	mg/kg-day	5.16E+00	
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	1.65E-03	mg/kg-day	--	--	--	1.93E-02	mg/kg-day	1.10E-03	mg/kg-day	1.75E+01	
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	1.62E-04	mg/kg-day	--	--	--	1.89E-03	mg/kg-day	1.71E-03	mg/kg-day	1.10E+00	
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	8.43E-03	mg/kg-day	--	--	--	9.84E-02	mg/kg-day	5.70E-02	mg/kg-day	1.73E+00	
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	1.17E-06	mg/kg-day	6.80E-02	(mg/kg-day)-1	7.94E-08	1.36E-05	mg/kg-day	1.14E-03	mg/kg-day	1.19E-02	
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	5.19E-05	mg/kg-day	--	--	--	6.05E-04	mg/kg-day	1.71E-03	mg/kg-day	3.53E-01	

TABLE H-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	3.57E-04	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	3.00E-02	mg/kg-day	1.39E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	2.21E-03	mg/kg-day	2.20E-02	(mg/kg-day)-1	4.85E-05	2.57E-02	mg/kg-day	2.30E-01	mg/kg-day	1.12E-01
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	2.68E-04	mg/kg-day	--	--	--	3.12E-03	mg/kg-day	5.00E-02	mg/kg-day	6.25E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	3.35E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.14E-10	3.91E-09	mg/kg-day	5.00E-04	mg/kg-day	7.82E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	9.35E-05	mg/kg-day	--	--	--	1.08E-03	mg/kg-day	6.00E-02	mg/kg-day	1.82E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	2.42E-06	mg/kg-day	--	--	--	2.82E-05	mg/kg-day	6.00E-02	mg/kg-day	4.70E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	8.89E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.51E-08	1.04E-08	mg/kg-day	3.00E-05	mg/kg-day	3.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	5.95E-09	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.75E-08	6.94E-08	mg/kg-day	5.00E-04	mg/kg-day	1.39E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	3.00E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.05E-09	3.50E-08	mg/kg-day	2.00E-04	mg/kg-day	1.75E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	2.46E-05	mg/kg-day	--	--	--	2.87E-04	mg/kg-day	3.00E-01	mg/kg-day	9.57E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	1.74E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.27E-07	2.03E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	7.78E-08	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	2.00E-01	mg/kg-day	4.54E-08
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	3.57E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.70E-02	mg/kg-day	2.45E-02
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	9.81E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	7.16E-09	1.14E-05	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	1.02E-07	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.88E-07	1.18E-06	mg/kg-day	2.00E-04	mg/kg-day	5.92E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	1.31E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	2.00E-03	mg/kg-day	7.63E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	2.90E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.64E-07	3.38E-07	mg/kg-day	5.00E-05	mg/kg-day	6.76E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	1.19E-07	mg/kg-day	--	--	--	1.39E-06	mg/kg-day	6.00E-03	mg/kg-day	2.32E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	6.00E-03	mg/kg-day	2.36E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	2.23E-07	mg/kg-day	--	--	--	2.60E-06	mg/kg-day	6.00E-03	mg/kg-day	4.33E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	2.71E-07	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	4.00E-02	mg/kg-day	7.90E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	1.48E-05	mg/kg-day	--	--	--	1.73E-04	mg/kg-day	4.00E-02	mg/kg-day	4.32E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	3.14E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.09E-08	3.67E-07	mg/kg-day	3.00E-04	mg/kg-day	1.22E-03
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	5.45E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.91E-11	6.36E-10	mg/kg-day	2.00E-04	mg/kg-day	3.18E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	6.00E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.73E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	1.64E-08	mg/kg-day	--	--	--	1.91E-07	mg/kg-day	5.00E-03	mg/kg-day	3.82E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	7.78E-07	mg/kg-day	1.60E-03	(mg/kg-day)-1	1.25E-09	9.08E-06	mg/kg-day	8.57E-01	mg/kg-day	1.06E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	3.47E-03	mg/kg-day	--	--	--	4.05E-02	mg/kg-day	8.57E-04	mg/kg-day	4.73E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	3.15E-04	mg/kg-day	--	--	--	3.68E-03	mg/kg-day	3.00E-01	mg/kg-day	1.23E-02
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	3.57E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.10E-01	mg/kg-day	3.78E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	2.20E-06	mg/kg-day	--	--	--	2.56E-05	mg/kg-day	3.00E-02	mg/kg-day	8.54E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	1.26E-05	mg/kg-day	--	--	--	1.47E-04	mg/kg-day	4.00E-02	mg/kg-day	3.69E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	2.32E-07	mg/kg-day	3.50E-04	(mg/kg-day)-1	8.13E-11	2.71E-06	mg/kg-day	2.00E-04	mg/kg-day	1.35E-02
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	1.39E-07	mg/kg-day	--	--	--	1.63E-06	mg/kg-day	1.43E+00	mg/kg-day	1.14E-06				
				Exposure Route Total							4.95E-05					7.36E+01
				Exposure Point Total							4.95E-05					7.36E+01
				Exposure Medium Total							5.17E-05					7.46E+01
				Medium Total							1.15E-04					8.18E+01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.34E-08	mg/kg-day	--	--	--	2.73E-07	mg/kg-day	1.40E-01	mg/kg-day	1.95E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.97E-09	mg/kg-day	--	--	--	8.13E-08	mg/kg-day	1.71E-03	mg/kg-day	4.74E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.57E-08	mg/kg-day	--	--	--	5.33E-07	mg/kg-day	5.70E-02	mg/kg-day	9.35E-06
				1,2-Dichloroethane	5.96E-07	mg/m <sup>3</sup>	3.29E-08	mg/kg-day	9.10E-02	--	2.99E-09	3.83E-07	mg/kg-day	1.40E-03	mg/kg-day	2.74E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	8.38E-10	1.44E-07	mg/kg-day	1.4E-03	mg/kg-day	1.26E-04
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.97E-09	mg/kg-day	--	--	--	4.63E-08	mg/kg-day	1.71E-03	mg/kg-day	2.70E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.56E-08	mg/kg-day	2.20E-02	(mg/kg-day)-1	3.42E-10	1.81E-07	mg/kg-day	2.30E-01	mg/kg-day	7.89E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	6.01E-10	mg/kg-day	--	--	--	7.01E-09	mg/kg-day	1.43E+00	mg/kg-day	4.91E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.34E-11	mg/kg-day	--	--	--	6.23E-10	mg/kg-day	5.00E-02	mg/kg-day	1.25E-08
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	7.15E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.43E-11	8.34E-10	mg/kg-day	5.00E-04	mg/kg-day	1.67E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.23E-10	mg/kg-day	--	--	--	2.81E-09	mg/kg-day	8.60E-01	mg/kg-day	3.03E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.14E-09	mg/kg-day	--	--	--	2.50E-08	mg/kg-day	6.00E-02	mg/kg-day	4.16E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	9.12E-11	mg/kg-day	--	--	--	1.06E-09	mg/kg-day	6.00E-02	mg/kg-day	1.77E-08

TABLE H-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	1.23E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.10E-09	1.44E-09	mg/kg-day	3.00E-05	mg/kg-day	4.80E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.56E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	9.85E-11	1.82E-10	mg/kg-day	5.00E-04	mg/kg-day	3.65E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.70E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.30E-11	4.32E-10	mg/kg-day	2.00E-04	mg/kg-day	2.16E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.81E-10	mg/kg-day	--	--	--	2.12E-09	mg/kg-day	3.00E-01	mg/kg-day	7.06E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.44E-08	mg/kg-day	2.73E-02	(mg/kg-day)-1	3.93E-10	1.68E-07	mg/kg-day	8.60E-03	mg/kg-day	1.96E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.69E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.96E-11	3.13E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	4.07E-10	mg/kg-day	3.85E-03	(mg/kg-day)-1	1.57E-12	4.74E-09	mg/kg-day	2.00E+02	mg/kg-day	2.37E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.49E-07	mg/kg-day	--	--	--	2.90E-06	mg/kg-day	2.00E-01	mg/kg-day	1.45E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	4.05E-09	mg/kg-day	--	--	--	4.72E-08	mg/kg-day	1.70E-02	mg/kg-day	2.78E-06				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.14E-07	mg/kg-day	8.05E-02	(mg/kg-day)-1	9.19E-09	1.33E-06	mg/kg-day	1.40E-02	mg/kg-day	9.52E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	4.14E-08	mg/kg-day	--	--	--	4.83E-07	mg/kg-day	2.60E-02	mg/kg-day	1.86E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	7.27E-11	mg/kg-day	7.30E-03	(mg/kg-day)-1	5.31E-13	8.48E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.93E-08	mg/kg-day	--	--	--	3.41E-07	mg/kg-day	1.00E-02	mg/kg-day	3.41E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.43E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.68E-10	6.33E-10	mg/kg-day	5.00E-05	mg/kg-day	1.27E-05				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.24E-11	mg/kg-day	--	--	--	1.44E-10	mg/kg-day	6.00E-03	mg/kg-day	2.40E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	2.03E-14	mg/kg-day	--	--	--	2.37E-13	mg/kg-day	6.00E-03	mg/kg-day	3.95E-11				
				Ethylbenzene	1.98E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.29E-07	mg/kg-day	2.90E-01	mg/kg-day	4.43E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.79E-11	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	4.00E-02	mg/kg-day	8.14E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.52E-11	mg/kg-day	--	--	--	6.44E-10	mg/kg-day	4.00E-02	mg/kg-day	1.61E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.86E-14	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.92E-14	8.01E-13	mg/kg-day	3.00E-04	mg/kg-day	2.67E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	9.61E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.36E-11	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.61E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	9.86E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	4.49E-09	1.15E-08	mg/kg-day	5.00E-04	mg/kg-day	2.30E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.89E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.83E-08	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	2.90E-02	mg/kg-day	1.54E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.80E-10	mg/kg-day	--	--	--	2.10E-09	mg/kg-day	5.00E-03	mg/kg-day	4.21E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	3.00E-10	mg/kg-day	--	--	--	3.50E-09	mg/kg-day	8.57E-04	mg/kg-day	4.08E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.40E-08	mg/kg-day	--	--	--	1.63E-07	mg/kg-day	8.57E-04	mg/kg-day	1.90E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.56E-08	mg/kg-day	--	--	--	1.82E-07	mg/kg-day	4.00E-02	mg/kg-day	4.54E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.45E-10	mg/kg-day	--	--	--	1.69E-09	mg/kg-day	3.00E-01	mg/kg-day	5.62E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.89E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	2.55E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	3.00E-02	mg/kg-day	9.90E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.42E-08	mg/kg-day	--	--	--	5.16E-07	mg/kg-day	4.00E-02	mg/kg-day	1.29E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	5.01E-08	mg/kg-day	--	--	--	5.85E-07	mg/kg-day	4.00E-02	mg/kg-day	1.46E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	2.10E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	1.43E+00	mg/kg-day	1.71E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.95E-08	mg/kg-day	--	--	--	5.78E-07	mg/kg-day	2.00E-02	mg/kg-day	2.89E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	5.15E-08	mg/kg-day	4.00E-01	(mg/kg-day)-1	2.06E-08	6.01E-07	mg/kg-day	1.00E-02	mg/kg-day	6.01E-05				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.07E-07	mg/kg-day	3.10E-02	(mg/kg-day)-1	3.30E-09	1.24E-06	mg/kg-day	2.86E-02	mg/kg-day	4.35E-05				
				Exposure Route Total										4.53E-08					1.54E-03	
				Exposure Point Total										4.53E-08						1.54E-03
				Indoor Air	Indoor Air	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	4.11E-06	mg/kg-day	--	--	--	4.80E-05	mg/kg-day	1.40E-01	mg/kg-day	3.43E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	1.80E-07	mg/kg-day	--	--	--	2.10E-06	mg/kg-day	1.71E-03	mg/kg-day	1.23E-03
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	1.21E-06					mg/kg-day	--	--	--	1.42E-05	mg/kg-day	5.70E-02	mg/kg-day	2.49E-04				
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	9.84E-07					mg/kg-day	9.10E-02	--	8.98E-08	1.15E-05	mg/kg-day	1.40E-03	mg/kg-day	8.20E-03				
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	3.65E-07					mg/kg-day	6.80E-02	(mg/kg-day)-1	2.48E-08	4.25E-06	mg/kg-day	1.14E-03	mg/kg-day	3.73E-03				
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	1.03E-07					mg/kg-day	--	--	--	1.20E-06	mg/kg-day	1.71E-03	mg/kg-day	7.03E-04				
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	4.17E-07					mg/kg-day	2.20E-02	(mg/kg-day)-1	9.17E-09	4.86E-06	mg/kg-day	2.30E-01	mg/kg-day	2.11E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	3.09E-08					mg/kg-day	--	--	--	3.61E-07	mg/kg-day	1.43E+00	mg/kg-day	2.53E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	1.50E-09					mg/kg-day	--	--	--	1.75E-08	mg/kg-day	5.00E-02	mg/kg-day	3.50E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	6.44E-12					mg/kg-day	3.40E-01	(mg/kg-day)-1	2.19E-12	7.51E-11	mg/kg-day	5.00E-04	mg/kg-day	1.50E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	9.18E-09					mg/kg-day	--	--	--	1.07E-07	mg/kg-day	8.60E-01	mg/kg-day	1.25E-07				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	9.13E-08					mg/kg-day	--	--	--	1.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.77E-05				

**TABLE H-7.8**  
**EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units						
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	3.88E-09	mg/kg-day	--	--	--	4.53E-08	mg/kg-day	6.00E-02	mg/kg-day	7.55E-07			
				Aldrin	2.44E-07	ug/m <sup>3</sup>	1.35E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	2.29E-10	1.57E-10	mg/kg-day	3.00E-05	mg/kg-day	5.24E-06			
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	2.01E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.26E-11	2.34E-11	mg/kg-day	5.00E-04	mg/kg-day	4.68E-08			
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	1.22E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	4.26E-12	1.42E-10	mg/kg-day	2.00E-04	mg/kg-day	7.10E-07			
				Anthracene	1.40E-04	ug/m <sup>3</sup>	7.71E-09	mg/kg-day	--	--	--	9.00E-08	mg/kg-day	3.00E-01	mg/kg-day	3.00E-07			
				Benzene	7.66E-03	ug/m <sup>3</sup>	4.23E-07	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.16E-08	4.94E-06	mg/kg-day	8.60E-03	mg/kg-day	5.74E-04			
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	1.13E-09	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	8.25E-10	1.32E-08	mg/kg-day	--	--	--			
				Bromoform	3.95E-04	ug/m <sup>3</sup>	2.18E-08	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	8.41E-11	2.55E-07	mg/kg-day	2.00E-02	mg/kg-day	1.27E-05			
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	7.47E-06	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	2.00E-01	mg/kg-day	4.36E-04			
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	1.13E-07	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	1.70E-02	mg/kg-day	7.78E-05			
				Chloroform	6.13E-02	ug/m <sup>3</sup>	3.39E-06	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	2.72E-07	3.95E-05	mg/kg-day	1.40E-02	mg/kg-day	2.82E-03			
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	1.34E-06	mg/kg-day	--	--	--	1.56E-05	mg/kg-day	2.60E-02	mg/kg-day	6.02E-04			
				Chrysene	5.75E-05	ug/m <sup>3</sup>	3.18E-09	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.32E-11	3.71E-08	mg/kg-day	--	--	--			
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	1.90E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.00E-02	mg/kg-day	2.21E-03			
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	2.08E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.33E-11	2.43E-11	mg/kg-day	5.00E-05	mg/kg-day	4.85E-07			
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	2.68E-12	mg/kg-day	--	--	--	3.13E-11	mg/kg-day	6.00E-03	mg/kg-day	5.21E-09			
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	8.65E-13	mg/kg-day	--	--	--	1.04E-11	mg/kg-day	6.00E-03	mg/kg-day	1.74E-09			
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	2.98E-07	mg/kg-day	--	--	--	3.47E-06	mg/kg-day	2.90E-01	mg/kg-day	1.20E-05			
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	1.13E-09	mg/kg-day	--	--	--	1.32E-08	mg/kg-day	4.00E-02	mg/kg-day	3.29E-07			
				Fluorene	5.21E-05	ug/m <sup>3</sup>	2.86E-09	mg/kg-day	--	--	--	3.36E-08	mg/kg-day	4.00E-02	mg/kg-day	8.39E-07			
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	2.71E-12	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	3.52E-12	3.16E-11	mg/kg-day	3.00E-04	mg/kg-day	1.05E-07			
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	5.89E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.06E-12	6.87E-11	mg/kg-day	2.00E-04	mg/kg-day	3.44E-07			
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	2.66E-11	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.21E-10	3.10E-10	mg/kg-day	5.00E-04	mg/kg-day	6.20E-07			
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	9.94E-05	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	1.10E-01	mg/kg-day	1.05E-02			
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	2.23E-06	mg/kg-day	--	--	--	2.60E-05	mg/kg-day	2.90E-02	mg/kg-day	8.95E-04			
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	7.82E-12	mg/kg-day	--	--	--	9.13E-11	mg/kg-day	5.00E-03	mg/kg-day	1.83E-08			
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	1.63E-08	mg/kg-day	--	--	--	1.90E-07	mg/kg-day	8.57E-04	mg/kg-day	2.22E-04			
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	7.83E-07	mg/kg-day	--	--	--	9.14E-06	mg/kg-day	8.57E-04	mg/kg-day	1.07E-02			
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	8.84E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	4.00E-02	mg/kg-day	2.58E-04			
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	8.03E-09	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	3.00E-01	mg/kg-day	3.12E-07			
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	9.94E-05	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	1.10E-01	mg/kg-day	1.05E-02			
				Pyrene	1.92E-05	ug/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	1.24E-08	mg/kg-day	3.00E-02	mg/kg-day	4.13E-07			
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	3.14E-08	mg/kg-day	--	--	--	3.66E-07	mg/kg-day	4.00E-02	mg/kg-day	8.16E-06			
				Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	3.14E-06	mg/kg-day	--	--	--	3.67E-05	mg/kg-day	4.00E-02	mg/kg-day	9.17E-04			
				Toluene	2.18E-03	ug/m <sup>3</sup>	1.20E-07	mg/kg-day	--	--	--	1.40E-06	mg/kg-day	1.43E+00	mg/kg-day	9.82E-07			
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	3.33E-06	mg/kg-day	--	--	--	3.89E-05	mg/kg-day	2.00E-02	mg/kg-day	1.94E-03			
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	3.15E-06	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	1.26E-08	3.68E-05	mg/kg-day	1.00E-02	mg/kg-day	3.68E-03			
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	7.16E-06	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	2.22E-07	8.36E-05	mg/kg-day	2.66E-02	mg/kg-day	2.93E-03			
								Exposure Route Total											6.38E-02
								Exposure Point Total											6.38E-02
				Exposure Medium Total											6.54E-02				
				Medium Total											6.54E-02				
									Total of Receptor Risks Across All Media							1.17E-04			
															Total of Receptor Hazards Across All Media	8.19E+01			

TABLE H-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RIC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.35E-06	mg/kg-day	--	--	--	1.92E-05	mg/kg-day	1.00E-02	mg/kg-day	1.92E-03
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	7.98E-06	mg/kg-day	--	--	--	6.52E-05	mg/kg-day	1.00E-02	mg/kg-day	6.52E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	7.83E-07	mg/kg-day	--	--	--	6.39E-06	mg/kg-day	5.00E-02	mg/kg-day	1.28E-04
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.07E-05	mg/kg-day	--	--	--	3.32E-04	mg/kg-day	9.00E-02	mg/kg-day	3.69E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	5.64E-09	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	3.83E-10	4.60E-08	mg/kg-day	1.14E-03	mg/kg-day	4.04E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.50E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.09E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.72E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	3.00E-02	mg/kg-day	4.69E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.06E-05	mg/kg-day	2.40E-02	(mg/kg-day) <sup>-1</sup>	2.55E-07	8.69E-05	mg/kg-day	3.00E-02	mg/kg-day	2.90E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	3.29E-07	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	2.00E-02	mg/kg-day	1.34E-04
				2-Methylphenol	8.10E-02	mg/kg	1.27E-07	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	5.00E-02	mg/kg-day	2.07E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	2.62E-06	mg/kg-day	--	--	--	2.14E-05	mg/kg-day	4.00E-03	mg/kg-day	5.34E-03
				4,4'-DDD	1.20E-03	mg/kg	1.88E-09	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	4.51E-10	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05
				4,4'-DDE	8.23E-02	mg/kg	1.29E-07	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.38E-08	1.05E-06	mg/kg-day	5.00E-04	mg/kg-day	2.10E-03
				4,4'-DDT	4.45E-02	mg/kg	6.97E-08	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.37E-08	5.69E-07	mg/kg-day	5.00E-04	mg/kg-day	1.14E-03
				4-Methylphenol	2.70E-01	mg/kg	4.23E-07	mg/kg-day	--	--	--	3.45E-06	mg/kg-day	5.00E-03	mg/kg-day	6.90E-04
				4-Nitroaniline	6.20E-01	mg/kg	9.71E-07	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.04E-08	7.93E-06	mg/kg-day	3.00E-03	mg/kg-day	2.64E-03
				4-Nitrophenol	4.20E-01	mg/kg	6.58E-07	mg/kg-day	--	--	--	5.37E-06	mg/kg-day	5.00E-04	mg/kg-day	1.07E-02
				Acenaphthene	4.23E+00	mg/kg	6.63E-06	mg/kg-day	--	--	--	5.41E-05	mg/kg-day	6.00E-02	mg/kg-day	9.02E-04
				Acenaphthylene	1.04E-01	mg/kg	1.63E-07	mg/kg-day	--	--	--	1.33E-06	mg/kg-day	6.00E-02	mg/kg-day	2.22E-05
				Aldrin	1.30E-02	mg/kg	2.04E-08	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	3.46E-07	1.66E-07	mg/kg-day	3.00E-05	mg/kg-day	5.54E-03
				alpha-BHC	7.30E-04	mg/kg	1.14E-09	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	7.20E-09	9.33E-09	mg/kg-day	5.00E-04	mg/kg-day	1.87E-05
				alpha-Chlordane	8.14E-03	mg/kg	1.27E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	4.46E-09	1.04E-07	mg/kg-day	5.00E-04	mg/kg-day	2.08E-04
				Aluminum	8.82E+03	mg/kg	1.38E-02	mg/kg-day	--	--	--	1.13E-01	mg/kg-day	1.00E+00	mg/kg-day	1.13E-01
				Anthracene	1.05E+00	mg/kg	1.65E-06	mg/kg-day	--	--	--	1.35E-05	mg/kg-day	3.00E-01	mg/kg-day	4.50E-05
				Antimony	4.08E+00	mg/kg	6.39E-06	mg/kg-day	--	--	--	5.21E-05	mg/kg-day	4.00E-04	mg/kg-day	1.30E-01
				Aroclor-1248	1.20E+00	mg/kg	1.88E-06	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.76E-06	1.53E-05	mg/kg-day	2.00E-05	mg/kg-day	7.67E-01
				Aroclor-1254	4.44E-01	mg/kg	6.95E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.39E-06	5.68E-06	mg/kg-day	2.00E-05	mg/kg-day	2.84E-01
				Aroclor-1260	5.41E-01	mg/kg	8.48E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.70E-06	6.92E-06	mg/kg-day	2.00E-05	mg/kg-day	3.46E-01
				Aroclor-1268	2.78E-02	mg/kg	4.35E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	8.69E-08	3.55E-07	mg/kg-day	2.00E-05	mg/kg-day	1.77E-02
				Arsenic	6.17E+00	mg/kg	9.65E-06	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.45E-05	7.88E-05	mg/kg-day	3.00E-04	mg/kg-day	2.63E-01
				Barium	6.78E+01	mg/kg	1.06E-04	mg/kg-day	--	--	--	8.67E-04	mg/kg-day	7.00E-02	mg/kg-day	1.24E-02
				Benzo(a)anthracene	5.00E+00	mg/kg	7.84E-06	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	5.72E-06	6.40E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	2.61E-06	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.90E-05	2.13E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	4.29E-06	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	3.13E-06	3.50E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.20E-06	mg/kg-day	--	--	--	9.76E-06	mg/kg-day	3.00E-02	mg/kg-day	3.25E-04
				Benzo(k)fluoranthene	3.28E+00	mg/kg	5.10E-06	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	3.73E-07	4.17E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	3.73E-07	mg/kg-day	--	--	--	3.04E-06	mg/kg-day	2.00E-03	mg/kg-day	1.52E-03
				Beta-BHC	2.20E-03	mg/kg	3.44E-09	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	6.20E-09	2.81E-08	mg/kg-day	2.00E-04	mg/kg-day	1.41E-04
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.23E-05	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.72E-07	1.00E-04	mg/kg-day	2.00E-02	mg/kg-day	5.01E-03
				Cadmium	9.47E+00	mg/kg	1.48E-05	mg/kg-day	--	--	--	1.21E-04	mg/kg-day	5.00E-04	mg/kg-day	2.42E-01
				Carbon disulfide	2.40E-04	mg/kg	3.76E-10	mg/kg-day	--	--	--	3.07E-09	mg/kg-day	1.00E-01	mg/kg-day	3.07E-08
				Chlorobenzene	1.10E-01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	2.00E-02	mg/kg-day	7.03E-05
				Chromium	1.11E+02	mg/kg	1.74E-04	mg/kg-day	--	--	--	1.42E-03	mg/kg-day	1.50E+00	mg/kg-day	9.48E-04
				Chrysene	5.68E+00	mg/kg	8.90E-06	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	6.49E-08	7.27E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.19E-05	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	2.00E-02	mg/kg-day	4.84E-03
				Copper	5.71E+01	mg/kg	8.93E-05	mg/kg-day	--	--	--	7.30E-04	mg/kg-day	3.70E-02	mg/kg-day	1.97E-02
				Delta-BHC	8.40E-03	mg/kg	1.32E-08	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	2.37E-08	1.07E-07	mg/kg-day	2.00E-04	mg/kg-day	5.37E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	4.97E-07	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	3.63E-06	4.06E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.04E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-03	mg/kg-day	8.31E-02
				Dieldrin	5.51E-02	mg/kg	8.63E-08	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.38E-06	7.05E-07	mg/kg-day	5.00E-05	mg/kg-day	1.41E-02
				Dimethylphthalate	3.80E-02	mg/kg	5.95E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	1.00E+01	mg/kg-day	4.86E-08

TABLE H-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations																	
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient												
							Value	Units	Value	Units		Value	Units	Value	Units													
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	3.44E-06	mg/kg-day	--	--	--	2.81E-05	mg/kg-day	1.00E-01	mg/kg-day	2.81E-04												
				Endosulfan I	2.30E-02	mg/kg	3.60E-08	mg/kg-day	--	--	--	2.94E-07	mg/kg-day	6.00E-03	mg/kg-day	4.90E-05												
				Endosulfan II	2.38E-02	mg/kg	3.73E-08	mg/kg-day	--	--	--	3.05E-07	mg/kg-day	6.00E-03	mg/kg-day	5.08E-05												
				Endosulfan Sulfate	4.30E-02	mg/kg	6.73E-08	mg/kg-day	--	--	--	5.50E-07	mg/kg-day	6.00E-03	mg/kg-day	9.16E-05												
				Endrin aldehyde	4.21E-02	mg/kg	6.59E-08	mg/kg-day	--	--	--	5.38E-07	mg/kg-day	3.00E-04	mg/kg-day	1.79E-03												
				Endrin Ketone	1.00E-02	mg/kg	1.57E-08	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	3.00E-04	mg/kg-day	4.26E-04												
				Fluoranthene	2.65E+01	mg/kg	4.15E-05	mg/kg-day	--	--	--	3.39E-04	mg/kg-day	4.00E-02	mg/kg-day	8.47E-03												
				Fluorene	2.92E+00	mg/kg	4.57E-06	mg/kg-day	--	--	--	3.73E-05	mg/kg-day	4.00E-02	mg/kg-day	9.32E-04												
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.07E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.29E-09	3.32E-08	mg/kg-day	3.00E-04	mg/kg-day	1.11E-04												
				gamma-Chlordane	1.31E-02	mg/kg	2.05E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	7.18E-09	1.68E-07	mg/kg-day	5.00E-04	mg/kg-day	3.35E-04												
				Heptachlor	6.90E-03	mg/kg	1.08E-08	mg/kg-day	4.50E+00	(mg/kg-day)-1	4.86E-08	8.82E-08	mg/kg-day	5.00E-04	mg/kg-day	1.76E-04												
				Heptachlor Epoxide	1.12E-02	mg/kg	1.75E-08	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.59E-07	1.43E-07	mg/kg-day	1.30E-05	mg/kg-day	1.10E-02												
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.37E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	9.98E-07	1.12E-05	mg/kg-day	--	--	--												
				Iron	4.07E+04	mg/kg	6.38E-02	mg/kg-day	--	--	--	5.21E-01	mg/kg-day	3.00E-01	mg/kg-day	1.74E+00												
				Isophorone	2.00E-01	mg/kg	3.13E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.97E-10	2.56E-06	mg/kg-day	2.00E-01	mg/kg-day	1.28E-05												
				Lead	2.90E+03	mg/kg	4.54E-03	mg/kg-day	--	--	--	3.71E-02	mg/kg-day	--	--	--												
				Manganese	3.31E+02	mg/kg	5.18E-04	mg/kg-day	--	--	--	4.23E-03	mg/kg-day	2.40E-02	mg/kg-day	1.76E-01												
				Mercury	3.10E-01	mg/kg	4.85E-07	mg/kg-day	--	--	--	3.96E-06	mg/kg-day	3.00E-04	mg/kg-day	1.32E-02												
				Methoxychlor	1.20E-01	mg/kg	1.88E-07	mg/kg-day	--	--	--	1.53E-06	mg/kg-day	5.00E-03	mg/kg-day	3.07E-04												
				Molybdenum	2.50E+00	mg/kg	3.92E-06	mg/kg-day	--	--	--	3.20E-05	mg/kg-day	5.00E-03	mg/kg-day	6.40E-03												
				Naphthalene	1.30E+01	mg/kg	2.04E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-02	mg/kg-day	8.31E-03												
				Nickel	3.91E+01	mg/kg	6.13E-05	mg/kg-day	--	--	--	5.00E-04	mg/kg-day	2.00E-02	mg/kg-day	2.50E-02												
				Phenanthrene	1.39E+01	mg/kg	2.18E-05	mg/kg-day	--	--	--	1.78E-04	mg/kg-day	3.00E-01	mg/kg-day	5.93E-04												
				Phenol	5.80E-01	mg/kg	9.08E-07	mg/kg-day	--	--	--	7.42E-06	mg/kg-day	3.00E-01	mg/kg-day	2.47E-05												
				p-Isopropyltoluene	1.10E-01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	1.00E-01	mg/kg-day	1.41E-05												
				Pyrene	2.41E+01	mg/kg	3.78E-05	mg/kg-day	--	--	--	3.09E-04	mg/kg-day	3.00E-02	mg/kg-day	1.03E-02												
				sec-Butylbenzene	7.10E-02	mg/kg	1.11E-07	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	4.00E-02	mg/kg-day	2.27E-05												
				Selenium	2.24E-01	mg/kg	3.51E-07	mg/kg-day	--	--	--	2.87E-06	mg/kg-day	5.00E-03	mg/kg-day	5.74E-04												
				Silver	1.16E+00	mg/kg	1.81E-06	mg/kg-day	--	--	--	1.48E-05	mg/kg-day	5.00E-03	mg/kg-day	2.96E-03												
				Technical Chlordane	5.51E-01	mg/kg	8.63E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.02E-07	7.05E-06	mg/kg-day	5.00E-04	mg/kg-day	1.41E-02												
				Thallium	4.97E-01	mg/kg	7.78E-07	mg/kg-day	--	--	--	6.35E-06	mg/kg-day	6.60E-05	mg/kg-day	9.63E-02												
				Toluene	4.30E-04	mg/kg	6.73E-10	mg/kg-day	--	--	--	5.50E-09	mg/kg-day	8.00E-02	mg/kg-day	6.87E-08												
				Vanadium	3.41E+01	mg/kg	5.35E-05	mg/kg-day	--	--	--	4.37E-04	mg/kg-day	1.00E-03	mg/kg-day	4.37E-01												
Zinc	4.53E+02	mg/kg	7.10E-04	mg/kg-day	--	--	--	5.80E-03	mg/kg-day	3.00E-01	mg/kg-day	1.93E-02																
<b>Exposure Route Total</b>											<b>5.72E-05</b>				<b>4.82E+00</b>													
Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4'-DDD	4,4'-DDE	4,4'-DDT	4-Methylphenol	4-Nitroaniline	1.50E+00	mg/kg	7.58E-07	mg/kg-day	--	--	--	5.56E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04
																	5.10E+00	mg/kg	2.58E-07	mg/kg-day	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04
																	5.00E-01	mg/kg	2.53E-08	mg/kg-day	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06
																	2.60E+01	mg/kg	1.31E-06	mg/kg-day	--	--	--	9.64E-06	mg/kg-day	9.00E-02	mg/kg-day	1.07E-04
																	3.60E-03	mg/kg	1.82E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.24E-11	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06
																	1.60E-01	mg/kg	8.08E-09	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.19E-06
																	1.10E+00	mg/kg	5.56E-08	mg/kg-day	--	--	--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05
																	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
																	2.10E-01	mg/kg	1.06E-08	mg/kg-day	--	--	--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06
																	8.10E-02	mg/kg	4.09E-08	mg/kg-day	--	--	--	3.00E-07	mg/kg-day	5.00E-02	mg/kg-day	6.01E-06
																	1.67E+00	mg/kg	8.45E-08	mg/kg-day	--	--	--	6.20E-07	mg/kg-day	4.00E-03	mg/kg-day	1.55E-04
																	1.20E-03	mg/kg	6.06E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-11	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07
																	8.23E-02	mg/kg	4.16E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.41E-09	3.05E-08	mg/kg-day	5.00E-04	mg/kg-day	6.10E-05
																	4.45E-02	mg/kg	6.74E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.29E-09	4.95E-08	mg/kg-day	5.00E-04	mg/kg-day	9.90E-05
																	2.70E-01	mg/kg	1.36E-07	mg/kg-day	--	--	--	1.00E-06	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04
																	6.20E-01	mg/kg	3.13E-07	mg/kg-day	2.10E-02	--	--	6.58E-09	mg/kg-day	3.00E-03	mg/kg-day	7.66E-04

TABLE H-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	2.12E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	4.23E+00	mg/kg	2.78E-06	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	6.00E-02	mg/kg-day	3.40E-04
				Acenaphthylene	1.04E-01	mg/kg	5.26E-09	mg/kg-day	--	--	--	3.86E-08	mg/kg-day	6.00E-02	mg/kg-day	6.44E-07
				Aldrin	1.30E-02	mg/kg	6.57E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.12E-07	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03
				alpha-BHC	7.30E-04	mg/kg	3.69E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.32E-10	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	4.46E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.00E+00	mg/kg-day	3.27E-04
				Anthracene	1.05E+00	mg/kg	6.93E-07	mg/kg-day	--	--	--	5.08E-06	mg/kg-day	3.00E-01	mg/kg-day	1.69E-05
				Antimony	4.08E+00	mg/kg	2.06E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	4.00E-04	mg/kg-day	3.78E-04
				Aroclor-1248	1.20E+00	mg/kg	8.49E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-06	5.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.44E-01	mg/kg	3.14E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.28E-07	2.31E-06	mg/kg-day	2.00E-05	mg/kg-day	1.15E-01
				Aroclor-1260	5.41E-01	mg/kg	3.83E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.66E-07	2.81E-06	mg/kg-day	2.00E-05	mg/kg-day	1.41E-01
				Aroclor-1268	2.78E-02	mg/kg	1.96E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.93E-08	1.44E-07	mg/kg-day	2.00E-05	mg/kg-day	7.20E-03
				Arsenic	6.17E+00	mg/kg	9.35E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.40E-06	6.86E-06	mg/kg-day	3.00E-04	mg/kg-day	2.26E-02
				Barium	6.78E+01	mg/kg	3.43E-07	mg/kg-day	--	--	--	2.51E-06	mg/kg-day	7.00E-02	mg/kg-day	3.59E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	3.29E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.40E-06	2.41E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.09E-06	mg/kg-day	7.30E+00	(mg/kg-day)-1	7.98E-06	8.03E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.80E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.31E-06	1.32E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	5.01E-07	mg/kg-day	--	--	--	3.68E-06	mg/kg-day	3.00E-02	mg/kg-day	1.23E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	2.14E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.56E-07	1.57E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.20E-09	mg/kg-day	--	--	--	8.83E-09	mg/kg-day	2.00E-03	mg/kg-day	4.41E-06
				Beta-BHC	2.20E-03	mg/kg	1.11E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.00E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.96E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	5.54E-09	2.90E-06	mg/kg-day	2.00E-02	mg/kg-day	1.45E-04
				Cadmium	9.47E+00	mg/kg	4.79E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	5.00E-04	mg/kg-day	7.02E-04
				Carbon disulfide	2.40E-04	mg/kg	3.03E-10	mg/kg-day	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	5.56E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.11E+02	mg/kg	5.62E-07	mg/kg-day	--	--	--	4.12E-06	mg/kg-day	1.50E+00	mg/kg-day	2.75E-06
				Chrysene	5.68E+00	mg/kg	3.73E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.72E-08	2.74E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.83E-08	mg/kg-day	--	--	--	2.81E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05
				Copper	5.71E+01	mg/kg	2.88E-07	mg/kg-day	--	--	--	2.12E-06	mg/kg-day	3.70E-02	mg/kg-day	5.72E-05
				Delta-BHC	8.40E-03	mg/kg	2.12E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.82E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	2.09E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.52E-06	1.53E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.57E-07	mg/kg-day	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	5.51E-02	mg/kg	2.79E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.46E-08	2.04E-08	mg/kg-day	5.00E-05	mg/kg-day	4.09E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.92E-09	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	1.00E+01	mg/kg-day	1.41E-09
				di-n-Butylphthalate	2.20E+00	mg/kg	1.11E-07	mg/kg-day	--	--	--	8.16E-07	mg/kg-day	1.00E-01	mg/kg-day	8.16E-06
				Endosulfan I	2.30E-02	mg/kg	5.81E-09	mg/kg-day	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.38E-02	mg/kg	6.02E-09	mg/kg-day	--	--	--	4.42E-08	mg/kg-day	6.00E-03	mg/kg-day	7.36E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	1.09E-08	mg/kg-day	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	4.21E-02	mg/kg	1.06E-08	mg/kg-day	--	--	--	7.80E-08	mg/kg-day	3.00E-04	mg/kg-day	2.60E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.74E-05	mg/kg-day	--	--	--	1.28E-04	mg/kg-day	4.00E-02	mg/kg-day	3.19E-03
				Fluorene	2.92E+00	mg/kg	1.92E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	4.00E-02	mg/kg-day	3.51E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	5.25E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	6.83E-10	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05
gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Heptachlor	6.90E-03	mg/kg	3.49E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.57E-09	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06				
Heptachlor Epoxide	1.12E-02	mg/kg	5.64E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	5.13E-09	4.14E-09	mg/kg-day	1.30E-05	mg/kg-day	3.18E-04				
Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	5.73E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.19E-07	4.21E-06	mg/kg-day	--	--	--				
Iron	4.07E+04	mg/kg	2.06E-04	mg/kg-day	--	--	--	1.51E-03	mg/kg-day	3.00E-01	mg/kg-day	5.03E-03				
Isophorone	2.00E-01	mg/kg	1.01E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.60E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06				
Lead	2.90E+03	mg/kg	1.47E-05	mg/kg-day	--	--	--	1.08E-04	mg/kg-day	--	--	--				

TABLE H-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	1.67E-06	mg/kg-day	--	--	--	--	1.23E-05	mg/kg-day	2.40E-02	mg/kg-day	5.11E-04		
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	3.00E-04	mg/kg-day	--	--	
				Methoxychlor	1.20E-01	mg/kg	6.06E-09	mg/kg-day	--	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06	1.86E-05	
				Molybdenum	2.50E+00	mg/kg	1.27E-08	mg/kg-day	--	--	--	--	9.29E-08	mg/kg-day	5.00E-03	mg/kg-day	1.86E-05	--	
				Naphthalene	1.30E+01	mg/kg	8.54E-06	mg/kg-day	--	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03	7.25E-05	
				Nickel	3.91E+01	mg/kg	1.98E-07	mg/kg-day	--	--	--	--	1.45E-06	mg/kg-day	2.00E-02	mg/kg-day	7.25E-05	1.72E-05	
				Phenanthrene	1.39E+01	mg/kg	7.03E-07	mg/kg-day	--	--	--	--	5.16E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06	--	
				Phenol	5.80E-01	mg/kg	2.93E-07	mg/kg-day	--	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06	--	
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	4.00E-02	mg/kg-day	3.88E-03	--
				Pyrene	2.41E+01	mg/kg	1.59E-05	mg/kg-day	--	--	--	--	1.16E-04	mg/kg-day	3.00E-02	mg/kg-day	4.00E-02	mg/kg-day	1.66E-06
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.30E-08	mg/kg-day	5.00E-03	mg/kg-day	8.59E-06	1.63E-03
				Selenium	2.24E-01	mg/kg	1.13E-09	mg/kg-day	--	--	--	--	8.32E-09	mg/kg-day	5.00E-03	mg/kg-day	5.00E-04	mg/kg-day	1.63E-03
				Silver	1.16E+00	mg/kg	5.85E-09	mg/kg-day	--	--	--	--	4.30E-08	mg/kg-day	5.00E-03	mg/kg-day	5.00E-04	mg/kg-day	1.63E-03
				Technical Chlordane	5.51E-01	mg/kg	1.11E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.90E-08	8.17E-07	mg/kg-day	5.00E-04	mg/kg-day	6.60E-05	mg/kg-day	1.99E-09	
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.59E-10	mg/kg-day	8.00E-02	mg/kg-day	1.27E-03	
				Toluene	4.30E-04	mg/kg	2.17E-11	mg/kg-day	--	--	--	--	1.27E-06	mg/kg-day	1.00E-03	mg/kg-day	5.60E-05	--	
				Vanadium	3.41E+01	mg/kg	1.73E-07	mg/kg-day	--	--	--	--	1.68E-05	mg/kg-day	3.00E-01	mg/kg-day	6.29E-01	5.55E+00	
				Zinc	4.53E+02	mg/kg	2.29E-08	mg/kg-day	--	--	--	--	--	--	--	--	--	--	
				Exposure Point Total			Exposure Route Total							1.86E-05					6.29E-01
														7.57E-05					5.55E+00
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-02	mg/kg-day	--	--				
		1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-02	mg/kg-day	--	--				
		1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	5.00E-02	mg/kg-day	--	--				
		1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	9.00E-02	mg/kg-day	--	--				
		1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	6.80E-02	(mg/kg-day)-1	--	--	--	1.14E-03	mg/kg-day	--	--				
		1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	5.00E-02	mg/kg-day	--	--				
		1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-02	mg/kg-day	--	--				
		1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	3.00E-02	mg/kg-day	--	--				
		2,4-Dimethylphenol	2.10E-01	mg/kg	1.36E-05	mg/kg-day	--	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03	5.82E-04			
		2-Methylphenol	8.10E-02	mg/kg	1.25E-05	mg/kg-day	--	--	--	--	2.91E-05	mg/kg-day	5.00E-02	mg/kg-day	--	--			
		2-Methylnaphthalene	1.67E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-03	mg/kg-day	--	--				
		4,4'-DDD	1.20E-03	mg/kg	1.32E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.17E-11	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07	3.07E-05				
		4,4'-DDE	8.23E-02	mg/kg	6.57E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.23E-09	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	7.14E-05	1.99E-02				
		4,4'-DDT	4.45E-02	mg/kg	1.53E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.20E-09	3.57E-08	mg/kg-day	5.00E-04	mg/kg-day	5.22E-02	3.18E-01				
		4-Methylphenol	2.70E-01	mg/kg	4.27E-05	mg/kg-day	--	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	5.22E-02				
		4-Nitroaniline	6.20E-01	mg/kg	6.71E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.41E-06	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02	3.18E-01				
		4-Nitrophenol	4.20E-01	mg/kg	6.82E-05	mg/kg-day	--	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	6.00E-02	mg/kg-day			
		Acenaphthene	4.23E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	6.00E-02	mg/kg-day	--	--				
		Acenaphthylene	1.04E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	6.00E-02	mg/kg-day	--	--				
		Aldrin	1.30E-02	mg/kg	2.34E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.98E-08	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04	1.33E-04				
alpha-BHC	7.30E-04	mg/kg	2.84E-08	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.79E-07	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.50E-05	1.11E-03						
alpha-Chlordane	8.14E-03	mg/kg	3.22E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.13E-09	7.52E-09	mg/kg-day	5.00E-04	mg/kg-day	1.11E-03	--						
Aluminum	8.82E+03	mg/kg	4.76E-04	mg/kg-day	--	--	--	--	1.11E-03	mg/kg-day	1.00E+00	mg/kg-day	5.92E-02	1.55E-02					
Anthracene	1.05E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-01	mg/kg-day	--	--						
Antimony	4.08E+00	mg/kg	1.01E-05	mg/kg-day	--	--	--	--	2.37E-05	mg/kg-day	4.00E-04	mg/kg-day	7.66E-02	3.34E-03					
Aroclor-1248	1.20E+00	mg/kg	1.33E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.65E-07	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	2.39E-02	2.81E-03						
Aroclor-1254	4.44E-01	mg/kg	6.57E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.31E-06	1.53E-06	mg/kg-day	2.00E-05	mg/kg-day	7.66E-02	3.34E-03						
Aroclor-1260	5.41E-01	mg/kg	2.86E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.72E-08	6.68E-08	mg/kg-day	2.00E-05	mg/kg-day	4.79E-03	2.39E-02						
Aroclor-1268	2.78E-02	mg/kg	4.10E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.21E-08	9.58E-08	mg/kg-day	2.00E-05	mg/kg-day	2.39E-02	2.81E-03						
Arsenic	6.17E+00	mg/kg	3.07E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.60E-06	7.16E-06	mg/kg-day	3.00E-04	mg/kg-day	2.39E-02	2.81E-03						
Barium	6.78E+01	mg/kg	8.44E-05	mg/kg-day	--	--	--	--	1.97E-04	mg/kg-day	7.00E-02	mg/kg-day	--	--					

TABLE H-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	1.07E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.77E-08	2.49E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	2.01E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.47E-07	4.69E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	3.31E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.41E-07	7.72E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	7.04E-08	mg/kg-day	--	--	--	1.64E-07	mg/kg-day	3.00E-02	mg/kg-day	5.47E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.94E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	2.87E-08	9.19E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.96E-08	mg/kg-day	--	--	--	6.91E-08	mg/kg-day	2.00E-03	mg/kg-day	3.46E-05
				Beta-BHC	2.20E-03	mg/kg	8.56E-08	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.54E-07	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.25E-04	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.14E-06	5.24E-04	mg/kg-day	2.00E-02	mg/kg-day	2.62E-02
				Cadmium	9.47E+00	mg/kg	1.18E-04	mg/kg-day	--	--	--	2.75E-04	mg/kg-day	5.00E-04	mg/kg-day	5.50E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	4.15E-05	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	1.50E+00	mg/kg-day	6.46E-05
				Chrysene	5.68E+00	mg/kg	8.49E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	6.20E-09	1.98E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	4.40E-06	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	2.00E-02	mg/kg-day	5.13E-04
				Copper	5.71E+01	mg/kg	1.18E-03	mg/kg-day	--	--	--	2.76E-03	mg/kg-day	3.70E-02	mg/kg-day	7.46E-02
				Delta-BHC	8.40E-03	mg/kg	2.68E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	4.80E-09	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	2.37E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.73E-07	5.53E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	2.42E-06	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.88E-05	5.66E-06	mg/kg-day	5.00E-05	mg/kg-day	1.13E-01
				Dimethylphthalate	3.80E-02	mg/kg	4.69E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	1.00E+01	mg/kg-day	1.09E-06
				di-n-Butylphthalate	2.20E+00	mg/kg	3.80E-07	mg/kg-day	--	--	--	8.87E-07	mg/kg-day	1.00E-01	mg/kg-day	8.87E-06
				Endosulfan I	2.30E-02	mg/kg	8.55E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.38E-02	mg/kg	8.48E-07	mg/kg-day	--	--	--	1.98E-06	mg/kg-day	6.00E-03	mg/kg-day	3.30E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.50E-06	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endrin aldehyde	4.21E-02	mg/kg	5.79E-09	mg/kg-day	--	--	--	1.35E-08	mg/kg-day	3.00E-04	mg/kg-day	4.50E-05
				Endrin Ketone	1.00E-02	mg/kg	1.38E-09	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.65E+01	mg/kg	5.94E-06	mg/kg-day	--	--	--	1.39E-05	mg/kg-day	4.00E-02	mg/kg-day	3.47E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.58E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.63E-07	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.31E-02	mg/kg	5.19E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.82E-09	1.21E-08	mg/kg-day	5.00E-04	mg/kg-day	2.42E-05
				Heptachlor	6.90E-03	mg/kg	2.03E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	9.14E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06
				Heptachlor Epoxide	1.12E-02	mg/kg	1.07E-08	mg/kg-day	9.10E+00	(mg/kg-day)-1	9.72E-06	2.49E-06	mg/kg-day	1.30E-05	mg/kg-day	1.92E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	7.89E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.76E-08	1.84E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	3.36E-03	mg/kg-day	--	--	--	7.84E-03	mg/kg-day	3.00E-01	mg/kg-day	2.61E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	2.17E-03	mg/kg-day	--	--	--	5.06E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	1.37E-03	mg/kg-day	--	--	--	3.20E-03	mg/kg-day	2.40E-02	mg/kg-day	1.33E-01
				Mercury	3.10E-01	mg/kg	5.14E-06	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	3.00E-04	mg/kg-day	3.99E-02
				Methoxychlor	1.20E-01	mg/kg	8.62E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06
				Molybdenum	2.50E+00	mg/kg	1.25E-05	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	5.00E-03	mg/kg-day	5.82E-03
Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--				
Nickel	3.91E+01	mg/kg	1.95E-04	mg/kg-day	--	--	--	4.54E-04	mg/kg-day	2.00E-02	mg/kg-day	2.27E-02				
Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	2.37E-04	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.65E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.24E-01	mg/kg	4.65E-07	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	5.00E-03	mg/kg-day	2.17E-04				
Silver	1.16E+00	mg/kg	9.61E-06	mg/kg-day	--	--	--	2.24E-05	mg/kg-day	5.00E-03	mg/kg-day	4.49E-03				
Technical Chlordane	5.51E-01	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Thallium	4.97E-01	mg/kg	1.65E-08	mg/kg-day	--	--	--	3.85E-08	mg/kg-day	6.60E-05	mg/kg-day	5.83E-04				

TABLE H-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	1.98E-05	mg/kg-day	8.00E-02	mg/kg-day	1.98E-02
				Vanadium	3.41E+01	mg/kg	8.50E-06	mg/kg-day	--	--	--	7.90E-02	mg/kg-day	1.00E-03	mg/kg-day	1.98E-02	
				Zinc	4.53E+02	mg/kg	3.39E-02	mg/kg-day	--	--	--	--	--	3.00E-01	mg/kg-day	2.63E-01	
Exposure Route Total															2.08E+00		
Exposure Point Total															2.06E+00		
Exposure Medium Total															7.81E+00		
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.37E-11	mg/kg-day	--	--	--	--	1.03E-10	mg/kg-day	2.00E-02	mg/kg-day	5.13E-09	
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	9.13E-12	mg/kg-day	--	--	--	--	3.95E-11	mg/kg-day	--	--	--	
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.35E-13	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	3.25E-14	5.86E-13	mg/kg-day	5.00E-04	mg/kg-day	1.17E-09		
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	5.02E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.71E-12	2.17E-11	mg/kg-day	5.00E-04	mg/kg-day	4.34E-08		
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.04E-11	mg/kg-day	--	--	--	1.32E-10	mg/kg-day	5.00E-03	mg/kg-day	2.64E-08		
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	6.99E-11	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.47E-12	3.03E-10	mg/kg-day	1.00E-03	mg/kg-day	3.03E-07		
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	4.73E-11	mg/kg-day	--	--	--	2.05E-10	mg/kg-day	5.00E-04	mg/kg-day	3.60E-07		
			Aluminum	6.68E-06	mg/m <sup>3</sup>	9.95E-07	mg/kg-day	--	--	--	4.31E-06	mg/kg-day	1.43E-03	mg/kg-day	3.01E-03		
			Antimony	3.09E-09	mg/m <sup>3</sup>	4.60E-10	mg/kg-day	--	--	--	1.99E-09	mg/kg-day	--	--	--		
			Aroclor-1248	9.09E-09	mg/m <sup>3</sup>	1.35E-10	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.71E-10	5.86E-10	mg/kg-day	2.00E-05	mg/kg-day	2.93E-05		
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	5.01E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.00E-10	2.17E-10	mg/kg-day	2.00E-05	mg/kg-day	1.08E-05		
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	6.10E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.22E-10	2.64E-10	mg/kg-day	2.00E-05	mg/kg-day	1.32E-05		
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.13E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.26E-12	1.36E-11	mg/kg-day	2.00E-05	mg/kg-day	6.78E-07		
			Arsenic	4.67E-09	mg/m <sup>3</sup>	6.95E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.04E-08	3.01E-09	mg/kg-day	--	--	--		
			Barium	5.14E-08	mg/m <sup>3</sup>	7.64E-09	mg/kg-day	--	--	--	3.31E-08	mg/kg-day	1.40E-04	mg/kg-day	2.36E-04		
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	5.64E-10	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.12E-10	2.44E-09	mg/kg-day	--	--	--		
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	1.88E-10	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.37E-09	8.13E-10	mg/kg-day	--	--	--		
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	8.61E-11	mg/kg-day	--	--	--	3.73E-10	mg/kg-day	3.00E-02	mg/kg-day	1.24E-08		
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	3.67E-10	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	2.68E-11	1.59E-09	mg/kg-day	--	--	--		
			Beryllium	1.80E-10	mg/m <sup>3</sup>	2.68E-11	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	2.25E-10	1.16E-10	mg/kg-day	5.71E-06	mg/kg-day	2.03E-05		
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.48E-13	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	4.60E-13	1.07E-12	mg/kg-day	2.00E-04	mg/kg-day	5.37E-09		
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	8.83E-10	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.24E-11	3.82E-09	mg/kg-day	2.00E-02	mg/kg-day	1.91E-07		
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.07E-09	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	6.73E-09	4.62E-09	mg/kg-day	--	--	--		
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.25E-08	mg/kg-day	--	--	--	5.43E-08	mg/kg-day	--	--	--		
			Cobalt	5.74E-09	mg/m <sup>3</sup>	8.54E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	8.37E-09	3.70E-09	mg/kg-day	5.71E-06	mg/kg-day	6.48E-04		
			Copper	4.32E-08	mg/m <sup>3</sup>	6.43E-09	mg/kg-day	--	--	--	2.79E-08	mg/kg-day	--	--	--		
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	3.58E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	2.61E-10	1.55E-10	mg/kg-day	--	--	--		
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.28E-12	mg/kg-day	--	--	--	1.86E-11	mg/kg-day	1.00E+01	mg/kg-day	1.86E-12		
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	2.48E-10	mg/kg-day	--	--	--	1.07E-09	mg/kg-day	1.00E-01	mg/kg-day	1.07E-08		
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	4.74E-12	mg/kg-day	--	--	--	2.05E-11	mg/kg-day	3.00E-04	mg/kg-day	6.85E-08		
			Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.13E-12	mg/kg-day	--	--	--	4.88E-12	mg/kg-day	3.00E-04	mg/kg-day	1.63E-08		
			Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.26E-12	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	1.14E-11	5.45E-12	mg/kg-day	1.30E-05	mg/kg-day	4.19E-07		
			Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	9.84E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	7.18E-11	4.26E-10	mg/kg-day	--	--	--		
Iron	3.09E-05	mg/m <sup>3</sup>	4.59E-06	mg/kg-day	--	--	--	1.99E-05	mg/kg-day	--	--	--					
Isophorone	1.52E-10	mg/m <sup>3</sup>	2.25E-11	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	2.14E-14	9.76E-11	mg/kg-day	2.00E-01	mg/kg-day	4.88E-10					
Lead	2.20E-06	mg/m <sup>3</sup>	3.27E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	--	--	--					
Manganese	2.51E-07	mg/m <sup>3</sup>	3.73E-08	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	1.43E-05	mg/kg-day	1.13E-02					
Mercury	2.34E-10	mg/m <sup>3</sup>	3.49E-11	mg/kg-day	--	--	--	1.51E-10	mg/kg-day	8.60E-05	mg/kg-day	1.76E-06					
Molybdenum	1.90E-09	mg/m <sup>3</sup>	2.82E-10	mg/kg-day	--	--	--	1.22E-09	mg/kg-day	--	--	--					
Nickel	2.96E-08	mg/m <sup>3</sup>	4.41E-09	mg/kg-day	--	--	--	1.91E-08	mg/kg-day	--	--	--					
Phenol	4.39E-10	mg/m <sup>3</sup>	6.54E-11	mg/kg-day	--	--	--	2.83E-10	mg/kg-day	3.00E-01	mg/kg-day	9.44E-10					
Selenium	1.70E-10	mg/m <sup>3</sup>	2.53E-11	mg/kg-day	--	--	--	1.10E-10	mg/kg-day	--	--	--					
Silver	8.78E-10	mg/m <sup>3</sup>	1.31E-10	mg/kg-day	--	--	--	5.66E-10	mg/kg-day	--	--	--					



TABLE H-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	9.61E-04	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	3.00E-02	mg/kg-day	1.39E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	5.94E-03	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.31E-04	2.57E-02	mg/kg-day	2.30E-01	mg/kg-day	1.12E-01
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	7.22E-04	mg/kg-day	--	--	--	3.12E-03	mg/kg-day	5.00E-02	mg/kg-day	6.25E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	9.03E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.07E-10	3.91E-09	mg/kg-day	5.00E-04	mg/kg-day	7.82E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	2.52E-04	mg/kg-day	--	--	--	1.09E-03	mg/kg-day	6.00E-02	mg/kg-day	1.82E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	6.51E-06	mg/kg-day	--	--	--	2.82E-05	mg/kg-day	6.00E-02	mg/kg-day	4.70E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	2.39E-09	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	4.07E-08	1.04E-08	mg/kg-day	3.00E-05	mg/kg-day	3.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.60E-08	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.01E-07	6.94E-08	mg/kg-day	5.00E-04	mg/kg-day	1.39E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	8.07E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.83E-09	3.50E-08	mg/kg-day	2.00E-04	mg/kg-day	1.75E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	6.63E-05	mg/kg-day	--	--	--	2.87E-04	mg/kg-day	3.00E-01	mg/kg-day	9.57E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	4.69E-07	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	3.42E-07	2.03E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.10E-07	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	2.00E-01	mg/kg-day	4.54E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	9.61E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.70E-02	mg/kg-day	2.45E-02
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	2.64E-06	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	1.93E-08	1.14E-05	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	2.74E-07	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	5.08E-07	1.18E-06	mg/kg-day	2.00E-04	mg/kg-day	5.92E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	3.52E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	2.00E-03	mg/kg-day	7.63E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	7.80E-08	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.25E-06	3.38E-07	mg/kg-day	5.00E-05	mg/kg-day	6.76E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	3.21E-07	mg/kg-day	--	--	--	1.39E-06	mg/kg-day	6.00E-03	mg/kg-day	2.32E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	3.27E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	6.00E-03	mg/kg-day	2.36E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	6.00E-07	mg/kg-day	--	--	--	2.60E-06	mg/kg-day	6.00E-03	mg/kg-day	4.33E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	7.30E-07	mg/kg-day	--	--	--	3.15E-06	mg/kg-day	4.00E-02	mg/kg-day	7.90E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	3.99E-05	mg/kg-day	--	--	--	1.73E-04	mg/kg-day	4.00E-02	mg/kg-day	4.32E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	8.47E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.10E-07	3.67E-07	mg/kg-day	3.00E-04	mg/kg-day	1.22E-03
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	1.47E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	5.14E-11	6.36E-10	mg/kg-day	2.00E-04	mg/kg-day	3.18E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.62E-08	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	7.35E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	4.41E-08	mg/kg-day	--	--	--	1.91E-07	mg/kg-day	5.00E-03	mg/kg-day	3.82E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.10E-06	mg/kg-day	1.60E-03	(mg/kg-day) <sup>-1</sup>	3.36E-09	9.08E-06	mg/kg-day	8.57E-01	mg/kg-day	1.06E-05
				Naphthalene	6.29E+00	(a) ug/m <sup>3</sup>	9.36E-03	mg/kg-day	--	--	--	4.05E-02	mg/kg-day	8.57E-04	mg/kg-day	4.73E+01
				Phenanthrene	6.71E+01	(a) ug/m <sup>3</sup>	8.50E-04	mg/kg-day	--	--	--	3.68E-03	mg/kg-day	3.00E-01	mg/kg-day	1.23E-02
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	9.61E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.10E-01	mg/kg-day	3.78E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	5.92E-06	mg/kg-day	--	--	--	2.56E-05	mg/kg-day	3.00E-02	mg/kg-day	8.54E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	3.41E-05	mg/kg-day	--	--	--	1.47E-04	mg/kg-day	4.00E-02	mg/kg-day	3.69E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	6.26E-07	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	2.19E-10	2.71E-06	mg/kg-day	2.00E-04	mg/kg-day	1.35E-02
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	3.76E-07	mg/kg-day	--	--	--	1.63E-06	mg/kg-day	1.43E+00	mg/kg-day	1.14E-06				
				Exposure Route Total					1.33E-04					7.36E+01		
				Exposure Point Total					1.33E-04					7.36E+01		
				Exposure Medium Total					1.39E-04					7.46E+01		
				Medium Total					2.76E-04					8.22E+01		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.30E-08	mg/kg-day	--	--	--	2.73E-07	mg/kg-day	1.40E-01	mg/kg-day	1.95E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	--	--	--	8.13E-08	mg/kg-day	1.71E-03	mg/kg-day	4.74E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.23E-07	mg/kg-day	--	--	--	5.33E-07	mg/kg-day	5.70E-02	mg/kg-day	9.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	8.65E-08	mg/kg-day	9.10E-02	--	8.06E-09	3.83E-07	mg/kg-day	1.40E-03	mg/kg-day	2.74E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.32E-08	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	2.26E-09	1.44E-07	mg/kg-day	1.14E-03	mg/kg-day	1.26E-04
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.07E-08	mg/kg-day	--	--	--	4.63E-08	mg/kg-day	1.71E-03	mg/kg-day	2.70E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.19E-08	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	9.22E-10	1.81E-07	mg/kg-day	2.30E-01	mg/kg-day	7.89E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.62E-09	mg/kg-day	--	--	--	7.01E-09	mg/kg-day	1.43E+00	mg/kg-day	4.91E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.44E-10	mg/kg-day	--	--	--	6.23E-10	mg/kg-day	5.00E-02	mg/kg-day	1.25E-08
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.93E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	6.55E-11	8.34E-10	mg/kg-day	5.00E-04	mg/kg-day	1.67E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	6.02E-10	mg/kg-day	--	--	--	2.61E-09	mg/kg-day	8.60E-01	mg/kg-day	3.03E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	5.77E-09	mg/kg-day	--	--	--	2.50E-08	mg/kg-day	6.00E-02	mg/kg-day	4.16E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.46E-10	mg/kg-day	--	--	--	1.06E-09	mg/kg-day	6.00E-02	mg/kg-day	1.77E-08

TABLE H-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units							
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	3.33E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	5.65E-09	1.44E-09	mg/kg-day	3.00E-05	mg/kg-day	4.80E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.21E-11	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	2.65E-10	1.82E-10	mg/kg-day	5.00E-04	mg/kg-day	3.65E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	9.97E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.49E-11	4.32E-10	mg/kg-day	2.00E-04	mg/kg-day	2.16E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	4.89E-10	mg/kg-day	--	--	--	2.12E-09	mg/kg-day	3.00E-01	mg/kg-day	7.06E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	3.88E-08	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.06E-09	1.68E-07	mg/kg-day	8.60E-03	mg/kg-day	1.96E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.24E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	5.28E-11	3.13E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.10E-09	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	4.22E-12	4.74E-09	mg/kg-day	2.00E-02	mg/kg-day	2.37E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	6.71E-07	mg/kg-day	--	--	--	2.90E-06	mg/kg-day	2.00E-01	mg/kg-day	1.45E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.09E-08	mg/kg-day	--	--	--	4.72E-08	mg/kg-day	1.70E-02	mg/kg-day	2.78E-06				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.08E-07	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	2.48E-08	1.33E-06	mg/kg-day	1.40E-02	mg/kg-day	9.52E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.11E-07	mg/kg-day	--	--	--	4.83E-07	mg/kg-day	2.60E-02	mg/kg-day	1.86E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.96E-10	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	1.43E-12	8.48E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	3.41E-07	mg/kg-day	1.00E-02	mg/kg-day	3.41E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.48E-10	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.34E-09	6.33E-10	mg/kg-day	5.00E-05	mg/kg-day	1.27E-05				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.33E-11	mg/kg-day	--	--	--	1.44E-10	mg/kg-day	6.00E-03	mg/kg-day	2.40E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.48E-14	mg/kg-day	--	--	--	2.37E-13	mg/kg-day	6.00E-03	mg/kg-day	3.95E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	2.97E-08	mg/kg-day	--	--	--	1.29E-07	mg/kg-day	2.90E-01	mg/kg-day	4.43E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	7.52E-11	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	4.00E-02	mg/kg-day	8.14E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.49E-10	mg/kg-day	--	--	--	6.44E-10	mg/kg-day	4.00E-02	mg/kg-day	1.61E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.85E-13	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	2.40E-13	8.01E-13	mg/kg-day	3.00E-04	mg/kg-day	2.67E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.59E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	9.06E-11	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.61E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	2.66E-09	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.21E-08	1.15E-08	mg/kg-day	5.00E-04	mg/kg-day	2.30E-05				
				isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	5.10E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.03E-07	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	2.90E-02	mg/kg-day	1.54E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	4.86E-10	mg/kg-day	--	--	--	2.10E-09	mg/kg-day	5.00E-03	mg/kg-day	4.21E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	8.08E-10	mg/kg-day	--	--	--	3.50E-09	mg/kg-day	8.57E-04	mg/kg-day	4.08E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	3.76E-08	mg/kg-day	--	--	--	1.63E-07	mg/kg-day	8.57E-04	mg/kg-day	1.90E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.19E-08	mg/kg-day	--	--	--	1.82E-07	mg/kg-day	4.00E-02	mg/kg-day	4.54E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	3.89E-10	mg/kg-day	--	--	--	1.69E-09	mg/kg-day	3.00E-01	mg/kg-day	5.62E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	5.10E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	6.86E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	3.00E-02	mg/kg-day	9.90E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.19E-07	mg/kg-day	--	--	--	5.16E-07	mg/kg-day	4.00E-02	mg/kg-day	1.29E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.35E-07	mg/kg-day	--	--	--	5.85E-07	mg/kg-day	4.00E-02	mg/kg-day	1.46E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	5.65E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	1.43E+00	mg/kg-day	1.71E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.33E-07	mg/kg-day	--	--	--	5.78E-07	mg/kg-day	2.00E-02	mg/kg-day	2.89E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.39E-07	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	5.55E-08	6.01E-07	mg/kg-day	1.00E-02	mg/kg-day	6.01E-05				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	2.87E-07	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	8.89E-09	1.24E-06	mg/kg-day	2.86E-02	mg/kg-day	4.35E-05				
				Exposure Route Total										1.22E-07					1.54E-03	
				Exposure Point Total										1.22E-07					1.54E-03	
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.11E-05	mg/kg-day	--	--	--	4.80E-05	mg/kg-day	1.40E-01	mg/kg-day	3.43E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	4.86E-07	mg/kg-day	--	--	--	2.10E-06	mg/kg-day	1.71E-03	mg/kg-day	1.23E-03
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	3.27E-06					mg/kg-day	--	--	--	1.42E-05	mg/kg-day	5.70E-02	mg/kg-day	2.49E-04				
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	2.65E-06					mg/kg-day	9.10E-02	--	2.41E-07	1.15E-05	mg/kg-day	1.40E-03	mg/kg-day	8.20E-03				
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	9.82E-07					mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	6.68E-08	4.25E-06	mg/kg-day	1.14E-03	mg/kg-day	3.73E-03				
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	2.78E-07					mg/kg-day	--	--	--	1.20E-06	mg/kg-day	1.71E-03	mg/kg-day	7.03E-04				
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.12E-06					mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	2.47E-08	4.86E-06	mg/kg-day	2.30E-01	mg/kg-day	2.11E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	8.33E-08					mg/kg-day	--	--	--	3.61E-07	mg/kg-day	1.43E+00	mg/kg-day	2.53E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	4.04E-09					mg/kg-day	--	--	--	1.75E-08	mg/kg-day	5.00E-02	mg/kg-day	3.50E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	1.73E-11					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	5.89E-12	7.51E-11	mg/kg-day	5.00E-04	mg/kg-day	1.50E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	2.47E-08					mg/kg-day	--	--	--	1.07E-07	mg/kg-day	8.60E-01	mg/kg-day	1.25E-07				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	2.46E-07					mg/kg-day	--	--	--	1.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.77E-05				



TABLE H-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes:

- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RIC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.35E-06	mg/kg-day	--	--	--	1.92E-05	mg/kg-day	1.00E-02	mg/kg-day	1.92E-03
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	7.98E-06	mg/kg-day	--	--	--	6.52E-05	mg/kg-day	1.00E-02	mg/kg-day	6.52E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	7.83E-07	mg/kg-day	--	--	--	6.39E-06	mg/kg-day	5.00E-02	mg/kg-day	1.28E-04
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.07E-05	mg/kg-day	--	--	--	3.32E-04	mg/kg-day	9.00E-02	mg/kg-day	3.69E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	5.64E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	3.83E-10	4.60E-08	mg/kg-day	1.14E-03	mg/kg-day	4.04E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.50E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.09E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.72E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	3.00E-02	mg/kg-day	4.69E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.06E-05	mg/kg-day	2.40E-02	(mg/kg-day)-1	2.55E-07	8.69E-05	mg/kg-day	3.00E-02	mg/kg-day	2.90E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	3.29E-07	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	2.00E-02	mg/kg-day	1.34E-04
				2-Methylphenol	8.10E-02	mg/kg	1.27E-07	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	5.00E-02	mg/kg-day	2.07E-05
				2-Methylnaphthalene	1.45E+00	mg/kg	2.27E-06	mg/kg-day	--	--	--	1.85E-05	mg/kg-day	4.00E-03	mg/kg-day	4.63E-03
				4,4-DDD	1.20E-03	mg/kg	1.88E-09	mg/kg-day	2.40E-01	(mg/kg-day)-1	4.51E-10	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05
				4,4-DDE	7.50E-02	mg/kg	1.17E-07	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.99E-08	9.59E-07	mg/kg-day	5.00E-04	mg/kg-day	1.92E-03
				4,4-DDT	4.20E-02	mg/kg	6.57E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.24E-08	5.37E-07	mg/kg-day	5.00E-04	mg/kg-day	1.07E-03
				4-Methylphenol	2.70E-01	mg/kg	4.23E-07	mg/kg-day	--	--	--	3.45E-06	mg/kg-day	5.00E-03	mg/kg-day	6.90E-04
				4-Nitroaniline	6.20E-01	mg/kg	9.71E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.04E-08	7.93E-06	mg/kg-day	3.00E-03	mg/kg-day	2.64E-03
				4-Nitrophenol	4.20E-01	mg/kg	6.58E-07	mg/kg-day	--	--	--	5.37E-06	mg/kg-day	5.00E-04	mg/kg-day	1.07E-02
				Acenaphthene	3.47E+00	mg/kg	5.43E-06	mg/kg-day	--	--	--	4.44E-05	mg/kg-day	6.00E-02	mg/kg-day	7.40E-04
				Acenaphthylene	8.96E-02	mg/kg	1.40E-07	mg/kg-day	--	--	--	1.15E-06	mg/kg-day	6.00E-02	mg/kg-day	1.91E-05
				Aldrin	1.30E-02	mg/kg	2.04E-08	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.46E-07	1.66E-07	mg/kg-day	3.00E-05	mg/kg-day	5.54E-03
				alpha-BHC	7.30E-04	mg/kg	1.14E-09	mg/kg-day	6.30E+00	(mg/kg-day)-1	7.20E-09	9.33E-09	mg/kg-day	5.00E-04	mg/kg-day	1.87E-05
				alpha-Chlordane	6.98E-03	mg/kg	1.09E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.83E-09	8.93E-08	mg/kg-day	5.00E-04	mg/kg-day	1.79E-04
				Aluminum	9.05E+03	mg/kg	1.42E-02	mg/kg-day	--	--	--	1.16E-01	mg/kg-day	1.00E+00	mg/kg-day	1.16E-01
				Anthracene	9.13E-01	mg/kg	1.43E-06	mg/kg-day	--	--	--	1.17E-05	mg/kg-day	3.00E-01	mg/kg-day	3.89E-05
				Antimony	2.72E+00	mg/kg	4.26E-06	mg/kg-day	--	--	--	3.48E-05	mg/kg-day	4.00E-04	mg/kg-day	8.71E-02
				Aroclor-1248	1.20E+00	mg/kg	1.88E-06	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.76E-06	1.53E-05	mg/kg-day	2.00E-05	mg/kg-day	7.67E-01
				Aroclor-1254	4.38E-01	mg/kg	6.85E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.37E-06	5.60E-06	mg/kg-day	2.00E-05	mg/kg-day	2.80E-01
				Aroclor-1260	4.88E-01	mg/kg	7.64E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.53E-06	6.24E-06	mg/kg-day	2.00E-05	mg/kg-day	3.12E-01
				Aroclor-1268	2.72E-02	mg/kg	4.26E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.51E-08	3.48E-07	mg/kg-day	2.00E-05	mg/kg-day	1.74E-02
				Arsenic	9.53E+00	mg/kg	1.49E-05	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.24E-05	1.22E-04	mg/kg-day	3.00E-04	mg/kg-day	4.06E-01
				Barium	6.94E+01	mg/kg	1.09E-04	mg/kg-day	--	--	--	8.88E-04	mg/kg-day	7.00E-02	mg/kg-day	1.27E-02
				Benzo(a)anthracene	4.21E+00	mg/kg	6.60E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.81E-06	5.39E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	2.20E-06	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.61E-05	1.80E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	3.71E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.71E-06	3.03E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.01E-06	mg/kg-day	--	--	--	8.28E-06	mg/kg-day	3.00E-02	mg/kg-day	2.76E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	4.42E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	3.23E-07	3.61E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	3.57E-07	mg/kg-day	--	--	--	2.91E-06	mg/kg-day	2.00E-03	mg/kg-day	1.46E-03
				Beta-BHC	2.20E-03	mg/kg	3.44E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	6.20E-09	2.81E-08	mg/kg-day	2.00E-04	mg/kg-day	1.41E-04
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	8.29E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.16E-07	6.77E-05	mg/kg-day	2.00E-02	mg/kg-day	3.39E-03
				Cadmium	8.65E+00	mg/kg	1.35E-05	mg/kg-day	--	--	--	1.11E-04	mg/kg-day	5.00E-04	mg/kg-day	2.21E-01
				Carbon disulfide	2.40E-04	mg/kg	3.76E-10	mg/kg-day	--	--	--	3.07E-09	mg/kg-day	1.00E-01	mg/kg-day	3.07E-08
				Chlorobenzene	1.10E-01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	2.00E-02	mg/kg-day	7.03E-05
				Chromium	1.00E+02	mg/kg	1.56E-04	mg/kg-day	--	--	--	1.28E-03	mg/kg-day	1.50E+00	mg/kg-day	8.52E-04
				Chrysene	4.80E+00	mg/kg	7.51E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	5.48E-08	6.13E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.17E-05	mg/kg-day	--	--	--	9.52E-05	mg/kg-day	2.00E-02	mg/kg-day	4.76E-03
				Copper	6.01E+01	mg/kg	9.40E-05	mg/kg-day	--	--	--	7.68E-04	mg/kg-day	3.70E-02	mg/kg-day	2.08E-02
				Delta-BHC	8.40E-03	mg/kg	1.32E-08	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.37E-08	1.07E-07	mg/kg-day	2.00E-04	mg/kg-day	5.37E-04
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	4.32E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.15E-06	3.52E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.04E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-03	mg/kg-day	8.31E-02
				Dieldrin	4.89E-02	mg/kg	7.66E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.23E-06	6.26E-07	mg/kg-day	5.00E-05	mg/kg-day	1.25E-02
				Dimethylphthalate	3.80E-02	mg/kg	5.95E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	1.00E+01	mg/kg-day	4.86E-08

TABLE H-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	3.60E-06	mg/kg-day	--	--	--	2.94E-05	mg/kg-day	1.00E-01	mg/kg-day	2.94E-04				
				Endosulfan I	2.30E-02	mg/kg	3.60E-08	mg/kg-day	--	--	--	2.94E-07	mg/kg-day	6.00E-03	mg/kg-day	4.90E-05				
				Endosulfan II	2.34E-02	mg/kg	3.66E-08	mg/kg-day	--	--	--	2.99E-07	mg/kg-day	6.00E-03	mg/kg-day	4.98E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	6.73E-08	mg/kg-day	--	--	--	5.50E-07	mg/kg-day	6.00E-03	mg/kg-day	9.16E-05				
				Endrin aldehyde	6.30E-02	mg/kg	9.86E-08	mg/kg-day	--	--	--	8.05E-07	mg/kg-day	3.00E-04	mg/kg-day	2.68E-03				
				Endrin Ketone	1.00E-02	mg/kg	1.57E-08	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	3.00E-04	mg/kg-day	4.26E-04				
				Fluoranthene	2.23E+01	mg/kg	3.48E-05	mg/kg-day	--	--	--	2.84E-04	mg/kg-day	4.00E-02	mg/kg-day	7.11E-03				
				Fluorene	2.53E+00	mg/kg	3.96E-06	mg/kg-day	--	--	--	3.23E-05	mg/kg-day	4.00E-02	mg/kg-day	8.08E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.07E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.29E-09	3.32E-08	mg/kg-day	3.00E-04	mg/kg-day	1.11E-04				
				gamma-Chlordane	1.27E-02	mg/kg	1.99E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.96E-09	1.62E-07	mg/kg-day	5.00E-04	mg/kg-day	3.25E-04				
				Heptachlor	6.90E-03	mg/kg	1.08E-08	mg/kg-day	4.50E+00	(mg/kg-day)-1	4.86E-08	8.82E-08	mg/kg-day	5.00E-04	mg/kg-day	1.76E-04				
				Heptachlor Epoxide	9.88E-03	mg/kg	1.54E-08	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.40E-07	1.26E-07	mg/kg-day	1.30E-05	mg/kg-day	9.69E-03				
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	7.78E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.68E-07	6.36E-06	mg/kg-day	--	--	--				
				Iron	3.68E+04	mg/kg	5.76E-02	mg/kg-day	--	--	--	4.70E-01	mg/kg-day	3.00E-01	mg/kg-day	1.57E+00				
				Isophorone	2.00E-01	mg/kg	3.13E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.97E-10	2.56E-06	mg/kg-day	2.00E-01	mg/kg-day	1.28E-05				
				Lead	2.39E+03	mg/kg	3.74E-03	mg/kg-day	--	--	--	3.06E-02	mg/kg-day	--	--	--				
				Manganese	3.04E+02	mg/kg	4.76E-04	mg/kg-day	--	--	--	3.89E-03	mg/kg-day	2.40E-02	mg/kg-day	1.62E-01				
				Mercury	2.65E+01	mg/kg	4.15E-07	mg/kg-day	--	--	--	3.39E-06	mg/kg-day	3.00E-04	mg/kg-day	1.13E-02				
				Methoxychlor	1.20E-01	mg/kg	1.89E-07	mg/kg-day	--	--	--	1.53E-08	mg/kg-day	5.00E-03	mg/kg-day	3.07E-04				
				Methylene chloride	2.40E-03	mg/kg	3.76E-09	mg/kg-day	7.50E-03	(mg/kg-day)-1	2.82E-11	3.07E-08	mg/kg-day	6.00E-02	mg/kg-day	5.11E-07				
				Molybdenum	2.18E+00	mg/kg	3.41E-06	mg/kg-day	--	--	--	2.79E-05	mg/kg-day	5.00E-03	mg/kg-day	5.57E-03				
				Naphthalene	1.30E+01	mg/kg	2.04E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-02	mg/kg-day	8.31E-03				
				Nickel	3.89E+01	mg/kg	6.10E-05	mg/kg-day	--	--	--	4.98E-04	mg/kg-day	2.00E-02	mg/kg-day	2.49E-02				
				Phenanthrene	1.17E+01	mg/kg	1.83E-05	mg/kg-day	--	--	--	1.49E-04	mg/kg-day	3.00E-01	mg/kg-day	4.98E-04				
				Phenol	5.80E+01	mg/kg	9.08E-07	mg/kg-day	--	--	--	7.42E-06	mg/kg-day	3.00E-01	mg/kg-day	2.47E-05				
				p-Isopropyltoluene	1.10E-01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	1.00E-01	mg/kg-day	1.41E-05				
				Pyrene	2.03E+01	mg/kg	3.18E-05	mg/kg-day	--	--	--	2.60E-04	mg/kg-day	3.00E-02	mg/kg-day	8.67E-03				
				sec-Butylbenzene	7.10E-02	mg/kg	1.11E-07	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	4.00E-02	mg/kg-day	2.27E-05				
				Selenium	2.84E-01	mg/kg	4.44E-07	mg/kg-day	--	--	--	3.63E-06	mg/kg-day	5.00E-03	mg/kg-day	7.25E-04				
				Silver	9.80E-01	mg/kg	1.53E-06	mg/kg-day	--	--	--	1.25E-05	mg/kg-day	5.00E-03	mg/kg-day	2.51E-03				
				Technical Chlordane	5.41E-01	mg/kg	8.47E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.96E-07	6.91E-06	mg/kg-day	5.00E-04	mg/kg-day	1.38E-02				
				Thallium	4.83E-01	mg/kg	7.56E-07	mg/kg-day	--	--	--	6.17E-06	mg/kg-day	6.60E-05	mg/kg-day	9.35E-02				
				Toluene	4.30E-04	mg/kg	6.73E-10	mg/kg-day	--	--	--	5.50E-09	mg/kg-day	8.00E-02	mg/kg-day	6.87E-08				
				Vanadium	3.37E+01	mg/kg	5.27E-05	mg/kg-day	--	--	--	4.31E-04	mg/kg-day	1.00E-03	mg/kg-day	4.31E-01				
				Zinc	3.32E+02	mg/kg	5.19E-04	mg/kg-day	--	--	--	4.24E-03	mg/kg-day	3.00E-01	mg/kg-day	1.41E-02				
				<b>Exposure Route Total</b>															<b>4.78E+00</b>	
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1.50E+00	mg/kg	7.58E-07	mg/kg-day	--	--	--	5.56E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04
									5.10E+00	mg/kg	2.58E-07	mg/kg-day	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04
									5.00E-01	mg/kg	2.53E-08	mg/kg-day	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06
									2.60E+01	mg/kg	1.31E-08	mg/kg-day	--	--	--	9.64E-06	mg/kg-day	9.00E-02	mg/kg-day	1.07E-04
3.60E-03	mg/kg	1.82E-10	mg/kg-day						6.80E-02	(mg/kg-day)-1	1.24E-11	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06				
1.60E-01	mg/kg	8.08E-09	mg/kg-day						--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.19E-06				
1.10E+00	mg/kg	5.56E-08	mg/kg-day						--	--	--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05				
6.80E+00	mg/kg	--	mg/kg-day						2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2.10E-01	mg/kg	1.06E-08	mg/kg-day						--	--	--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06				
8.10E-02	mg/kg	4.09E-08	mg/kg-day						--	--	--	3.00E-07	mg/kg-day	5.00E-02	mg/kg-day	6.01E-06				
1.45E+00	mg/kg	7.32E-08	mg/kg-day						--	--	--	5.37E-07	mg/kg-day	4.00E-03	mg/kg-day	1.34E-04				
1.20E-03	mg/kg	6.06E-11	mg/kg-day						2.40E-01	(mg/kg-day)-1	1.45E-11	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07				
7.50E-02	mg/kg	3.79E-09	mg/kg-day						3.40E-01	(mg/kg-day)-1	1.29E-09	2.78E-08	mg/kg-day	5.00E-04	mg/kg-day	5.56E-05				
4.20E-02	mg/kg	6.36E-09	mg/kg-day						3.40E-01	(mg/kg-day)-1	2.16E-09	4.67E-08	mg/kg-day	5.00E-04	mg/kg-day	9.34E-05				
2.70E-01	mg/kg	1.36E-07	mg/kg-day						--	--	--	1.00E-06	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04				

TABLE H-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	3.13E-07	mg/kg-day	2.10E-02	--	6.58E-09	2.30E-07	mg/kg-day	3.00E-03	mg/kg-day	7.66E-04
				4-Nitrophenol	4.20E-01	mg/kg	2.12E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	3.47E+00	mg/kg	2.28E-06	mg/kg-day	--	--	--	1.67E-05	mg/kg-day	6.00E-02	mg/kg-day	2.79E-04
				Acenaphthylene	8.96E-02	mg/kg	4.53E-09	mg/kg-day	--	--	--	3.32E-08	mg/kg-day	6.00E-02	mg/kg-day	5.54E-07
				Aldrin	1.30E-02	mg/kg	6.57E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.12E-07	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03
				alpha-BHC	7.30E-04	mg/kg	3.69E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.32E-10	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	4.57E-05	mg/kg-day	--	--	--	3.36E-04	mg/kg-day	1.00E+00	mg/kg-day	3.36E-04
				Anthracene	9.13E-01	mg/kg	6.00E-07	mg/kg-day	--	--	--	4.40E-06	mg/kg-day	3.00E-01	mg/kg-day	1.47E-05
				Antimony	2.72E+00	mg/kg	1.38E-08	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	4.00E-04	mg/kg-day	2.52E-04
				Aroclor-1248	1.20E+00	mg/kg	8.49E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-06	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.38E-01	mg/kg	3.10E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.19E-07	2.27E-06	mg/kg-day	2.00E-05	mg/kg-day	1.14E-01
				Aroclor-1260	4.88E-01	mg/kg	3.45E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.91E-07	2.53E-06	mg/kg-day	2.00E-05	mg/kg-day	1.27E-01
				Aroclor-1268	2.72E-02	mg/kg	1.92E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.85E-08	1.41E-07	mg/kg-day	2.00E-05	mg/kg-day	7.05E-03
				Arsenic	9.53E+00	mg/kg	1.44E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.17E-06	1.06E-05	mg/kg-day	3.00E-04	mg/kg-day	3.53E-02
				Barium	6.94E+01	mg/kg	3.51E-07	mg/kg-day	--	--	--	2.57E-06	mg/kg-day	7.00E-02	mg/kg-day	3.69E-05
				Benzo(a)anthracene	4.21E+00	mg/kg	2.77E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.02E-06	2.03E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	9.23E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	6.74E-06	6.78E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.56E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.14E-06	1.14E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	4.25E-07	mg/kg-day	--	--	--	3.12E-06	mg/kg-day	3.00E-02	mg/kg-day	1.04E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.86E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.35E-07	1.36E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.15E-09	mg/kg-day	--	--	--	8.45E-09	mg/kg-day	2.00E-03	mg/kg-day	4.22E-06
				Beta-BHC	2.20E-03	mg/kg	1.11E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.00E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	2.68E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.75E-09	1.96E-06	mg/kg-day	2.00E-02	mg/kg-day	9.82E-05
				Cadmium	8.65E+00	mg/kg	4.37E-08	mg/kg-day	--	--	--	3.21E-07	mg/kg-day	5.00E-04	mg/kg-day	6.41E-04
				Carbon disulfide	2.40E-04	mg/kg	3.03E-10	mg/kg-day	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	5.56E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.00E+02	mg/kg	5.05E-07	mg/kg-day	--	--	--	3.71E-06	mg/kg-day	1.50E+00	mg/kg-day	2.47E-06
				Chrysene	4.80E+00	mg/kg	3.15E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.30E-08	2.31E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	3.76E-08	mg/kg-day	--	--	--	2.76E-07	mg/kg-day	2.00E-02	mg/kg-day	1.38E-05
				Copper	6.01E+01	mg/kg	3.03E-07	mg/kg-day	--	--	--	2.23E-06	mg/kg-day	3.70E-02	mg/kg-day	6.02E-05
				Delta-BHC	8.40E-03	mg/kg	2.12E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.82E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.81E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.32E-06	1.33E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.57E-07	mg/kg-day	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	4.89E-02	mg/kg	2.47E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.95E-08	1.81E-08	mg/kg-day	5.00E-05	mg/kg-day	6.83E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.92E-09	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	1.00E+01	mg/kg-day	1.41E-09
				di-n-Butylphthalate	2.30E+00	mg/kg	1.16E-07	mg/kg-day	--	--	--	8.53E-07	mg/kg-day	1.00E-01	mg/kg-day	8.53E-06
				Endosulfan I	2.30E-02	mg/kg	5.81E-09	mg/kg-day	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.34E-02	mg/kg	5.90E-09	mg/kg-day	--	--	--	4.33E-08	mg/kg-day	6.00E-03	mg/kg-day	7.22E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	1.09E-08	mg/kg-day	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	6.30E-02	mg/kg	1.59E-08	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.89E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	1.46E-05	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	4.00E-02	mg/kg-day	2.68E-03
				Fluorene	2.53E+00	mg/kg	1.66E-06	mg/kg-day	--	--	--	1.22E-05	mg/kg-day	4.00E-02	mg/kg-day	3.05E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	5.25E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	6.83E-10	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	3.49E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.57E-09	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06
				Heptachlor Epoxide	9.86E-03	mg/kg	4.98E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	4.53E-09	3.65E-09	mg/kg-day	1.30E-05	mg/kg-day	2.81E-04
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	3.26E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.38E-07	2.40E-06	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	1.86E-04	mg/kg-day	--	--	--	1.36E-03	mg/kg-day	3.00E-01	mg/kg-day	4.54E-03
				Isophorone	2.00E-01	mg/kg	1.01E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.60E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06

TABLE H-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermat (continued)	Lead	2.39E+03	mg/kg	1.21E-05	mg/kg-day	--	--	--	8.86E-05	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	1.54E-06	mg/kg-day	--	--	--	1.13E-05	mg/kg-day	2.40E-02	mg/kg-day	4.70E-04
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	6.06E-09	mg/kg-day	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06
				Methylene chloride	2.40E-03	mg/kg	1.21E-10	mg/kg-day	7.50E-03	(mg/kg-day)-1	9.09E-13	8.90E-10	mg/kg-day	6.00E-02	mg/kg-day	1.48E-08
				Molybdenum	2.18E+00	mg/kg	1.10E-08	mg/kg-day	--	--	--	8.08E-08	mg/kg-day	5.00E-03	mg/kg-day	1.62E-05
				Naphthalene	1.30E+01	mg/kg	8.54E-06	mg/kg-day	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03
				Nickel	3.89E+01	mg/kg	1.97E-07	mg/kg-day	--	--	--	1.44E-06	mg/kg-day	2.00E-02	mg/kg-day	7.22E-05
				Phenanthrene	1.17E+01	mg/kg	5.90E-07	mg/kg-day	--	--	--	4.33E-06	mg/kg-day	3.00E-01	mg/kg-day	1.44E-05
				Phenol	5.80E-01	mg/kg	2.93E-07	mg/kg-day	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	1.34E-05	mg/kg-day	--	--	--	9.81E-05	mg/kg-day	3.00E-02	mg/kg-day	3.27E-03
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	1.43E-09	mg/kg-day	--	--	--	1.05E-08	mg/kg-day	5.00E-03	mg/kg-day	2.10E-06
				Silver	9.80E-01	mg/kg	4.95E-09	mg/kg-day	--	--	--	3.63E-08	mg/kg-day	5.00E-03	mg/kg-day	7.27E-06
				Technical Chlordane	5.41E-01	mg/kg	1.09E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.82E-08	8.02E-07	mg/kg-day	5.00E-04	mg/kg-day	1.60E-03
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	2.17E-11	mg/kg-day	--	--	--	1.59E-10	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09
				Vanadium	3.37E+01	mg/kg	1.70E-07	mg/kg-day	--	--	--	1.25E-06	mg/kg-day	1.00E-03	mg/kg-day	1.25E-03
				Zinc	3.32E+02	mg/kg	1.68E-06	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	3.00E-01	mg/kg-day	4.10E-05
				Exposure Route Total												
Exposure Point Total																5.38E+00
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--	
		1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--	
		1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--	
		1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--	
		1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	6.80E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--	
		1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--	
		1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--	
		1,4-Dichlorobenzene	8.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--	
		2,4-Dimethylphenol	2.10E-01	mg/kg	1.36E-05	mg/kg-day	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03		
		2-Methylphenol	8.10E-02	mg/kg	1.25E-05	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	5.00E-02	mg/kg-day	5.82E-04		
		2-Methylnaphthalene	1.45E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-03	mg/kg-day	--		
		4,4'-DDD	1.20E-03	mg/kg	1.32E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.17E-11	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07		
		4,4'-DDE	7.50E-02	mg/kg	5.98E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.03E-09	1.40E-08	mg/kg-day	5.00E-04	mg/kg-day	2.79E-05		
		4,4'-DDT	4.20E-02	mg/kg	1.44E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.91E-09	3.37E-08	mg/kg-day	5.00E-04	mg/kg-day	6.74E-05		
		4-Methylphenol	2.70E-01	mg/kg	4.27E-05	mg/kg-day	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02		
		4-Nitroaniline	8.20E-01	mg/kg	6.71E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.41E-06	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02		
		4-Nitrophenol	4.20E-01	mg/kg	6.82E-05	mg/kg-day	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.18E-01		
		Acenaphthene	3.47E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
		Acenaphthylene	8.96E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
		Aldrin	1.30E-02	mg/kg	2.34E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.98E-08	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04		
		alpha-BHC	7.30E-04	mg/kg	2.84E-08	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.79E-07	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04		
		alpha-Chlordane	6.88E-03	mg/kg	2.76E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	9.67E-10	6.45E-09	mg/kg-day	5.00E-04	mg/kg-day	1.29E-05		
		Aluminum	9.05E+03	mg/kg	4.88E-04	mg/kg-day	--	--	--	1.14E-03	mg/kg-day	1.00E+00	mg/kg-day	1.14E-03		
		Anthracene	9.13E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--		
		Antimony	2.72E+00	mg/kg	6.78E-06	mg/kg-day	--	--	--	1.58E-05	mg/kg-day	4.00E-04	mg/kg-day	3.95E-02		
		Aroclor-1248	1.20E+00	mg/kg	1.33E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.65E-07	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02		
		Aroclor-1254	4.38E-01	mg/kg	6.47E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.29E-06	1.51E-06	mg/kg-day	2.00E-05	mg/kg-day	7.55E-02		
		Aroclor-1260	4.88E-01	mg/kg	2.58E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.16E-08	6.02E-08	mg/kg-day	2.00E-05	mg/kg-day	3.01E-03		
		Aroclor-1268	2.72E-02	mg/kg	4.02E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.04E-08	9.38E-08	mg/kg-day	2.00E-05	mg/kg-day	4.69E-03		

TABLE H-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	4.74E-06	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	7.12E-06	1.11E-05	mg/kg-day	3.00E-04	mg/kg-day	3.69E-02	
				Barium	6.94E+01	mg/kg	8.64E-05	mg/kg-day	--	--	--	2.02E-04	mg/kg-day	7.00E-02	mg/kg-day	2.89E-03	
				Benzo(a)anthracene	4.21E+00	mg/kg	8.97E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	6.54E-08	2.09E-07	mg/kg-day	--	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.70E-08	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.24E-07	3.96E-08	mg/kg-day	--	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	2.87E-07	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	2.09E-07	6.69E-07	mg/kg-day	--	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	5.97E-08	mg/kg-day	--	--	--	1.39E-07	mg/kg-day	3.00E-02	mg/kg-day	4.64E-06	
				Benzo(k)fluoranthene	2.82E+00	mg/kg	3.41E-07	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	2.49E-08	7.96E-07	mg/kg-day	--	--	--	--
				Beryllium	2.28E-01	mg/kg	2.83E-08	mg/kg-day	--	--	--	6.61E-08	mg/kg-day	2.00E-03	mg/kg-day	3.31E-05	
				Beta-BHC	2.20E-03	mg/kg	8.56E-08	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	1.54E-07	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04	
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.52E-04	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	2.13E-06	3.54E-04	mg/kg-day	2.00E-02	mg/kg-day	1.77E-02	
				Cadmium	8.85E+00	mg/kg	1.08E-04	mg/kg-day	--	--	--	2.51E-04	mg/kg-day	5.00E-04	mg/kg-day	5.02E-01	
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--	
				Chromium	1.00E+02	mg/kg	3.73E-05	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	1.50E+00	mg/kg-day	5.80E-05	
				Chrysene	4.80E+00	mg/kg	7.16E-07	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	5.23E-09	1.67E-06	mg/kg-day	--	--	--	--
				Cobalt	7.44E+00	mg/kg	4.32E-06	mg/kg-day	--	--	--	1.01E-05	mg/kg-day	2.00E-02	mg/kg-day	5.04E-04	
				Copper	6.01E+01	mg/kg	1.25E-03	mg/kg-day	--	--	--	2.91E-03	mg/kg-day	3.70E-02	mg/kg-day	7.86E-02	
				Delta-BHC	8.40E-03	mg/kg	2.66E-09	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	4.80E-09	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05	
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	2.06E-08	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.50E-07	4.80E-08	mg/kg-day	--	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--	--
				Dieldrin	4.89E-02	mg/kg	2.15E-06	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.44E-05	5.02E-06	mg/kg-day	5.00E-05	mg/kg-day	1.00E-01	
				Dimethylphthalate	3.80E-02	mg/kg	4.69E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	1.00E+01	mg/kg-day	1.09E-06	
				di-n-Butylphthalate	2.30E+00	mg/kg	3.97E-07	mg/kg-day	--	--	--	9.27E-07	mg/kg-day	1.00E-01	mg/kg-day	9.27E-06	
				Endosulfan I	2.30E-02	mg/kg	8.55E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04	
				Endosulfan II	2.34E-02	mg/kg	8.32E-07	mg/kg-day	--	--	--	1.94E-06	mg/kg-day	6.00E-03	mg/kg-day	3.24E-04	
				Endosulfan Sulfate	4.30E-02	mg/kg	1.50E-06	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04	
				Endrin aldehyde	6.30E-02	mg/kg	8.67E-09	mg/kg-day	--	--	--	2.02E-08	mg/kg-day	3.00E-04	mg/kg-day	6.74E-05	
				Endrin Ketone	1.00E-02	mg/kg	1.38E-09	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05	
				Fluoranthene	2.23E+01	mg/kg	4.99E-06	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	4.00E-02	mg/kg-day	2.91E-04	
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.56E-07	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	4.83E-07	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03	
				gamma-Chlordane	1.27E-02	mg/kg	5.03E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.76E-09	1.17E-08	mg/kg-day	5.00E-04	mg/kg-day	2.35E-05	
				Heptachlor	6.90E-03	mg/kg	2.03E-09	mg/kg-day	4.50E+00	(mg/kg-day) <sup>-1</sup>	9.14E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06	
				Heptachlor Epoxide	9.86E-03	mg/kg	9.44E-07	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	8.59E-06	2.20E-06	mg/kg-day	1.30E-05	mg/kg-day	1.69E-01	
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	4.49E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	3.28E-08	1.05E-07	mg/kg-day	--	--	--	--
				Iron	3.68E+04	mg/kg	3.03E-03	mg/kg-day	--	--	--	7.07E-03	mg/kg-day	3.00E-01	mg/kg-day	2.36E-02	
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	2.00E-01	mg/kg-day	--	--
				Lead	2.39E+03	mg/kg	1.78E-03	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	--	--	--	--
				Manganese	3.04E+02	mg/kg	1.26E-03	mg/kg-day	--	--	--	2.95E-03	mg/kg-day	2.40E-02	mg/kg-day	1.23E-01	
				Mercury	2.65E-01	mg/kg	4.40E-06	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	3.00E-04	mg/kg-day	3.42E-02	
Methoxychlor	1.20E-01	mg/kg	8.62E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06					
Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	7.50E-03	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	6.00E-02	mg/kg-day	--	--				
Molybdenum	2.18E+00	mg/kg	1.08E-05	mg/kg-day	--	--	--	2.53E-05	mg/kg-day	5.00E-03	mg/kg-day	5.06E-03					
Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--	--				
Nickel	3.89E+01	mg/kg	1.94E-04	mg/kg-day	--	--	--	4.52E-04	mg/kg-day	2.00E-02	mg/kg-day	2.26E-02					
Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--	--				
Phenol	5.80E-01	mg/kg	2.37E-04	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03					
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	--				
Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	--				
Selenium	2.84E-01	mg/kg	5.88E-07	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	5.00E-03	mg/kg-day	2.74E-04					

TABLE H-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	8.13E-08	mg/kg-day	--	--	--	1.90E-05	mg/kg-day	5.00E-03	mg/kg-day	3.79E-03		
				Technical Chlordane	5.41E-01	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	--	5.00E-04	mg/kg-day	--	--	
				Thallium	4.83E-01	mg/kg	1.60E-08	mg/kg-day	--	--	--	--	3.74E-08	mg/kg-day	6.60E-05	mg/kg-day	5.66E-04	
				Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	--	--	8.00E-02	mg/kg-day	--	
				Vanadium	3.37E+01	mg/kg	8.38E-06	mg/kg-day	--	--	--	--	1.86E-05	mg/kg-day	1.00E-03	mg/kg-day	1.96E-02	
				Zinc	3.32E+02	mg/kg	2.48E-02	mg/kg-day	--	--	--	--	5.78E-02	mg/kg-day	3.00E-01	mg/kg-day	1.93E-01	
				Exposure Route Total														1.87E+00
				Exposure Point Total														1.87E+00
				Exposure Medium Total														7.25E+00
				Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.37E-11	mg/kg-day	--	--	--	1.03E-10	mg/kg-day	2.00E-02	mg/kg-day
2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	9.13E-12				mg/kg-day	--	--	--	3.95E-11	mg/kg-day	--	--	--			
4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.35E-13				mg/kg-day	2.40E-01	(mg/kg-day)-1	3.25E-14	5.86E-13	mg/kg-day	5.00E-04	mg/kg-day	1.17E-09			
4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	4.73E-12				mg/kg-day	3.40E-01	(mg/kg-day)-1	1.61E-12	2.05E-11	mg/kg-day	5.00E-04	mg/kg-day	4.10E-08			
4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.04E-11				mg/kg-day	--	--	--	1.32E-10	mg/kg-day	5.00E-03	mg/kg-day	2.64E-08			
4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	6.99E-11				mg/kg-day	2.10E-02	(mg/kg-day)-1	1.47E-12	3.03E-10	mg/kg-day	1.00E-03	mg/kg-day	3.03E-07			
4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	4.73E-11				mg/kg-day	--	--	--	2.05E-10	mg/kg-day	5.70E-04	mg/kg-day	3.60E-07			
Aluminum	6.86E-06	mg/m <sup>3</sup>	1.02E-06				mg/kg-day	--	--	--	4.42E-06	mg/kg-day	1.43E-03	mg/kg-day	3.09E-03			
Antimony	2.06E-09	mg/m <sup>3</sup>	3.07E-10				mg/kg-day	--	--	--	1.33E-09	mg/kg-day	--	--	--			
Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.35E-10				mg/kg-day	2.00E+00	(mg/kg-day)-1	2.71E-10	5.86E-10	mg/kg-day	2.00E-05	mg/kg-day	2.93E-05			
Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	4.93E-11				mg/kg-day	2.00E+00	(mg/kg-day)-1	9.87E-11	2.14E-10	mg/kg-day	2.00E-05	mg/kg-day	1.07E-05			
Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	5.50E-11				mg/kg-day	2.00E+00	(mg/kg-day)-1	1.10E-10	2.38E-10	mg/kg-day	2.00E-05	mg/kg-day	1.19E-05			
Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	3.06E-12				mg/kg-day	2.00E+00	(mg/kg-day)-1	6.13E-12	1.33E-11	mg/kg-day	2.00E-05	mg/kg-day	6.63E-07			
Arsenic	7.22E-09	mg/m <sup>3</sup>	1.07E-09				mg/kg-day	1.50E+01	(mg/kg-day)-1	1.61E-08	4.65E-09	mg/kg-day	--	--	--			
Barium	5.26E-08	mg/m <sup>3</sup>	7.83E-09				mg/kg-day	--	--	--	3.39E-08	mg/kg-day	1.40E-04	mg/kg-day	2.42E-04			
Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	4.75E-10				mg/kg-day	7.30E-01	(mg/kg-day)-1	3.47E-10	2.06E-09	mg/kg-day	--	--	--			
Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	1.58E-10				mg/kg-day	7.30E+00	(mg/kg-day)-1	1.16E-09	6.86E-10	mg/kg-day	--	--	--			
Benzo(a,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	7.30E-11				mg/kg-day	--	--	--	3.16E-10	mg/kg-day	3.00E-02	mg/kg-day	1.05E-08			
Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	3.18E-10				mg/kg-day	7.30E-02	(mg/kg-day)-1	2.32E-11	1.38E-09	mg/kg-day	--	--	--			
Beryllium	1.73E-10	mg/m <sup>3</sup>	2.57E-11				mg/kg-day	8.40E+00	(mg/kg-day)-1	2.16E-10	1.11E-10	mg/kg-day	5.71E-08	mg/kg-day	1.85E-05			
Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.48E-13				mg/kg-day	1.86E+00	(mg/kg-day)-1	4.60E-13	1.07E-12	mg/kg-day	2.00E-04	mg/kg-day	5.37E-09			
bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	5.97E-10				mg/kg-day	1.40E-02	(mg/kg-day)-1	8.36E-12	2.58E-09	mg/kg-day	2.00E-02	mg/kg-day	1.29E-07			
Cadmium	6.55E-09	mg/m <sup>3</sup>	9.75E-10				mg/kg-day	6.30E+00	(mg/kg-day)-1	6.14E-09	4.22E-09	mg/kg-day	--	--	--			
Chromium	7.57E-08	mg/m <sup>3</sup>	1.13E-08				mg/kg-day	--	--	--	4.88E-08	mg/kg-day	--	--	--			
Cobalt	5.64E-09	mg/m <sup>3</sup>	8.39E-10				mg/kg-day	9.80E+00	(mg/kg-day)-1	8.22E-09	3.63E-09	mg/kg-day	5.71E-06	mg/kg-day	6.36E-04			
Copper	4.55E-08	mg/m <sup>3</sup>	6.77E-09				mg/kg-day	--	--	--	2.93E-08	mg/kg-day	--	--	--			
Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	3.11E-11				mg/kg-day	7.30E+00	(mg/kg-day)-1	2.27E-10	1.35E-10	mg/kg-day	--	--	--			
Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.28E-12				mg/kg-day	--	--	--	1.86E-11	mg/kg-day	1.00E+01	mg/kg-day	1.86E-12			
di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	2.59E-10				mg/kg-day	--	--	--	1.12E-09	mg/kg-day	1.00E-01	mg/kg-day	1.12E-08			
Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	7.10E-12				mg/kg-day	--	--	--	3.08E-11	mg/kg-day	3.00E-04	mg/kg-day	1.03E-07			
Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.13E-12				mg/kg-day	--	--	--	4.88E-12	mg/kg-day	3.00E-04	mg/kg-day	1.63E-08			
Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	1.11E-12				mg/kg-day	9.10E+00	(mg/kg-day)-1	1.01E-11	4.81E-12	mg/kg-day	1.30E-05	mg/kg-day	3.70E-07			
Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	5.60E-11				mg/kg-day	7.30E-01	(mg/kg-day)-1	4.09E-11	2.43E-10	mg/kg-day	--	--	--			
Iron	2.79E-05	mg/m <sup>3</sup>	4.14E-06				mg/kg-day	--	--	--	1.79E-05	mg/kg-day	--	--	--			
Isophorone	1.52E-10	mg/m <sup>3</sup>	2.25E-11				mg/kg-day	9.50E-04	(mg/kg-day)-1	2.14E-14	9.76E-11	mg/kg-day	2.00E-01	mg/kg-day	4.88E-10			
Lead	1.81E-08	mg/m <sup>3</sup>	2.69E-07				mg/kg-day	--	--	--	1.17E-06	mg/kg-day	--	--	--			
Manganese	2.31E-07	mg/m <sup>3</sup>	3.43E-08				mg/kg-day	--	--	--	1.49E-07	mg/kg-day	1.43E-05	mg/kg-day	1.04E-02			
Mercury	2.01E-10	mg/m <sup>3</sup>	2.99E-11				mg/kg-day	--	--	--	1.30E-10	mg/kg-day	8.60E-05	mg/kg-day	1.51E-06			
Nickel	2.95E-08	mg/m <sup>3</sup>	4.39E-09				mg/kg-day	--	--	--	1.90E-08	mg/kg-day	--	--	--			
Phenol	4.39E-10	mg/m <sup>3</sup>	6.54E-11				mg/kg-day	--	--	--	2.83E-10	mg/kg-day	3.00E-01	mg/kg-day	9.44E-10			
Selenium	2.15E-10	mg/m <sup>3</sup>	3.20E-11				mg/kg-day	--	--	--	1.38E-10	mg/kg-day	--	--	--			
Silver	7.42E-10	mg/m <sup>3</sup>	1.10E-10				mg/kg-day	--	--	--	4.78E-10	mg/kg-day	--	--	--			

TABLE H-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.66E-10	mg/m <sup>3</sup>	5.44E-11	mg/kg-day	--	--	--	2.36E-10	mg/kg-day	--	--	--
				Vanadium	2.55E-08	mg/m <sup>3</sup>	3.80E-09	mg/kg-day	--	--	--	1.64E-08	mg/kg-day	--	--	--
				Zinc	2.51E-07	mg/m <sup>3</sup>	3.74E-08	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	--	--	--
Exposure Route Total										3.30E-08						1.44E-02
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.55E-05	mg/kg-day	--	--	--	6.73E-05	mg/kg-day	1.10E-03	mg/kg-day	6.12E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	5.28E-05	mg/kg-day	--	--	--	2.29E-04	mg/kg-day	1.10E-03	mg/kg-day	2.08E-01
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.74E-05	mg/kg-day	--	--	--	7.55E-05	mg/kg-day	1.71E-03	mg/kg-day	4.41E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	7.92E-04	mg/kg-day	--	--	--	3.43E-03	mg/kg-day	5.70E-02	mg/kg-day	6.02E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.26E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.90E-08	1.84E-06	mg/kg-day	1.14E-03	mg/kg-day	1.62E-03
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	5.44E-06	mg/kg-day	--	--	--	2.35E-05	mg/kg-day	1.71E-03	mg/kg-day	1.37E-02
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.42E-05	mg/kg-day	--	--	--	1.05E-04	mg/kg-day	3.00E-02	mg/kg-day	3.50E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.33E-04	mg/kg-day	2.20E-02	(mg/kg-day)-1	5.12E-06	1.01E-03	mg/kg-day	2.30E-01	mg/kg-day	4.38E-03
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	9.54E-06	mg/kg-day	--	--	--	4.13E-05	mg/kg-day	5.00E-02	mg/kg-day	8.27E-04
				4,4-DDE	8.84E-09	mg/m <sup>3</sup>	1.31E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.47E-10	5.69E-09	mg/kg-day	5.00E-04	mg/kg-day	1.14E-05
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	7.09E-06	mg/kg-day	--	--	--	3.07E-05	mg/kg-day	6.00E-02	mg/kg-day	5.12E-04
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	1.83E-07	mg/kg-day	--	--	--	7.92E-07	mg/kg-day	6.00E-02	mg/kg-day	1.32E-05
				Aldrin	5.63E-09	mg/m <sup>3</sup>	8.38E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.42E-08	3.63E-09	mg/kg-day	3.00E-05	mg/kg-day	1.21E-04
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	5.41E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.41E-09	2.34E-09	mg/kg-day	5.00E-04	mg/kg-day	4.69E-06
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	1.03E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.60E-10	4.45E-09	mg/kg-day	2.00E-04	mg/kg-day	2.23E-05
				Anthracene	1.25E-05	mg/m <sup>3</sup>	1.87E-06	mg/kg-day	--	--	--	8.08E-06	mg/kg-day	3.00E-01	mg/kg-day	2.69E-05
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	2.28E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.67E-07	9.89E-07	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	6.73E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	7.70E-06	mg/kg-day	--	--	--	3.34E-05	mg/kg-day	1.70E-02	mg/kg-day	1.96E-03
				Chrysene	5.27E-06	mg/m <sup>3</sup>	7.84E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	5.73E-09	3.40E-08	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	6.23E-09	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.16E-08	2.70E-08	mg/kg-day	2.00E-04	mg/kg-day	1.35E-04
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	6.67E-06	mg/kg-day	--	--	--	2.89E-05	mg/kg-day	2.00E-03	mg/kg-day	1.45E-02
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	9.79E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.57E-07	4.24E-08	mg/kg-day	5.00E-05	mg/kg-day	8.48E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	6.00E-03	mg/kg-day	6.65E-06
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	1.22E-08	mg/kg-day	--	--	--	5.27E-08	mg/kg-day	6.00E-03	mg/kg-day	8.79E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.24E-08	mg/kg-day	--	--	--	9.71E-08	mg/kg-day	6.00E-03	mg/kg-day	1.62E-05
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	2.14E-06	mg/kg-day	--	--	--	9.27E-06	mg/kg-day	4.00E-02	mg/kg-day	2.32E-04
				Fluorene	1.48E-05	mg/m <sup>3</sup>	2.20E-06	mg/kg-day	--	--	--	9.53E-06	mg/kg-day	4.00E-02	mg/kg-day	2.38E-04
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.37E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.08E-09	1.03E-08	mg/kg-day	3.00E-04	mg/kg-day	3.42E-05
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	1.87E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.55E-10	8.10E-09	mg/kg-day	2.00E-04	mg/kg-day	4.05E-05
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	5.03E-08	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.29E-07	2.18E-07	mg/kg-day	5.00E-04	mg/kg-day	4.36E-04
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.28E-08	mg/kg-day	--	--	--	5.56E-08	mg/kg-day	5.00E-03	mg/kg-day	1.11E-05
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.04E-04	mg/kg-day	--	--	--	4.51E-04	mg/kg-day	8.57E-04	mg/kg-day	5.26E-01
				Phenanthrene	1.60E-04	mg/m <sup>3</sup>	2.39E-05	mg/kg-day	--	--	--	1.03E-04	mg/kg-day	3.00E-01	mg/kg-day	3.44E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	2.85E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	1.10E-01	mg/kg-day	1.12E-03
				Pyrene	1.56E-05	mg/m <sup>3</sup>	2.31E-06	mg/kg-day	--	--	--	1.00E-05	mg/kg-day	3.00E-02	mg/kg-day	3.34E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.18E-06	mg/kg-day	--	--	--	1.81E-05	mg/kg-day	4.00E-02	mg/kg-day	4.52E-04
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	7.97E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	2.79E-11	3.45E-07	mg/kg-day	2.00E-04	mg/kg-day	1.72E-03
				Toluene	3.12E-07	mg/m <sup>3</sup>	4.65E-08	mg/kg-day	--	--	--	2.01E-07	mg/kg-day	1.43E+00	mg/kg-day	1.41E-07
Exposure Route Total										5.74E-06						9.46E-01
Exposure Point Total										5.77E-06						9.81E-01
		Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	1.31E-03	mg/kg-day	--	--	--	5.68E-03	mg/kg-day	1.10E-03	mg/kg-day	5.16E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	4.46E-03	mg/kg-day	--	--	--	1.93E-02	mg/kg-day	1.10E-03	mg/kg-day	1.75E+01
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	4.37E-04	mg/kg-day	--	--	--	1.89E-03	mg/kg-day	1.71E-03	mg/kg-day	1.10E+00
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	2.27E-02	mg/kg-day	--	--	--	9.84E-02	mg/kg-day	5.70E-02	mg/kg-day	1.73E+00
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	3.15E-06	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.14E-07	1.36E-05	mg/kg-day	1.14E-03	mg/kg-day	1.19E-02
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	1.40E-04	mg/kg-day	--	--	--	6.05E-04	mg/kg-day	1.71E-03	mg/kg-day	3.53E-01

TABLE H-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	9.61E-04	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	3.00E-02	mg/kg-day	1.39E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	5.94E-03	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.31E-04	2.57E-02	mg/kg-day	2.30E-01	mg/kg-day	1.12E-01
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	7.22E-04	mg/kg-day	--	--	--	3.12E-03	mg/kg-day	5.00E-02	mg/kg-day	6.25E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	9.03E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.07E-10	3.91E-09	mg/kg-day	5.00E-04	mg/kg-day	7.82E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	2.52E-04	mg/kg-day	--	--	--	1.09E-03	mg/kg-day	6.00E-02	mg/kg-day	1.82E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	6.51E-06	mg/kg-day	--	--	--	2.82E-05	mg/kg-day	6.00E-02	mg/kg-day	4.70E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	2.39E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.07E-08	1.04E-08	mg/kg-day	3.00E-05	mg/kg-day	3.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.60E-08	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.01E-07	6.94E-08	mg/kg-day	5.00E-04	mg/kg-day	1.39E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	8.07E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.83E-09	3.50E-08	mg/kg-day	2.00E-04	mg/kg-day	1.75E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	6.63E-05	mg/kg-day	--	--	--	2.87E-04	mg/kg-day	3.00E-01	mg/kg-day	9.57E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	4.69E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.42E-07	2.03E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.10E-07	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	2.00E-01	mg/kg-day	4.54E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	9.61E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.70E-02	mg/kg-day	2.45E-02
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	2.64E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.93E-08	1.14E-05	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	2.74E-07	mg/kg-day	1.86E+00	(mg/kg-day)-1	5.08E-07	1.18E-06	mg/kg-day	2.00E-04	mg/kg-day	5.92E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	3.52E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	2.00E-03	mg/kg-day	7.63E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	7.80E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.25E-06	3.38E-07	mg/kg-day	5.00E-05	mg/kg-day	6.76E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	3.21E-07	mg/kg-day	--	--	--	1.39E-06	mg/kg-day	6.00E-03	mg/kg-day	2.32E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	3.27E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	6.00E-03	mg/kg-day	2.36E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	6.00E-07	mg/kg-day	--	--	--	2.60E-06	mg/kg-day	6.00E-03	mg/kg-day	4.33E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	7.30E-07	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	4.00E-02	mg/kg-day	7.80E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	3.99E-05	mg/kg-day	--	--	--	1.73E-04	mg/kg-day	4.00E-02	mg/kg-day	4.32E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	8.47E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.10E-07	3.67E-07	mg/kg-day	3.00E-04	mg/kg-day	1.22E-03
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	1.47E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.14E-11	6.36E-10	mg/kg-day	2.00E-04	mg/kg-day	3.18E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.62E-08	mg/kg-day	4.55E+00	(mg/kg-day)-1	7.35E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	4.41E-08	mg/kg-day	--	--	--	1.91E-07	mg/kg-day	5.00E-03	mg/kg-day	3.82E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.10E-06	mg/kg-day	1.60E-03	(mg/kg-day)-1	3.36E-09	9.08E-06	mg/kg-day	8.57E-01	mg/kg-day	1.06E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	9.36E-03	mg/kg-day	--	--	--	4.05E-02	mg/kg-day	8.57E-04	mg/kg-day	4.73E-01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	8.50E-04	mg/kg-day	--	--	--	3.68E-03	mg/kg-day	3.00E-01	mg/kg-day	1.23E-02
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	9.61E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.10E-01	mg/kg-day	3.78E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	5.92E-06	mg/kg-day	--	--	--	2.56E-05	mg/kg-day	3.00E-02	mg/kg-day	8.54E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	3.41E-05	mg/kg-day	--	--	--	1.47E-04	mg/kg-day	4.00E-02	mg/kg-day	3.69E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	6.26E-07	mg/kg-day	3.50E-04	(mg/kg-day)-1	2.19E-10	2.71E-06	mg/kg-day	2.00E-04	mg/kg-day	1.35E-02
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	3.76E-07	mg/kg-day	--	--	--	1.63E-06	mg/kg-day	1.43E+00	mg/kg-day	1.14E-06				
				Exposure Point Total											7.38E+01	
				Exposure Medium Total											7.38E+01	
				Exposure Point Total											7.46E+01	
				Exposure Medium Total											8.18E+01	
Medium Total															8.18E+01	
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.30E-08	mg/kg-day	--	--	--	2.73E-07	mg/kg-day	1.40E-01	mg/kg-day	1.95E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	--	--	--	8.13E-08	mg/kg-day	1.71E-03	mg/kg-day	4.74E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.23E-07	mg/kg-day	--	--	--	5.33E-07	mg/kg-day	5.70E-02	mg/kg-day	9.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	8.85E-08	mg/kg-day	9.10E-02	--	8.06E-09	3.83E-07	mg/kg-day	1.40E-03	mg/kg-day	2.74E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.32E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.26E-09	1.44E-07	mg/kg-day	1.14E-03	mg/kg-day	1.26E-04
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.07E-08	mg/kg-day	--	--	--	4.63E-08	mg/kg-day	1.71E-03	mg/kg-day	2.70E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.19E-08	mg/kg-day	2.20E-02	(mg/kg-day)-1	9.22E-10	1.81E-07	mg/kg-day	2.30E-01	mg/kg-day	7.89E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.62E-09	mg/kg-day	--	--	--	7.01E-09	mg/kg-day	1.43E+00	mg/kg-day	4.91E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.44E-10	mg/kg-day	--	--	--	6.23E-10	mg/kg-day	5.00E-02	mg/kg-day	1.25E-08
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.93E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.55E-11	8.34E-10	mg/kg-day	5.00E-04	mg/kg-day	1.67E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	6.02E-10	mg/kg-day	--	--	--	2.61E-09	mg/kg-day	8.60E-01	mg/kg-day	3.03E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	5.77E-09	mg/kg-day	--	--	--	2.50E-08	mg/kg-day	6.00E-02	mg/kg-day	4.16E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.46E-10	mg/kg-day	--	--	--	1.06E-09	mg/kg-day	6.00E-02	mg/kg-day	1.77E-08

TABLE H-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	3.33E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.65E-09	1.44E-09	mg/kg-day	3.00E-05	mg/kg-day	4.80E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.21E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.65E-10	1.82E-10	mg/kg-day	5.00E-04	mg/kg-day	3.65E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	9.97E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.49E-11	4.32E-10	mg/kg-day	2.00E-04	mg/kg-day	2.16E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	4.89E-10	mg/kg-day	--	--	--	2.12E-09	mg/kg-day	3.00E-01	mg/kg-day	7.06E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	3.88E-08	mg/kg-day	2.73E-02	(mg/kg-day)-1	1.06E-09	1.68E-07	mg/kg-day	8.60E-03	mg/kg-day	1.96E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.24E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.28E-11	3.13E-10	mg/kg-day	--	--	--				
				Bromoform	7.38E-09	mg/m <sup>3</sup>	1.10E-09	mg/kg-day	3.85E-03	(mg/kg-day)-1	4.22E-12	4.74E-09	mg/kg-day	2.00E-02	mg/kg-day	2.37E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	6.71E-07	mg/kg-day	--	--	--	2.90E-06	mg/kg-day	2.00E-01	mg/kg-day	1.45E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.09E-08	mg/kg-day	--	--	--	4.72E-08	mg/kg-day	1.70E-02	mg/kg-day	2.78E-06				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.08E-07	mg/kg-day	8.05E-02	(mg/kg-day)-1	2.48E-08	1.33E-06	mg/kg-day	1.40E-02	mg/kg-day	9.52E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.11E-07	mg/kg-day	--	--	--	4.83E-07	mg/kg-day	2.60E-02	mg/kg-day	1.86E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.96E-10	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.43E-12	8.48E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	3.41E-07	mg/kg-day	1.00E-02	mg/kg-day	3.41E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.46E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.34E-09	6.33E-10	mg/kg-day	5.00E-05	mg/kg-day	1.27E-05				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.33E-11	mg/kg-day	--	--	--	1.44E-10	mg/kg-day	6.00E-03	mg/kg-day	2.40E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.48E-14	mg/kg-day	--	--	--	2.37E-13	mg/kg-day	6.00E-03	mg/kg-day	3.95E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	2.97E-08	mg/kg-day	--	--	--	1.29E-07	mg/kg-day	2.90E-01	mg/kg-day	4.43E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	7.52E-11	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	4.00E-02	mg/kg-day	8.14E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.49E-10	mg/kg-day	--	--	--	6.44E-10	mg/kg-day	4.00E-02	mg/kg-day	1.61E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.85E-13	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.40E-13	8.01E-13	mg/kg-day	3.00E-04	mg/kg-day	2.67E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.59E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	9.06E-11	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.61E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	2.68E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	1.21E-08	1.15E-08	mg/kg-day	5.00E-04	mg/kg-day	2.30E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	5.10E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.03E-07	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	2.90E-02	mg/kg-day	1.54E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	4.86E-10	mg/kg-day	--	--	--	2.10E-09	mg/kg-day	5.00E-03	mg/kg-day	4.21E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	8.08E-10	mg/kg-day	--	--	--	3.50E-09	mg/kg-day	8.57E-04	mg/kg-day	4.08E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	3.76E-08	mg/kg-day	--	--	--	1.63E-07	mg/kg-day	8.57E-04	mg/kg-day	1.90E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.19E-08	mg/kg-day	--	--	--	1.82E-07	mg/kg-day	4.00E-02	mg/kg-day	4.54E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	3.89E-10	mg/kg-day	--	--	--	1.69E-09	mg/kg-day	3.00E-01	mg/kg-day	5.62E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	5.10E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	6.86E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	3.00E-02	mg/kg-day	9.90E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.19E-07	mg/kg-day	--	--	--	5.16E-07	mg/kg-day	4.00E-02	mg/kg-day	1.29E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.35E-07	mg/kg-day	--	--	--	5.85E-07	mg/kg-day	4.00E-02	mg/kg-day	1.46E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	5.65E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	1.43E+00	mg/kg-day	1.71E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.33E-07	mg/kg-day	--	--	--	5.78E-07	mg/kg-day	2.00E-02	mg/kg-day	2.89E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.39E-07	mg/kg-day	4.00E-01	(mg/kg-day)-1	5.55E-08	6.01E-07	mg/kg-day	1.00E-02	mg/kg-day	6.01E-05				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	2.87E-07	mg/kg-day	3.10E-02	(mg/kg-day)-1	8.89E-09	1.24E-06	mg/kg-day	2.86E-02	mg/kg-day	4.35E-05				
				Exposure Route Total										1.22E-07					1.54E-03	
				Exposure Point Total										1.22E-07						1.54E-03
				Indoor Air	Indoor Air	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.11E-05	mg/kg-day	--	--	--	4.80E-05	mg/kg-day	1.40E-01	mg/kg-day	3.43E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	4.86E-07	mg/kg-day	--	--	--	2.10E-06	mg/kg-day	1.71E-03	mg/kg-day	1.23E-03
								1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	3.27E-06	mg/kg-day	--	--	--	1.42E-05	mg/kg-day	5.70E-02	mg/kg-day	2.49E-04
								1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	2.65E-06	mg/kg-day	9.10E-02	--	2.41E-07	1.15E-05	mg/kg-day	1.40E-03	mg/kg-day	8.20E-03
								1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	9.82E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	6.68E-08	4.25E-06	mg/kg-day	1.14E-03	mg/kg-day	3.73E-03
								1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	2.78E-07	mg/kg-day	--	--	--	1.20E-06	mg/kg-day	1.71E-03	mg/kg-day	7.03E-04
								1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.12E-06	mg/kg-day	2.20E-02	(mg/kg-day)-1	2.47E-08	4.86E-06	mg/kg-day	2.30E-01	mg/kg-day	2.11E-05
								2-Hexanone	5.60E-04	ug/m <sup>3</sup>	8.33E-08	mg/kg-day	--	--	--	3.61E-07	mg/kg-day	1.43E+00	mg/kg-day	2.53E-07
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	4.04E-09					mg/kg-day	--	--	--	1.75E-08	mg/kg-day	5.00E-02	mg/kg-day	3.50E-07				
4,4-DDE	1.17E-07	ug/m <sup>3</sup>	1.73E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	5.89E-12	7.51E-11	mg/kg-day	5.00E-04	mg/kg-day	1.50E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	2.47E-08					mg/kg-day	--	--	--	1.07E-07	mg/kg-day	8.60E-01	mg/kg-day	1.25E-07				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	2.46E-07					mg/kg-day	--	--	--	1.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.77E-05				



**TABLE H-7.10**

**EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

**Notes:**

- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.51E-07	mg/kg-day	--	--	--	4.40E-07	mg/kg-day	1.00E-02	mg/kg-day	4.40E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	5.13E-07	mg/kg-day	--	--	--	1.50E-06	mg/kg-day	1.00E-02	mg/kg-day	1.50E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	5.03E-08	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	5.00E-02	mg/kg-day	2.94E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	2.62E-06	mg/kg-day	--	--	--	7.63E-06	mg/kg-day	9.00E-02	mg/kg-day	8.48E-05
				1,2-Dichloropropane	3.60E-03	mg/kg	3.62E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.46E-11	1.06E-09	mg/kg-day	1.14E-03	mg/kg-day	9.27E-07
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.61E-08	mg/kg-day	--	--	--	4.70E-08	mg/kg-day	5.00E-02	mg/kg-day	9.39E-07
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.11E-07	mg/kg-day	--	--	--	3.23E-07	mg/kg-day	3.00E-02	mg/kg-day	1.08E-05
				1,4-Dichlorobenzene	8.80E+00	mg/kg	8.84E-07	mg/kg-day	2.40E-02	(mg/kg-day)-1	1.64E-08	2.00E-06	mg/kg-day	3.00E-02	mg/kg-day	6.85E-05
				2,4-Dimethylphenol	2.10E-01	mg/kg	2.11E-08	mg/kg-day	--	--	--	6.16E-08	mg/kg-day	2.00E-02	mg/kg-day	3.08E-06
				2-Methylphenol	8.10E-02	mg/kg	8.15E-09	mg/kg-day	--	--	--	2.38E-08	mg/kg-day	5.00E-02	mg/kg-day	4.76E-07
				2-Methylnaphthalene	1.67E+00	mg/kg	1.68E-07	mg/kg-day	--	--	--	4.91E-07	mg/kg-day	4.00E-03	mg/kg-day	1.23E-04
				4,4'-DDD	1.20E-03	mg/kg	1.21E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.90E-11	3.52E-10	mg/kg-day	5.00E-04	mg/kg-day	7.05E-07
				4,4'-DDE	8.23E-02	mg/kg	8.28E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.82E-09	2.42E-08	mg/kg-day	5.00E-04	mg/kg-day	4.83E-05
				4,4'-DDT	4.45E-02	mg/kg	4.48E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.52E-09	1.31E-08	mg/kg-day	5.00E-04	mg/kg-day	2.61E-05
				4-Methylphenol	2.70E-01	mg/kg	2.72E-08	mg/kg-day	--	--	--	7.93E-08	mg/kg-day	5.00E-03	mg/kg-day	1.59E-05
				4-Nitroaniline	6.20E-01	mg/kg	6.24E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.31E-09	1.82E-07	mg/kg-day	3.00E-03	mg/kg-day	6.07E-05
				4-Nitrophenol	4.20E-01	mg/kg	4.23E-08	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	5.00E-04	mg/kg-day	2.47E-04
				Acenaphthene	4.23E+00	mg/kg	4.26E-07	mg/kg-day	--	--	--	1.24E-06	mg/kg-day	6.00E-02	mg/kg-day	2.07E-05
				Acenaphthylene	1.04E-01	mg/kg	1.05E-08	mg/kg-day	--	--	--	3.06E-08	mg/kg-day	6.00E-02	mg/kg-day	5.10E-07
				Aldrin	1.30E-02	mg/kg	1.31E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.22E-08	3.82E-09	mg/kg-day	3.00E-05	mg/kg-day	1.27E-04
				alpha-BHC	7.30E-04	mg/kg	7.35E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	4.63E-10	2.14E-10	mg/kg-day	5.00E-04	mg/kg-day	4.29E-07
				alpha-Chlordane	8.14E-03	mg/kg	8.19E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.87E-10	2.39E-09	mg/kg-day	5.00E-04	mg/kg-day	4.78E-06
				Aluminum	8.82E+03	mg/kg	8.88E-04	mg/kg-day	--	--	--	2.59E-03	mg/kg-day	1.00E+00	mg/kg-day	2.59E-03
				Anthracene	1.05E+00	mg/kg	1.06E-07	mg/kg-day	--	--	--	3.10E-07	mg/kg-day	3.00E-01	mg/kg-day	1.03E-06
				Antimony	4.08E+00	mg/kg	4.10E-07	mg/kg-day	--	--	--	1.20E-06	mg/kg-day	4.00E-04	mg/kg-day	2.99E-03
				Aroclor-1248	1.20E+00	mg/kg	1.21E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.42E-07	3.52E-07	mg/kg-day	2.00E-05	mg/kg-day	1.76E-02
				Aroclor-1254	4.44E-01	mg/kg	4.47E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.94E-08	1.30E-07	mg/kg-day	2.00E-05	mg/kg-day	6.52E-03
				Aroclor-1260	5.41E-01	mg/kg	5.45E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.09E-07	1.59E-07	mg/kg-day	2.00E-05	mg/kg-day	7.85E-03
				Aroclor-1268	2.78E-02	mg/kg	2.79E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.59E-09	8.15E-09	mg/kg-day	2.00E-05	mg/kg-day	4.07E-04
				Arsenic	6.17E+00	mg/kg	6.21E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.31E-07	1.81E-06	mg/kg-day	3.00E-04	mg/kg-day	6.03E-03
				Barium	6.78E+01	mg/kg	6.83E-06	mg/kg-day	--	--	--	1.99E-05	mg/kg-day	7.00E-02	mg/kg-day	2.84E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	5.04E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.68E-07	1.47E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.68E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.22E-06	4.89E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.76E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.01E-07	8.04E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	7.68E-08	mg/kg-day	--	--	--	2.24E-07	mg/kg-day	3.00E-02	mg/kg-day	7.47E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.28E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	2.40E-08	9.57E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.40E-08	mg/kg-day	--	--	--	6.99E-08	mg/kg-day	2.00E-03	mg/kg-day	3.50E-05
				Beta-BHC	2.20E-03	mg/kg	2.21E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.99E-10	6.46E-10	mg/kg-day	2.00E-04	mg/kg-day	3.23E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	7.88E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.10E-08	2.30E-08	mg/kg-day	2.00E-02	mg/kg-day	1.15E-04
				Cadmium	9.47E+00	mg/kg	9.53E-07	mg/kg-day	--	--	--	2.78E-06	mg/kg-day	5.00E-04	mg/kg-day	5.56E-03
				Carbon disulfide	2.40E-04	mg/kg	2.42E-11	mg/kg-day	--	--	--	7.05E-11	mg/kg-day	1.00E-01	mg/kg-day	7.05E-10
				Chlorobenzene	1.10E-01	mg/kg	1.11E-08	mg/kg-day	--	--	--	3.23E-08	mg/kg-day	2.00E-02	mg/kg-day	1.61E-06
				Chromium	1.11E+02	mg/kg	1.12E-05	mg/kg-day	--	--	--	3.26E-05	mg/kg-day	1.50E+00	mg/kg-day	2.18E-05
				Chrysene	5.68E+00	mg/kg	5.72E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.18E-09	1.67E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	7.62E-07	mg/kg-day	--	--	--	2.22E-06	mg/kg-day	2.00E-02	mg/kg-day	1.11E-04
Copper	5.71E+01	mg/kg	5.74E-06	mg/kg-day	--	--	--	1.67E-05	mg/kg-day	3.70E-02	mg/kg-day	4.53E-04				
Delta-BHC	8.40E-03	mg/kg	8.45E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.52E-09	2.47E-09	mg/kg-day	2.00E-04	mg/kg-day	1.23E-05				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	3.20E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.33E-07	9.32E-08	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	1.31E-06	mg/kg-day	--	--	--	3.82E-06	mg/kg-day	2.00E-03	mg/kg-day	1.91E-03				
Dieldrin	5.51E-02	mg/kg	5.55E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.88E-08	1.62E-08	mg/kg-day	5.00E-05	mg/kg-day	3.24E-04				
Dimethylphthalate	3.80E-02	mg/kg	3.82E-08	mg/kg-day	--	--	--	1.12E-08	mg/kg-day	1.00E+01	mg/kg-day	1.12E-09				

TABLE H-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	2.21E-07	mg/kg-day	--	--	--	6.46E-07	mg/kg-day	1.00E-01	mg/kg-day	6.46E-06
				Endosulfan I	2.30E-02	mg/kg	2.31E-09	mg/kg-day	--	--	--	6.75E-09	mg/kg-day	6.00E-03	mg/kg-day	1.13E-06
				Endosulfan II	2.38E-02	mg/kg	2.40E-09	mg/kg-day	--	--	--	6.99E-09	mg/kg-day	6.00E-03	mg/kg-day	1.17E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	4.33E-09	mg/kg-day	--	--	--	1.26E-08	mg/kg-day	6.00E-03	mg/kg-day	2.10E-06
				Endrin aldehyde	4.21E-02	mg/kg	4.23E-09	mg/kg-day	--	--	--	1.24E-08	mg/kg-day	3.00E-04	mg/kg-day	4.12E-05
				Endrin Ketone	1.00E-02	mg/kg	1.01E-09	mg/kg-day	--	--	--	2.94E-09	mg/kg-day	3.00E-04	mg/kg-day	9.78E-06
				Fluoranthene	2.65E+01	mg/kg	2.67E-06	mg/kg-day	--	--	--	7.78E-06	mg/kg-day	4.00E-02	mg/kg-day	1.95E-04
				Fluorene	2.92E+00	mg/kg	2.93E-07	mg/kg-day	--	--	--	8.56E-07	mg/kg-day	4.00E-02	mg/kg-day	2.14E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.62E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.40E-10	7.63E-10	mg/kg-day	3.00E-04	mg/kg-day	2.54E-06
				gamma-Chlordane	1.31E-02	mg/kg	1.32E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.62E-10	3.85E-09	mg/kg-day	5.00E-04	mg/kg-day	7.69E-06
				Heptachlor	6.90E-03	mg/kg	6.94E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	3.12E-09	2.03E-09	mg/kg-day	5.00E-04	mg/kg-day	4.05E-06
				Heptachlor Epoxide	1.12E-02	mg/kg	1.12E-09	mg/kg-day	8.10E+00	(mg/kg-day)-1	1.02E-08	3.27E-09	mg/kg-day	1.30E-05	mg/kg-day	2.52E-04
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	8.79E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.41E-08	2.56E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	4.10E-03	mg/kg-day	--	--	--	1.20E-02	mg/kg-day	3.00E-01	mg/kg-day	3.99E-02
				Isophorone	2.00E-01	mg/kg	2.01E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.91E-11	5.87E-08	mg/kg-day	2.00E-01	mg/kg-day	2.94E-07
				Lead	2.90E+03	mg/kg	2.92E-04	mg/kg-day	--	--	--	8.52E-04	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	3.33E-05	mg/kg-day	--	--	--	9.72E-05	mg/kg-day	2.40E-02	mg/kg-day	4.05E-03
				Mercury	3.10E-01	mg/kg	3.12E-08	mg/kg-day	--	--	--	9.09E-08	mg/kg-day	3.00E-04	mg/kg-day	3.03E-04
				Methoxychlor	1.20E-01	mg/kg	1.21E-08	mg/kg-day	--	--	--	3.52E-08	mg/kg-day	5.00E-03	mg/kg-day	7.05E-06
				Molybdenum	2.50E+00	mg/kg	2.52E-07	mg/kg-day	--	--	--	7.35E-07	mg/kg-day	5.00E-03	mg/kg-day	1.47E-04
				Naphthalene	1.30E+01	mg/kg	1.31E-06	mg/kg-day	--	--	--	3.82E-06	mg/kg-day	2.00E-02	mg/kg-day	1.91E-04
				Nickel	3.91E+01	mg/kg	3.94E-06	mg/kg-day	--	--	--	1.15E-05	mg/kg-day	2.00E-02	mg/kg-day	5.74E-04
				Phenanthrene	1.39E+01	mg/kg	1.40E-06	mg/kg-day	--	--	--	4.09E-06	mg/kg-day	3.00E-01	mg/kg-day	1.36E-05
				Phenol	5.80E-01	mg/kg	5.84E-08	mg/kg-day	--	--	--	1.70E-07	mg/kg-day	3.00E-01	mg/kg-day	5.68E-07
				p-Isopropyltoluene	1.10E-01	mg/kg	1.11E-08	mg/kg-day	--	--	--	3.23E-08	mg/kg-day	1.00E-01	mg/kg-day	3.23E-07
				Pyrene	2.41E+01	mg/kg	2.43E-06	mg/kg-day	--	--	--	7.09E-06	mg/kg-day	3.00E-02	mg/kg-day	2.36E-04
				sec-Butylbenzene	7.10E-02	mg/kg	7.15E-09	mg/kg-day	--	--	--	2.08E-08	mg/kg-day	4.00E-02	mg/kg-day	5.21E-07
				Selenium	2.24E-01	mg/kg	2.26E-08	mg/kg-day	--	--	--	6.59E-08	mg/kg-day	5.00E-03	mg/kg-day	1.32E-05
				Silver	1.16E+00	mg/kg	1.17E-07	mg/kg-day	--	--	--	3.40E-07	mg/kg-day	5.00E-03	mg/kg-day	6.80E-05
				Technical Chlordane	5.51E-01	mg/kg	5.55E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.94E-08	1.62E-07	mg/kg-day	5.00E-04	mg/kg-day	3.24E-04
				Thallium	4.87E-01	mg/kg	5.00E-08	mg/kg-day	--	--	--	1.46E-07	mg/kg-day	6.60E-05	mg/kg-day	2.21E-03
				Toluene	4.30E-04	mg/kg	4.33E-11	mg/kg-day	--	--	--	1.26E-10	mg/kg-day	8.00E-02	mg/kg-day	1.58E-09
				Vanadium	3.41E+01	mg/kg	3.44E-06	mg/kg-day	--	--	--	1.00E-05	mg/kg-day	1.00E-03	mg/kg-day	1.00E-02
Zinc	4.53E+02	mg/kg	4.56E-05	mg/kg-day	--	--	--	1.33E-04	mg/kg-day	3.00E-01	mg/kg-day	4.44E-04				
<b>Exposure Route Total</b>																
			Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.81E-07	mg/kg-day	--	--	--	8.20E-07	mg/kg-day	1.00E-02	mg/kg-day	8.20E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	9.56E-08	mg/kg-day	--	--	--	2.79E-07	mg/kg-day	1.00E-02	mg/kg-day	2.79E-05
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	9.37E-09	mg/kg-day	--	--	--	2.73E-08	mg/kg-day	5.00E-02	mg/kg-day	5.47E-07
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.87E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	9.00E-02	mg/kg-day	1.58E-05
				1,2-Dichloropropane	3.60E-03	mg/kg	6.75E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	4.59E-12	1.97E-10	mg/kg-day	1.14E-03	mg/kg-day	1.73E-07
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	3.00E-09	mg/kg-day	--	--	--	8.75E-09	mg/kg-day	5.00E-02	mg/kg-day	1.75E-07
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.06E-08	mg/kg-day	--	--	--	6.01E-08	mg/kg-day	3.00E-02	mg/kg-day	2.00E-06
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				2,4-Dimethylphenol	2.10E-01	mg/kg	3.94E-09	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	2.00E-02	mg/kg-day	5.74E-07
				2-Methylphenol	8.10E-02	mg/kg	1.52E-08	mg/kg-day	--	--	--	4.43E-08	mg/kg-day	5.00E-02	mg/kg-day	8.85E-07
				2-Methylnaphthalene	1.67E+00	mg/kg	3.13E-08	mg/kg-day	--	--	--	9.14E-08	mg/kg-day	4.00E-03	mg/kg-day	2.28E-05
				4,4'-DDD	1.20E-03	mg/kg	2.25E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	5.40E-12	6.56E-11	mg/kg-day	5.00E-04	mg/kg-day	1.31E-07
				4,4'-DDE	8.23E-02	mg/kg	1.54E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.24E-10	4.50E-09	mg/kg-day	5.00E-04	mg/kg-day	9.00E-06
				4,4'-DDT	4.45E-02	mg/kg	2.50E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	8.50E-10	7.30E-09	mg/kg-day	5.00E-04	mg/kg-day	1.46E-05
				4-Methylphenol	2.70E-01	mg/kg	5.06E-08	mg/kg-day	--	--	--	1.48E-07	mg/kg-day	5.00E-03	mg/kg-day	2.95E-05
				4-Nitroaniline	6.20E-01	mg/kg	1.16E-07	mg/kg-day	2.10E-02	--	--	2.44E-09	mg/kg-day	3.00E-03	mg/kg-day	1.13E-04

TABLE H-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	7.87E-08	mg/kg-day	--	--	--	2.30E-07	mg/kg-day	5.00E-04	mg/kg-day	4.59E-04
				Acenaphthene	4.23E+00	mg/kg	1.03E-06	mg/kg-day	--	--	--	3.01E-06	mg/kg-day	6.00E-02	mg/kg-day	5.01E-05
				Acenaphthylene	1.04E-01	mg/kg	1.95E-09	mg/kg-day	--	--	--	5.69E-09	mg/kg-day	6.00E-02	mg/kg-day	9.49E-08
				Aldrin	1.30E-02	mg/kg	2.44E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.14E-08	7.11E-09	mg/kg-day	3.00E-05	mg/kg-day	2.37E-04
				alpha-BHC	7.30E-04	mg/kg	1.37E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	8.62E-11	3.89E-11	mg/kg-day	5.00E-04	mg/kg-day	7.98E-08
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	1.65E-05	mg/kg-day	--	--	--	4.82E-05	mg/kg-day	1.00E+00	mg/kg-day	4.82E-05
				Anthracene	1.05E+00	mg/kg	2.57E-07	mg/kg-day	--	--	--	7.50E-07	mg/kg-day	3.00E-01	mg/kg-day	2.50E-06
				Antimony	4.08E+00	mg/kg	7.64E-09	mg/kg-day	--	--	--	2.23E-08	mg/kg-day	4.00E-04	mg/kg-day	5.57E-05
				Aroclor-1248	1.20E+00	mg/kg	3.15E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.30E-07	9.18E-07	mg/kg-day	2.00E-05	mg/kg-day	4.59E-02
				Aroclor-1254	4.44E-01	mg/kg	1.17E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.33E-07	3.40E-07	mg/kg-day	2.00E-05	mg/kg-day	1.70E-02
				Aroclor-1260	5.41E-01	mg/kg	1.42E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.84E-07	4.14E-07	mg/kg-day	2.00E-05	mg/kg-day	2.07E-02
				Aroclor-1268	2.78E-02	mg/kg	7.28E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.45E-08	2.12E-08	mg/kg-day	2.00E-05	mg/kg-day	1.06E-03
				Arsenic	6.17E+00	mg/kg	3.47E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.20E-07	1.01E-06	mg/kg-day	3.00E-04	mg/kg-day	3.37E-03
				Barium	6.78E+01	mg/kg	1.27E-07	mg/kg-day	--	--	--	3.71E-07	mg/kg-day	7.00E-02	mg/kg-day	5.30E-06
				Benzo(a)anthracene	5.00E+00	mg/kg	1.22E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.90E-07	3.56E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.06E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.96E-06	1.18E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	6.67E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.87E-07	1.95E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.86E-07	mg/kg-day	--	--	--	5.43E-07	mg/kg-day	3.00E-02	mg/kg-day	1.81E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	7.94E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	5.80E-08	2.32E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	4.46E-10	mg/kg-day	--	--	--	1.30E-09	mg/kg-day	2.00E-03	mg/kg-day	6.51E-07
				Beta-BHC	2.20E-03	mg/kg	4.12E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	7.42E-11	1.20E-10	mg/kg-day	2.00E-04	mg/kg-day	6.01E-07
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.47E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.05E-09	4.28E-07	mg/kg-day	2.00E-02	mg/kg-day	2.14E-05
				Cadmium	9.47E+00	mg/kg	1.78E-08	mg/kg-day	--	--	--	5.18E-08	mg/kg-day	5.00E-04	mg/kg-day	1.04E-04
				Carbon disulfide	2.40E-04	mg/kg	1.12E-10	mg/kg-day	--	--	--	3.28E-10	mg/kg-day	1.00E-01	mg/kg-day	3.28E-09
				Chlorobenzene	1.10E-01	mg/kg	2.06E-09	mg/kg-day	--	--	--	6.01E-09	mg/kg-day	2.00E-02	mg/kg-day	3.01E-07
				Chromium	1.11E+02	mg/kg	2.08E-07	mg/kg-day	--	--	--	6.08E-07	mg/kg-day	1.50E+00	mg/kg-day	4.05E-07
				Chrysene	5.68E+00	mg/kg	1.38E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.01E-08	4.04E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.42E-08	mg/kg-day	--	--	--	4.14E-08	mg/kg-day	2.00E-02	mg/kg-day	2.07E-06
				Copper	5.71E+01	mg/kg	1.07E-07	mg/kg-day	--	--	--	3.12E-07	mg/kg-day	3.70E-02	mg/kg-day	8.43E-06
				Delta-BHC	8.40E-03	mg/kg	7.87E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.42E-09	2.30E-09	mg/kg-day	2.00E-04	mg/kg-day	1.15E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	7.73E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.65E-07	2.26E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.44E-07	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	2.00E-03	mg/kg-day	3.55E-04
				Dieldrin	5.51E-02	mg/kg	1.03E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.65E-08	3.01E-09	mg/kg-day	5.00E-05	mg/kg-day	6.03E-05
				Dimethylphthalate	3.80E-02	mg/kg	7.12E-10	mg/kg-day	--	--	--	2.08E-09	mg/kg-day	1.00E+01	mg/kg-day	2.08E-10
				di-n-Butylphthalate	2.20E+00	mg/kg	4.12E-08	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	1.00E-01	mg/kg-day	1.20E-06
				Endosulfan I	2.30E-02	mg/kg	2.16E-09	mg/kg-day	--	--	--	6.29E-09	mg/kg-day	6.00E-03	mg/kg-day	1.05E-06
				Endosulfan II	2.38E-02	mg/kg	2.23E-09	mg/kg-day	--	--	--	6.51E-09	mg/kg-day	6.00E-03	mg/kg-day	1.08E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	4.03E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	6.00E-03	mg/kg-day	1.96E-06
				Endrin aldehyde	4.21E-02	mg/kg	3.94E-09	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	3.00E-04	mg/kg-day	3.83E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	6.46E-06	mg/kg-day	--	--	--	1.88E-05	mg/kg-day	4.00E-02	mg/kg-day	4.71E-04
				Fluorene	2.92E+00	mg/kg	7.10E-07	mg/kg-day	--	--	--	2.07E-06	mg/kg-day	4.00E-02	mg/kg-day	5.18E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.95E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.53E-10	5.68E-10	mg/kg-day	3.00E-04	mg/kg-day	1.89E-06
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.29E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	5.82E-10	3.77E-10	mg/kg-day	5.00E-04	mg/kg-day	7.54E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	2.09E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.90E-09	6.10E-10	mg/kg-day	1.30E-05	mg/kg-day	4.69E-05
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.13E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.55E-07	6.20E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	7.63E-05	mg/kg-day	--	--	--	2.23E-04	mg/kg-day	3.00E-01	mg/kg-day	7.42E-04
				Isophorone	2.00E-01	mg/kg	3.75E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.56E-11	1.09E-07	mg/kg-day	2.00E-01	mg/kg-day	5.47E-07
				Lead	2.90E+03	mg/kg	5.44E-06	mg/kg-day	--	--	--	1.59E-05	mg/kg-day	--	--	--

TABLE H-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	6.20E-07	mg/kg-day	--	--	--	--	1.81E-06	mg/kg-day	2.40E-02	mg/kg-day	7.54E-05		
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	--	--	
				Methoxychlor	1.20E-01	mg/kg	2.25E-09	mg/kg-day	--	--	--	--	6.56E-09	mg/kg-day	5.00E-03	mg/kg-day	1.31E-06	--	--
				Molybdenum	2.50E+00	mg/kg	4.69E-09	mg/kg-day	--	--	--	--	1.37E-08	mg/kg-day	5.00E-03	mg/kg-day	2.74E-06	--	--
				Naphthalene	1.30E+01	mg/kg	3.17E-06	mg/kg-day	--	--	--	--	9.24E-06	mg/kg-day	2.00E-02	mg/kg-day	4.62E-04	--	--
				Nickel	3.91E+01	mg/kg	7.33E-08	mg/kg-day	--	--	--	--	2.14E-07	mg/kg-day	2.00E-02	mg/kg-day	1.07E-05	--	--
				Phenanthrene	1.39E+01	mg/kg	2.61E-07	mg/kg-day	--	--	--	--	7.61E-07	mg/kg-day	3.00E-01	mg/kg-day	2.54E-06	--	--
				Phenol	5.80E-01	mg/kg	1.09E-07	mg/kg-day	--	--	--	--	3.17E-07	mg/kg-day	3.00E-01	mg/kg-day	1.06E-06	--	--
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	--	--	--
				Pyrene	2.41E+01	mg/kg	5.88E-06	mg/kg-day	--	--	--	--	1.72E-05	mg/kg-day	3.00E-02	mg/kg-day	5.72E-04	--	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	--	--	--
				Selenium	2.24E-01	mg/kg	4.21E-10	mg/kg-day	--	--	--	--	1.23E-09	mg/kg-day	5.00E-03	mg/kg-day	2.45E-07	--	--
				Silver	1.16E+00	mg/kg	2.17E-09	mg/kg-day	--	--	--	--	6.33E-09	mg/kg-day	5.00E-03	mg/kg-day	1.27E-06	--	--
				Technical Chlordane	5.51E-01	mg/kg	4.13E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.45E-08	1.20E-07	mg/kg-day	5.00E-04	mg/kg-day	2.41E-04	--	--	--
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	6.60E-05	mg/kg-day	--	--	--	--
				Toluene	4.30E-04	mg/kg	8.06E-12	mg/kg-day	--	--	--	--	2.35E-11	mg/kg-day	8.00E-02	mg/kg-day	2.94E-10	--	--
				Vanadium	3.41E+01	mg/kg	6.40E-08	mg/kg-day	--	--	--	--	1.87E-07	mg/kg-day	1.00E-03	mg/kg-day	1.87E-04	--	--
				Zinc	4.53E+02	mg/kg	8.50E-07	mg/kg-day	--	--	--	--	2.48E-06	mg/kg-day	3.00E-01	mg/kg-day	8.26E-06	--	--
				Exposure Point Total															
				Exposure Medium Total															
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.54E-12	mg/kg-day	--	--	--	--	7.42E-12	mg/kg-day	2.00E-02	mg/kg-day	3.71E-10			
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	9.81E-13	mg/kg-day	--	--	--	--	2.86E-12	mg/kg-day	--	--	--	--		
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.45E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	3.49E-15	4.24E-14	mg/kg-day	5.00E-04	mg/kg-day	8.48E-11	--	--		
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	5.39E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.83E-13	1.57E-12	mg/kg-day	5.00E-04	mg/kg-day	3.14E-09	--	--		
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.27E-12	mg/kg-day	--	--	--	9.54E-12	mg/kg-day	5.00E-03	mg/kg-day	1.91E-09	--	--		
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	7.51E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.58E-13	2.19E-11	mg/kg-day	1.00E-03	mg/kg-day	2.19E-08	--	--		
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	5.09E-12	mg/kg-day	--	--	--	1.48E-11	mg/kg-day	5.70E-04	mg/kg-day	2.60E-08	--	--		
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.07E-07	mg/kg-day	--	--	--	3.12E-07	mg/kg-day	1.43E-03	mg/kg-day	2.18E-04	--	--		
			Antimony	3.09E-09	mg/m <sup>3</sup>	4.94E-11	mg/kg-day	--	--	--	1.44E-10	mg/kg-day	--	--	--	--	--		
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.45E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.91E-11	4.24E-11	mg/kg-day	2.00E-05	mg/kg-day	2.12E-06	--	--		
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	5.38E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.08E-11	1.57E-11	mg/kg-day	2.00E-05	mg/kg-day	7.84E-07	--	--		
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	6.55E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.31E-11	1.91E-11	mg/kg-day	2.00E-05	mg/kg-day	9.56E-07	--	--		
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.36E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.72E-13	9.80E-13	mg/kg-day	2.00E-05	mg/kg-day	4.90E-08	--	--		
			Arsenic	4.67E-09	mg/m <sup>3</sup>	7.47E-11	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.12E-09	2.18E-10	mg/kg-day	--	--	--	--	--		
			Barium	5.14E-08	mg/m <sup>3</sup>	8.21E-10	mg/kg-day	--	--	--	2.40E-09	mg/kg-day	1.40E-04	mg/kg-day	1.71E-05	--	--		
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	6.06E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.42E-11	1.77E-10	mg/kg-day	--	--	--	--	--		
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	2.02E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.47E-10	5.88E-11	mg/kg-day	--	--	--	--	--		
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	9.25E-12	mg/kg-day	--	--	--	2.70E-11	mg/kg-day	3.00E-02	mg/kg-day	8.99E-10	--	--		
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	3.95E-11	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	2.88E-12	1.15E-10	mg/kg-day	--	--	--	--	--		
			Beryllium	1.80E-10	mg/m <sup>3</sup>	2.88E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	2.42E-11	8.41E-12	mg/kg-day	5.71E-06	mg/kg-day	1.47E-06	--	--		
Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.66E-14	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	4.94E-14	7.77E-14	mg/kg-day	2.00E-04	mg/kg-day	3.88E-10	--	--					
bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	9.48E-11	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.33E-12	2.77E-10	mg/kg-day	2.00E-04	mg/kg-day	1.38E-08	--	--					
Cadmium	7.18E-09	mg/m <sup>3</sup>	1.15E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	7.23E-10	3.35E-10	mg/kg-day	--	--	--	--	--					
Chromium	8.42E-08	mg/m <sup>3</sup>	1.35E-09	mg/kg-day	--	--	--	3.93E-09	mg/kg-day	--	--	--	--	--					
Cobalt	5.74E-09	mg/m <sup>3</sup>	9.17E-11	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	8.99E-10	2.67E-10	mg/kg-day	5.71E-06	mg/kg-day	4.68E-05	--	--					
Copper	4.32E-08	mg/m <sup>3</sup>	6.91E-10	mg/kg-day	--	--	--	2.02E-09	mg/kg-day	--	--	--	--	--					
Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	3.84E-12	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	2.81E-11	1.12E-11	mg/kg-day	--	--	--	--	--					
Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.60E-13	mg/kg-day	--	--	--	1.34E-12	mg/kg-day	1.00E+01	mg/kg-day	1.34E-13	--	--					
di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	2.66E-11	mg/kg-day	--	--	--	7.77E-11	mg/kg-day	1.00E-01	mg/kg-day	7.77E-10	--	--					
Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	5.09E-13	mg/kg-day	--	--	--	1.49E-12	mg/kg-day	3.00E-04	mg/kg-day	4.95E-09	--	--					

TABLE H-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.21E-13	mg/kg-day	--	--	--	--	3.53E-13	mg/kg-day	3.00E-04	mg/kg-day	1.18E-09				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.35E-13	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.23E-12	3.94E-13	mg/kg-day	1.30E-05	mg/kg-day	3.03E-08					
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	1.06E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.72E-12	3.08E-11	mg/kg-day	--	--	--					
				Iron	3.09E-05	mg/m <sup>3</sup>	4.93E-07	mg/kg-day	--	--	--	1.44E-06	mg/kg-day	--	--	--					
				Isophorone	1.52E-10	mg/m <sup>3</sup>	2.42E-12	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.30E-15	7.06E-12	mg/kg-day	2.00E-01	mg/kg-day	3.53E-11					
				Lead	2.20E-06	mg/m <sup>3</sup>	3.51E-08	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	--	--	--					
				Manganese	2.51E-07	mg/m <sup>3</sup>	4.01E-09	mg/kg-day	--	--	--	1.17E-08	mg/kg-day	1.43E-05	mg/kg-day	8.18E-04					
				Mercury	2.34E-10	mg/m <sup>3</sup>	3.75E-12	mg/kg-day	--	--	--	1.09E-11	mg/kg-day	8.60E-05	mg/kg-day	1.27E-07					
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	3.03E-11	mg/kg-day	--	--	--	8.84E-11	mg/kg-day	--	--	--					
				Nickel	2.96E-08	mg/m <sup>3</sup>	4.74E-10	mg/kg-day	--	--	--	1.38E-09	mg/kg-day	--	--	--					
				Phenol	4.39E-10	mg/m <sup>3</sup>	7.02E-12	mg/kg-day	--	--	--	2.05E-11	mg/kg-day	3.00E-01	mg/kg-day	6.83E-11					
				Selenium	1.70E-10	mg/m <sup>3</sup>	2.72E-12	mg/kg-day	--	--	--	7.93E-12	mg/kg-day	--	--	--					
				Silver	8.78E-10	mg/m <sup>3</sup>	1.40E-11	mg/kg-day	--	--	--	4.09E-11	mg/kg-day	--	--	--					
				Thallium	3.77E-10	mg/m <sup>3</sup>	6.02E-12	mg/kg-day	--	--	--	1.76E-11	mg/kg-day	--	--	--					
				Vanadium	2.59E-08	mg/m <sup>3</sup>	4.13E-10	mg/kg-day	--	--	--	1.21E-09	mg/kg-day	--	--	--					
				Zinc	3.44E-07	mg/m <sup>3</sup>	5.49E-09	mg/kg-day	--	--	--	1.60E-08	mg/kg-day	--	--	--					
				<b>Exposure Route Total</b>																	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.67E-06	mg/kg-day	--	--	--	--	4.87E-06	mg/kg-day	1.10E-03	mg/kg-day	4.43E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	5.67E-06	mg/kg-day	--	--	--	--	1.65E-05	mg/kg-day	1.10E-03	mg/kg-day	1.50E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.87E-06	mg/kg-day	--	--	--	--	5.46E-06	mg/kg-day	1.71E-03	mg/kg-day	3.19E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	8.51E-05	mg/kg-day	--	--	--	--	2.48E-04	mg/kg-day	5.70E-02	mg/kg-day	4.35E-03
								1,2-Dichloropropane	2.85E-06	mg/m <sup>3</sup>	4.57E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	3.11E-09	1.33E-07	mg/kg-day	1.14E-03	mg/kg-day	1.17E-04	
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	5.84E-07	mg/kg-day	--	--	--	--	1.70E-08	mg/kg-day	1.71E-03	mg/kg-day	9.94E-04
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.60E-06	mg/kg-day	--	--	--	--	7.59E-06	mg/kg-day	3.00E-02	mg/kg-day	2.53E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.50E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	5.49E-07	7.28E-05	mg/kg-day	2.30E-01	mg/kg-day	3.17E-04	
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.18E-06	mg/kg-day	--	--	--	--	3.45E-06	mg/kg-day	5.00E-02	mg/kg-day	6.90E-05
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	1.55E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.27E-11	4.52E-10	mg/kg-day	5.00E-04	mg/kg-day	9.04E-07	
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	9.29E-07	mg/kg-day	--	--	--	--	2.71E-06	mg/kg-day	6.00E-02	mg/kg-day	4.52E-05				
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.29E-08	mg/kg-day	--	--	--	--	6.67E-08	mg/kg-day	6.00E-02	mg/kg-day	1.11E-06				
				Aldrin	5.63E-09	mg/m <sup>3</sup>	9.00E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.53E-09	2.63E-10	mg/kg-day	3.00E-05	mg/kg-day	8.75E-06					
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	5.81E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.66E-10	1.70E-10	mg/kg-day	5.00E-04	mg/kg-day	3.39E-07					
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.29E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.51E-11	3.76E-10	mg/kg-day	2.00E-04	mg/kg-day	1.88E-06					
				Anthracene	1.45E-05	mg/m <sup>3</sup>	2.31E-07	mg/kg-day	--	--	--	--	6.75E-07	mg/kg-day	3.00E-01	mg/kg-day	2.25E-06				
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	2.83E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.07E-08	8.25E-08	mg/kg-day	--	--	--					
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	7.23E-09	mg/kg-day	--	--	--	--	2.11E-08	mg/kg-day	2.00E-01	mg/kg-day	1.05E-07				
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	8.27E-07	mg/kg-day	--	--	--	--	2.41E-06	mg/kg-day	1.70E-02	mg/kg-day	1.42E-04				
				Chrysene	6.25E-06	mg/m <sup>3</sup>	9.98E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	7.29E-10	2.91E-07	mg/kg-day	--	--	--					
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	6.69E-10	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.24E-09	1.95E-09	mg/kg-day	2.00E-04	mg/kg-day	9.76E-06					
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	7.17E-07	mg/kg-day	--	--	--	--	2.09E-06	mg/kg-day	2.00E-03	mg/kg-day	1.05E-03				
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.19E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.90E-08	3.46E-09	mg/kg-day	5.00E-05	mg/kg-day	6.92E-05					
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.29E-09	mg/kg-day	--	--	--	--	3.76E-09	mg/kg-day	6.00E-03	mg/kg-day	6.26E-07				
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.33E-09	mg/kg-day	--	--	--	--	3.89E-09	mg/kg-day	6.00E-03	mg/kg-day	6.48E-07				
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.41E-09	mg/kg-day	--	--	--	--	7.02E-09	mg/kg-day	6.00E-03	mg/kg-day	1.17E-06				
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	2.74E-07	mg/kg-day	--	--	--	--	7.99E-07	mg/kg-day	4.00E-02	mg/kg-day	2.00E-05				
				Fluorene	1.71E-05	mg/m <sup>3</sup>	2.73E-07	mg/kg-day	--	--	--	--	7.96E-07	mg/kg-day	4.00E-02	mg/kg-day	1.99E-05				
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.55E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.31E-10	7.43E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06					
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.07E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	7.26E-11	6.05E-10	mg/kg-day	2.00E-04	mg/kg-day	3.02E-06					
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	5.40E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.46E-08	1.58E-08	mg/kg-day	5.00E-04	mg/kg-day	3.15E-05					
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.38E-09	mg/kg-day	--	--	--	--	4.02E-09	mg/kg-day	5.00E-03	mg/kg-day	8.05E-07				
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.12E-05	mg/kg-day	--	--	--	--	3.26E-05	mg/kg-day	8.57E-04	mg/kg-day	3.80E-02				
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	3.05E-06	mg/kg-day	--	--	--	--	8.91E-06	mg/kg-day	3.00E-01	mg/kg-day	2.97E-05				

TABLE H-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	3.06E-06	mg/kg-day	--	--	--	8.93E-08	mg/kg-day	1.10E-01	mg/kg-day	8.12E-05
				Pyrene	1.85E-05	mg/m <sup>3</sup>	2.95E-07	mg/kg-day	--	--	--	8.61E-07	mg/kg-day	3.00E-02	mg/kg-day	2.87E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.49E-07	mg/kg-day	--	--	--	1.31E-06	mg/kg-day	4.00E-02	mg/kg-day	3.27E-05
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	8.72E-09	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	3.05E-12	2.54E-08	mg/kg-day	2.00E-04	mg/kg-day	1.27E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	4.99E-09	mg/kg-day	--	--	--	1.46E-08	mg/kg-day	1.43E+00	mg/kg-day	1.02E-08
				Exposure Point Total												
	Exposure Medium Total															6.96E-02
Medium Total																6.96E-02
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.77E-09	mg/kg-day	--	--	--	1.97E-08	mg/kg-day	1.40E-01	mg/kg-day	1.41E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.02E-09	mg/kg-day	--	--	--	5.88E-09	mg/kg-day	1.71E-03	mg/kg-day	3.43E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.32E-08	mg/kg-day	--	--	--	3.86E-08	mg/kg-day	5.70E-02	mg/kg-day	6.76E-07
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	9.51E-09	mg/kg-day	9.10E-02	--	8.66E-10	2.77E-08	mg/kg-day	1.40E-03	mg/kg-day	1.98E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.56E-09	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	2.42E-10	1.04E-08	mg/kg-day	1.14E-03	mg/kg-day	9.12E-06
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.15E-09	mg/kg-day	--	--	--	3.35E-09	mg/kg-day	1.71E-03	mg/kg-day	1.96E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.50E-09	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	9.90E-11	1.31E-08	mg/kg-day	2.30E-01	mg/kg-day	5.71E-08
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.74E-10	mg/kg-day	--	--	--	5.07E-10	mg/kg-day	1.43E+00	mg/kg-day	3.55E-10
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.55E-11	mg/kg-day	--	--	--	4.51E-11	mg/kg-day	5.00E-02	mg/kg-day	9.02E-10
				4,4'-DDE	1.20E-09	mg/m <sup>3</sup>	2.07E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	7.03E-12	6.03E-11	mg/kg-day	5.00E-04	mg/kg-day	1.21E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	6.47E-11	mg/kg-day	--	--	--	1.89E-10	mg/kg-day	8.60E-01	mg/kg-day	2.19E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	6.19E-10	mg/kg-day	--	--	--	1.81E-09	mg/kg-day	6.00E-02	mg/kg-day	3.01E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.64E-11	mg/kg-day	--	--	--	7.69E-11	mg/kg-day	6.00E-02	mg/kg-day	1.28E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	3.57E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	6.07E-10	1.04E-10	mg/kg-day	3.00E-05	mg/kg-day	3.47E-06
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.53E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	2.85E-11	1.32E-11	mg/kg-day	5.00E-04	mg/kg-day	2.64E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.07E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.75E-12	3.12E-11	mg/kg-day	2.00E-04	mg/kg-day	1.56E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	5.25E-11	mg/kg-day	--	--	--	1.53E-10	mg/kg-day	3.00E-01	mg/kg-day	5.11E-10
				Benzene	2.61E-07	mg/m <sup>3</sup>	4.17E-09	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.14E-10	1.22E-08	mg/kg-day	8.60E-03	mg/kg-day	1.41E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.77E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	5.68E-12	2.27E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	4.53E-13	3.43E-10	mg/kg-day	2.00E-02	mg/kg-day	1.72E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	7.20E-08	mg/kg-day	--	--	--	2.10E-07	mg/kg-day	2.00E-01	mg/kg-day	1.05E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.17E-09	mg/kg-day	--	--	--	3.41E-09	mg/kg-day	1.70E-02	mg/kg-day	2.01E-07
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.30E-08	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	2.66E-09	9.64E-08	mg/kg-day	1.40E-02	mg/kg-day	6.88E-06
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	3.49E-08	mg/kg-day	2.60E-02	mg/kg-day	1.34E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	2.10E-11	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	1.54E-13	6.13E-11	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	8.47E-09	mg/kg-day	--	--	--	2.47E-08	mg/kg-day	1.00E-02	mg/kg-day	2.47E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.57E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.51E-10	4.58E-11	mg/kg-day	5.00E-05	mg/kg-day	9.16E-07
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.58E-12	mg/kg-day	--	--	--	1.04E-11	mg/kg-day	6.00E-03	mg/kg-day	1.74E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.88E-15	mg/kg-day	--	--	--	1.72E-14	mg/kg-day	6.00E-03	mg/kg-day	2.86E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	3.19E-09	mg/kg-day	--	--	--	9.30E-09	mg/kg-day	2.90E-01	mg/kg-day	3.21E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	8.08E-12	mg/kg-day	--	--	--	2.36E-11	mg/kg-day	4.00E-02	mg/kg-day	5.89E-10
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.60E-11	mg/kg-day	--	--	--	4.66E-11	mg/kg-day	4.00E-02	mg/kg-day	1.16E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.99E-14	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	2.58E-14	5.79E-14	mg/kg-day	3.00E-04	mg/kg-day	1.93E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.78E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	9.73E-12	8.11E-11	mg/kg-day	2.00E-04	mg/kg-day	4.06E-07
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	2.85E-10	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.30E-09	8.32E-10	mg/kg-day	5.00E-04	mg/kg-day	1.66E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	5.48E-07	mg/kg-day	--	--	--	1.60E-06	mg/kg-day	1.10E-01	mg/kg-day	1.45E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.11E-08	mg/kg-day	--	--	--	3.24E-08	mg/kg-day	2.90E-02	mg/kg-day	1.12E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	5.22E-11	mg/kg-day	--	--	--	1.52E-10	mg/kg-day	5.00E-03	mg/kg-day	3.05E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	8.68E-11	mg/kg-day	--	--	--	2.53E-10	mg/kg-day	8.57E-04	mg/kg-day	2.95E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	4.04E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	8.57E-04	mg/kg-day	1.38E-05
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.50E-09	mg/kg-day	--	--	--	1.31E-08	mg/kg-day	4.00E-02	mg/kg-day	3.28E-07
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	4.18E-11	mg/kg-day	--	--	--	1.22E-10	mg/kg-day	3.00E-01	mg/kg-day	4.07E-10

TABLE H-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	5.48E-07	mg/kg-day	--	--	--	1.60E-06	mg/kg-day	1.10E-01	mg/kg-day	1.45E-05				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	7.37E-12	mg/kg-day	--	--	--	2.15E-11	mg/kg-day	3.00E-02	mg/kg-day	7.16E-10				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.28E-08	mg/kg-day	--	--	--	3.73E-08	mg/kg-day	4.00E-02	mg/kg-day	9.34E-07				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.45E-08	mg/kg-day	--	--	--	4.23E-08	mg/kg-day	4.00E-02	mg/kg-day	1.06E-06				
				Toluene	3.80E-07	mg/m <sup>3</sup>	6.07E-09	mg/kg-day	--	--	--	1.77E-08	mg/kg-day	1.43E+00	mg/kg-day	1.24E-08				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.43E-08	mg/kg-day	--	--	--	4.18E-08	mg/kg-day	2.00E-02	mg/kg-day	2.09E-06				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.49E-08	mg/kg-day	4.00E-01	(mg/kg-day)-1	5.96E-09	4.34E-08	mg/kg-day	1.00E-02	mg/kg-day	4.34E-06				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	3.08E-08	mg/kg-day	3.10E-02	(mg/kg-day)-1	9.55E-10	8.99E-08	mg/kg-day	2.86E-02	mg/kg-day	3.15E-06				
				Exposure Route Total																1.12E-04
				Exposure Point Total																
Exposure Medium Total																	1.12E-04			
Medium Total																	1.12E-04			
Total of Receptor Risks Across All Media										1.12E-05	Total of Receptor Hazards Across All Media					2.75E-01				

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.52E-07	mg/kg-day	--	--	--	4.11E-08	mg/kg-day	1.00E-02	mg/kg-day	4.11E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.20E-06	mg/kg-day	--	--	--	1.40E-05	mg/kg-day	1.00E-02	mg/kg-day	1.40E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.17E-07	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	5.00E-02	mg/kg-day	2.74E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	6.11E-06	mg/kg-day	--	--	--	7.12E-05	mg/kg-day	9.00E-02	mg/kg-day	7.91E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	8.45E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	5.75E-11	9.86E-09	mg/kg-day	1.14E-03	mg/kg-day	8.65E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	3.76E-08	mg/kg-day	--	--	--	4.38E-07	mg/kg-day	5.00E-02	mg/kg-day	8.77E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.58E-07	mg/kg-day	--	--	--	3.01E-06	mg/kg-day	3.00E-02	mg/kg-day	1.00E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.60E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	3.83E-08	1.86E-05	mg/kg-day	3.00E-02	mg/kg-day	6.21E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	4.93E-08	mg/kg-day	--	--	--	5.75E-07	mg/kg-day	2.00E-02	mg/kg-day	2.88E-05
				2-Methylphenol	8.10E-02	mg/kg	1.90E-08	mg/kg-day	--	--	--	2.22E-07	mg/kg-day	5.00E-02	mg/kg-day	4.44E-06
				2-Methylnaphthalene	1.67E+00	mg/kg	3.93E-07	mg/kg-day	--	--	--	4.58E-06	mg/kg-day	4.00E-03	mg/kg-day	1.15E-03
				4,4'-DDD	1.20E-03	mg/kg	2.82E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	6.76E-11	3.29E-09	mg/kg-day	5.00E-04	mg/kg-day	6.58E-06
				4,4'-DDE	8.23E-02	mg/kg	1.93E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.57E-09	2.26E-07	mg/kg-day	5.00E-04	mg/kg-day	4.51E-04
				4,4'-DDT	4.45E-02	mg/kg	1.04E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.55E-09	1.22E-07	mg/kg-day	5.00E-04	mg/kg-day	2.44E-04
				4-Methylphenol	2.70E-01	mg/kg	6.34E-08	mg/kg-day	--	--	--	7.40E-07	mg/kg-day	5.00E-03	mg/kg-day	1.48E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.46E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.08E-09	1.70E-06	mg/kg-day	3.00E-03	mg/kg-day	5.66E-04
				4-Nitrophenol	4.20E-01	mg/kg	9.86E-08	mg/kg-day	--	--	--	1.15E-06	mg/kg-day	5.00E-04	mg/kg-day	2.30E-03
				Acenaphthene	4.23E+00	mg/kg	9.94E-07	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	6.00E-02	mg/kg-day	1.93E-04
				Acenaphthylene	1.04E-01	mg/kg	2.45E-08	mg/kg-day	--	--	--	2.85E-07	mg/kg-day	6.00E-02	mg/kg-day	4.76E-06
				Aldrin	1.30E-02	mg/kg	3.05E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.19E-08	3.56E-08	mg/kg-day	3.00E-05	mg/kg-day	1.19E-03
				alpha-BHC	7.30E-04	mg/kg	1.71E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.08E-09	2.00E-09	mg/kg-day	5.00E-04	mg/kg-day	4.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	1.91E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.69E-10	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05
				Aluminum	8.82E+03	mg/kg	2.07E-03	mg/kg-day	--	--	--	2.42E-02	mg/kg-day	1.00E+00	mg/kg-day	2.42E-02
				Anthracene	1.05E+00	mg/kg	2.48E-07	mg/kg-day	--	--	--	2.89E-06	mg/kg-day	3.00E-01	mg/kg-day	9.63E-06
				Antimony	4.08E+00	mg/kg	9.58E-07	mg/kg-day	--	--	--	1.12E-05	mg/kg-day	4.00E-04	mg/kg-day	2.79E-02
				Aroclor-1248	1.20E+00	mg/kg	2.82E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.64E-07	3.29E-06	mg/kg-day	2.00E-05	mg/kg-day	1.64E-01
				Aroclor-1254	4.44E-01	mg/kg	1.04E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.09E-07	1.22E-06	mg/kg-day	2.00E-05	mg/kg-day	6.08E-02
				Aroclor-1260	5.41E-01	mg/kg	1.27E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.54E-07	1.48E-06	mg/kg-day	2.00E-05	mg/kg-day	7.42E-02
				Aroclor-1268	2.78E-02	mg/kg	6.52E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.30E-08	7.61E-08	mg/kg-day	2.00E-05	mg/kg-day	3.80E-03
				Arsenic	6.17E+00	mg/kg	1.45E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.17E-06	1.69E-05	mg/kg-day	3.00E-04	mg/kg-day	5.63E-02
				Barium	6.78E+01	mg/kg	1.59E-05	mg/kg-day	--	--	--	1.86E-04	mg/kg-day	7.00E-02	mg/kg-day	2.65E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	1.18E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.58E-07	1.37E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	3.91E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.85E-06	4.56E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	6.43E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.69E-07	7.50E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.79E-07	mg/kg-day	--	--	--	2.09E-06	mg/kg-day	3.00E-02	mg/kg-day	6.97E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	7.66E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	5.59E-08	8.93E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	5.59E-08	mg/kg-day	--	--	--	6.52E-07	mg/kg-day	2.00E-03	mg/kg-day	3.26E-04
				Beta-BHC	2.20E-03	mg/kg	5.17E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	9.30E-10	6.03E-09	mg/kg-day	2.00E-04	mg/kg-day	3.01E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.84E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.58E-08	2.15E-05	mg/kg-day	2.00E-02	mg/kg-day	1.07E-03
				Cadmium	9.47E+00	mg/kg	2.22E-06	mg/kg-day	--	--	--	2.60E-05	mg/kg-day	5.00E-04	mg/kg-day	5.19E-02
				Carbon disulfide	2.40E-04	mg/kg	5.64E-11	mg/kg-day	--	--	--	6.58E-10	mg/kg-day	1.00E-01	mg/kg-day	6.58E-09
				Chlorobenzene	1.10E-01	mg/kg	2.58E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	2.00E-02	mg/kg-day	1.51E-05
				Chromium	1.11E+02	mg/kg	2.61E-05	mg/kg-day	--	--	--	3.05E-04	mg/kg-day	1.50E+00	mg/kg-day	2.03E-04
				Chrysene	5.68E+00	mg/kg	1.33E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	9.74E-09	1.56E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.78E-06	mg/kg-day	--	--	--	2.07E-05	mg/kg-day	2.00E-02	mg/kg-day	1.04E-03
				Copper	5.71E+01	mg/kg	1.34E-05	mg/kg-day	--	--	--	1.56E-04	mg/kg-day	3.70E-02	mg/kg-day	4.22E-03
				Delta-BHC	8.40E-03	mg/kg	1.97E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.55E-09	2.30E-08	mg/kg-day	2.00E-04	mg/kg-day	1.15E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	7.46E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.44E-07	8.70E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.05E-06	mg/kg-day	--	--	--	3.56E-05	mg/kg-day	2.00E-03	mg/kg-day	1.78E-02
				Dieldrin	5.51E-02	mg/kg	1.29E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.07E-07	1.51E-07	mg/kg-day	5.00E-05	mg/kg-day	3.02E-03
				Dimethylphthalate	3.80E-02	mg/kg	8.92E-09	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	1.00E+01	mg/kg-day	1.04E-08

TABLE H-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Recreational User
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	5.17E-07	mg/kg-day	--	--	--	--	6.03E-06	mg/kg-day	1.00E-01	mg/kg-day	6.03E-05			
				Endosulfan I	2.30E-02	mg/kg	5.40E-09	mg/kg-day	--	--	--	--	6.30E-08	mg/kg-day	6.00E-03	mg/kg-day	1.05E-05			
				Endosulfan II	2.38E-02	mg/kg	5.59E-09	mg/kg-day	--	--	--	--	6.53E-08	mg/kg-day	6.00E-03	mg/kg-day	1.09E-05			
				Endosulfan Sulfate	4.30E-02	mg/kg	1.01E-08	mg/kg-day	--	--	--	--	1.18E-07	mg/kg-day	6.00E-03	mg/kg-day	1.96E-05			
				Endrin aldehyde	4.21E-02	mg/kg	9.88E-09	mg/kg-day	--	--	--	--	1.15E-07	mg/kg-day	3.00E-04	mg/kg-day	3.84E-04			
				Endrin Ketone	1.00E-02	mg/kg	2.35E-09	mg/kg-day	--	--	--	--	2.74E-08	mg/kg-day	3.00E-04	mg/kg-day	9.13E-05			
				Fluoranthene	2.65E+01	mg/kg	6.22E-06	mg/kg-day	--	--	--	--	7.26E-05	mg/kg-day	4.00E-02	mg/kg-day	1.82E-03			
				Fluorene	2.92E+00	mg/kg	6.85E-07	mg/kg-day	--	--	--	--	7.99E-06	mg/kg-day	4.00E-02	mg/kg-day	2.00E-04			
				gamma-BHC (Lindane)	2.60E-03	mg/kg	6.11E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	7.94E-10	--	7.12E-09	mg/kg-day	3.00E-04	mg/kg-day	2.37E-05			
				gamma-Chlordane	1.31E-02	mg/kg	3.08E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.08E-09	3.59E-08	mg/kg-day	5.00E-04	mg/kg-day	7.18E-05				
				Heptachlor	6.90E-03	mg/kg	1.62E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	7.29E-09	1.89E-08	mg/kg-day	5.00E-04	mg/kg-day	3.78E-05				
				Heptachlor Epoxide	1.12E-02	mg/kg	2.62E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.38E-08	3.06E-08	mg/kg-day	1.30E-05	mg/kg-day	2.35E-03				
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.05E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.50E-07	2.39E-06	mg/kg-day	--	--	--				
				Iron	4.07E+04	mg/kg	9.58E-03	mg/kg-day	--	--	--	1.12E-01	mg/kg-day	3.00E-01	mg/kg-day	3.72E-01				
				Isophorone	2.00E-01	mg/kg	4.70E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	4.46E-11	5.48E-07	mg/kg-day	2.00E-01	mg/kg-day	2.74E-06				
				Lead	2.90E+03	mg/kg	6.82E-04	mg/kg-day	--	--	--	7.95E-03	mg/kg-day	--	--	--				
				Manganese	3.31E+02	mg/kg	7.77E-05	mg/kg-day	--	--	--	9.07E-04	mg/kg-day	2.40E-02	mg/kg-day	3.78E-02				
				Mercury	3.10E-01	mg/kg	7.27E-08	mg/kg-day	--	--	--	8.48E-07	mg/kg-day	3.00E-04	mg/kg-day	2.83E-03				
				Methoxychlor	1.20E-01	mg/kg	2.82E-08	mg/kg-day	--	--	--	3.29E-07	mg/kg-day	5.00E-03	mg/kg-day	6.58E-05				
				Molybdenum	2.50E+00	mg/kg	5.88E-07	mg/kg-day	--	--	--	6.86E-06	mg/kg-day	5.00E-03	mg/kg-day	1.37E-03				
				Naphthalene	1.30E+01	mg/kg	3.05E-06	mg/kg-day	--	--	--	3.56E-05	mg/kg-day	2.00E-02	mg/kg-day	1.78E-03				
				Nickel	3.91E+01	mg/kg	9.19E-06	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	2.00E-02	mg/kg-day	5.36E-03				
				Phenanthrene	1.39E+01	mg/kg	3.27E-06	mg/kg-day	--	--	--	3.81E-05	mg/kg-day	3.00E-01	mg/kg-day	1.27E-04				
				Phenol	5.80E-01	mg/kg	1.36E-07	mg/kg-day	--	--	--	1.59E-06	mg/kg-day	3.00E-01	mg/kg-day	5.30E-06				
				p-Isopropyltoluene	1.10E-01	mg/kg	2.58E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	1.00E-01	mg/kg-day	3.01E-06				
				Pyrene	2.41E+01	mg/kg	5.67E-06	mg/kg-day	--	--	--	6.62E-05	mg/kg-day	3.00E-02	mg/kg-day	2.21E-03				
				sec-Butylbenzene	7.10E-02	mg/kg	1.67E-08	mg/kg-day	--	--	--	1.95E-07	mg/kg-day	4.00E-02	mg/kg-day	4.86E-06				
				Selenium	2.24E-01	mg/kg	5.27E-08	mg/kg-day	--	--	--	6.15E-07	mg/kg-day	5.00E-03	mg/kg-day	1.23E-04				
				Silver	1.16E+00	mg/kg	2.72E-07	mg/kg-day	--	--	--	3.18E-06	mg/kg-day	5.00E-03	mg/kg-day	6.35E-04				
				Technical Chlordane	5.51E-01	mg/kg	1.29E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.53E-08	1.51E-06	mg/kg-day	5.00E-04	mg/kg-day	3.02E-03				
				Thallium	4.97E-01	mg/kg	1.17E-07	mg/kg-day	--	--	--	1.36E-06	mg/kg-day	6.60E-05	mg/kg-day	2.06E-02				
				Toluene	4.30E-04	mg/kg	1.01E-10	mg/kg-day	--	--	--	1.18E-09	mg/kg-day	8.00E-02	mg/kg-day	1.47E-08				
				Vanadium	3.41E+01	mg/kg	8.02E-06	mg/kg-day	--	--	--	9.36E-05	mg/kg-day	1.00E-03	mg/kg-day	9.36E-02				
				Zinc	4.53E+02	mg/kg	1.06E-04	mg/kg-day	--	--	--	1.24E-03	mg/kg-day	3.00E-01	mg/kg-day	4.14E-03				
				Exposure Route Total							8.57E-06					1.05E+00				
				Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	4.77E-07	mg/kg-day	--	--	--	--	5.56E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04		
					1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.62E-07	mg/kg-day	--	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04		
					1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.59E-08	mg/kg-day	--	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06		
					1,2-Dichlorobenzene	2.60E+01	mg/kg	8.26E-07	mg/kg-day	--	--	--	--	9.64E-06	mg/kg-day	9.00E-02	mg/kg-day	1.07E-04		
					1,2-Dichloropropane	3.60E-03	mg/kg	1.14E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	7.78E-12	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06			
					1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.08E-09	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.19E-06			
					1,3-Dichlorobenzene	1.10E+00	mg/kg	3.50E-08	mg/kg-day	--	--	--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05			
					1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	3.00E-02	mg/kg-day	--			
					2,4-Dimethylphenol	2.10E-01	mg/kg	6.67E-09	mg/kg-day	--	--	--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06			
					2-Methylphenol	8.10E-02	mg/kg	2.57E-08	mg/kg-day	--	--	--	3.00E-07	mg/kg-day	5.00E-02	mg/kg-day	6.01E-06			
					2-Methylnaphthalene	1.67E+00	mg/kg	5.31E-08	mg/kg-day	--	--	--	6.20E-07	mg/kg-day	4.00E-03	mg/kg-day	1.55E-04			
					4,4'-DDD	1.20E-03	mg/kg	3.81E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	9.15E-12	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07			
4,4'-DDE	8.23E-02	mg/kg	2.62E-09		mg/kg-day	3.40E-01	(mg/kg-day)-1	8.89E-10	3.05E-08	mg/kg-day	5.00E-04	mg/kg-day	6.10E-05							
4,4'-DDT	4.45E-02	mg/kg	4.24E-09		mg/kg-day	3.40E-01	(mg/kg-day)-1	1.44E-09	4.95E-08	mg/kg-day	5.00E-04	mg/kg-day	9.90E-05							
4-Methylphenol	2.70E-01	mg/kg	8.58E-08		mg/kg-day	--	--	--	1.00E-06	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04							
4-Nitroaniline	6.20E-01	mg/kg	1.97E-07		mg/kg-day	2.10E-02	--	--	4.14E-09	mg/kg-day	2.30E-06	mg/kg-day	7.66E-04							

TABLE H-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.33E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	4.23E+00	mg/kg	1.75E-06	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	6.00E-02	mg/kg-day	3.40E-04
				Acenaphthylene	1.04E-01	mg/kg	3.31E-09	mg/kg-day	--	--	--	3.86E-08	mg/kg-day	6.00E-02	mg/kg-day	6.44E-07
				Aldrin	1.30E-02	mg/kg	4.13E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.02E-08	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.81E-03
				alpha-BHC	7.30E-04	mg/kg	2.32E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.46E-10	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	2.80E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.00E+00	mg/kg-day	3.27E-04
				Anthracene	1.05E+00	mg/kg	4.36E-07	mg/kg-day	--	--	--	5.08E-06	mg/kg-day	3.00E-01	mg/kg-day	1.69E-05
				Antimony	4.08E+00	mg/kg	1.30E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	4.00E-04	mg/kg-day	3.78E-04
				Aroclor-1248	1.20E+00	mg/kg	5.34E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.07E-06	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.44E+01	mg/kg	1.98E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.95E-07	2.31E-06	mg/kg-day	2.00E-05	mg/kg-day	1.15E-01
				Aroclor-1260	5.41E-01	mg/kg	2.41E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.82E-07	2.81E-06	mg/kg-day	2.00E-05	mg/kg-day	1.41E-01
				Aroclor-1268	2.78E-02	mg/kg	1.24E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.47E-08	1.44E-07	mg/kg-day	2.00E-05	mg/kg-day	7.20E-03
				Arsenic	6.17E+00	mg/kg	5.88E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	8.82E-07	6.86E-06	mg/kg-day	3.00E-04	mg/kg-day	2.29E-02
				Barium	6.78E+01	mg/kg	2.16E-07	mg/kg-day	--	--	--	2.51E-06	mg/kg-day	7.00E-02	mg/kg-day	3.59E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	2.07E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.51E-06	2.41E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	6.88E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.02E-06	8.03E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.13E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.26E-07	1.32E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.15E-07	mg/kg-day	--	--	--	3.68E-06	mg/kg-day	3.00E-02	mg/kg-day	1.23E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.35E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	9.83E-08	1.57E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	7.57E-10	mg/kg-day	--	--	--	8.83E-09	mg/kg-day	2.00E-03	mg/kg-day	4.41E-06
				Beta-BHC	2.20E-03	mg/kg	6.99E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.26E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.49E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.48E-09	2.90E-06	mg/kg-day	2.00E-02	mg/kg-day	1.45E-04
				Cadmium	9.47E+00	mg/kg	3.01E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	5.00E-04	mg/kg-day	7.02E-04
				Carbon disulfide	2.40E-04	mg/kg	1.91E-10	mg/kg-day	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	3.50E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.11E+02	mg/kg	3.53E-07	mg/kg-day	--	--	--	4.12E-06	mg/kg-day	1.50E+00	mg/kg-day	2.75E-06
				Chrysene	5.68E+00	mg/kg	2.35E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.71E-08	2.74E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.41E-08	mg/kg-day	--	--	--	2.81E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05
				Copper	5.71E+01	mg/kg	1.81E-07	mg/kg-day	--	--	--	2.12E-06	mg/kg-day	3.70E-02	mg/kg-day	5.72E-05
				Delta-BHC	8.40E-03	mg/kg	1.33E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.40E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.31E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	9.59E-07	1.53E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.13E-07	mg/kg-day	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	5.51E-02	mg/kg	1.75E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.80E-08	2.04E-08	mg/kg-day	5.00E-05	mg/kg-day	4.09E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.21E-09	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	1.00E+01	mg/kg-day	1.41E-09
				di-n-Butylphthalate	2.20E+00	mg/kg	6.99E-08	mg/kg-day	--	--	--	8.16E-07	mg/kg-day	1.00E-01	mg/kg-day	8.16E-06
				Endosulfan I	2.30E-02	mg/kg	3.65E-09	mg/kg-day	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.38E-02	mg/kg	3.78E-09	mg/kg-day	--	--	--	4.42E-08	mg/kg-day	6.00E-03	mg/kg-day	7.36E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.83E-09	mg/kg-day	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	4.21E-02	mg/kg	6.69E-09	mg/kg-day	--	--	--	7.80E-08	mg/kg-day	3.00E-04	mg/kg-day	2.60E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.10E-05	mg/kg-day	--	--	--	1.28E-04	mg/kg-day	4.00E-02	mg/kg-day	3.19E-03
				Fluorene	2.92E+00	mg/kg	1.20E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	4.00E-02	mg/kg-day	3.51E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.31E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.30E-10	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	2.19E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	9.87E-10	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06
				Heptachlor Epoxide	1.12E-02	mg/kg	3.54E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.23E-09	4.14E-09	mg/kg-day	1.30E-05	mg/kg-day	3.18E-04
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	3.61E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.83E-07	4.21E-06	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	1.29E-04	mg/kg-day	--	--	--	1.51E-03	mg/kg-day	3.00E-01	mg/kg-day	5.03E-03
				Isochlorone	2.00E-01	mg/kg	6.36E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.04E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06
				Lead	2.90E+03	mg/kg	9.22E-06	mg/kg-day	--	--	--	1.08E-04	mg/kg-day	--	--	--

TABLE H-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	1.05E-06	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.40E-02	mg/kg-day	5.11E-04			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	--	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	3.81E-09	mg/kg-day	--	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06		
				Molybdenum	2.50E+00	mg/kg	7.96E-09	mg/kg-day	--	--	--	--	9.29E-08	mg/kg-day	5.00E-03	mg/kg-day	1.86E-05		
				Naphthalene	1.30E+01	mg/kg	5.37E-06	mg/kg-day	--	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03		
				Nickel	3.91E+01	mg/kg	1.24E-07	mg/kg-day	--	--	--	--	1.45E-06	mg/kg-day	2.00E-02	mg/kg-day	7.25E-05		
				Phenanthrene	1.39E+01	mg/kg	4.42E-07	mg/kg-day	--	--	--	--	5.16E-06	mg/kg-day	3.00E-01	mg/kg-day	1.72E-05		
				Phenol	5.80E-01	mg/kg	1.84E-07	mg/kg-day	--	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06		
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	mg/kg-day	--	
				Pyrene	2.41E+01	mg/kg	9.98E-06	mg/kg-day	--	--	--	--	1.16E-04	mg/kg-day	3.00E-02	mg/kg-day	3.88E-03		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	mg/kg-day	--	
				Selenium	2.24E-01	mg/kg	7.13E-10	mg/kg-day	--	--	--	--	8.32E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06		
				Silver	1.16E+00	mg/kg	3.68E-09	mg/kg-day	--	--	--	--	4.30E-08	mg/kg-day	5.00E-03	mg/kg-day	8.59E-06		
				Technical Chlordane	5.51E-01	mg/kg	7.01E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.45E-08	8.17E-07	mg/kg-day	5.00E-04	mg/kg-day	1.63E-03			
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	6.60E-05	mg/kg-day	--	mg/kg-day	--	
				Toluene	4.30E-04	mg/kg	1.37E-11	mg/kg-day	--	--	--	--	1.59E-10	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09		
				Vanadium	3.41E+01	mg/kg	1.09E-07	mg/kg-day	--	--	--	--	1.27E-06	mg/kg-day	1.00E-03	mg/kg-day	1.27E-03		
				Zinc	4.53E+02	mg/kg	1.44E-06	mg/kg-day	--	--	--	--	1.68E-05	mg/kg-day	3.00E-01	mg/kg-day	5.60E-05		
				Exposure Point Total										1.17E-05					6.29E-01
				Exposure Medium Total										2.03E-05					1.68E+00
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	3.66E-13	mg/kg-day	--	--	--	4.27E-12	mg/kg-day	2.00E-02	mg/kg-day	2.14E-10				
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	1.41E-13	mg/kg-day	--	--	--	1.65E-12	mg/kg-day	--	--	--				
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	2.09E-15	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	5.02E-16	2.44E-14	mg/kg-day	5.00E-04	mg/kg-day	4.88E-11				
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	7.76E-14	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.64E-14	9.05E-13	mg/kg-day	5.00E-04	mg/kg-day	1.81E-09				
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	4.71E-13	mg/kg-day	--	--	--	5.49E-12	mg/kg-day	5.00E-03	mg/kg-day	1.10E-09				
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	1.08E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.27E-14	1.26E-11	mg/kg-day	1.00E-03	mg/kg-day	1.26E-08				
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	7.32E-13	mg/kg-day	--	--	--	8.54E-12	mg/kg-day	5.70E-04	mg/kg-day	1.50E-08				
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.54E-08	mg/kg-day	--	--	--	1.79E-07	mg/kg-day	1.43E-03	mg/kg-day	1.26E-04				
			Antimony	3.09E-09	mg/m <sup>3</sup>	7.11E-12	mg/kg-day	--	--	--	8.30E-11	mg/kg-day	--	--	--				
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	2.09E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.18E-12	2.44E-11	mg/kg-day	2.00E-05	mg/kg-day	1.22E-06				
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	7.74E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.55E-12	9.03E-12	mg/kg-day	2.00E-05	mg/kg-day	4.52E-07				
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	9.44E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.89E-12	1.10E-11	mg/kg-day	2.00E-05	mg/kg-day	5.51E-07				
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	4.84E-14	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	9.68E-14	5.65E-13	mg/kg-day	2.00E-05	mg/kg-day	2.82E-08				
			Arsenic	4.67E-09	mg/m <sup>3</sup>	1.08E-11	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.61E-10	1.25E-10	mg/kg-day	--	--	--				
			Barium	5.14E-08	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	--	--	--	1.38E-09	mg/kg-day	1.40E-04	mg/kg-day	9.85E-06				
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	8.73E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	6.37E-12	1.02E-10	mg/kg-day	--	--	--				
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	2.90E-12	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	2.12E-11	3.39E-11	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	1.33E-12	mg/kg-day	--	--	--	1.55E-11	mg/kg-day	3.00E-02	mg/kg-day	5.18E-10				
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	5.68E-12	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	4.15E-13	6.63E-11	mg/kg-day	--	--	--				
			Beryllium	1.80E-10	mg/m <sup>3</sup>	4.15E-13	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	3.49E-12	4.84E-12	mg/kg-day	5.71E-06	mg/kg-day	8.48E-07				
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	3.84E-15	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	7.12E-15	4.47E-14	mg/kg-day	2.00E-04	mg/kg-day	2.24E-10				
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	1.37E-11	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.91E-13	1.59E-10	mg/kg-day	2.00E-02	mg/kg-day	7.97E-09				
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.65E-11	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.04E-10	1.93E-10	mg/kg-day	--	--	--				
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.94E-10	mg/kg-day	--	--	--	2.26E-09	mg/kg-day	--	--	--				
			Cobalt	5.74E-09	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	1.29E-10	1.54E-10	mg/kg-day	5.71E-06	mg/kg-day	2.70E-05				
			Copper	4.32E-08	mg/m <sup>3</sup>	9.95E-11	mg/kg-day	--	--	--	1.16E-09	mg/kg-day	--	--	--				
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	5.54E-13	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	4.04E-12	6.46E-12	mg/kg-day	--	--	--				
Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	6.63E-14	mg/kg-day	--	--	--	7.73E-13	mg/kg-day	1.00E+01	mg/kg-day	7.73E-14							
di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	3.84E-12	mg/kg-day	--	--	--	4.47E-11	mg/kg-day	1.00E-01	mg/kg-day	4.47E-10							
Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	7.34E-14	mg/kg-day	--	--	--	8.56E-13	mg/kg-day	3.00E-04	mg/kg-day	2.85E-09							

TABLE H-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.74E-14	mg/kg-day	--	--	--	--	2.03E-13	mg/kg-day	3.00E-04	mg/kg-day	6.78E-10				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.94E-14	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.77E-13	2.27E-13	mg/kg-day	1.30E-05	mg/kg-day	1.75E-08					
				Indeno(1,2,3-cd)pyrene	6.81E-10	mg/m <sup>3</sup>	1.52E-12	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.11E-12	1.78E-11	mg/kg-day	--	--	--					
				Iron	3.09E-05	mg/m <sup>3</sup>	7.10E-08	mg/kg-day	--	--	--	8.28E-07	mg/kg-day	--	--	--					
				Isophorone	1.52E-10	mg/m <sup>3</sup>	3.49E-13	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.31E-16	4.07E-12	mg/kg-day	2.00E-01	mg/kg-day	2.03E-11					
				Lead	2.20E-06	mg/m <sup>3</sup>	5.06E-09	mg/kg-day	--	--	--	5.90E-08	mg/kg-day	--	--	--					
				Manganese	2.51E-07	mg/m <sup>3</sup>	5.77E-10	mg/kg-day	--	--	--	6.73E-09	mg/kg-day	1.43E-05	mg/kg-day	4.71E-04					
				Mercury	2.34E-10	mg/m <sup>3</sup>	5.40E-13	mg/kg-day	--	--	--	6.30E-12	mg/kg-day	8.60E-05	mg/kg-day	7.32E-08					
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	4.37E-12	mg/kg-day	--	--	--	5.09E-11	mg/kg-day	--	--	--					
				Nickel	2.96E-08	mg/m <sup>3</sup>	6.82E-11	mg/kg-day	--	--	--	7.96E-10	mg/kg-day	--	--	--					
				Phenol	4.39E-10	mg/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	1.18E-11	mg/kg-day	3.00E-01	mg/kg-day	3.93E-11					
				Selenium	1.70E-10	mg/m <sup>3</sup>	3.91E-13	mg/kg-day	--	--	--	4.57E-12	mg/kg-day	--	--	--					
				Silver	8.78E-10	mg/m <sup>3</sup>	2.02E-12	mg/kg-day	--	--	--	2.36E-11	mg/kg-day	--	--	--					
				Thallium	3.77E-10	mg/m <sup>3</sup>	8.67E-13	mg/kg-day	--	--	--	1.01E-11	mg/kg-day	--	--	--					
				Vanadium	2.59E-08	mg/m <sup>3</sup>	5.95E-11	mg/kg-day	--	--	--	6.95E-10	mg/kg-day	--	--	--					
				Zinc	3.44E-07	mg/m <sup>3</sup>	7.91E-10	mg/kg-day	--	--	--	9.22E-09	mg/kg-day	--	--	--					
				<b>Exposure Route Total</b>											<b>4.39E-10</b>				<b>6.37E-04</b>		
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.40E-07	mg/kg-day	--	--	--	--	2.80E-06	mg/kg-day	1.10E-03	mg/kg-day	2.55E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	8.17E-07	mg/kg-day	--	--	--	9.53E-06	mg/kg-day	1.10E-03	mg/kg-day	8.67E-03	
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.70E-07	mg/kg-day	--	--	--	3.15E-06	mg/kg-day	1.71E-03	mg/kg-day	1.84E-03	
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.23E-05	mg/kg-day	--	--	--	1.43E-04	mg/kg-day	5.70E-02	mg/kg-day	2.51E-03	
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	6.59E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	4.48E-10	7.68E-08	mg/kg-day	1.14E-03	mg/kg-day	6.74E-05	
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	8.41E-08	mg/kg-day	--	--	--	9.81E-07	mg/kg-day	1.71E-03	mg/kg-day	5.72E-04	
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	3.75E-07	mg/kg-day	--	--	--	4.37E-06	mg/kg-day	3.00E-02	mg/kg-day	1.46E-04	
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	3.60E-06	mg/kg-day	2.20E-02	(mg/kg-day)-1	7.91E-08	4.20E-05	mg/kg-day	2.30E-01	mg/kg-day	1.82E-04	
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.70E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	5.00E-02	mg/kg-day	3.97E-05	
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	2.23E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.59E-12	2.60E-10	mg/kg-day	5.00E-04	mg/kg-day	5.21E-07	
Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.34E-07					mg/kg-day	--	--	--	1.56E-06	mg/kg-day	6.00E-02	mg/kg-day	2.60E-05					
Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	3.29E-09					mg/kg-day	--	--	--	3.84E-08	mg/kg-day	6.00E-02	mg/kg-day	6.40E-07					
Aldrin	5.63E-09	mg/m <sup>3</sup>	1.30E-11					mg/kg-day	1.70E+01	(mg/kg-day)-1	2.20E-10	1.51E-10	mg/kg-day	3.00E-05	mg/kg-day	5.04E-06					
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	8.37E-12					mg/kg-day	6.30E+00	(mg/kg-day)-1	5.27E-11	9.77E-11	mg/kg-day	5.00E-04	mg/kg-day	1.95E-07					
alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.85E-11					mg/kg-day	3.50E-01	(mg/kg-day)-1	6.49E-12	2.16E-10	mg/kg-day	2.00E-04	mg/kg-day	1.08E-06					
Anthracene	1.45E-05	mg/m <sup>3</sup>	3.33E-08					mg/kg-day	--	--	--	3.89E-07	mg/kg-day	3.00E-01	mg/kg-day	1.30E-06					
Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	4.07E-09					mg/kg-day	7.30E-01	(mg/kg-day)-1	2.97E-09	4.75E-08	mg/kg-day	--	--	--					
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.04E-09					mg/kg-day	--	--	--	1.21E-08	mg/kg-day	2.00E-01	mg/kg-day	6.07E-08					
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.19E-07					mg/kg-day	--	--	--	1.39E-06	mg/kg-day	1.70E-02	mg/kg-day	8.18E-05					
Chrysene	6.25E-06	mg/m <sup>3</sup>	1.44E-08					mg/kg-day	7.30E-03	(mg/kg-day)-1	1.05E-10	1.68E-07	mg/kg-day	--	--	--					
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	9.63E-11					mg/kg-day	1.65E+00	(mg/kg-day)-1	1.79E-10	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.62E-06					
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.03E-07					mg/kg-day	--	--	--	1.20E-06	mg/kg-day	2.00E-03	mg/kg-day	6.02E-04					
Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.71E-10					mg/kg-day	1.60E+01	(mg/kg-day)-1	2.73E-09	1.99E-09	mg/kg-day	5.00E-05	mg/kg-day	3.98E-05					
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.85E-10					mg/kg-day	--	--	--	2.16E-09	mg/kg-day	6.00E-03	mg/kg-day	3.61E-07					
Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.82E-10					mg/kg-day	--	--	--	2.24E-09	mg/kg-day	6.00E-03	mg/kg-day	3.73E-07					
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	3.47E-10					mg/kg-day	--	--	--	4.04E-09	mg/kg-day	6.00E-03	mg/kg-day	6.74E-07					
Fluoranthene	1.71E-05	mg/m <sup>3</sup>	3.94E-08					mg/kg-day	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05					
Fluorene	1.71E-05	mg/m <sup>3</sup>	3.93E-08	mg/kg-day	--	--	--	4.58E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05									
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	3.67E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.77E-11	4.28E-10	mg/kg-day	3.00E-04	mg/kg-day	1.43E-06									
gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.98E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.04E-11	3.48E-10	mg/kg-day	2.00E-04	mg/kg-day	1.74E-06									
Heptachlor	3.38E-07	mg/m <sup>3</sup>	7.78E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	3.54E-09	9.08E-09	mg/kg-day	5.00E-04	mg/kg-day	1.82E-05									
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.99E-10	mg/kg-day	--	--	--	2.32E-09	mg/kg-day	5.00E-03	mg/kg-day	6.46E-07									
Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.61E-06	mg/kg-day	--	--	--	1.88E-05	mg/kg-day	8.57E-04	mg/kg-day	2.19E-02									
Phenanthrene	1.91E-04	mg/m <sup>3</sup>	4.40E-07	mg/kg-day	--	--	--	5.13E-06	mg/kg-day	3.00E-01	mg/kg-day	1.71E-05									

TABLE H-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Recreational User
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	4.41E-07	mg/kg-day	--	--	--	5.15E-06	mg/kg-day	1.10E-01	mg/kg-day	4.68E-05
				Pyrene	1.85E-05	mg/m <sup>3</sup>	4.25E-08	mg/kg-day	--	--	--	4.96E-07	mg/kg-day	3.00E-02	mg/kg-day	1.65E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	6.46E-08	mg/kg-day	--	--	--	7.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.88E-05
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	1.26E-09	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	4.39E-13	1.46E-08	mg/kg-day	2.00E-04	mg/kg-day	7.32E-05
				Toluene	3.12E-07	mg/m <sup>3</sup>	7.19E-10	mg/kg-day	--	--	--	8.38E-09	mg/kg-day	1.43E+00	mg/kg-day	5.87E-09
				Exposure Point Total												
	Exposure Medium Total															4.01E-02
Medium Total																1.72E+00
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	9.74E-10	mg/kg-day	--	--	--	1.14E-08	mg/kg-day	1.40E-01	mg/kg-day	8.12E-08
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.90E-10	mg/kg-day	--	--	--	3.39E-09	mg/kg-day	1.71E-03	mg/kg-day	1.98E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.90E-09	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.70E-02	mg/kg-day	3.90E-07
				1,2-Dichloroethane	5.85E-07	mg/m <sup>3</sup>	1.37E-09	mg/kg-day	9.10E-02	--	1.25E-10	1.60E-08	mg/kg-day	1.40E-03	mg/kg-day	1.14E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	5.13E-10	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	3.49E-11	5.99E-09	mg/kg-day	1.14E-03	mg/kg-day	5.25E-06
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.65E-10	mg/kg-day	--	--	--	1.93E-09	mg/kg-day	1.71E-03	mg/kg-day	1.13E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	6.48E-10	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.43E-11	7.56E-09	mg/kg-day	2.30E-01	mg/kg-day	3.29E-08
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	2.51E-11	mg/kg-day	--	--	--	2.92E-10	mg/kg-day	1.43E+00	mg/kg-day	2.05E-10
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	2.23E-12	mg/kg-day	--	--	--	2.60E-11	mg/kg-day	5.00E-02	mg/kg-day	5.19E-10
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.98E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.01E-12	3.47E-11	mg/kg-day	5.00E-04	mg/kg-day	6.95E-08
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	9.31E-12	mg/kg-day	--	--	--	1.09E-10	mg/kg-day	8.60E-01	mg/kg-day	1.26E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	8.92E-11	mg/kg-day	--	--	--	1.04E-09	mg/kg-day	6.00E-02	mg/kg-day	1.73E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	3.80E-12	mg/kg-day	--	--	--	4.43E-11	mg/kg-day	6.00E-02	mg/kg-day	7.39E-10
				Aldrin	2.24E-09	mg/m <sup>3</sup>	5.14E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	8.74E-11	6.00E-11	mg/kg-day	3.00E-05	mg/kg-day	2.00E-06
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	6.52E-13	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	4.11E-12	7.60E-12	mg/kg-day	5.00E-04	mg/kg-day	1.52E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.54E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	5.40E-13	1.80E-11	mg/kg-day	2.00E-04	mg/kg-day	8.99E-08
				Anthracene	3.29E-09	mg/m <sup>3</sup>	7.56E-12	mg/kg-day	--	--	--	8.82E-11	mg/kg-day	3.00E-01	mg/kg-day	2.94E-10
				Benzene	2.61E-07	mg/m <sup>3</sup>	6.01E-10	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.64E-11	7.01E-09	mg/kg-day	8.60E-03	mg/kg-day	8.15E-07
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	8.17E-13	1.31E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.69E-11	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	6.52E-14	1.98E-10	mg/kg-day	2.00E-02	mg/kg-day	9.88E-09
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	1.21E-07	mg/kg-day	2.00E-01	mg/kg-day	6.05E-07
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.69E-10	mg/kg-day	--	--	--	1.97E-09	mg/kg-day	1.70E-02	mg/kg-day	1.16E-07
				Chloroform	2.07E-06	mg/m <sup>3</sup>	4.76E-09	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	3.83E-10	5.55E-08	mg/kg-day	1.40E-02	mg/kg-day	3.96E-06
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.72E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	2.60E-02	mg/kg-day	7.73E-07
				Chrysene	1.32E-09	mg/m <sup>3</sup>	3.03E-12	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.21E-14	3.53E-11	mg/kg-day	--	--	--
				cis-1,2-Dichloroethane	5.30E-07	mg/m <sup>3</sup>	1.22E-09	mg/kg-day	--	--	--	1.42E-08	mg/kg-day	1.00E-02	mg/kg-day	1.42E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.26E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.62E-11	2.64E-11	mg/kg-day	5.00E-05	mg/kg-day	5.27E-07
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	5.15E-13	mg/kg-day	--	--	--	8.01E-12	mg/kg-day	6.00E-03	mg/kg-day	1.00E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	8.47E-16	mg/kg-day	--	--	--	9.88E-15	mg/kg-day	6.00E-03	mg/kg-day	1.65E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	4.59E-10	mg/kg-day	--	--	--	5.36E-09	mg/kg-day	2.90E-01	mg/kg-day	1.85E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.16E-12	mg/kg-day	--	--	--	1.36E-11	mg/kg-day	4.00E-02	mg/kg-day	3.39E-10
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.30E-12	mg/kg-day	--	--	--	2.68E-11	mg/kg-day	4.00E-02	mg/kg-day	6.71E-10
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.86E-15	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	3.72E-15	3.34E-14	mg/kg-day	3.00E-04	mg/kg-day	1.11E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	4.00E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.40E-12	4.67E-11	mg/kg-day	2.00E-04	mg/kg-day	2.34E-07
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	4.11E-11	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.87E-10	4.79E-10	mg/kg-day	5.00E-04	mg/kg-day	9.59E-07
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	9.20E-07	mg/kg-day	1.10E-01	mg/kg-day	8.36E-06
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.60E-09	mg/kg-day	--	--	--	1.86E-08	mg/kg-day	2.90E-02	mg/kg-day	6.43E-07
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	7.52E-12	mg/kg-day	--	--	--	8.77E-11	mg/kg-day	5.00E-03	mg/kg-day	1.75E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.25E-11	mg/kg-day	--	--	--	1.46E-10	mg/kg-day	8.57E-04	mg/kg-day	1.70E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	5.82E-10	mg/kg-day	--	--	--	6.79E-09	mg/kg-day	8.57E-04	mg/kg-day	7.93E-06
n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	6.48E-10	mg/kg-day	--	--	--	7.56E-09	mg/kg-day	4.00E-02	mg/kg-day	1.89E-07				
Phenanthrene	2.62E-09	mg/m <sup>3</sup>	6.02E-12	mg/kg-day	--	--	--	7.03E-11	mg/kg-day	3.00E-01	mg/kg-day	2.34E-10				

TABLE H-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units								
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	9.20E-07	mg/kg-day	1.10E-01	mg/kg-day	8.36E-06					
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.06E-12	mg/kg-day	--	--	--	1.24E-11	mg/kg-day	3.00E-02	mg/kg-day	4.13E-10					
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.84E-09	mg/kg-day	--	--	--	2.15E-08	mg/kg-day	4.00E-02	mg/kg-day	5.38E-07					
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	2.09E-09	mg/kg-day	--	--	--	2.44E-08	mg/kg-day	4.00E-02	mg/kg-day	6.09E-07					
				Toluene	3.80E-07	mg/m <sup>3</sup>	8.74E-10	mg/kg-day	--	--	--	1.02E-08	mg/kg-day	1.43E+00	mg/kg-day	7.14E-09					
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	2.06E-09	mg/kg-day	--	--	--	2.41E-08	mg/kg-day	2.00E-02	mg/kg-day	1.20E-06					
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	2.14E-09	mg/kg-day	4.00E-01	(mg/kg-day)-1	8.58E-10	2.50E-08	mg/kg-day	1.00E-02	mg/kg-day	2.50E-06					
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	4.44E-09	mg/kg-day	3.10E-02	(mg/kg-day)-1	1.38E-10	5.18E-08	mg/kg-day	2.86E-02	mg/kg-day	1.81E-06					
				Exposure Route Total																1.89E-09	6.43E-05
				Exposure Point Total																	1.89E-09
Exposure Medium Total																	1.89E-09	6.43E-05			
Medium Total																	1.89E-09	6.43E-05			
										Total of Receptor Risks Across All Media		2.04E-05		Total of Receptor Hazards Across All Media				1.72E+00			

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - Ri Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	5.03E-07	mg/kg-day	--	--	--	4.11E-06	mg/kg-day	1.00E-02	mg/kg-day	4.11E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.71E-06	mg/kg-day	--	--	--	1.40E-05	mg/kg-day	1.00E-02	mg/kg-day	1.40E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.68E-07	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	5.00E-02	mg/kg-day	2.74E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	8.72E-06	mg/kg-day	--	--	--	7.12E-05	mg/kg-day	9.00E-02	mg/kg-day	7.91E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.21E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	8.21E-11	9.86E-09	mg/kg-day	1.14E-03	mg/kg-day	8.65E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.37E-08	mg/kg-day	--	--	--	4.38E-07	mg/kg-day	5.00E-02	mg/kg-day	8.77E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	3.69E-07	mg/kg-day	--	--	--	3.01E-06	mg/kg-day	3.00E-02	mg/kg-day	1.00E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	2.28E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	5.47E-08	1.86E-05	mg/kg-day	3.00E-02	mg/kg-day	6.21E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	7.05E-08	mg/kg-day	--	--	--	5.75E-07	mg/kg-day	2.00E-02	mg/kg-day	2.88E-05
				2-Methylphenol	8.10E-02	mg/kg	2.72E-08	mg/kg-day	--	--	--	2.22E-07	mg/kg-day	5.00E-02	mg/kg-day	4.44E-06
				2-Methylnaphthalene	1.67E+00	mg/kg	5.61E-07	mg/kg-day	--	--	--	4.58E-06	mg/kg-day	4.00E-03	mg/kg-day	1.15E-03
				4,4'-DDD	1.20E-03	mg/kg	4.03E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	9.66E-11	3.29E-09	mg/kg-day	5.00E-04	mg/kg-day	6.58E-06
				4,4'-DDE	8.23E-02	mg/kg	2.76E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.39E-09	2.26E-07	mg/kg-day	5.00E-04	mg/kg-day	4.51E-04
				4,4'-DDT	4.45E-02	mg/kg	1.49E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.07E-09	1.22E-07	mg/kg-day	5.00E-04	mg/kg-day	2.44E-04
				4-Methylphenol	2.70E-01	mg/kg	9.06E-08	mg/kg-day	--	--	--	7.40E-07	mg/kg-day	5.00E-03	mg/kg-day	1.48E-04
				4-Nitroaniline	6.20E-01	mg/kg	2.08E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.37E-09	1.70E-06	mg/kg-day	3.00E-03	mg/kg-day	5.66E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.41E-07	mg/kg-day	--	--	--	1.15E-06	mg/kg-day	5.00E-04	mg/kg-day	2.30E-03
				Acenaphthene	4.23E+00	mg/kg	1.42E-06	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	6.00E-02	mg/kg-day	1.93E-04
				Acenaphthylene	1.04E-01	mg/kg	3.49E-08	mg/kg-day	--	--	--	2.85E-07	mg/kg-day	6.00E-02	mg/kg-day	4.76E-06
				Aldrin	1.30E-02	mg/kg	4.36E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.41E-08	3.56E-08	mg/kg-day	3.00E-05	mg/kg-day	1.19E-03
				alpha-BHC	7.30E-04	mg/kg	2.45E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.54E-09	2.00E-09	mg/kg-day	5.00E-04	mg/kg-day	4.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	2.73E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	9.56E-10	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05
				Aluminum	8.82E+03	mg/kg	2.96E-03	mg/kg-day	--	--	--	2.42E-02	mg/kg-day	1.00E+00	mg/kg-day	2.42E-02
				Anthracene	1.05E+00	mg/kg	3.54E-07	mg/kg-day	--	--	--	2.89E-06	mg/kg-day	3.00E-01	mg/kg-day	9.63E-06
				Antimony	4.08E+00	mg/kg	1.37E-06	mg/kg-day	--	--	--	1.12E-05	mg/kg-day	4.00E-04	mg/kg-day	2.79E-02
				Aroclor-1248	1.20E+00	mg/kg	4.03E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.05E-07	3.29E-06	mg/kg-day	2.00E-05	mg/kg-day	1.64E-01
				Aroclor-1254	4.44E-01	mg/kg	1.49E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.98E-07	1.22E-06	mg/kg-day	2.00E-05	mg/kg-day	6.08E-02
				Aroclor-1260	5.41E-01	mg/kg	1.82E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.63E-07	1.48E-06	mg/kg-day	2.00E-05	mg/kg-day	7.42E-02
				Aroclor-1268	2.78E-02	mg/kg	9.31E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.86E-08	7.61E-08	mg/kg-day	2.00E-05	mg/kg-day	3.80E-03
				Arsenic	8.17E+00	mg/kg	2.07E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.10E-06	1.69E-05	mg/kg-day	3.00E-04	mg/kg-day	5.63E-02
				Barium	6.78E+01	mg/kg	2.28E-05	mg/kg-day	--	--	--	1.86E-04	mg/kg-day	7.00E-02	mg/kg-day	2.65E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	1.68E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.23E-06	1.37E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	5.59E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.08E-06	4.56E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	9.19E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.71E-07	7.50E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.56E-07	mg/kg-day	--	--	--	2.09E-06	mg/kg-day	3.00E-02	mg/kg-day	6.97E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.09E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	7.99E-08	8.93E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	7.99E-08	mg/kg-day	--	--	--	6.52E-07	mg/kg-day	2.00E-03	mg/kg-day	3.26E-04
				Beta-BHC	2.20E-03	mg/kg	7.38E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.33E-09	6.03E-09	mg/kg-day	2.00E-04	mg/kg-day	3.01E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.63E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.68E-08	2.15E-05	mg/kg-day	2.00E-02	mg/kg-day	1.07E-03
				Cadmium	9.47E+00	mg/kg	3.18E-06	mg/kg-day	--	--	--	2.60E-05	mg/kg-day	5.00E-04	mg/kg-day	5.19E-02
				Carbon disulfide	2.40E-04	mg/kg	8.05E-11	mg/kg-day	--	--	--	6.58E-10	mg/kg-day	1.00E-01	mg/kg-day	6.58E-09
				Chlorobenzene	1.10E-01	mg/kg	3.69E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	2.00E-02	mg/kg-day	1.51E-05
				Chromium	1.11E+02	mg/kg	3.73E-05	mg/kg-day	--	--	--	3.05E-04	mg/kg-day	1.50E+00	mg/kg-day	2.03E-04
				Chrysene	5.68E+00	mg/kg	1.91E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.39E-08	1.56E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.54E-06	mg/kg-day	--	--	--	2.07E-05	mg/kg-day	2.00E-02	mg/kg-day	1.04E-03
Copper	5.71E+01	mg/kg	1.91E-05	mg/kg-day	--	--	--	1.56E-04	mg/kg-day	3.70E-02	mg/kg-day	4.22E-03				
Delta-BHC	8.40E-03	mg/kg	2.82E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	5.07E-09	2.30E-08	mg/kg-day	2.00E-04	mg/kg-day	1.15E-04				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.07E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	7.78E-07	8.70E-07	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	4.36E-06	mg/kg-day	--	--	--	3.56E-05	mg/kg-day	2.00E-03	mg/kg-day	1.78E-02				
Dieldrin	5.51E-02	mg/kg	1.85E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.96E-07	1.51E-07	mg/kg-day	5.00E-05	mg/kg-day	3.02E-03				
Dimethylphthalate	3.80E-02	mg/kg	1.27E-08	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	1.00E+01	mg/kg-day	1.04E-08				

TABLE H-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	7.38E-07	mg/kg-day	--	--	--	6.03E-06	mg/kg-day	1.00E-01	mg/kg-day	6.03E-05		
				Endosulfan I	2.30E-02	mg/kg	7.72E-09	mg/kg-day	--	--	--	6.30E-08	mg/kg-day	6.00E-03	mg/kg-day	1.05E-05		
				Endosulfan II	2.38E-02	mg/kg	7.99E-09	mg/kg-day	--	--	--	6.53E-08	mg/kg-day	6.00E-03	mg/kg-day	1.09E-05		
				Endosulfan Sulfate	4.30E-02	mg/kg	1.44E-08	mg/kg-day	--	--	--	1.18E-07	mg/kg-day	6.00E-03	mg/kg-day	1.96E-05		
				Endrin aldehyde	4.21E-02	mg/kg	1.41E-08	mg/kg-day	--	--	--	1.15E-07	mg/kg-day	3.00E-04	mg/kg-day	3.84E-04		
				Endrin Ketone	1.00E-02	mg/kg	3.35E-09	mg/kg-day	--	--	--	2.74E-08	mg/kg-day	3.00E-04	mg/kg-day	9.13E-05		
				Fluoranthene	2.65E+01	mg/kg	8.89E-06	mg/kg-day	--	--	--	7.26E-05	mg/kg-day	4.00E-02	mg/kg-day	1.82E-03		
				Fluorene	2.92E+00	mg/kg	9.78E-07	mg/kg-day	--	--	--	7.99E-06	mg/kg-day	4.00E-02	mg/kg-day	2.00E-04		
				gamma-BHC (Lindane)	2.60E-03	mg/kg	8.72E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.13E-09	7.12E-09	mg/kg-day	3.00E-04	mg/kg-day	2.37E-05		
				gamma-Chlordane	1.31E-02	mg/kg	4.40E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.54E-09	3.59E-08	mg/kg-day	5.00E-04	mg/kg-day	7.18E-05		
				Heptachlor	6.90E-03	mg/kg	2.31E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.04E-08	1.89E-08	mg/kg-day	5.00E-04	mg/kg-day	3.78E-05		
				Heptachlor Epoxide	1.12E-02	mg/kg	3.74E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.41E-08	3.06E-08	mg/kg-day	1.30E-05	mg/kg-day	2.35E-03		
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.93E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.14E-07	2.39E-06	mg/kg-day	--	--	--		
				Iron	4.07E+04	mg/kg	1.37E-02	mg/kg-day	--	--	--	1.12E-01	mg/kg-day	3.00E-01	mg/kg-day	3.72E-01		
				Isophorone	2.00E-01	mg/kg	6.71E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.37E-11	5.48E-07	mg/kg-day	2.00E-01	mg/kg-day	2.74E-06		
				Lead	2.90E+03	mg/kg	9.74E-04	mg/kg-day	--	--	--	7.95E-03	mg/kg-day	--	--	--		
				Manganese	3.31E+02	mg/kg	1.11E-04	mg/kg-day	--	--	--	9.07E-04	mg/kg-day	2.40E-02	mg/kg-day	3.78E-02		
				Mercury	3.10E-01	mg/kg	1.04E-07	mg/kg-day	--	--	--	8.48E-07	mg/kg-day	3.00E-04	mg/kg-day	2.83E-03		
				Methoxychlor	1.20E-01	mg/kg	4.03E-08	mg/kg-day	--	--	--	3.29E-07	mg/kg-day	5.00E-03	mg/kg-day	6.58E-05		
				Molybdenum	2.50E+00	mg/kg	8.40E-07	mg/kg-day	--	--	--	6.86E-06	mg/kg-day	5.00E-03	mg/kg-day	1.37E-03		
				Naphthalene	1.30E+01	mg/kg	4.38E-06	mg/kg-day	--	--	--	3.56E-05	mg/kg-day	2.00E-02	mg/kg-day	1.78E-03		
				Nickel	3.91E+01	mg/kg	1.31E-05	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	2.00E-02	mg/kg-day	5.36E-03		
				Phenanthrene	1.39E+01	mg/kg	4.67E-06	mg/kg-day	--	--	--	3.81E-05	mg/kg-day	3.00E-01	mg/kg-day	1.27E-04		
				Phenol	5.80E-01	mg/kg	1.95E-07	mg/kg-day	--	--	--	1.59E-06	mg/kg-day	3.00E-01	mg/kg-day	5.30E-06		
				p-Isopropyltoluene	1.10E-01	mg/kg	3.69E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	1.00E-01	mg/kg-day	3.01E-06		
				Pyrene	2.41E+01	mg/kg	8.10E-06	mg/kg-day	--	--	--	6.62E-05	mg/kg-day	3.00E-02	mg/kg-day	2.21E-03		
				sec-Butylbenzene	7.10E-02	mg/kg	2.38E-08	mg/kg-day	--	--	--	1.95E-07	mg/kg-day	4.00E-02	mg/kg-day	4.86E-06		
				Selenium	2.24E-01	mg/kg	7.53E-08	mg/kg-day	--	--	--	6.15E-07	mg/kg-day	5.00E-03	mg/kg-day	1.23E-04		
				Silver	1.16E+00	mg/kg	3.89E-07	mg/kg-day	--	--	--	3.18E-06	mg/kg-day	5.00E-03	mg/kg-day	6.35E-04		
				Technical Chlordane	5.51E-01	mg/kg	1.85E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.47E-08	1.51E-06	mg/kg-day	5.00E-04	mg/kg-day	3.02E-03		
				Thallium	4.97E-01	mg/kg	1.67E-07	mg/kg-day	--	--	--	1.36E-06	mg/kg-day	6.60E-05	mg/kg-day	2.06E-02		
				Toluene	4.30E-04	mg/kg	1.44E-10	mg/kg-day	--	--	--	1.18E-09	mg/kg-day	8.00E-02	mg/kg-day	1.47E-08		
				Vanadium	3.41E+01	mg/kg	1.15E-05	mg/kg-day	--	--	--	9.36E-05	mg/kg-day	1.00E-03	mg/kg-day	9.36E-02		
				Zinc	4.53E+02	mg/kg	1.52E-04	mg/kg-day	--	--	--	1.24E-03	mg/kg-day	3.00E-01	mg/kg-day	4.14E-03		
				Exposure Route Total										1.22E-05				1.05E+00
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	mg/kg	1.50E+00	7.58E-07	mg/kg-day	--	--	--	5.56E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04
								5.10E+00	2.58E-07	mg/kg-day	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04
								5.00E-01	2.93E-08	mg/kg-day	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06
								2.60E+01	1.31E-06	mg/kg-day	--	--	--	9.64E-06	mg/kg-day	5.00E-02	mg/kg-day	1.07E-04
								3.60E-03	1.82E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.24E-11	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06
								1.60E-01	8.08E-09	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.19E-06
1.10E+00	5.56E-08	mg/kg-day	--					--	--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05				
6.80E+00	--	mg/kg-day	2.40E-02					(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2.10E-01	1.08E-08	mg/kg-day	--					--	--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06				
8.10E-02	4.09E-08	mg/kg-day	--					--	--	3.00E-07	mg/kg-day	5.00E-02	mg/kg-day	6.01E-06				
1.67E+00	8.45E-08	mg/kg-day	--					--	--	6.20E-07	mg/kg-day	4.00E-03	mg/kg-day	1.55E-04				
4,4'-DDD	1.20E-03	mg/kg	6.06E-11					mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-11	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07		
4,4'-DDE	8.23E-02	mg/kg	4.16E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.41E-09	3.05E-08	mg/kg-day	5.00E-04	mg/kg-day	6.10E-05		
4,4'-DDT	4.45E-02	mg/kg	6.74E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	2.29E-09	4.95E-08	mg/kg-day	5.00E-04	mg/kg-day	9.90E-05		
4-Methylphenol	2.70E-01	mg/kg	1.38E-07					mg/kg-day	--	--	--	1.00E-06	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04		
4-Nitroaniline	6.20E-01	mg/kg	3.13E-07	mg/kg-day	2.10E-02	--	--	6.58E-09	mg/kg-day	3.00E-03	mg/kg-day	7.66E-04						

TABLE H-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	2.12E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	4.23E+00	mg/kg	2.78E-06	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	6.00E-02	mg/kg-day	3.40E-04
				Acenaphthylene	1.04E-01	mg/kg	5.26E-09	mg/kg-day	--	--	--	3.86E-08	mg/kg-day	6.00E-02	mg/kg-day	6.44E-07
				Aldrin	1.30E-02	mg/kg	6.57E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.12E-07	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03
				alpha-BHC	7.30E-04	mg/kg	3.69E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.32E-10	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	4.46E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.00E+00	mg/kg-day	3.27E-04
				Anthracene	1.05E+00	mg/kg	6.93E-07	mg/kg-day	--	--	--	5.08E-06	mg/kg-day	3.00E-01	mg/kg-day	1.69E-05
				Antimony	4.08E+00	mg/kg	2.06E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	4.00E-04	mg/kg-day	3.78E-04
				Aroclor-1248	1.20E+00	mg/kg	8.49E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-06	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.44E-01	mg/kg	3.14E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.28E-07	2.31E-06	mg/kg-day	2.00E-05	mg/kg-day	1.15E-01
				Aroclor-1260	5.41E-01	mg/kg	3.83E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.66E-07	2.81E-06	mg/kg-day	2.00E-05	mg/kg-day	1.41E-01
				Aroclor-1268	2.78E-02	mg/kg	1.96E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.93E-08	1.44E-07	mg/kg-day	2.00E-05	mg/kg-day	7.20E-03
				Arsenic	6.17E+00	mg/kg	9.35E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.40E-06	6.86E-06	mg/kg-day	3.00E-04	mg/kg-day	2.29E-02
				Barium	6.78E+01	mg/kg	3.43E-07	mg/kg-day	--	--	--	2.51E-06	mg/kg-day	7.00E-02	mg/kg-day	3.59E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	3.29E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.40E-06	2.41E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.09E-06	mg/kg-day	7.30E+00	(mg/kg-day)-1	7.98E-06	8.03E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.80E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.31E-06	1.32E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	5.01E-07	mg/kg-day	--	--	--	3.68E-06	mg/kg-day	3.00E-02	mg/kg-day	1.23E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	2.14E-06	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.56E-07	1.57E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.20E-09	mg/kg-day	--	--	--	8.83E-09	mg/kg-day	2.00E-03	mg/kg-day	4.41E-06
				Beta-BHC	2.20E-03	mg/kg	1.11E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.00E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.96E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	5.54E-09	2.90E-08	mg/kg-day	2.00E-02	mg/kg-day	1.45E-04
				Cadmium	9.47E+00	mg/kg	4.79E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	5.00E-04	mg/kg-day	7.02E-04
				Carbon disulfide	2.40E-04	mg/kg	3.03E-10	mg/kg-day	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	5.56E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.11E+02	mg/kg	5.62E-07	mg/kg-day	--	--	--	4.12E-06	mg/kg-day	1.50E+00	mg/kg-day	2.75E-06
				Chrysene	5.68E+00	mg/kg	3.73E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.72E-08	2.74E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.83E-08	mg/kg-day	--	--	--	2.81E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05
				Copper	5.71E+01	mg/kg	2.88E-07	mg/kg-day	--	--	--	2.12E-08	mg/kg-day	3.70E-02	mg/kg-day	5.72E-05
				Delta-BHC	8.40E-03	mg/kg	2.12E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.82E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	2.09E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.52E-06	1.53E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.57E-07	mg/kg-day	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	5.51E-02	mg/kg	2.79E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.48E-08	2.04E-08	mg/kg-day	5.00E-05	mg/kg-day	4.09E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.92E-09	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	1.00E+01	mg/kg-day	1.41E-09
				di-n-Butylphthalate	2.20E+00	mg/kg	1.11E-07	mg/kg-day	--	--	--	8.16E-07	mg/kg-day	1.00E-01	mg/kg-day	8.16E-06
				Endosulfan I	2.30E-02	mg/kg	5.81E-09	mg/kg-day	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.38E-02	mg/kg	6.02E-09	mg/kg-day	--	--	--	4.42E-08	mg/kg-day	6.00E-03	mg/kg-day	7.36E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	1.09E-08	mg/kg-day	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	4.21E-02	mg/kg	1.06E-08	mg/kg-day	--	--	--	7.80E-08	mg/kg-day	3.00E-04	mg/kg-day	2.60E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.74E-05	mg/kg-day	--	--	--	1.28E-04	mg/kg-day	4.00E-02	mg/kg-day	3.19E-03
				Fluorene	2.92E+00	mg/kg	1.92E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	4.00E-02	mg/kg-day	3.51E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	5.25E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	6.83E-10	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05
gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Heptachlor	6.90E-03	mg/kg	3.49E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.57E-09	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06				
Heptachlor Epoxide	1.12E-02	mg/kg	5.64E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	5.13E-09	4.14E-09	mg/kg-day	1.30E-05	mg/kg-day	3.18E-04				
Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	5.73E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.19E-07	4.21E-06	mg/kg-day	--	--	--				
Iron	4.07E+04	mg/kg	2.06E-04	mg/kg-day	--	--	--	1.51E-03	mg/kg-day	3.00E-01	mg/kg-day	5.03E-03				
Isophorone	2.00E-01	mg/kg	1.01E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.60E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06				
Lead	2.90E+03	mg/kg	1.47E-05	mg/kg-day	--	--	--	1.08E-04	mg/kg-day	--	--	--				

TABLE H-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	1.67E-06	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.40E-02	mg/kg-day	5.11E-04			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	--		
				Methoxychlor	1.20E-01	mg/kg	6.06E-09	mg/kg-day	--	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06		
				Molybdenum	2.50E+00	mg/kg	1.27E-08	mg/kg-day	--	--	--	--	9.29E-08	mg/kg-day	5.00E-03	mg/kg-day	1.66E-05		
				Naphthalene	1.30E+01	mg/kg	8.54E-08	mg/kg-day	--	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03		
				Nickel	3.91E+01	mg/kg	1.98E-07	mg/kg-day	--	--	--	--	1.45E-06	mg/kg-day	2.00E-02	mg/kg-day	7.25E-05		
				Phenanthrene	1.39E+01	mg/kg	7.03E-07	mg/kg-day	--	--	--	--	5.16E-06	mg/kg-day	3.00E-01	mg/kg-day	1.72E-05		
				Phenol	5.80E-01	mg/kg	2.93E-07	mg/kg-day	--	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06		
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	--		
				Pyrene	2.41E+01	mg/kg	1.59E-05	mg/kg-day	--	--	--	--	1.16E-04	mg/kg-day	3.00E-02	mg/kg-day	3.88E-03		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	--		
				Selenium	2.24E+01	mg/kg	1.13E-09	mg/kg-day	--	--	--	--	8.32E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06		
				Silver	1.18E+00	mg/kg	5.85E-09	mg/kg-day	--	--	--	--	4.30E-08	mg/kg-day	5.00E-03	mg/kg-day	8.59E-06		
				Technical Chlordane	5.51E-01	mg/kg	1.11E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.90E-08	--	8.17E-07	mg/kg-day	5.00E-04	mg/kg-day	1.63E-03		
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	6.60E-05	mg/kg-day	--	--		
				Toluene	4.30E-04	mg/kg	2.17E-11	mg/kg-day	--	--	--	--	1.59E-10	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09		
				Vanadium	3.41E+01	mg/kg	1.73E-07	mg/kg-day	--	--	--	--	1.27E-06	mg/kg-day	1.00E-03	mg/kg-day	1.27E-03		
				Zinc	4.53E+02	mg/kg	2.29E-06	mg/kg-day	--	--	--	--	1.68E-05	mg/kg-day	3.00E-01	mg/kg-day	5.60E-05		
							Exposure Route Total							1.86E-05					6.29E-01
							Exposure Point Total							3.08E-05					1.68E+00
			Exposure Medium Total							3.08E-05					1.68E+00				
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.91E-12	mg/kg-day	--	--	--	4.27E-12	mg/kg-day	2.00E-02	mg/kg-day	2.14E-10				
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	--	--	--	1.65E-12	mg/kg-day	--	--	--				
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.66E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.99E-15	2.44E-14	mg/kg-day	5.00E-04	mg/kg-day	4.88E-11				
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	6.16E-13	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.10E-13	9.05E-13	mg/kg-day	5.00E-04	mg/kg-day	1.81E-09				
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.74E-12	mg/kg-day	--	--	--	5.49E-12	mg/kg-day	5.00E-03	mg/kg-day	1.10E-09				
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	8.59E-12	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.80E-13	1.26E-11	mg/kg-day	1.00E-03	mg/kg-day	1.26E-08				
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	5.82E-12	mg/kg-day	--	--	--	8.54E-12	mg/kg-day	5.70E-04	mg/kg-day	1.50E-08				
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.22E-07	mg/kg-day	--	--	--	1.79E-07	mg/kg-day	1.43E-03	mg/kg-day	1.26E-04				
			Antimony	3.09E-09	mg/m <sup>3</sup>	5.65E-11	mg/kg-day	--	--	--	8.30E-11	mg/kg-day	--	--	--				
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.66E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.32E-11	2.44E-11	mg/kg-day	2.00E-05	mg/kg-day	1.22E-06				
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	6.15E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.23E-11	9.03E-12	mg/kg-day	2.00E-05	mg/kg-day	4.52E-07				
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	7.50E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.50E-11	1.10E-11	mg/kg-day	2.00E-05	mg/kg-day	5.51E-07				
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.84E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.69E-13	5.65E-13	mg/kg-day	2.00E-05	mg/kg-day	2.82E-08				
			Arsenic	4.67E-09	mg/m <sup>3</sup>	8.54E-11	mg/kg-day	1.50E+01	(mg/kg-day)-1	1.28E-09	1.25E-10	mg/kg-day	--	--	--				
			Barium	5.14E-08	mg/m <sup>3</sup>	9.39E-10	mg/kg-day	--	--	--	1.38E-09	mg/kg-day	1.40E-04	mg/kg-day	9.85E-06				
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	6.93E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.06E-11	1.02E-10	mg/kg-day	--	--	--				
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	2.31E-11	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.68E-10	3.39E-11	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	1.06E-11	mg/kg-day	--	--	--	1.55E-11	mg/kg-day	3.00E-02	mg/kg-day	5.18E-10				
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	4.52E-11	mg/kg-day	7.30E-02	(mg/kg-day)-1	3.30E-12	6.63E-11	mg/kg-day	--	--	--				
			Beryllium	1.80E-10	mg/m <sup>3</sup>	3.30E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	2.77E-11	4.84E-12	mg/kg-day	5.71E-06	mg/kg-day	8.48E-07				
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	3.05E-14	mg/kg-day	1.86E+00	(mg/kg-day)-1	5.65E-14	4.47E-14	mg/kg-day	2.00E-04	mg/kg-day	2.24E-10				
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	1.08E-10	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.52E-12	1.59E-10	mg/kg-day	2.00E-02	mg/kg-day	7.97E-09				
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.31E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	8.27E-10	1.93E-10	mg/kg-day	--	--	--				
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.54E-09	mg/kg-day	--	--	--	2.26E-09	mg/kg-day	--	--	--				
			Cobalt	5.74E-09	mg/m <sup>3</sup>	1.05E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	1.03E-09	1.54E-10	mg/kg-day	5.71E-06	mg/kg-day	2.70E-05				
			Copper	4.32E-08	mg/m <sup>3</sup>	7.90E-10	mg/kg-day	--	--	--	1.16E-09	mg/kg-day	--	--	--				
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	4.40E-12	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.21E-11	6.48E-12	mg/kg-day	--	--	--				
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	5.26E-13	mg/kg-day	--	--	--	7.73E-13	mg/kg-day	1.00E+01	mg/kg-day	7.73E-14				
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	3.05E-11	mg/kg-day	--	--	--	4.47E-11	mg/kg-day	1.00E-01	mg/kg-day	4.47E-10				
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	5.83E-13	mg/kg-day	--	--	--	8.56E-13	mg/kg-day	3.00E-04	mg/kg-day	2.85E-09				

TABLE H-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endnn Ketone	7.58E-12	mg/m <sup>3</sup>	1.39E-13	mg/kg-day	--	--	--	--	2.03E-13	mg/kg-day	3.00E-04	mg/kg-day	6.78E-10				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.55E-13	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.41E-12	2.27E-13	mg/kg-day	1.30E-05	mg/kg-day	1.75E-08					
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	1.21E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.83E-12	1.78E-11	mg/kg-day	--	--	--					
				Iron	3.09E-05	mg/m <sup>3</sup>	5.64E-07	mg/kg-day	--	--	--	8.28E-07	mg/kg-day	--	--	--					
				Isophorone	1.52E-10	mg/m <sup>3</sup>	2.77E-12	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.63E-15	4.07E-12	mg/kg-day	2.00E-01	mg/kg-day	2.03E-11					
				Lead	2.20E-06	mg/m <sup>3</sup>	4.02E-08	mg/kg-day	--	--	--	5.90E-08	mg/kg-day	--	--	--					
				Manganese	2.51E-07	mg/m <sup>3</sup>	4.59E-09	mg/kg-day	--	--	--	6.73E-09	mg/kg-day	1.43E-05	mg/kg-day	4.71E-04					
				Mercury	2.34E-10	mg/m <sup>3</sup>	4.29E-12	mg/kg-day	--	--	--	6.30E-12	mg/kg-day	8.60E-05	mg/kg-day	7.32E-08					
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	3.47E-11	mg/kg-day	--	--	--	5.09E-11	mg/kg-day	--	--	--					
				Nickel	2.96E-08	mg/m <sup>3</sup>	5.42E-10	mg/kg-day	--	--	--	7.96E-10	mg/kg-day	--	--	--					
				Phenol	4.39E-10	mg/m <sup>3</sup>	8.03E-12	mg/kg-day	--	--	--	1.18E-11	mg/kg-day	3.00E-01	mg/kg-day	3.93E-11					
				Selenium	1.70E-10	mg/m <sup>3</sup>	3.11E-12	mg/kg-day	--	--	--	4.57E-12	mg/kg-day	--	--	--					
				Silver	8.78E-10	mg/m <sup>3</sup>	1.61E-11	mg/kg-day	--	--	--	2.36E-11	mg/kg-day	--	--	--					
				Thallium	3.77E-10	mg/m <sup>3</sup>	6.88E-12	mg/kg-day	--	--	--	1.01E-11	mg/kg-day	--	--	--					
				Vanadium	2.59E-08	mg/m <sup>3</sup>	4.73E-10	mg/kg-day	--	--	--	6.95E-10	mg/kg-day	--	--	--					
				Zinc	3.44E-07	mg/m <sup>3</sup>	6.28E-08	mg/kg-day	--	--	--	9.22E-09	mg/kg-day	--	--	--					
				<b>Exposure Route Total</b>																	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.91E-06	mg/kg-day	--	--	--	--	2.80E-06	mg/kg-day	1.10E-03	mg/kg-day	2.55E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	6.49E-06	mg/kg-day	--	--	--	--	9.53E-06	mg/kg-day	1.10E-03	mg/kg-day	8.67E-03
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.14E-06	mg/kg-day	--	--	--	--	3.15E-06	mg/kg-day	1.71E-03	mg/kg-day	1.84E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	9.73E-05	mg/kg-day	--	--	--	--	1.43E-04	mg/kg-day	5.70E-02	mg/kg-day	2.51E-03
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	5.23E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	3.56E-09	7.68E-08	mg/kg-day	1.14E-03	mg/kg-day	6.74E-05	
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	6.68E-07	mg/kg-day	--	--	--	--	9.81E-07	mg/kg-day	1.71E-03	mg/kg-day	5.72E-04
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.98E-06	mg/kg-day	--	--	--	--	4.37E-06	mg/kg-day	3.00E-02	mg/kg-day	1.46E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.86E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	6.29E-07	4.20E-05	mg/kg-day	2.30E-01	mg/kg-day	1.82E-04	
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.35E-06	mg/kg-day	--	--	--	--	1.99E-06	mg/kg-day	5.00E-02	mg/kg-day	3.97E-05
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	1.77E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.03E-11	2.60E-10	mg/kg-day	5.00E-04	mg/kg-day	5.21E-07	
								Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.06E-06	mg/kg-day	--	--	--	--	1.56E-06	mg/kg-day	6.00E-02	mg/kg-day	2.60E-05
								Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.61E-08	mg/kg-day	--	--	--	--	3.84E-08	mg/kg-day	6.00E-02	mg/kg-day	6.40E-07
								Aldrin	5.63E-09	mg/m <sup>3</sup>	1.03E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.75E-09	1.51E-10	mg/kg-day	3.00E-05	mg/kg-day	5.04E-06	
								alpha-BHC	3.64E-09	mg/m <sup>3</sup>	6.65E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	4.19E-10	9.77E-11	mg/kg-day	5.00E-04	mg/kg-day	1.95E-07	
								alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.47E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.16E-11	2.16E-10	mg/kg-day	2.00E-04	mg/kg-day	1.08E-06	
								Anthracene	1.45E-05	mg/m <sup>3</sup>	2.65E-07	mg/kg-day	--	--	--	--	3.89E-07	mg/kg-day	3.00E-01	mg/kg-day	1.30E-06
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	3.24E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.36E-08	4.75E-08	mg/kg-day	--	--	--					
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	8.27E-09	mg/kg-day	--	--	--	--	1.21E-08	mg/kg-day	2.00E-01	mg/kg-day	6.07E-08				
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	9.47E-07	mg/kg-day	--	--	--	--	1.39E-06	mg/kg-day	1.70E-02	mg/kg-day	8.18E-05				
				Chrysene	6.25E-06	mg/m <sup>3</sup>	1.14E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	8.34E-10	1.68E-07	mg/kg-day	--	--	--					
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	7.65E-10	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.42E-09	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.62E-06					
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	8.20E-07	mg/kg-day	--	--	--	--	1.20E-06	mg/kg-day	2.00E-03	mg/kg-day	6.02E-04				
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.36E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.17E-08	1.99E-09	mg/kg-day	5.00E-05	mg/kg-day	3.98E-05					
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.47E-09	mg/kg-day	--	--	--	--	2.16E-09	mg/kg-day	6.00E-03	mg/kg-day	3.61E-07				
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.53E-09	mg/kg-day	--	--	--	--	2.24E-09	mg/kg-day	6.00E-03	mg/kg-day	3.73E-07				
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.75E-09	mg/kg-day	--	--	--	--	4.04E-09	mg/kg-day	6.00E-03	mg/kg-day	6.74E-07				
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	3.13E-07	mg/kg-day	--	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05				
				Fluorene	1.71E-05	mg/m <sup>3</sup>	3.12E-07	mg/kg-day	--	--	--	--	4.58E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05				
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.91E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.79E-10	4.28E-10	mg/kg-day	3.00E-04	mg/kg-day	1.43E-06					
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.37E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	8.30E-11	3.48E-10	mg/kg-day	2.00E-04	mg/kg-day	1.74E-06					
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	6.18E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.81E-08	9.08E-09	mg/kg-day	5.00E-04	mg/kg-day	1.82E-05					
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.58E-09	mg/kg-day	--	--	--	--	2.32E-09	mg/kg-day	5.00E-03	mg/kg-day	4.64E-07				
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.28E-05	mg/kg-day	--	--	--	--	1.88E-05	mg/kg-day	8.57E-04	mg/kg-day	2.19E-02				
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	3.49E-06	mg/kg-day	--	--	--	--	5.13E-06	mg/kg-day	3.00E-01	mg/kg-day	1.71E-05				

TABLE H-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	3.50E-06	mg/kg-day	--	--	--	5.15E-06	mg/kg-day	1.10E-01	mg/kg-day	4.68E-05
				Pyrene	1.85E-05	mg/m <sup>3</sup>	3.38E-07	mg/kg-day	--	--	--	4.06E-07	mg/kg-day	3.00E-02	mg/kg-day	1.65E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	5.13E-07	mg/kg-day	--	--	--	7.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.88E-05
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	9.97E-09	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	3.49E-12	1.46E-08	mg/kg-day	2.00E-04	mg/kg-day	7.32E-05
				Toluene	3.12E-07	mg/m <sup>3</sup>	5.71E-09	mg/kg-day	--	--	--	8.38E-09	mg/kg-day	1.43E+00	mg/kg-day	5.87E-09
				Exposure Route Total								7.11E-07				
		Exposure Point Total														4.01E-02
		Exposure Medium Total														4.01E-02
Medium Total																1.72E+00
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	7.74E-09	mg/kg-day	--	--	--	1.14E-08	mg/kg-day	1.40E-01	mg/kg-day	8.12E-08
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	--	--	--	3.39E-09	mg/kg-day	1.71E-03	mg/kg-day	1.98E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.51E-08	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.70E-02	mg/kg-day	3.90E-07
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.09E-08	mg/kg-day	9.10E-02	(mg/kg-day) <sup>-1</sup>	9.90E-10	1.60E-08	mg/kg-day	1.40E-03	mg/kg-day	1.14E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	4.08E-09	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	2.77E-10	5.99E-09	mg/kg-day	1.14E-03	mg/kg-day	5.25E-06
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.31E-09	mg/kg-day	--	--	--	1.93E-09	mg/kg-day	1.71E-03	mg/kg-day	1.13E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	5.15E-09	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.13E-10	7.56E-09	mg/kg-day	2.30E-01	mg/kg-day	3.29E-08
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.99E-10	mg/kg-day	--	--	--	2.92E-10	mg/kg-day	1.43E+00	mg/kg-day	2.05E-10
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.77E-11	mg/kg-day	--	--	--	2.60E-11	mg/kg-day	5.00E-02	mg/kg-day	5.19E-10
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.37E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	8.04E-12	3.47E-11	mg/kg-day	5.00E-04	mg/kg-day	6.95E-08
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	7.40E-11	mg/kg-day	--	--	--	1.09E-10	mg/kg-day	8.60E-01	mg/kg-day	1.26E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	7.08E-10	mg/kg-day	--	--	--	1.04E-09	mg/kg-day	6.00E-02	mg/kg-day	1.73E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	3.02E-11	mg/kg-day	--	--	--	4.43E-11	mg/kg-day	6.00E-02	mg/kg-day	7.39E-10
				Aldrin	2.24E-09	mg/m <sup>3</sup>	4.09E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	6.95E-10	6.00E-11	mg/kg-day	3.00E-05	mg/kg-day	2.00E-06
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	5.18E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	3.26E-11	7.60E-12	mg/kg-day	5.00E-04	mg/kg-day	1.52E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.22E-11	mg/kg-day	3.50E+01	(mg/kg-day) <sup>-1</sup>	4.29E-12	1.80E-11	mg/kg-day	2.00E-04	mg/kg-day	8.99E-08
				Anthracene	3.29E-09	mg/m <sup>3</sup>	6.01E-11	mg/kg-day	--	--	--	8.82E-11	mg/kg-day	3.00E-01	mg/kg-day	2.94E-10
				Benzene	2.61E-07	mg/m <sup>3</sup>	4.77E-09	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.30E-10	7.01E-09	mg/kg-day	8.60E-03	mg/kg-day	8.15E-07
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	8.89E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	6.49E-12	1.31E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.35E-10	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	5.18E-13	1.98E-10	mg/kg-day	2.00E-02	mg/kg-day	9.88E-09
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	8.24E-08	mg/kg-day	--	--	--	1.21E-07	mg/kg-day	2.00E-01	mg/kg-day	6.05E-07
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.34E-09	mg/kg-day	--	--	--	1.97E-09	mg/kg-day	1.70E-02	mg/kg-day	1.16E-07
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.78E-08	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	3.04E-09	5.55E-08	mg/kg-day	1.40E-02	mg/kg-day	3.96E-06
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.37E-08	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	2.60E-02	mg/kg-day	7.73E-07
				Chrysene	1.32E-09	mg/m <sup>3</sup>	2.41E-11	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	1.76E-13	3.53E-11	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	9.69E-09	mg/kg-day	--	--	--	1.42E-08	mg/kg-day	1.00E-02	mg/kg-day	1.42E-08
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.80E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.87E-10	2.64E-11	mg/kg-day	5.00E-05	mg/kg-day	5.27E-07
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	4.09E-12	mg/kg-day	--	--	--	6.01E-12	mg/kg-day	6.00E-03	mg/kg-day	1.00E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	6.73E-15	mg/kg-day	--	--	--	9.88E-15	mg/kg-day	6.00E-03	mg/kg-day	1.65E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	3.65E-09	mg/kg-day	--	--	--	5.36E-09	mg/kg-day	2.90E-01	mg/kg-day	1.85E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	9.24E-12	mg/kg-day	--	--	--	1.36E-11	mg/kg-day	4.00E-02	mg/kg-day	3.39E-10
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.83E-11	mg/kg-day	--	--	--	2.68E-11	mg/kg-day	4.00E-02	mg/kg-day	6.71E-10
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.27E-14	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	2.95E-14	3.34E-14	mg/kg-day	3.00E-04	mg/kg-day	1.11E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	3.18E-11	mg/kg-day	3.50E+01	(mg/kg-day) <sup>-1</sup>	1.11E-11	4.67E-11	mg/kg-day	2.00E-04	mg/kg-day	2.34E-07
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	3.26E-10	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.49E-09	4.79E-10	mg/kg-day	5.00E-04	mg/kg-day	9.59E-07
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	6.26E-07	mg/kg-day	--	--	--	9.20E-07	mg/kg-day	1.10E-01	mg/kg-day	8.36E-06
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.27E-08	mg/kg-day	--	--	--	1.86E-08	mg/kg-day	2.90E-02	mg/kg-day	6.43E-07
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	5.97E-11	mg/kg-day	--	--	--	8.77E-11	mg/kg-day	5.00E-03	mg/kg-day	1.75E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	9.93E-11	mg/kg-day	--	--	--	1.46E-10	mg/kg-day	8.57E-04	mg/kg-day	1.70E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	4.63E-09	mg/kg-day	--	--	--	6.79E-09	mg/kg-day	8.57E-04	mg/kg-day	7.93E-06
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	5.15E-09	mg/kg-day	--	--	--	7.56E-09	mg/kg-day	4.00E-02	mg/kg-day	1.89E-07
				Phenanthrene	2.82E-09	mg/m <sup>3</sup>	4.79E-11	mg/kg-day	--	--	--	7.03E-11	mg/kg-day	3.00E-01	mg/kg-day	2.34E-10

TABLE H-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	6.26E-07	mg/kg-day	--	--	--	--	9.20E-07	mg/kg-day	1.10E-01	mg/kg-day	8.36E-06				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	8.43E-12	mg/kg-day	--	--	--	--	1.24E-11	mg/kg-day	3.00E-02	mg/kg-day	4.13E-10				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.46E-08	mg/kg-day	--	--	--	--	2.15E-08	mg/kg-day	4.00E-02	mg/kg-day	5.38E-07				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.66E-08	mg/kg-day	--	--	--	--	2.44E-08	mg/kg-day	4.00E-02	mg/kg-day	6.09E-07				
				Toluene	3.80E-07	mg/m <sup>3</sup>	6.95E-09	mg/kg-day	--	--	--	--	1.02E-08	mg/kg-day	1.43E+00	mg/kg-day	7.14E-09				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.64E-08	mg/kg-day	--	--	--	--	2.41E-08	mg/kg-day	2.00E-02	mg/kg-day	1.20E-06				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.70E-08	mg/kg-day	4.00E-01	(mg/kg-day)-1	6.82E-09		2.50E-08	mg/kg-day	1.00E-02	mg/kg-day	2.50E-06				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	3.53E-08	mg/kg-day	3.10E-02	(mg/kg-day)-1	1.09E-09		5.18E-08	mg/kg-day	2.86E-02	mg/kg-day	1.81E-06				
				Exposure Route Total																	6.43E-05
						Exposure Point Total															
		Exposure Medium Total																6.43E-05			
Medium Total																		6.43E-05			
										Total of Receptor Risks Across All Media		3.16E-05		Total of Receptor Hazards Across All Media					1.72E+00		

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RID Reference dose
  - RIC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.14

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	5.24E-07	mg/kg-day	--	--	--	1.47E-06	mg/kg-day	1.00E-02	mg/kg-day	1.47E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.78E-06	mg/kg-day	--	--	--	4.99E-06	mg/kg-day	1.00E-02	mg/kg-day	4.99E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.75E-07	mg/kg-day	--	--	--	4.89E-07	mg/kg-day	5.00E-02	mg/kg-day	9.78E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	9.09E-06	mg/kg-day	--	--	--	2.54E-05	mg/kg-day	9.00E-02	mg/kg-day	2.83E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.26E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.53E-11	3.52E-09	mg/kg-day	1.14E-03	mg/kg-day	3.09E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.59E-08	mg/kg-day	--	--	--	1.57E-07	mg/kg-day	5.00E-02	mg/kg-day	3.13E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	3.84E-07	mg/kg-day	--	--	--	1.08E-06	mg/kg-day	3.00E-02	mg/kg-day	3.59E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	2.38E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.28E-08	6.65E-06	mg/kg-day	3.00E-02	mg/kg-day	2.22E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	7.34E-08	mg/kg-day	--	--	--	2.05E-07	mg/kg-day	2.00E-02	mg/kg-day	1.03E-05
				2-Methylphenol	8.10E-02	mg/kg	2.83E-08	mg/kg-day	--	--	--	7.93E-08	mg/kg-day	4.00E-03	mg/kg-day	1.98E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	5.84E-07	mg/kg-day	--	--	--	1.64E-06	mg/kg-day	5.00E-02	mg/kg-day	3.27E-05
				4,4-DDD	1.20E-03	mg/kg	4.19E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.01E-10	1.17E-09	mg/kg-day	5.00E-04	mg/kg-day	2.35E-06
				4,4'-DDE	8.23E-02	mg/kg	2.88E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.78E-09	8.05E-08	mg/kg-day	5.00E-04	mg/kg-day	1.61E-04
				4,4'-DDT	4.45E-02	mg/kg	1.55E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.29E-09	4.35E-08	mg/kg-day	5.00E-04	mg/kg-day	8.71E-05
				4-Methylphenol	2.70E-01	mg/kg	9.44E-08	mg/kg-day	--	--	--	2.64E-07	mg/kg-day	5.00E-03	mg/kg-day	5.28E-05
				4-Nitroaniline	8.20E-01	mg/kg	2.17E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.55E-09	6.07E-07	mg/kg-day	3.00E-03	mg/kg-day	2.02E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.47E-07	mg/kg-day	--	--	--	4.11E-07	mg/kg-day	5.00E-04	mg/kg-day	8.22E-04
				Acenaphthene	4.23E+00	mg/kg	1.48E-06	mg/kg-day	--	--	--	4.14E-06	mg/kg-day	6.00E-02	mg/kg-day	6.91E-05
				Acenaphthylene	1.04E-01	mg/kg	3.64E-08	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	6.00E-02	mg/kg-day	1.70E-06
				Aldrin	1.30E-02	mg/kg	4.54E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.72E-08	1.27E-08	mg/kg-day	3.00E-05	mg/kg-day	4.24E-04
				alpha-BHC	7.30E-04	mg/kg	2.55E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	6.89E-10	7.14E-10	mg/kg-day	5.00E-04	mg/kg-day	1.43E-06
				alpha-Chlordane	8.14E-03	mg/kg	2.85E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.70E-09	7.97E-09	mg/kg-day	5.00E-04	mg/kg-day	1.59E-05
				Aluminum	8.82E+03	mg/kg	3.08E-03	mg/kg-day	--	--	--	8.63E-03	mg/kg-day	1.00E+00	mg/kg-day	8.63E-03
				Anthracene	1.05E+00	mg/kg	3.69E-07	mg/kg-day	--	--	--	1.03E-06	mg/kg-day	3.00E-01	mg/kg-day	3.44E-06
				Antimony	4.08E+00	mg/kg	1.43E-06	mg/kg-day	--	--	--	3.98E-06	mg/kg-day	4.00E-04	mg/kg-day	9.98E-03
				Aroclor-1248	1.20E+00	mg/kg	4.19E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.39E-07	1.17E-06	mg/kg-day	2.00E-05	mg/kg-day	5.87E-02
				Aroclor-1254	4.44E-01	mg/kg	1.55E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.10E-07	4.35E-07	mg/kg-day	2.00E-05	mg/kg-day	2.17E-02
				Aroclor-1260	5.41E-01	mg/kg	1.89E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.78E-07	5.30E-07	mg/kg-day	2.00E-05	mg/kg-day	2.65E-02
				Aroclor-1268	2.78E-02	mg/kg	9.70E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.94E-08	2.72E-08	mg/kg-day	2.00E-05	mg/kg-day	1.36E-03
				Arsenic	6.17E+00	mg/kg	2.15E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	2.04E-05	6.03E-06	mg/kg-day	3.00E-04	mg/kg-day	2.01E-02
				Barium	6.78E+01	mg/kg	2.37E-05	mg/kg-day	--	--	--	6.64E-05	mg/kg-day	7.00E-02	mg/kg-day	9.48E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	1.75E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.10E-06	4.90E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	5.82E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	6.98E-06	1.63E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	9.57E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.15E-06	2.68E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.67E-07	mg/kg-day	--	--	--	7.47E-07	mg/kg-day	3.00E-02	mg/kg-day	2.49E-05
				Benzo(k)fluoranthene	3.28E+00	mg/kg	1.14E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.37E-06	3.19E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	8.32E-08	mg/kg-day	--	--	--	2.33E-07	mg/kg-day	2.00E-03	mg/kg-day	1.17E-04
				Beta-BHC	2.20E-03	mg/kg	7.69E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.15E-09	2.15E-09	mg/kg-day	2.00E-04	mg/kg-day	1.08E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.74E-06	mg/kg-day	3.00E+03	(mg/kg-day)-1	8.21E-09	7.66E-06	mg/kg-day	2.00E-02	mg/kg-day	3.83E-04
				Cadmium	9.47E+00	mg/kg	3.31E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.26E-06	9.27E-06	mg/kg-day	5.00E-04	mg/kg-day	1.85E-02
				Carbon disulfide	2.40E-04	mg/kg	8.39E-11	mg/kg-day	--	--	--	2.35E-10	mg/kg-day	1.00E-01	mg/kg-day	2.35E-09
				Chlorobenzene	1.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	1.08E-07	mg/kg-day	2.00E-02	mg/kg-day	5.38E-06
				Chromium	1.11E+02	mg/kg	3.89E-05	mg/kg-day	--	--	--	1.09E-04	mg/kg-day	1.50E+00	mg/kg-day	7.25E-05
				Chrysene	5.68E+00	mg/kg	1.99E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.38E-07	5.56E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.85E-06	mg/kg-day	--	--	--	7.41E-06	mg/kg-day	2.00E-02	mg/kg-day	3.71E-04
				Copper	5.71E+01	mg/kg	1.99E-05	mg/kg-day	--	--	--	5.58E-05	mg/kg-day	4.00E-02	mg/kg-day	1.40E-03
				Delta-BHC	8.40E-03	mg/kg	2.94E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.40E-09	8.22E-09	mg/kg-day	2.00E-04	mg/kg-day	4.11E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.11E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.55E-07	3.11E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.54E-06	mg/kg-day	--	--	--	1.27E-05	mg/kg-day	2.00E-03	mg/kg-day	6.36E-03
				Dieldrin	5.51E-02	mg/kg	1.93E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.08E-07	5.40E-08	mg/kg-day	5.00E-05	mg/kg-day	1.08E-03
				Dimethylphthalate	3.80E-02	mg/kg	1.33E-08	mg/kg-day	--	--	--	3.72E-08	mg/kg-day	8.00E-01	mg/kg-day	4.65E-08

TABLE H-7.14

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	7.69E-07	mg/kg-day	--	--	--	2.15E-08	mg/kg-day	2.00E-01	mg/kg-day	1.08E-05				
				Endosulfan I	2.30E-02	mg/kg	8.04E-09	mg/kg-day	--	--	--	2.25E-08	mg/kg-day	6.00E-03	mg/kg-day	3.75E-06				
				Endosulfan II	2.38E-02	mg/kg	8.32E-09	mg/kg-day	--	--	--	2.33E-08	mg/kg-day	6.00E-03	mg/kg-day	3.88E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	1.50E-08	mg/kg-day	--	--	--	4.21E-08	mg/kg-day	6.00E-03	mg/kg-day	7.01E-06				
				Endrin aldehyde	4.21E-02	mg/kg	1.47E-08	mg/kg-day	--	--	--	4.12E-08	mg/kg-day	3.00E-04	mg/kg-day	1.37E-04				
				Endrin Ketone	1.00E-02	mg/kg	3.49E-09	mg/kg-day	--	--	--	9.78E-09	mg/kg-day	3.00E-04	mg/kg-day	3.26E-05				
				Fluoranthene	2.65E+01	mg/kg	9.26E-06	mg/kg-day	--	--	--	2.59E-05	mg/kg-day	4.00E-02	mg/kg-day	6.48E-04				
				Fluorene	2.92E+00	mg/kg	1.02E-06	mg/kg-day	--	--	--	2.85E-06	mg/kg-day	4.00E-02	mg/kg-day	7.13E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	9.09E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	9.99E-10	2.54E-09	mg/kg-day	3.00E-04	mg/kg-day	8.48E-06				
				gamma-Chlordane	1.31E-02	mg/kg	4.58E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.95E-09	1.28E-08	mg/kg-day	5.00E-04	mg/kg-day	2.56E-05				
				Heptachlor	6.90E-03	mg/kg	2.41E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	9.89E-09	6.75E-09	mg/kg-day	5.00E-04	mg/kg-day	1.35E-05				
				Heptachlor Epoxide	1.12E-02	mg/kg	3.90E-09	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.14E-08	1.09E-08	mg/kg-day	1.30E-05	mg/kg-day	8.40E-04				
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	3.05E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.66E-07	8.54E-07	mg/kg-day	--	--	--				
				Iron	4.07E+04	mg/kg	1.42E-02	mg/kg-day	--	--	--	3.99E-02	mg/kg-day	3.00E-01	mg/kg-day	1.33E-01				
				Isophorone	2.00E-01	mg/kg	6.99E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.64E-11	1.96E-07	mg/kg-day	2.00E-01	mg/kg-day	9.78E-07				
				Lead	2.90E+03	mg/kg	1.01E-03	mg/kg-day	--	--	--	2.84E-03	mg/kg-day	--	--	--				
				Manganese	3.31E+02	mg/kg	1.16E-04	mg/kg-day	--	--	--	3.24E-04	mg/kg-day	2.40E-02	mg/kg-day	1.35E-02				
				Mercury	3.10E-01	mg/kg	1.08E-07	mg/kg-day	--	--	--	3.03E-07	mg/kg-day	3.00E-04	mg/kg-day	1.01E-03				
				Methoxychlor	1.20E-01	mg/kg	4.19E-08	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	5.00E-03	mg/kg-day	2.35E-05				
				Molybdenum	2.50E+00	mg/kg	8.75E-07	mg/kg-day	--	--	--	2.45E-06	mg/kg-day	5.00E-03	mg/kg-day	4.90E-04				
				Naphthalene	1.30E+01	mg/kg	4.54E-06	mg/kg-day	--	--	--	1.27E-05	mg/kg-day	2.00E-02	mg/kg-day	6.36E-04				
				Nickel	3.91E+01	mg/kg	1.37E-05	mg/kg-day	--	--	--	3.83E-05	mg/kg-day	2.00E-02	mg/kg-day	1.91E-03				
				Phenanthrene	1.39E+01	mg/kg	4.86E-06	mg/kg-day	--	--	--	1.36E-05	mg/kg-day	3.00E-01	mg/kg-day	4.54E-05				
				Phenol	5.80E-01	mg/kg	2.03E-07	mg/kg-day	--	--	--	5.68E-07	mg/kg-day	3.00E-01	mg/kg-day	1.89E-06				
				p-Isopropyltoluene	1.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	1.08E-07	mg/kg-day	1.00E-01	mg/kg-day	1.08E-06				
				Pyrene	2.41E+01	mg/kg	8.44E-06	mg/kg-day	--	--	--	2.36E-05	mg/kg-day	3.00E-02	mg/kg-day	7.88E-04				
				sec-Butylbenzene	7.10E-02	mg/kg	2.48E-08	mg/kg-day	--	--	--	6.85E-08	mg/kg-day	4.00E-02	mg/kg-day	1.74E-06				
				Selenium	2.24E-01	mg/kg	7.84E-08	mg/kg-day	--	--	--	2.20E-07	mg/kg-day	5.00E-03	mg/kg-day	4.39E-05				
				Silver	1.16E+00	mg/kg	4.05E-07	mg/kg-day	--	--	--	1.13E-06	mg/kg-day	5.00E-03	mg/kg-day	2.27E-04				
				Technical Chlordane	5.51E-01	mg/kg	1.93E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.50E-07	5.39E-07	mg/kg-day	5.00E-04	mg/kg-day	1.08E-03				
				Thallium	4.97E-01	mg/kg	1.74E-07	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	8.00E-05	mg/kg-day	6.08E-03				
				Toluene	4.30E-04	mg/kg	1.50E-10	mg/kg-day	--	--	--	4.21E-10	mg/kg-day	8.00E-02	mg/kg-day	5.26E-09				
				Vanadium	3.41E+01	mg/kg	1.19E-05	mg/kg-day	--	--	--	3.34E-05	mg/kg-day	1.00E-03	mg/kg-day	3.34E-02				
				Zinc	4.53E+02	mg/kg	1.58E-04	mg/kg-day	--	--	--	4.44E-04	mg/kg-day	3.00E-01	mg/kg-day	1.48E-03				
				<b>Exposure Route Total</b>											<b>3.65E-05</b>			<b>3.75E-01</b>		
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1.50E+00	mg/kg	5.98E-07	mg/kg-day	--	--	--	1.67E-08	mg/kg-day	1.00E-02	mg/kg-day	1.67E-04
									5.10E+00	mg/kg	2.03E-07	mg/kg-day	--	--	--	5.69E-07	mg/kg-day	1.00E-02	mg/kg-day	5.69E-05
									5.00E-01	mg/kg	1.99E-08	mg/kg-day	--	--	--	5.58E-08	mg/kg-day	5.00E-02	mg/kg-day	1.12E-06
									2.60E+01	mg/kg	1.04E-06	mg/kg-day	--	--	--	2.90E-06	mg/kg-day	9.00E-02	mg/kg-day	3.22E-05
									3.60E-03	mg/kg	1.43E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.16E-12	4.02E-10	mg/kg-day	1.14E-03	mg/kg-day	3.52E-07
									1.60E-01	mg/kg	6.37E-09	mg/kg-day	--	--	--	1.78E-08	mg/kg-day	5.00E-02	mg/kg-day	3.57E-07
									1.10E+00	mg/kg	4.38E-08	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	3.00E-02	mg/kg-day	4.09E-06
6.80E+00	mg/kg	--	mg/kg-day						5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2.10E-01	mg/kg	8.37E-09	mg/kg-day						--	--	--	2.34E-08	mg/kg-day	2.00E-02	mg/kg-day	1.17E-06				
8.10E-02	mg/kg	3.23E-08	mg/kg-day						--	--	--	9.04E-08	mg/kg-day	4.00E-03	mg/kg-day	2.26E-05				
1.67E+00	mg/kg	6.66E-08	mg/kg-day						--	--	--	1.86E-07	mg/kg-day	5.00E-02	mg/kg-day	3.73E-06				
1.20E-03	mg/kg	4.78E-11	mg/kg-day						2.40E-01	(mg/kg-day)-1	1.15E-11	1.34E-10	mg/kg-day	5.00E-04	mg/kg-day	2.68E-07				
8.23E-02	mg/kg	3.28E-09	mg/kg-day						3.40E-01	(mg/kg-day)-1	1.11E-09	9.18E-09	mg/kg-day	5.00E-04	mg/kg-day	1.84E-05				
4.45E-02	mg/kg	5.32E-09	mg/kg-day						3.40E-01	(mg/kg-day)-1	1.81E-09	1.49E-08	mg/kg-day	5.00E-04	mg/kg-day	2.98E-05				
2.70E-01	mg/kg	1.08E-07	mg/kg-day						--	--	--	3.01E-07	mg/kg-day	5.00E-03	mg/kg-day	6.02E-05				
8.20E-01	mg/kg	2.47E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	5.19E-09	6.92E-07	mg/kg-day	3.00E-03	mg/kg-day	2.31E-04									

TABLE H-7.14

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.67E-07	mg/kg-day	--	--	--	4.68E-07	mg/kg-day	5.00E-04	mg/kg-day	9.37E-04
				Acenaphthene	4.23E+00	mg/kg	2.19E-06	mg/kg-day	--	--	--	6.14E-06	mg/kg-day	6.00E-02	mg/kg-day	1.02E-04
				Acenaphthylene	1.04E-01	mg/kg	4.15E-09	mg/kg-day	--	--	--	1.16E-08	mg/kg-day	6.00E-02	mg/kg-day	1.94E-07
				Aldrin	1.30E-02	mg/kg	5.18E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.80E-08	1.45E-08	mg/kg-day	3.00E-05	mg/kg-day	4.83E-04
				alpha-BHC	7.30E-04	mg/kg	2.91E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	7.85E-11	8.14E-11	mg/kg-day	5.00E-04	mg/kg-day	1.63E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	3.51E-05	mg/kg-day	--	--	--	9.84E-05	mg/kg-day	1.00E+00	mg/kg-day	9.84E-05
				Anthracene	1.05E+00	mg/kg	5.46E-07	mg/kg-day	--	--	--	1.53E-06	mg/kg-day	3.00E-01	mg/kg-day	5.10E-06
				Antimony	4.08E+00	mg/kg	1.62E-08	mg/kg-day	--	--	--	4.55E-08	mg/kg-day	4.00E-04	mg/kg-day	1.14E-04
				Aroclor-1248	1.20E+00	mg/kg	6.69E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.34E-06	1.87E-06	mg/kg-day	2.00E-05	mg/kg-day	9.37E-02
				Aroclor-1254	4.44E-01	mg/kg	2.48E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.95E-07	6.94E-07	mg/kg-day	2.00E-05	mg/kg-day	3.47E-02
				Aroclor-1260	5.41E-01	mg/kg	3.02E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.04E-07	8.45E-07	mg/kg-day	2.00E-05	mg/kg-day	4.23E-02
				Aroclor-1268	2.78E-02	mg/kg	1.55E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.10E-08	4.33E-08	mg/kg-day	2.00E-05	mg/kg-day	2.17E-03
				Arsenic	6.17E+00	mg/kg	7.37E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	6.96E-06	2.06E-06	mg/kg-day	3.00E-04	mg/kg-day	6.88E-03
				Barium	6.78E+01	mg/kg	2.70E-07	mg/kg-day	--	--	--	7.57E-07	mg/kg-day	7.00E-02	mg/kg-day	1.08E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	2.59E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.11E-06	7.26E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	8.62E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.03E-05	2.41E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.42E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.70E-06	3.97E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.95E-07	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	3.00E-02	mg/kg-day	3.69E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.69E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.03E-06	4.73E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	9.49E-10	mg/kg-day	--	--	--	2.66E-09	mg/kg-day	2.00E-03	mg/kg-day	1.33E-06
				Beta-BHC	2.20E-03	mg/kg	8.76E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.31E-10	2.45E-10	mg/kg-day	2.00E-04	mg/kg-day	1.23E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.12E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	9.36E-10	8.74E-07	mg/kg-day	2.00E-02	mg/kg-day	4.37E-05
				Cadmium	9.47E+00	mg/kg	3.77E-08	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.43E-08	1.06E-07	mg/kg-day	5.00E-04	mg/kg-day	2.11E-04
				Carbon disulfide	2.40E-04	mg/kg	2.39E-10	mg/kg-day	--	--	--	6.69E-10	mg/kg-day	1.00E-01	mg/kg-day	6.69E-09
				Chlorobenzene	1.10E-01	mg/kg	4.38E-09	mg/kg-day	--	--	--	1.23E-08	mg/kg-day	2.00E-02	mg/kg-day	6.14E-07
				Chromium	1.11E+02	mg/kg	4.43E-07	mg/kg-day	--	--	--	1.24E-06	mg/kg-day	1.50E+00	mg/kg-day	8.27E-07
				Chrysene	5.68E+00	mg/kg	2.94E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.53E-07	8.24E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.02E-08	mg/kg-day	--	--	--	8.45E-08	mg/kg-day	2.00E-02	mg/kg-day	4.22E-06
				Copper	5.71E+01	mg/kg	2.27E-07	mg/kg-day	--	--	--	6.36E-07	mg/kg-day	4.00E-02	mg/kg-day	1.59E-05
				Delta-BHC	8.40E-03	mg/kg	1.67E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.51E-09	4.68E-09	mg/kg-day	2.00E-04	mg/kg-day	2.34E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.64E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.74E-07	4.60E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	5.18E-07	mg/kg-day	--	--	--	1.45E-06	mg/kg-day	2.00E-03	mg/kg-day	7.25E-04
				Dieldrin	5.51E-02	mg/kg	2.20E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.51E-08	6.15E-09	mg/kg-day	5.00E-05	mg/kg-day	1.23E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.51E-09	mg/kg-day	--	--	--	4.24E-09	mg/kg-day	8.00E-01	mg/kg-day	5.30E-09
				di-n-Butylphthalate	2.20E+00	mg/kg	8.76E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	2.00E-01	mg/kg-day	1.23E-06
				Endosulfan I	2.30E-02	mg/kg	4.58E-09	mg/kg-day	--	--	--	1.28E-08	mg/kg-day	6.00E-03	mg/kg-day	2.14E-06
				Endosulfan II	2.38E-02	mg/kg	4.74E-09	mg/kg-day	--	--	--	1.33E-08	mg/kg-day	6.00E-03	mg/kg-day	2.21E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	8.57E-09	mg/kg-day	--	--	--	2.40E-08	mg/kg-day	6.00E-03	mg/kg-day	4.00E-06
				Endrin aldehyde	4.21E-02	mg/kg	8.38E-09	mg/kg-day	--	--	--	2.35E-08	mg/kg-day	3.00E-04	mg/kg-day	7.82E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.37E-05	mg/kg-day	--	--	--	3.84E-05	mg/kg-day	4.00E-02	mg/kg-day	9.61E-04
				Fluorene	2.92E+00	mg/kg	1.51E-06	mg/kg-day	--	--	--	4.23E-06	mg/kg-day	4.00E-02	mg/kg-day	1.06E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.14E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.56E-10	1.16E-09	mg/kg-day	3.00E-04	mg/kg-day	3.87E-06
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
Heptachlor	6.90E-03	mg/kg	2.75E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.13E-09	7.70E-10	mg/kg-day	5.00E-04	mg/kg-day	1.54E-06				
Heptachlor Epoxide	1.12E-02	mg/kg	4.44E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.44E-09	1.24E-09	mg/kg-day	1.30E-05	mg/kg-day	9.57E-05				
Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.52E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.43E-07	1.27E-06	mg/kg-day	--	--	--				
Iron	4.07E+04	mg/kg	1.62E-04	mg/kg-day	--	--	--	4.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.51E-03				
Isophorone	2.00E-01	mg/kg	7.97E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	7.57E-11	2.23E-07	mg/kg-day	2.00E-01	mg/kg-day	1.12E-06				
Lead	2.90E+03	mg/kg	1.16E-05	mg/kg-day	--	--	--	3.24E-05	mg/kg-day	--	--	--				

TABLE H-7.14

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	1.32E-06	mg/kg-day	--	--	--	3.69E-06	mg/kg-day	2.40E-02	mg/kg-day	1.54E-04			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--			
				Methoxychlor	1.20E-01	mg/kg	4.78E-09	mg/kg-day	--	--	--	1.34E-08	mg/kg-day	5.00E-03	mg/kg-day	2.68E-06			
				Molybdenum	2.50E+00	mg/kg	9.98E-09	mg/kg-day	--	--	--	2.79E-08	mg/kg-day	5.00E-03	mg/kg-day	5.59E-06			
				Napthalene	1.30E+01	mg/kg	6.73E-06	mg/kg-day	--	--	--	1.89E-05	mg/kg-day	2.00E-02	mg/kg-day	9.43E-04			
				Nickel	3.91E+01	mg/kg	1.56E-07	mg/kg-day	--	--	--	4.36E-07	mg/kg-day	2.00E-02	mg/kg-day	2.18E-05			
				Phenanthrene	1.39E+01	mg/kg	5.55E-07	mg/kg-day	--	--	--	1.55E-06	mg/kg-day	3.00E-01	mg/kg-day	5.18E-06			
				Phenol	5.80E-01	mg/kg	2.31E-07	mg/kg-day	--	--	--	6.47E-07	mg/kg-day	3.00E-01	mg/kg-day	2.16E-06			
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	1.00E-01	mg/kg-day	--				
				Pyrene	2.41E+01	mg/kg	1.26E-05	mg/kg-day	--	--	--	3.50E-05	mg/kg-day	3.00E-02	mg/kg-day	1.17E-03			
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	4.00E-02	mg/kg-day	--				
				Selenium	2.24E-01	mg/kg	8.94E-10	mg/kg-day	--	--	--	2.50E-09	mg/kg-day	5.00E-03	mg/kg-day	5.01E-07			
				Silver	1.16E+00	mg/kg	4.62E-09	mg/kg-day	--	--	--	1.29E-08	mg/kg-day	5.00E-03	mg/kg-day	2.59E-06			
				Technical Chlordane	5.51E-01	mg/kg	8.78E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.14E-07	2.46E-07	mg/kg-day	5.00E-04	mg/kg-day	4.92E-04			
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	8.00E-05	mg/kg-day	--				
				Toluene	4.30E-04	mg/kg	1.71E-11	mg/kg-day	--	--	--	4.80E-11	mg/kg-day	8.00E-02	mg/kg-day	6.00E-10			
				Vanadium	3.41E+01	mg/kg	1.36E-07	mg/kg-day	--	--	--	3.81E-07	mg/kg-day	1.00E-03	mg/kg-day	3.81E-04			
				Zinc	4.53E+02	mg/kg	1.81E-06	mg/kg-day	--	--	--	5.08E-06	mg/kg-day	3.00E-01	mg/kg-day	1.69E-05			
				Exposure Point Total										2.85E-05					1.89E-01
				Exposure Medium Total										6.50E-05					5.64E-01
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	7.78E-12	mg/kg-day	--	--	--	2.18E-11	mg/kg-day	2.00E-02	mg/kg-day	1.09E-09				
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.00E-12	mg/kg-day	--	--	--	8.41E-12	mg/kg-day	--	--	--				
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	4.45E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.07E-14	1.25E-13	mg/kg-day	5.00E-04	mg/kg-day	2.49E-10				
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	1.65E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.61E-13	4.62E-12	mg/kg-day	5.00E-04	mg/kg-day	9.23E-09				
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.00E-11	mg/kg-day	--	--	--	2.80E-11	mg/kg-day	5.00E-03	mg/kg-day	5.60E-09				
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.30E-11	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.83E-13	6.43E-11	mg/kg-day	1.00E-03	mg/kg-day	6.43E-08				
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.56E-11	mg/kg-day	--	--	--	4.35E-11	mg/kg-day	5.70E-04	mg/kg-day	7.65E-08				
			Aluminum	6.68E-06	mg/m <sup>3</sup>	3.27E-07	mg/kg-day	--	--	--	9.16E-07	mg/kg-day	1.43E-03	mg/kg-day	6.40E-04				
			Antimony	3.09E-09	mg/m <sup>3</sup>	1.51E-10	mg/kg-day	--	--	--	4.23E-10	mg/kg-day	--	--	--				
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	4.45E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.90E-11	1.25E-10	mg/kg-day	2.00E-05	mg/kg-day	6.23E-06				
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	1.65E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.29E-11	4.61E-11	mg/kg-day	2.00E-05	mg/kg-day	2.30E-06				
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	2.01E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.01E-11	5.62E-11	mg/kg-day	2.00E-05	mg/kg-day	2.81E-06				
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	1.03E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.06E-12	2.88E-12	mg/kg-day	2.00E-05	mg/kg-day	1.44E-07				
			Arsenic	4.67E-09	mg/m <sup>3</sup>	2.29E-10	mg/kg-day	1.20E+01	(mg/kg-day)-1	2.74E-09	6.40E-10	mg/kg-day	8.60E-06	mg/kg-day	7.44E-05				
			Barium	5.14E-08	mg/m <sup>3</sup>	2.51E-09	mg/kg-day	--	--	--	7.04E-09	mg/kg-day	1.40E-04	mg/kg-day	5.03E-05				
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	1.85E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	7.23E-11	5.19E-10	mg/kg-day	--	--	--				
			Benzo(a)pyrene	1.28E-09	mg/m <sup>3</sup>	6.17E-11	mg/kg-day	3.90E+00	(mg/kg-day)-1	2.41E-10	1.73E-10	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	2.83E-11	mg/kg-day	--	--	--	7.92E-11	mg/kg-day	3.00E-02	mg/kg-day	2.64E-09				
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	1.21E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	4.71E-11	3.38E-10	mg/kg-day	--	--	--				
			Beryllium	1.80E-10	mg/m <sup>3</sup>	8.83E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	7.41E-11	2.47E-11	mg/kg-day	5.71E-06	mg/kg-day	4.32E-06				
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	8.15E-14	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.22E-13	2.28E-13	mg/kg-day	2.00E-04	mg/kg-day	1.14E-09				
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	2.90E-10	mg/kg-day	8.40E-03	(mg/kg-day)-1	2.44E-12	8.13E-10	mg/kg-day	2.00E-02	mg/kg-day	4.06E-08				
			Cadmium	7.18E-09	mg/m <sup>3</sup>	3.51E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	5.27E-09	9.83E-10	mg/kg-day	5.71E-06	mg/kg-day	1.72E-04				
			Chromium	8.42E-08	mg/m <sup>3</sup>	4.12E-09	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	--	--	--				
			Cobalt	5.74E-09	mg/m <sup>3</sup>	2.81E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	2.75E-09	7.86E-10	mg/kg-day	5.71E-06	mg/kg-day	1.38E-04				
			Copper	4.32E-08	mg/m <sup>3</sup>	2.11E-09	mg/kg-day	--	--	--	5.92E-09	mg/kg-day	--	--	--				
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	1.18E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.82E-11	3.29E-11	mg/kg-day	--	--	--				
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.41E-12	mg/kg-day	--	--	--	3.94E-12	mg/kg-day	8.00E-01	mg/kg-day	4.93E-12				
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	8.15E-11	mg/kg-day	--	--	--	2.28E-10	mg/kg-day	1.00E-01	mg/kg-day	2.28E-09				
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	1.56E-12	mg/kg-day	--	--	--	4.37E-12	mg/kg-day	3.00E-04	mg/kg-day	1.46E-08				

TABLE H-7.14

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	3.71E-13	mg/kg-day	--	--	--	1.04E-12	mg/kg-day	3.00E-04	mg/kg-day	3.46E-09				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	4.13E-13	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.27E-12	1.16E-12	mg/kg-day	1.30E-05	mg/kg-day	8.90E-08				
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	3.24E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.26E-11	9.06E-11	mg/kg-day	--	--	--				
				Iron	3.09E-05	mg/m <sup>3</sup>	1.51E-06	mg/kg-day	--	--	--	4.23E-06	mg/kg-day	--	--	--				
				Isophorone	1.52E-10	mg/m <sup>3</sup>	7.41E-12	mg/kg-day	--	--	--	2.08E-11	mg/kg-day	--	--	--				
				Lead	2.20E-06	mg/m <sup>3</sup>	1.08E-07	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	--	--	--				
				Manganese	2.51E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	--	--	--	3.44E-08	mg/kg-day	1.43E-05	mg/kg-day	2.40E-03				
				Mercury	2.34E-10	mg/m <sup>3</sup>	1.15E-11	mg/kg-day	--	--	--	3.21E-11	mg/kg-day	8.60E-05	mg/kg-day	3.74E-07				
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	9.28E-11	mg/kg-day	--	--	--	2.60E-10	mg/kg-day	--	--	--				
				Nickel	2.96E-08	mg/m <sup>3</sup>	1.45E-09	mg/kg-day	9.10E-01	(mg/kg-day)-1	1.32E-09	4.06E-09	mg/kg-day	1.40E-05	mg/kg-day	2.90E-04				
				Phenol	4.39E-10	mg/m <sup>3</sup>	2.15E-11	mg/kg-day	--	--	--	6.02E-11	mg/kg-day	5.71E-02	mg/kg-day	1.05E-09				
				Selenium	1.70E-10	mg/m <sup>3</sup>	8.32E-12	mg/kg-day	--	--	--	2.33E-11	mg/kg-day	5.70E-03	mg/kg-day	4.09E-09				
				Silver	8.78E-10	mg/m <sup>3</sup>	4.30E-11	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	--	--	--				
				Thallium	3.77E-10	mg/m <sup>3</sup>	1.84E-11	mg/kg-day	--	--	--	5.16E-11	mg/kg-day	--	--	--				
				Vanadium	2.59E-08	mg/m <sup>3</sup>	1.27E-09	mg/kg-day	--	--	--	3.54E-09	mg/kg-day	--	--	--				
				Zinc	3.44E-07	mg/m <sup>3</sup>	1.68E-08	mg/kg-day	--	--	--	4.71E-08	mg/kg-day	--	--	--				
				<b>Exposure Route Total</b>											<b>1.27E-08</b>				<b>3.79E-03</b>	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.11E-06	mg/kg-day	--	--	--	1.43E-05	mg/kg-day	1.10E-03	mg/kg-day	1.30E-02
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.74E-05	mg/kg-day	--	--	--	4.86E-05	mg/kg-day	1.10E-03	mg/kg-day	4.42E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	5.73E-06	mg/kg-day	--	--	--	1.61E-05	mg/kg-day	1.70E-03	mg/kg-day	9.44E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.60E-04	mg/kg-day	--	--	--	7.29E-04	mg/kg-day	5.70E-02	mg/kg-day	1.28E-02
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.40E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.04E-09	3.92E-07	mg/kg-day	1.14E-03	mg/kg-day	3.44E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.79E-06	mg/kg-day	--	--	--	5.01E-06	mg/kg-day	1.70E-03	mg/kg-day	2.94E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	7.97E-06	mg/kg-day	--	--	--	2.23E-05	mg/kg-day	3.00E-02	mg/kg-day	7.44E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	7.64E-05	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.06E-06	2.14E-04	mg/kg-day	2.30E-01	mg/kg-day	9.31E-04
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	3.62E-06	mg/kg-day	--	--	--	1.01E-05	mg/kg-day	5.00E-02	mg/kg-day	2.03E-04
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	4.74E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.61E-10	1.33E-09	mg/kg-day	5.00E-04	mg/kg-day	2.66E-06
Acenaphthene	5.81E-05	mg/m <sup>3</sup>	2.84E-06					mg/kg-day	--	--	--	7.96E-06	mg/kg-day	6.00E-02	mg/kg-day	1.33E-04				
Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	7.00E-08					mg/kg-day	--	--	--	1.96E-07	mg/kg-day	6.00E-02	mg/kg-day	3.27E-06				
Aldrin	5.63E-09	mg/m <sup>3</sup>	2.76E-10					mg/kg-day	1.70E+01	(mg/kg-day)-1	4.68E-09	7.72E-10	mg/kg-day	3.00E-05	mg/kg-day	2.57E-05				
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.78E-10					mg/kg-day	2.70E+00	(mg/kg-day)-1	4.81E-10	4.98E-10	mg/kg-day	5.00E-04	mg/kg-day	9.97E-07				
alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	3.94E-10					mg/kg-day	1.20E+00	(mg/kg-day)-1	4.73E-10	1.10E-09	mg/kg-day	2.00E-04	mg/kg-day	5.52E-06				
Anthracene	1.45E-05	mg/m <sup>3</sup>	7.09E-07					mg/kg-day	--	--	--	1.98E-06	mg/kg-day	3.00E-01	mg/kg-day	6.81E-06				
Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	8.66E-08					mg/kg-day	3.90E-01	(mg/kg-day)-1	3.38E-08	2.43E-07	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.21E-08					mg/kg-day	--	--	--	6.20E-08	mg/kg-day	2.00E-01	mg/kg-day	3.10E-07				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.53E-06					mg/kg-day	--	--	--	7.09E-06	mg/kg-day	2.86E-01	mg/kg-day	2.48E-05				
Chrysene	6.25E-06	mg/m <sup>3</sup>	3.06E-07					mg/kg-day	3.90E-02	(mg/kg-day)-1	1.19E-08	8.56E-07	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.05E-09					mg/kg-day	1.50E+00	(mg/kg-day)-1	3.07E-09	5.73E-09	mg/kg-day	2.00E-04	mg/kg-day	2.87E-05				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.19E-06					mg/kg-day	--	--	--	6.15E-06	mg/kg-day	2.00E-03	mg/kg-day	3.07E-03				
Dieldrin	7.42E-08	mg/m <sup>3</sup>	3.63E-09					mg/kg-day	1.60E+01	(mg/kg-day)-1	5.81E-08	1.02E-08	mg/kg-day	5.00E-05	mg/kg-day	2.03E-04				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	3.94E-09					mg/kg-day	--	--	--	1.10E-08	mg/kg-day	6.00E-03	mg/kg-day	1.84E-06				
Endosulfan II	8.34E-08	mg/m <sup>3</sup>	4.08E-09					mg/kg-day	--	--	--	1.14E-08	mg/kg-day	6.00E-03	mg/kg-day	1.90E-06				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	7.37E-09					mg/kg-day	--	--	--	2.06E-08	mg/kg-day	6.00E-03	mg/kg-day	3.44E-06				
Fluoranthene	1.71E-05	mg/m <sup>3</sup>	8.39E-07					mg/kg-day	--	--	--	2.35E-06	mg/kg-day	4.00E-02	mg/kg-day	5.87E-05				
Fluorene	1.71E-05	mg/m <sup>3</sup>	8.35E-07	mg/kg-day	--	--	--	2.34E-06	mg/kg-day	4.00E-02	mg/kg-day	5.85E-05								
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	7.80E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	8.58E-10	2.18E-09	mg/kg-day	3.00E-04	mg/kg-day	7.28E-06								
gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	6.35E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.61E-10	1.78E-09	mg/kg-day	2.00E-04	mg/kg-day	8.88E-06								
Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.65E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.78E-08	4.63E-08	mg/kg-day	5.00E-04	mg/kg-day	9.26E-05								
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.22E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	5.00E-03	mg/kg-day	2.37E-06								
Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.42E-05	mg/kg-day	1.20E-01	(mg/kg-day)-1	4.11E-06	9.58E-05	mg/kg-day	8.57E-04	mg/kg-day	1.12E-01								
Phenanthrene	1.91E-04	mg/m <sup>3</sup>	9.35E-06	mg/kg-day	--	--	--	2.62E-05	mg/kg-day	3.00E-01	mg/kg-day	8.73E-05								

TABLE H-7.14

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	9.38E-06	mg/kg-day	--	--	--	2.63E-05	mg/kg-day	1.10E-01	mg/kg-day	2.39E-04
				Pyrene	1.85E-05	mg/m <sup>3</sup>	9.04E-07	mg/kg-day	--	--	--	2.53E-06	mg/kg-day	3.00E-02	mg/kg-day	8.43E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.37E-06	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	4.00E-02	mg/kg-day	9.62E-05
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	2.67E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.20E-08	7.47E-08	mg/kg-day	2.00E-04	mg/kg-day	3.74E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.53E-08	mg/kg-day	--	--	--	4.28E-08	mg/kg-day	1.43E+00	mg/kg-day	2.99E-08
				<b>Exposure Route Total</b>												<b>2.01E-01</b>
				<b>Exposure Point Total</b>												<b>2.05E-01</b>
		Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	3.99E+00	(a) ug/m <sup>3</sup>	1.95E-04	mg/kg-day	--	--	--	5.46E-04	mg/kg-day	1.10E-03	mg/kg-day	4.97E-01
				1,2,4-Trichlorobenzene	1.36E+01	(a) ug/m <sup>3</sup>	6.63E-04	mg/kg-day	--	--	--	1.86E-03	mg/kg-day	1.10E-03	mg/kg-day	1.69E+00
				1,2,4-Trimethylbenzene	1.33E+00	(a) ug/m <sup>3</sup>	6.50E-05	mg/kg-day	--	--	--	1.82E-04	mg/kg-day	1.70E-03	mg/kg-day	1.07E-01
				1,2-Dichlorobenzene	6.91E+01	(a) ug/m <sup>3</sup>	3.38E-03	mg/kg-day	--	--	--	9.47E-03	mg/kg-day	5.70E-02	mg/kg-day	1.66E-01
				1,2-Dichloropropane	9.57E-03	(a) ug/m <sup>3</sup>	4.68E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.69E-08	1.31E-06	mg/kg-day	1.14E-03	mg/kg-day	1.15E-03
				1,3,5-Trimethylbenzene	4.25E-01	(a) ug/m <sup>3</sup>	2.08E-05	mg/kg-day	--	--	--	5.83E-05	mg/kg-day	1.70E-03	mg/kg-day	3.43E-02
				1,3-Dichlorobenzene	2.93E+00	(a) ug/m <sup>3</sup>	1.43E-04	mg/kg-day	--	--	--	4.01E-04	mg/kg-day	3.00E-02	mg/kg-day	1.34E-02
				1,4-Dichlorobenzene	1.81E+01	(a) ug/m <sup>3</sup>	8.85E-04	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.54E-05	2.48E-03	mg/kg-day	2.30E-01	mg/kg-day	1.08E-02
				2-Methylnaphthalene	1.96E+00	(a) ug/m <sup>3</sup>	9.60E-05	mg/kg-day	--	--	--	2.69E-04	mg/kg-day	5.00E-02	mg/kg-day	5.38E-03
				4,4'-DDE	2.42E-06	(a) ug/m <sup>3</sup>	1.19E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.03E-11	3.32E-10	mg/kg-day	5.00E-04	mg/kg-day	6.64E-07
				Acenaphthene	6.79E-01	(a) ug/m <sup>3</sup>	3.32E-05	mg/kg-day	--	--	--	9.30E-05	mg/kg-day	6.00E-02	mg/kg-day	1.55E-03
				Acenaphthylene	1.75E-02	(a) ug/m <sup>3</sup>	6.59E-07	mg/kg-day	--	--	--	2.40E-06	mg/kg-day	6.00E-02	mg/kg-day	4.00E-05
				Aldrin	6.43E-06	(a) ug/m <sup>3</sup>	3.14E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.34E-09	8.80E-10	mg/kg-day	3.00E-05	mg/kg-day	2.93E-05
				alpha-BHC	4.31E-05	(a) ug/m <sup>3</sup>	2.11E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.69E-09	5.90E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05
				alpha-Chlordane	2.17E-05	(a) ug/m <sup>3</sup>	1.06E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.27E-09	2.97E-09	mg/kg-day	2.00E-04	mg/kg-day	1.48E-05
				Anthracene	1.79E-01	(a) ug/m <sup>3</sup>	8.74E-06	mg/kg-day	--	--	--	2.45E-05	mg/kg-day	3.00E-01	mg/kg-day	8.16E-05
				Benzo(b)fluoranthene	1.26E-03	(a) ug/m <sup>3</sup>	6.16E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.40E-08	1.72E-07	mg/kg-day	--	--	--
				Carbon Disulfide	6.38E-04	(a) ug/m <sup>3</sup>	3.12E-08	mg/kg-day	--	--	--	8.74E-08	mg/kg-day	2.00E-01	mg/kg-day	4.37E-07
				Chlorobenzene	2.93E-01	(a) ug/m <sup>3</sup>	1.43E-05	mg/kg-day	--	--	--	4.01E-05	mg/kg-day	2.86E-01	mg/kg-day	1.40E-04
				Chrysene	7.10E-03	(a) ug/m <sup>3</sup>	3.47E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.36E-08	9.73E-07	mg/kg-day	--	--	--
				Delta-BHC	7.37E-04	(a) ug/m <sup>3</sup>	3.61E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.41E-08	1.01E-07	mg/kg-day	2.00E-04	mg/kg-day	5.05E-04
				Dibenzofuran	9.47E-03	(a) ug/m <sup>3</sup>	4.63E-07	mg/kg-day	--	--	--	1.30E-06	mg/kg-day	2.00E-03	mg/kg-day	6.48E-04
				Dieldrin	2.09E-04	(a) ug/m <sup>3</sup>	1.02E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.64E-07	2.87E-08	mg/kg-day	5.00E-05	mg/kg-day	5.74E-04
				Endosulfan I	6.63E-04	(a) ug/m <sup>3</sup>	4.22E-08	mg/kg-day	--	--	--	1.18E-07	mg/kg-day	6.00E-03	mg/kg-day	1.97E-05
				Endosulfan II	8.78E-04	(a) ug/m <sup>3</sup>	4.30E-08	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	6.00E-03	mg/kg-day	2.00E-05
				Endosulfan Sulfate	1.61E-03	(a) ug/m <sup>3</sup>	7.89E-08	mg/kg-day	--	--	--	2.21E-07	mg/kg-day	6.00E-03	mg/kg-day	3.68E-05
				fluoranthene	1.96E-03	(a) ug/m <sup>3</sup>	9.59E-08	mg/kg-day	--	--	--	2.69E-07	mg/kg-day	4.00E-02	mg/kg-day	6.71E-06
				Fluorene	1.07E-01	(a) ug/m <sup>3</sup>	5.24E-06	mg/kg-day	--	--	--	1.47E-05	mg/kg-day	4.00E-02	mg/kg-day	3.67E-04
				gamma-BHC (Lindane)	2.28E-04	(a) ug/m <sup>3</sup>	1.12E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.23E-08	3.13E-08	mg/kg-day	3.00E-04	mg/kg-day	1.04E-04
				gamma-Chlordane	3.94E-07	(a) ug/m <sup>3</sup>	1.93E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.31E-11	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07
				Heptachlor	4.34E-05	(a) ug/m <sup>3</sup>	2.12E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.70E-09	5.94E-09	mg/kg-day	5.00E-04	mg/kg-day	1.19E-05
				Methoxychlor	1.18E-04	(a) ug/m <sup>3</sup>	5.80E-09	mg/kg-day	--	--	--	1.62E-08	mg/kg-day	5.00E-03	mg/kg-day	3.25E-06
				Methylene Chloride	6.38E-03	(a) ug/m <sup>3</sup>	3.12E-07	mg/kg-day	3.50E-03	(mg/kg-day)-1	1.09E-09	8.74E-07	mg/kg-day	1.10E-01	mg/kg-day	7.95E-06
				Naphthalene	2.55E+01	(a) ug/m <sup>3</sup>	1.25E-03	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.50E-04	3.49E-03	mg/kg-day	8.57E-04	mg/kg-day	4.08E+00
				Phenanthrene	2.29E+00	(a) ug/m <sup>3</sup>	1.12E-04	mg/kg-day	--	--	--	3.14E-04	mg/kg-day	3.00E-01	mg/kg-day	1.05E-03
				p-isopropyltoluene	2.93E-01	(a) ug/m <sup>3</sup>	1.43E-05	mg/kg-day	--	--	--	4.01E-05	mg/kg-day	1.10E-01	mg/kg-day	3.64E-04
				Pyrene	1.59E-02	(a) ug/m <sup>3</sup>	7.78E-07	mg/kg-day	--	--	--	2.18E-06	mg/kg-day	3.00E-02	mg/kg-day	7.26E-05
				sec-Butylbenzene	9.25E-02	(a) ug/m <sup>3</sup>	4.53E-06	mg/kg-day	--	--	--	1.27E-05	mg/kg-day	4.00E-02	mg/kg-day	3.17E-04
				Technical Chlordane	1.68E-03	(a) ug/m <sup>3</sup>	8.21E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.86E-08	2.30E-07	mg/kg-day	2.00E-04	mg/kg-day	1.15E-03
				Toluene	1.14E-03	(a) ug/m <sup>3</sup>	5.59E-08	mg/kg-day	--	--	--	1.57E-07	mg/kg-day	1.43E+00	mg/kg-day	1.10E-07
				<b>Exposure Route Total</b>												<b>6.61E+00</b>
				<b>Exposure Point Total</b>												<b>6.61E+00</b>
				<b>Exposure Medium Total</b>												<b>6.81E+00</b>
				<b>Medium Total</b>												<b>7.38E+00</b>

TABLE H-7.14

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.1E-08	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	1.18E-10	5.8E-08	mg/kg-day	1.40E-01	mg/kg-day	4.14E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.2E-09	mg/kg-day	--	--	--	1.7E-08	mg/kg-day	1.70E-03	mg/kg-day	1.02E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.0E-08	mg/kg-day	--	--	--	1.1E-07	mg/kg-day	5.70E-02	mg/kg-day	1.99E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	2.9E-08	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	2.10E-09	8.2E-08	mg/kg-day	1.40E-03	mg/kg-day	5.82E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.1E-08	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	3.93E-10	3.1E-08	mg/kg-day	1.14E-03	mg/kg-day	2.68E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.5E-09	mg/kg-day	--	--	--	9.8E-09	mg/kg-day	1.70E-03	mg/kg-day	5.79E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.4E-08	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	5.51E-10	3.9E-08	mg/kg-day	2.30E-01	mg/kg-day	1.68E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	5.3E-10	mg/kg-day	--	--	--	1.5E-09	mg/kg-day	1.43E+00	mg/kg-day	1.04E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	4.7E-11	mg/kg-day	--	--	--	1.3E-10	mg/kg-day	5.00E-02	mg/kg-day	2.65E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	6.3E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.15E-11	1.8E-10	mg/kg-day	5.00E-04	mg/kg-day	3.54E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.0E-10	mg/kg-day	--	--	--	5.5E-10	mg/kg-day	8.60E-01	mg/kg-day	6.44E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.9E-09	mg/kg-day	--	--	--	5.3E-09	mg/kg-day	6.00E-02	mg/kg-day	8.85E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	8.1E-11	mg/kg-day	--	--	--	2.3E-10	mg/kg-day	6.00E-02	mg/kg-day	3.77E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.1E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.86E-09	3.1E-10	mg/kg-day	3.00E-05	mg/kg-day	1.02E-05
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.4E-11	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	3.74E-11	3.9E-11	mg/kg-day	5.00E-04	mg/kg-day	7.76E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.3E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.74E-11	9.2E-11	mg/kg-day	2.00E-04	mg/kg-day	4.59E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.6E-10	mg/kg-day	--	--	--	4.5E-10	mg/kg-day	3.00E-01	mg/kg-day	1.50E-09
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.3E-08	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	1.28E-09	3.6E-08	mg/kg-day	8.60E-03	mg/kg-day	4.16E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.4E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	9.28E-12	6.7E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	3.6E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	1.40E-12	1.0E-09	mg/kg-day	2.00E-02	mg/kg-day	5.04E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.2E-07	mg/kg-day	--	--	--	6.2E-07	mg/kg-day	2.00E-01	mg/kg-day	3.09E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	3.6E-09	mg/kg-day	--	--	--	1.0E-08	mg/kg-day	2.86E-01	mg/kg-day	3.51E-08
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.0E-07	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	1.92E-09	2.8E-07	mg/kg-day	8.57E-02	mg/kg-day	3.30E-06
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	3.7E-08	mg/kg-day	--	--	--	1.0E-07	mg/kg-day	2.60E-02	mg/kg-day	3.95E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	6.4E-11	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	2.51E-12	1.8E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.6E-08	mg/kg-day	--	--	--	7.3E-08	mg/kg-day	1.00E-02	mg/kg-day	7.26E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	4.8E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	7.69E-10	1.3E-10	mg/kg-day	5.00E-05	mg/kg-day	2.69E-06
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.1E-11	mg/kg-day	--	--	--	3.1E-11	mg/kg-day	6.00E-03	mg/kg-day	5.11E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.8E-14	mg/kg-day	--	--	--	5.0E-14	mg/kg-day	6.00E-03	mg/kg-day	8.40E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	9.8E-09	mg/kg-day	--	--	--	2.7E-08	mg/kg-day	2.90E-01	mg/kg-day	9.42E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.5E-11	mg/kg-day	--	--	--	6.9E-11	mg/kg-day	4.00E-02	mg/kg-day	1.73E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	4.9E-11	mg/kg-day	--	--	--	1.4E-10	mg/kg-day	4.00E-02	mg/kg-day	3.42E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.1E-14	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	6.69E-14	1.7E-13	mg/kg-day	3.00E-04	mg/kg-day	5.67E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	8.5E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.02E-10	2.4E-10	mg/kg-day	2.00E-04	mg/kg-day	1.19E-06
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	8.7E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	3.58E-09	2.4E-09	mg/kg-day	5.00E-04	mg/kg-day	4.89E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.7E-06	mg/kg-day	--	--	--	4.7E-06	mg/kg-day	1.10E-01	mg/kg-day	4.27E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.4E-08	mg/kg-day	--	--	--	9.5E-08	mg/kg-day	2.90E-02	mg/kg-day	3.28E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.6E-10	mg/kg-day	--	--	--	4.5E-10	mg/kg-day	5.00E-03	mg/kg-day	8.95E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	2.7E-10	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	3.19E-11	7.4E-10	mg/kg-day	8.57E-04	mg/kg-day	8.68E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.2E-08	mg/kg-day	--	--	--	3.5E-08	mg/kg-day	8.57E-04	mg/kg-day	4.04E-05
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.4E-08	mg/kg-day	--	--	--	3.9E-08	mg/kg-day	4.00E-02	mg/kg-day	9.65E-07
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.3E-10	mg/kg-day	--	--	--	3.6E-10	mg/kg-day	3.00E-01	mg/kg-day	1.20E-09
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.7E-06	mg/kg-day	--	--	--	4.7E-06	mg/kg-day	1.10E-01	mg/kg-day	4.27E-05
				Pyrene	4.61E-10	mg/m <sup>3</sup>	2.3E-11	mg/kg-day	--	--	--	6.3E-11	mg/kg-day	3.00E-02	mg/kg-day	2.11E-09
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	3.9E-08	mg/kg-day	--	--	--	1.1E-07	mg/kg-day	4.00E-02	mg/kg-day	2.74E-06
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	4.4E-08	mg/kg-day	--	--	--	1.2E-07	mg/kg-day	4.00E-02	mg/kg-day	3.11E-06
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.9E-08	mg/kg-day	--	--	--	5.2E-08	mg/kg-day	1.43E+00	mg/kg-day	3.64E-08

TABLE H-7.14

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.4E-08	mg/kg-day	--	--	--	1.2E-07	mg/kg-day	2.00E-02	mg/kg-day	6.14E-06	
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	4.6E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	3.19E-10	1.3E-07	mg/kg-day	1.70E-01	mg/kg-day	7.51E-07	
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	9.4E-08	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	2.55E-08	2.6E-07	mg/kg-day	2.86E-02	mg/kg-day	9.25E-06	
				<b>Exposure Route Total</b>							<b>3.86E-08</b>					<b>2.98E-04</b>	
		<b>Exposure Point Total</b>									<b>3.86E-08</b>					<b>2.98E-04</b>	
		Indoor Air	Inhalation (Vapor intrusion)	1,1-Dichloroethane	5.98E-02	ug/m <sup>3</sup>	2.92E-06	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	1.67E-08	8.19E-06	mg/kg-day	1.40E-01	mg/kg-day	5.85E-05	
				1,2,4-Trimethylbenzene	2.69E-03	ug/m <sup>3</sup>	1.32E-07	mg/kg-day	--	--	--	3.69E-07	mg/kg-day	1.70E-03	mg/kg-day	2.17E-04	
				1,2-Dichlorobenzene	1.72E-02	ug/m <sup>3</sup>	8.43E-07	mg/kg-day	--	--	--	2.36E-06	mg/kg-day	5.70E-02	mg/kg-day	4.14E-05	
				1,2-Dichloroethane	1.31E-02	ug/m <sup>3</sup>	6.39E-07	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	4.60E-08	1.79E-06	mg/kg-day	1.40E-03	mg/kg-day	1.28E-03	
				1,2-Dichloropropane	5.23E-03	ug/m <sup>3</sup>	2.56E-07	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	9.21E-09	7.16E-07	mg/kg-day	1.14E-03	mg/kg-day	6.28E-04	
				1,3,5-Trimethylbenzene	1.54E-03	ug/m <sup>3</sup>	7.52E-08	mg/kg-day	--	--	--	2.10E-07	mg/kg-day	1.70E-03	mg/kg-day	1.24E-04	
				1,4-Dichlorobenzene	5.99E-03	ug/m <sup>3</sup>	2.93E-07	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	1.17E-08	8.20E-07	mg/kg-day	2.30E-01	mg/kg-day	3.57E-06	
				2-Hexanone	2.54E-04	ug/m <sup>3</sup>	1.25E-08	mg/kg-day	--	--	--	3.49E-08	mg/kg-day	1.43E+00	mg/kg-day	2.44E-08	
				2-Methylnaphthalene	1.77E-05	ug/m <sup>3</sup>	8.68E-10	mg/kg-day	--	--	--	2.43E-09	mg/kg-day	5.00E-02	mg/kg-day	4.86E-08	
				4,-DDE	4.94E-08	ug/m <sup>3</sup>	2.41E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	8.21E-13	6.78E-12	mg/kg-day	5.00E-04	mg/kg-day	1.35E-08	
				4-Methyl-2-pentanone	9.24E-05	ug/m <sup>3</sup>	4.52E-09	mg/kg-day	--	--	--	1.27E-08	mg/kg-day	1.70E-01	mg/kg-day	1.47E-08	
				Acenaphthene	8.04E-04	ug/m <sup>3</sup>	3.93E-08	mg/kg-day	--	--	--	1.10E-07	mg/kg-day	6.00E-02	mg/kg-day	1.84E-06	
				Acenaphthylene	3.42E-05	ug/m <sup>3</sup>	1.67E-09	mg/kg-day	--	--	--	4.68E-09	mg/kg-day	6.00E-02	mg/kg-day	7.81E-08	
				Aldrin	1.05E-07	ug/m <sup>3</sup>	5.13E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	8.72E-11	1.44E-11	mg/kg-day	3.00E-05	mg/kg-day	4.79E-07	
				alpha-BHC	1.39E-08	ug/m <sup>3</sup>	6.79E-13	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.83E-12	1.90E-12	mg/kg-day	5.00E-04	mg/kg-day	3.80E-09	
				alpha-Chlordane	8.38E-08	ug/m <sup>3</sup>	4.10E-12	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.92E-12	1.15E-11	mg/kg-day	2.00E-04	mg/kg-day	5.74E-08	
				Anthracene	6.79E-05	ug/m <sup>3</sup>	3.32E-09	mg/kg-day	--	--	--	9.31E-09	mg/kg-day	3.00E-01	mg/kg-day	3.10E-08	
				Benzene	6.09E-03	ug/m <sup>3</sup>	2.98E-07	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	2.98E-08	8.34E-07	mg/kg-day	8.60E-03	mg/kg-day	9.69E-05	
				Benzo(b)fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.19E-10	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.63E-10	1.17E-09	mg/kg-day	--	--	--	
				Bromoform	2.09E-04	ug/m <sup>3</sup>	1.02E-08	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	3.99E-11	2.87E-08	mg/kg-day	2.00E-02	mg/kg-day	1.43E-06	
				Carbon disulfide	1.07E-01	ug/m <sup>3</sup>	5.21E-06	mg/kg-day	--	--	--	1.46E-05	mg/kg-day	2.00E-01	mg/kg-day	7.30E-05	
				Chlorobenzene	1.65E-03	ug/m <sup>3</sup>	8.06E-08	mg/kg-day	--	--	--	2.26E-07	mg/kg-day	2.86E-01	mg/kg-day	7.90E-07	
				Chloroform	4.74E-02	ug/m <sup>3</sup>	2.32E-06	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	4.41E-08	6.50E-06	mg/kg-day	8.57E-02	mg/kg-day	7.58E-05	
				Chloromethane	1.86E-02	ug/m <sup>3</sup>	9.09E-07	mg/kg-day	--	--	--	2.55E-06	mg/kg-day	2.60E-02	mg/kg-day	9.79E-05	
				Chrysene	2.39E-05	ug/m <sup>3</sup>	1.17E-09	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	4.56E-11	3.27E-09	mg/kg-day	--	--	--	
				cis-1,2-Dichloroethene	1.31E-02	ug/m <sup>3</sup>	6.43E-07	mg/kg-day	--	--	--	1.80E-06	mg/kg-day	1.00E-02	mg/kg-day	1.80E-04	
				Dieldrin	1.62E-08	ug/m <sup>3</sup>	7.91E-13	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.27E-11	2.21E-12	mg/kg-day	5.00E-05	mg/kg-day	4.43E-08	
				Endosulfan I	2.10E-08	ug/m <sup>3</sup>	1.03E-12	mg/kg-day	--	--	--	2.87E-12	mg/kg-day	6.00E-03	mg/kg-day	4.78E-10	
				Endosulfan II	7.00E-09	ug/m <sup>3</sup>	3.42E-13	mg/kg-day	--	--	--	9.58E-13	mg/kg-day	6.00E-03	mg/kg-day	1.60E-10	
				Ethylbenzene	4.38E-03	ug/m <sup>3</sup>	2.14E-07	mg/kg-day	--	--	--	6.00E-07	mg/kg-day	2.90E-01	mg/kg-day	2.07E-06	
				Fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.19E-10	mg/kg-day	--	--	--	1.17E-09	mg/kg-day	4.00E-02	mg/kg-day	2.93E-08	
				Fluorene	2.18E-05	ug/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	2.98E-09	mg/kg-day	4.00E-02	mg/kg-day	7.45E-08	
				gamma-BHC (Lindane)	1.87E-08	ug/m <sup>3</sup>	9.17E-13	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	1.01E-12	2.57E-12	mg/kg-day	3.00E-04	mg/kg-day	8.56E-09	
				gamma-Chlordane	4.05E-08	ug/m <sup>3</sup>	1.98E-12	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.38E-12	5.55E-12	mg/kg-day	2.00E-04	mg/kg-day	2.78E-08	
				Heptachlor	2.94E-07	ug/m <sup>3</sup>	1.44E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	5.90E-11	4.03E-11	mg/kg-day	5.00E-04	mg/kg-day	8.05E-08	
				Isopropylbenzene	6.87E-01	ug/m <sup>3</sup>	3.38E-05	mg/kg-day	--	--	--	9.41E-05	mg/kg-day	1.10E-01	mg/kg-day	8.56E-04	
				m,p-Xylene	1.54E-02	ug/m <sup>3</sup>	7.53E-07	mg/kg-day	--	--	--	2.11E-06	mg/kg-day	2.90E-02	mg/kg-day	7.27E-05	
				Methoxychlor	5.41E-08	ug/m <sup>3</sup>	2.65E-12	mg/kg-day	--	--	--	7.41E-12	mg/kg-day	5.00E-03	mg/kg-day	1.48E-09	
				Naphthalene	1.13E-04	ug/m <sup>3</sup>	5.51E-09	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	6.61E-10	1.54E-08	mg/kg-day	8.57E-04	mg/kg-day	1.80E-05	
				n-Butylbenzene	5.41E-03	ug/m <sup>3</sup>	2.65E-07	mg/kg-day	--	--	--	7.41E-07	mg/kg-day	8.57E-04	mg/kg-day	8.64E-04	
				n-Propylbenzene	6.10E-03	ug/m <sup>3</sup>	2.99E-07	mg/kg-day	--	--	--	8.36E-07	mg/kg-day	4.00E-02	mg/kg-day	2.09E-05	
				Phenanthrene	5.55E-05	ug/m <sup>3</sup>	2.71E-09	mg/kg-day	--	--	--	7.60E-09	mg/kg-day	3.00E-01	mg/kg-day	2.53E-08	
				p-Isopropyltoluene	6.87E-01	ug/m <sup>3</sup>	3.38E-05	mg/kg-day	--	--	--	9.41E-05	mg/kg-day	1.10E-01	mg/kg-day	8.56E-04	
				Pyrene	7.39E-06	ug/m <sup>3</sup>	3.62E-10	mg/kg-day	--	--	--	1.01E-09	mg/kg-day	3.00E-02	mg/kg-day	3.37E-08	
				sec-Butylbenzene	2.17E-04	ug/m <sup>3</sup>	1.06E-08	mg/kg-day	--	--	--	2.98E-08	mg/kg-day	4.00E-02	mg/kg-day	7.45E-07	
				Tert-Butylbenzene	2.17E-02	ug/m <sup>3</sup>	1.06E-06	mg/kg-day	--	--	--	2.97E-06	mg/kg-day	4.00E-02	mg/kg-day	7.43E-05	

TABLE H-7.14

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units					
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Toluene	8.34E-04	ug/m <sup>3</sup>	4.08E-08	mg/kg-day	--	--	--	1.14E-07	mg/kg-day	1.43E+00	mg/kg-day	8.00E-08		
				trans-1,2-Dichloroethene	2.31E-02	ug/m <sup>3</sup>	1.13E-06	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	2.00E-02	mg/kg-day	1.58E-04		
				Trichloroethene	2.18E-02	ug/m <sup>3</sup>	1.07E-06	mg/kg-day	7.00E-03	(mg/kg-day)-1	7.47E-09	2.99E-06	mg/kg-day	1.70E-01	mg/kg-day	1.76E-05		
				Vinyl chloride	4.98E-02	ug/m <sup>3</sup>	2.44E-06	mg/kg-day	2.70E-01	(mg/kg-day)-1	6.58E-07	6.82E-06	mg/kg-day	2.86E-02	mg/kg-day	2.39E-04		
			Exposure Route Total													8.24E-07	6.06E-03	
			Exposure Point Total														8.24E-07	6.06E-03
			Exposure Medium Total														8.62E-07	6.36E-03
Medium Total																	8.62E-07	6.36E-03
Total of Receptor Risks Across All Media										2.59E-04	Total of Receptor Hazards Across All Media					7.38E+00		

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.15

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	5.24E-07	mg/kg-day	--	--	--	1.47E-06	mg/kg-day	1.00E-02	mg/kg-day	1.47E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.78E-06	mg/kg-day	--	--	--	4.99E-06	mg/kg-day	1.00E-02	mg/kg-day	4.99E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.75E-07	mg/kg-day	--	--	--	4.89E-07	mg/kg-day	5.00E-02	mg/kg-day	9.78E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	9.09E-06	mg/kg-day	--	--	--	2.54E-05	mg/kg-day	9.00E-02	mg/kg-day	2.83E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.26E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.53E-11	3.52E-09	mg/kg-day	1.14E-03	mg/kg-day	3.09E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.59E-08	mg/kg-day	--	--	--	1.57E-07	mg/kg-day	5.00E-02	mg/kg-day	3.13E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	3.84E-07	mg/kg-day	--	--	--	1.08E-06	mg/kg-day	3.00E-02	mg/kg-day	3.59E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	2.38E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.28E-08	6.65E-06	mg/kg-day	3.00E-02	mg/kg-day	2.22E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	7.34E-08	mg/kg-day	--	--	--	2.05E-07	mg/kg-day	2.00E-02	mg/kg-day	1.03E-05
				2-Methylphenol	8.10E-02	mg/kg	2.83E-08	mg/kg-day	--	--	--	7.93E-08	mg/kg-day	4.00E-03	mg/kg-day	1.98E-05
				2-Methylnaphthalene	1.45E+00	mg/kg	5.06E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	5.00E-02	mg/kg-day	2.84E-05
				4,4'-DDD	1.20E-03	mg/kg	4.19E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.01E-10	1.17E-09	mg/kg-day	5.00E-04	mg/kg-day	2.35E-06
				4,4'-DDE	7.50E-02	mg/kg	2.62E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	8.91E-09	7.34E-08	mg/kg-day	5.00E-04	mg/kg-day	1.47E-04
				4,4'-DDT	4.20E-02	mg/kg	1.47E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.99E-09	4.11E-08	mg/kg-day	5.00E-04	mg/kg-day	8.22E-05
				4-Methylphenol	2.70E-01	mg/kg	9.44E-08	mg/kg-day	--	--	--	2.64E-07	mg/kg-day	5.00E-03	mg/kg-day	5.28E-05
				4-Nitroaniline	6.20E-01	mg/kg	2.17E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.55E-09	6.07E-07	mg/kg-day	3.00E-03	mg/kg-day	2.02E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.47E-07	mg/kg-day	--	--	--	4.11E-07	mg/kg-day	5.00E-04	mg/kg-day	8.22E-04
				Acenaphthene	3.47E+00	mg/kg	1.21E-06	mg/kg-day	--	--	--	3.40E-06	mg/kg-day	6.00E-02	mg/kg-day	5.66E-05
				Acenaphthylene	8.96E-02	mg/kg	3.13E-08	mg/kg-day	--	--	--	8.76E-08	mg/kg-day	6.00E-02	mg/kg-day	1.46E-06
				Aldrin	1.30E-02	mg/kg	4.54E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.72E-08	1.27E-08	mg/kg-day	3.00E-05	mg/kg-day	4.24E-04
				alpha-BHC	7.30E-04	mg/kg	2.55E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	6.89E-10	7.14E-10	mg/kg-day	5.00E-04	mg/kg-day	1.43E-06
				alpha-Chlordane	6.98E-03	mg/kg	2.44E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.17E-09	6.83E-09	mg/kg-day	5.00E-04	mg/kg-day	1.37E-05
				Aluminum	9.05E+03	mg/kg	3.16E-03	mg/kg-day	--	--	--	8.66E-03	mg/kg-day	1.00E+00	mg/kg-day	8.66E-03
				Anthracene	9.13E-01	mg/kg	3.19E-07	mg/kg-day	--	--	--	8.94E-07	mg/kg-day	3.00E-01	mg/kg-day	2.98E-06
				Antimony	2.72E+00	mg/kg	9.52E-07	mg/kg-day	--	--	--	2.67E-06	mg/kg-day	4.00E-04	mg/kg-day	6.66E-03
				Aroclor-1248	1.20E+00	mg/kg	4.19E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.39E-07	1.17E-06	mg/kg-day	2.00E-05	mg/kg-day	5.87E-02
				Aroclor-1254	4.38E-01	mg/kg	1.53E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.06E-07	4.28E-07	mg/kg-day	2.00E-05	mg/kg-day	2.14E-02
				Aroclor-1260	4.88E-01	mg/kg	1.71E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.41E-07	4.78E-07	mg/kg-day	2.00E-05	mg/kg-day	2.39E-02
				Aroclor-1268	2.72E-02	mg/kg	9.50E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.90E-08	2.66E-08	mg/kg-day	2.00E-05	mg/kg-day	1.33E-03
				Arsenic	9.53E+00	mg/kg	3.33E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	3.15E-05	9.33E-06	mg/kg-day	3.00E-04	mg/kg-day	3.11E-02
				Barium	6.94E+01	mg/kg	2.43E-05	mg/kg-day	--	--	--	6.80E-05	mg/kg-day	7.00E-02	mg/kg-day	9.71E-04
				Benzo(a)anthracene	4.21E+00	mg/kg	1.47E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.77E-06	4.12E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	4.91E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	5.50E-06	1.38E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	8.29E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.95E-07	2.32E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	2.26E-07	mg/kg-day	--	--	--	6.34E-07	mg/kg-day	3.00E-02	mg/kg-day	2.11E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	9.87E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.18E-06	2.76E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	7.96E-08	mg/kg-day	--	--	--	2.23E-07	mg/kg-day	2.00E-03	mg/kg-day	1.11E-04
				Beta-BHC	2.20E-03	mg/kg	7.69E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.15E-09	2.15E-09	mg/kg-day	2.00E-04	mg/kg-day	1.08E-05
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.85E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	5.55E-09	5.18E-08	mg/kg-day	2.00E-02	mg/kg-day	2.59E-04
				Cadmium	8.65E+00	mg/kg	3.02E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.15E-06	8.46E-06	mg/kg-day	5.00E-04	mg/kg-day	1.69E-02
				Carbon disulfide	2.40E-04	mg/kg	8.39E-11	mg/kg-day	--	--	--	2.35E-10	mg/kg-day	1.00E-01	mg/kg-day	2.35E-09
				Chlorobenzene	1.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	1.08E-07	mg/kg-day	2.00E-02	mg/kg-day	5.38E-06
				Chromium	1.00E+02	mg/kg	3.49E-05	mg/kg-day	--	--	--	9.78E-05	mg/kg-day	1.50E+00	mg/kg-day	6.52E-05
				Chrysene	4.80E+00	mg/kg	1.68E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.01E-07	4.69E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.60E-06	mg/kg-day	--	--	--	7.28E-06	mg/kg-day	2.00E-02	mg/kg-day	3.64E-04
				Copper	6.01E+01	mg/kg	2.10E-05	mg/kg-day	--	--	--	5.88E-05	mg/kg-day	4.00E-02	mg/kg-day	1.47E-03
				Delta-BHC	8.40E-03	mg/kg	2.94E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.40E-09	8.22E-09	mg/kg-day	2.00E-04	mg/kg-day	4.11E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	9.63E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.95E-07	2.70E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.54E-06	mg/kg-day	--	--	--	1.27E-05	mg/kg-day	2.00E-03	mg/kg-day	6.36E-03
				Dieldrin	4.89E-02	mg/kg	1.71E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.74E-07	4.79E-08	mg/kg-day	5.00E-05	mg/kg-day	9.57E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.33E-08	mg/kg-day	--	--	--	3.72E-08	mg/kg-day	8.00E-01	mg/kg-day	4.65E-08

TABLE H-7.15

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	8.04E-07	mg/kg-day	--	--	--	--	2.25E-06	mg/kg-day	2.00E-01	mg/kg-day	1.13E-05				
				Endosulfan I	2.30E-02	mg/kg	8.04E-09	mg/kg-day	--	--	--	--	2.25E-08	mg/kg-day	6.00E-03	mg/kg-day	3.75E-06				
				Endosulfan II	2.34E-02	mg/kg	8.17E-09	mg/kg-day	--	--	--	--	2.29E-08	mg/kg-day	6.00E-03	mg/kg-day	3.81E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	1.50E-08	mg/kg-day	--	--	--	--	4.21E-08	mg/kg-day	6.00E-03	mg/kg-day	7.01E-06				
				Endrin aldehyde	6.30E-02	mg/kg	2.20E-08	mg/kg-day	--	--	--	--	6.16E-08	mg/kg-day	3.00E-04	mg/kg-day	2.05E-04				
				Endrin Ketone	1.00E-02	mg/kg	3.49E-09	mg/kg-day	--	--	--	--	9.78E-09	mg/kg-day	3.00E-04	mg/kg-day	3.26E-05				
				Fluoranthene	2.23E+01	mg/kg	7.78E-06	mg/kg-day	--	--	--	--	2.18E-05	mg/kg-day	4.00E-02	mg/kg-day	5.44E-04				
				Fluorene	2.53E+00	mg/kg	8.83E-07	mg/kg-day	--	--	--	--	2.47E-06	mg/kg-day	4.00E-02	mg/kg-day	6.18E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	9.09E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	9.99E-10	9.99E-10	2.54E-09	mg/kg-day	3.00E-04	mg/kg-day	8.48E-06				
				gamma-Chlordane	1.27E-02	mg/kg	4.44E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.77E-09	5.77E-09	1.24E-08	mg/kg-day	5.00E-04	mg/kg-day	2.49E-05				
				Heptachlor	6.90E-03	mg/kg	2.41E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	9.89E-09	9.89E-09	6.75E-08	mg/kg-day	5.00E-04	mg/kg-day	1.35E-05				
				Heptachlor Epoxide	9.86E-03	mg/kg	3.44E-09	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.89E-08	1.89E-08	9.65E-09	mg/kg-day	1.30E-05	mg/kg-day	7.42E-04				
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.74E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.08E-07	2.08E-07	4.86E-07	mg/kg-day	--	--	--				
				Iron	3.68E+04	mg/kg	1.28E-02	mg/kg-day	--	--	--	--	3.60E-02	mg/kg-day	3.00E-01	mg/kg-day	1.20E-01				
				Isophorone	2.00E-01	mg/kg	6.99E-08	mg/kg-day	9.50E+04	(mg/kg-day)-1	6.64E-11	6.64E-11	1.96E-07	mg/kg-day	2.00E-01	mg/kg-day	9.78E-07				
				Lead	2.39E+03	mg/kg	8.35E-04	mg/kg-day	--	--	--	--	2.34E-03	mg/kg-day	--	--	--				
				Manganese	3.04E+02	mg/kg	1.06E-04	mg/kg-day	--	--	--	--	2.98E-04	mg/kg-day	2.40E-02	mg/kg-day	1.24E-02				
				Mercury	2.65E-01	mg/kg	9.27E-08	mg/kg-day	--	--	--	--	2.60E-04	mg/kg-day	3.00E-04	mg/kg-day	8.65E-04				
				Methoxychlor	1.20E-01	mg/kg	4.19E-08	mg/kg-day	--	--	--	--	1.17E-07	mg/kg-day	5.00E-03	mg/kg-day	2.35E-05				
				Methylene chloride	2.40E-03	mg/kg	8.39E-10	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.17E-11	1.17E-11	2.35E-09	mg/kg-day	6.00E-02	mg/kg-day	3.91E-08				
				Molybdenum	2.18E+00	mg/kg	7.62E-07	mg/kg-day	--	--	--	--	2.13E-06	mg/kg-day	5.00E-03	mg/kg-day	4.27E-04				
				Naphthalene	1.30E+01	mg/kg	4.54E-06	mg/kg-day	--	--	--	--	1.27E-05	mg/kg-day	2.00E-02	mg/kg-day	6.36E-04				
				Nickel	3.89E+01	mg/kg	1.36E-05	mg/kg-day	--	--	--	--	3.81E-05	mg/kg-day	2.00E-02	mg/kg-day	1.91E-03				
				Phenanthrene	1.17E+01	mg/kg	4.08E-06	mg/kg-day	--	--	--	--	1.14E-05	mg/kg-day	3.00E-01	mg/kg-day	3.81E-05				
				Phenol	5.80E-01	mg/kg	2.03E-07	mg/kg-day	--	--	--	--	5.68E-07	mg/kg-day	3.00E-01	mg/kg-day	1.89E-06				
				p-Isopropyltoluene	1.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	--	1.08E-07	mg/kg-day	1.00E-01	mg/kg-day	1.08E-06				
				Pyrene	2.03E+01	mg/kg	7.11E-06	mg/kg-day	--	--	--	--	1.99E-05	mg/kg-day	3.00E-02	mg/kg-day	6.64E-04				
				sec-Butylbenzene	7.10E-02	mg/kg	2.48E-08	mg/kg-day	--	--	--	--	6.95E-08	mg/kg-day	4.00E-02	mg/kg-day	1.74E-06				
				Selenium	2.84E-01	mg/kg	9.91E-08	mg/kg-day	--	--	--	--	2.77E-07	mg/kg-day	5.00E-03	mg/kg-day	5.55E-05				
				Silver	9.80E-01	mg/kg	3.42E-07	mg/kg-day	--	--	--	--	9.59E-07	mg/kg-day	5.00E-03	mg/kg-day	1.92E-04				
				Technical Chlordane	5.41E-01	mg/kg	1.89E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.46E-07	2.46E-07	5.29E-07	mg/kg-day	5.00E-04	mg/kg-day	1.06E-03				
				Thallium	4.83E-01	mg/kg	1.69E-07	mg/kg-day	--	--	--	--	4.72E-07	mg/kg-day	8.00E-05	mg/kg-day	5.90E-03				
				Toluene	4.30E-04	mg/kg	1.50E-10	mg/kg-day	--	--	--	--	4.21E-10	mg/kg-day	8.00E-02	mg/kg-day	5.26E-09				
				Vanadium	3.37E+01	mg/kg	1.18E-05	mg/kg-day	--	--	--	--	3.30E-05	mg/kg-day	1.00E-03	mg/kg-day	3.30E-02				
				Zinc	3.32E+02	mg/kg	1.16E-04	mg/kg-day	--	--	--	--	3.25E-04	mg/kg-day	3.00E-01	mg/kg-day	1.08E-03				
				Exposure Route Total									4.55E-05						3.82E-01		
				Dermal	1,2,3-Trichlorobenzene	1,2,3-Trichlorobenzene	Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	5.98E-07	mg/kg-day	--	--	--	--	1.67E-06	mg/kg-day	1.00E-02	mg/kg-day	1.67E-04
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.03E-07	mg/kg-day	--	--	--	--	5.69E-07	mg/kg-day	1.00E-02	mg/kg-day	5.69E-05
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.99E-08	mg/kg-day	--	--	--	--	5.58E-08	mg/kg-day	5.00E-02	mg/kg-day	1.12E-06
								1,2-Dichlorobenzene	2.60E+01	mg/kg	1.04E-06	mg/kg-day	--	--	--	--	2.90E-06	mg/kg-day	9.00E-02	mg/kg-day	3.22E-05
								1,2-Dichloropropane	3.60E-03	mg/kg	1.43E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.16E-12	5.16E-12	4.02E-10	mg/kg-day	1.14E-03	mg/kg-day	3.52E-07
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	6.37E-09					mg/kg-day	--	--	--	--	1.78E-08	mg/kg-day	5.00E-02	mg/kg-day	3.57E-07				
1,3-Dichlorobenzene	1.10E+00	mg/kg	4.38E-08					mg/kg-day	--	--	--	--	1.23E-07	mg/kg-day	3.00E-02	mg/kg-day	4.09E-06				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	8.37E-09					mg/kg-day	--	--	--	--	2.34E-08	mg/kg-day	2.00E-02	mg/kg-day	1.17E-06				
2-Methylphenol	8.10E-02	mg/kg	3.23E-08					mg/kg-day	--	--	--	--	9.04E-08	mg/kg-day	4.00E-03	mg/kg-day	2.26E-05				
2-Methylnaphthalene	1.45E+00	mg/kg	5.77E-08					mg/kg-day	--	--	--	--	1.62E-07	mg/kg-day	5.00E-02	mg/kg-day	3.23E-06				
4,4-DDD	1.20E-03	mg/kg	4.78E-11					mg/kg-day	2.40E-01	(mg/kg-day)-1	1.15E-11	1.15E-11	1.34E-10	mg/kg-day	5.00E-04	mg/kg-day	2.68E-07				
4,4-DDE	7.50E-02	mg/kg	2.99E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.02E-09	1.02E-09	8.37E-09	mg/kg-day	5.00E-04	mg/kg-day	1.67E-05				
4,4-DDT	4.20E-02	mg/kg	5.02E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.71E-09	1.71E-09	1.41E-08	mg/kg-day	5.00E-04	mg/kg-day	2.81E-05				
4-Methylphenol	2.70E-01	mg/kg	1.08E-07					mg/kg-day	--	--	--	--	3.01E-07	mg/kg-day	5.00E-03	mg/kg-day	6.02E-05				

TABLE H-7.15

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	2.47E-07	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	5.19E-09	6.92E-07	mg/kg-day	3.00E-03	mg/kg-day	2.31E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.67E-07	mg/kg-day	--	--	--	4.68E-07	mg/kg-day	5.00E-04	mg/kg-day	9.37E-04
				Acenaphthene	3.47E+00	mg/kg	1.80E-06	mg/kg-day	--	--	--	5.03E-06	mg/kg-day	6.00E-02	mg/kg-day	8.39E-05
				Acenaphthylene	8.96E-02	mg/kg	3.57E-09	mg/kg-day	--	--	--	9.99E-09	mg/kg-day	6.00E-02	mg/kg-day	1.67E-07
				Aldrin	1.30E-02	mg/kg	5.18E-09	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	8.80E-08	1.45E-08	mg/kg-day	3.00E-05	mg/kg-day	4.83E-04
				alpha-BHC	7.30E-04	mg/kg	2.91E-11	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	7.85E-11	8.14E-11	mg/kg-day	5.00E-04	mg/kg-day	1.63E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	3.61E-05	mg/kg-day	--	--	--	1.01E-04	mg/kg-day	1.00E+00	mg/kg-day	1.01E-04
				Anthracene	9.13E-01	mg/kg	4.73E-07	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	3.00E-01	mg/kg-day	4.41E-06
				Antimony	2.72E+00	mg/kg	1.09E-08	mg/kg-day	--	--	--	3.04E-08	mg/kg-day	4.00E-04	mg/kg-day	7.60E-05
				Aroclor-1248	1.20E+00	mg/kg	6.69E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.34E-06	1.87E-06	mg/kg-day	2.00E-05	mg/kg-day	9.37E-02
				Aroclor-1254	4.38E-01	mg/kg	2.44E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.88E-07	6.83E-07	mg/kg-day	2.00E-05	mg/kg-day	3.42E-02
				Aroclor-1260	4.88E-01	mg/kg	2.72E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	5.45E-07	7.62E-07	mg/kg-day	2.00E-05	mg/kg-day	3.81E-02
				Aroclor-1268	2.72E-02	mg/kg	1.52E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.03E-08	4.24E-08	mg/kg-day	2.00E-05	mg/kg-day	2.12E-03
				Arsenic	9.53E+00	mg/kg	1.14E-06	mg/kg-day	9.45E+00	(mg/kg-day) <sup>-1</sup>	1.08E-05	3.19E-06	mg/kg-day	3.00E-04	mg/kg-day	1.06E-02
				Barium	6.94E+01	mg/kg	2.77E-07	mg/kg-day	--	--	--	7.75E-07	mg/kg-day	7.00E-02	mg/kg-day	1.11E-05
				Benzo(a)anthracene	4.21E+00	mg/kg	2.18E-06	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.62E-06	6.11E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	7.28E-07	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	8.74E-06	2.04E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.23E-06	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.47E-06	3.44E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	3.35E-07	mg/kg-day	--	--	--	9.39E-07	mg/kg-day	3.00E-02	mg/kg-day	3.13E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.46E-06	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.76E-06	4.10E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	9.07E-10	mg/kg-day	--	--	--	2.54E-09	mg/kg-day	2.00E-03	mg/kg-day	1.27E-06
				Beta-BHC	2.20E-03	mg/kg	8.76E-11	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.31E-10	2.45E-10	mg/kg-day	2.00E-04	mg/kg-day	1.23E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	2.11E-07	mg/kg-day	3.00E-03	(mg/kg-day) <sup>-1</sup>	6.33E-10	5.91E-07	mg/kg-day	2.00E-02	mg/kg-day	2.95E-05
				Cadmium	8.65E+00	mg/kg	3.45E-08	mg/kg-day	3.80E-01	(mg/kg-day) <sup>-1</sup>	1.31E-08	9.65E-08	mg/kg-day	5.00E-04	mg/kg-day	1.93E-04
				Carbon disulfide	2.40E-04	mg/kg	2.39E-10	mg/kg-day	--	--	--	6.69E-10	mg/kg-day	1.00E-01	mg/kg-day	6.69E-09
				Chlorobenzene	1.10E-01	mg/kg	4.38E-09	mg/kg-day	--	--	--	1.23E-08	mg/kg-day	2.00E-02	mg/kg-day	6.14E-07
				Chromium	1.00E+02	mg/kg	3.98E-07	mg/kg-day	--	--	--	1.12E-06	mg/kg-day	1.50E+00	mg/kg-day	7.43E-07
				Chrysene	4.80E+00	mg/kg	2.48E-06	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	2.98E-07	6.95E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.97E-08	mg/kg-day	--	--	--	8.30E-08	mg/kg-day	2.00E-02	mg/kg-day	4.15E-06
				Copper	6.01E+01	mg/kg	2.39E-07	mg/kg-day	--	--	--	6.70E-07	mg/kg-day	4.00E-02	mg/kg-day	1.68E-05
				Delta-BHC	8.40E-03	mg/kg	1.67E-09	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	2.51E-09	4.68E-09	mg/kg-day	2.00E-04	mg/kg-day	2.34E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.43E-07	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	5.85E-07	4.00E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	5.18E-07	mg/kg-day	--	--	--	1.45E-06	mg/kg-day	2.00E-03	mg/kg-day	7.25E-04
				Dieldrin	4.89E-02	mg/kg	1.95E-09	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.12E-08	5.46E-09	mg/kg-day	5.00E-05	mg/kg-day	1.09E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.51E-09	mg/kg-day	--	--	--	4.24E-09	mg/kg-day	8.00E-01	mg/kg-day	5.30E-09
				di-n-Butylphthalate	2.30E+00	mg/kg	9.16E-08	mg/kg-day	--	--	--	2.57E-07	mg/kg-day	2.00E-01	mg/kg-day	1.28E-06
				Endosulfan I	2.30E-02	mg/kg	4.58E-09	mg/kg-day	--	--	--	1.28E-08	mg/kg-day	6.00E-03	mg/kg-day	2.14E-06
				Endosulfan II	2.34E-02	mg/kg	4.65E-09	mg/kg-day	--	--	--	1.30E-08	mg/kg-day	6.00E-03	mg/kg-day	2.17E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	8.57E-09	mg/kg-day	--	--	--	2.40E-08	mg/kg-day	6.00E-03	mg/kg-day	4.00E-06
				Endrin aldehyde	6.30E-02	mg/kg	1.25E-08	mg/kg-day	--	--	--	3.51E-08	mg/kg-day	3.00E-04	mg/kg-day	1.17E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	1.15E-05	mg/kg-day	--	--	--	3.23E-05	mg/kg-day	4.00E-02	mg/kg-day	8.07E-04
				Fluorene	2.53E+00	mg/kg	1.31E-06	mg/kg-day	--	--	--	3.67E-06	mg/kg-day	4.00E-02	mg/kg-day	9.16E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.14E-10	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	4.56E-10	1.16E-09	mg/kg-day	3.00E-04	mg/kg-day	3.87E-06
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	2.75E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.13E-09	7.70E-10	mg/kg-day	5.00E-04	mg/kg-day	1.54E-06
				Heptachlor Epoxide	9.86E-03	mg/kg	3.93E-10	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	2.16E-09	1.10E-09	mg/kg-day	1.30E-05	mg/kg-day	8.46E-05
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	2.57E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.09E-07	7.21E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	1.46E-04	mg/kg-day	--	--	--	4.10E-04	mg/kg-day	3.00E-01	mg/kg-day	1.37E-03
				Isophorone	2.00E-01	mg/kg	7.97E-08	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	7.57E-11	2.23E-07	mg/kg-day	2.00E-01	mg/kg-day	1.12E-06

TABLE H-7.15

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	9.52E-06	mg/kg-day	--	--	--	2.67E-05	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	1.21E-06	mg/kg-day	--	--	--	3.39E-08	mg/kg-day	2.40E-02	mg/kg-day	1.41E-04
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	4.78E-09	mg/kg-day	--	--	--	1.34E-08	mg/kg-day	5.00E-03	mg/kg-day	2.68E-06
				Methylene chloride	2.40E-03	mg/kg	9.56E-11	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.34E-12	2.68E-10	mg/kg-day	6.00E-02	mg/kg-day	4.46E-09
				Molybdenum	2.18E+00	mg/kg	8.68E-09	mg/kg-day	--	--	--	2.43E-08	mg/kg-day	5.00E-03	mg/kg-day	4.86E-06
				Naphthalene	1.30E+01	mg/kg	6.73E-06	mg/kg-day	--	--	--	1.89E-05	mg/kg-day	2.00E-02	mg/kg-day	9.43E-04
				Nickel	3.89E+01	mg/kg	1.55E-07	mg/kg-day	--	--	--	4.34E-07	mg/kg-day	2.00E-02	mg/kg-day	2.17E-05
				Phenanthrene	1.17E+01	mg/kg	4.65E-07	mg/kg-day	--	--	--	1.30E-06	mg/kg-day	3.00E-01	mg/kg-day	4.34E-06
				Phenol	5.80E-01	mg/kg	2.31E-07	mg/kg-day	--	--	--	6.47E-07	mg/kg-day	3.00E-01	mg/kg-day	2.16E-06
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	1.05E-05	mg/kg-day	--	--	--	2.95E-05	mg/kg-day	3.00E-02	mg/kg-day	9.83E-04
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	1.13E-09	mg/kg-day	--	--	--	3.16E-09	mg/kg-day	5.00E-03	mg/kg-day	6.33E-07
				Silver	9.80E-01	mg/kg	3.90E-09	mg/kg-day	--	--	--	1.09E-08	mg/kg-day	5.00E-03	mg/kg-day	2.19E-06
				Technical Chlordane	5.41E-01	mg/kg	8.62E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.12E-07	2.41E-07	mg/kg-day	5.00E-04	mg/kg-day	4.83E-04
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	1.71E-11	mg/kg-day	--	--	--	4.80E-11	mg/kg-day	8.00E-02	mg/kg-day	6.00E-10
				Vanadium	3.37E+01	mg/kg	1.34E-07	mg/kg-day	--	--	--	3.76E-07	mg/kg-day	1.00E-03	mg/kg-day	3.76E-04
				Zinc	3.32E+02	mg/kg	1.32E-06	mg/kg-day	--	--	--	3.70E-06	mg/kg-day	3.00E-01	mg/kg-day	1.23E-05
Exposure Point Total			Exposure Route Total							2.92E-05					1.88E-01	
Exposure Medium Total											2.92E-05					1.88E-01
Exposure Medium Total											7.47E-05					5.50E-01
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	7.78E-12	mg/kg-day	--	--	--	2.18E-11	mg/kg-day	2.00E-02	mg/kg-day	1.09E-09	
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.00E-12	mg/kg-day	--	--	--	8.41E-12	mg/kg-day	--	--	--	
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	4.45E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.07E-14	1.25E-13	mg/kg-day	5.00E-04	mg/kg-day	2.49E-10	
			4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	1.56E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.29E-13	4.36E-12	mg/kg-day	5.00E-04	mg/kg-day	8.72E-09	
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.00E-11	mg/kg-day	--	--	--	2.80E-11	mg/kg-day	5.00E-03	mg/kg-day	5.60E-09	
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.30E-11	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.83E-13	6.43E-11	mg/kg-day	1.00E-03	mg/kg-day	6.43E-08	
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.56E-11	mg/kg-day	--	--	--	4.36E-11	mg/kg-day	5.70E-04	mg/kg-day	7.65E-08	
			Aluminum	6.86E-06	mg/m <sup>3</sup>	3.36E-07	mg/kg-day	--	--	--	9.40E-07	mg/kg-day	1.43E-03	mg/kg-day	6.57E-04	
			Antimony	2.06E-09	mg/m <sup>3</sup>	1.01E-10	mg/kg-day	--	--	--	2.83E-10	mg/kg-day	--	--	--	
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	4.45E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.90E-11	1.25E-10	mg/kg-day	2.00E-05	mg/kg-day	6.23E-06	
			Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	1.62E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.24E-11	4.54E-11	mg/kg-day	2.00E-05	mg/kg-day	2.27E-06	
			Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	1.81E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.62E-11	5.07E-11	mg/kg-day	2.00E-05	mg/kg-day	2.53E-06	
			Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	1.01E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.01E-12	2.82E-12	mg/kg-day	2.00E-05	mg/kg-day	1.41E-07	
			Arsenic	7.22E-09	mg/m <sup>3</sup>	3.53E-10	mg/kg-day	1.20E+01	(mg/kg-day)-1	4.24E-09	9.89E-10	mg/kg-day	8.60E-06	mg/kg-day	1.15E-04	
			Barium	5.26E-08	mg/m <sup>3</sup>	2.57E-09	mg/kg-day	--	--	--	7.21E-09	mg/kg-day	1.40E-04	mg/kg-day	5.15E-05	
			Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	1.56E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	6.09E-11	4.37E-10	mg/kg-day	--	--	--	
			Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	5.21E-11	mg/kg-day	3.90E+00	(mg/kg-day)-1	2.03E-10	1.46E-10	mg/kg-day	--	--	--	
			Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	2.40E-11	mg/kg-day	--	--	--	6.72E-11	mg/kg-day	3.00E-02	mg/kg-day	2.24E-09	
			Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	1.05E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	4.08E-11	2.93E-10	mg/kg-day	--	--	--	
			Beryllium	1.73E-10	mg/m <sup>3</sup>	8.44E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	7.08E-11	2.36E-11	mg/kg-day	5.71E-06	mg/kg-day	4.14E-06	
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	8.15E-14	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.22E-13	2.28E-13	mg/kg-day	2.00E-04	mg/kg-day	1.14E-09	
			bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	1.96E-10	mg/kg-day	8.40E-03	(mg/kg-day)-1	1.65E-12	5.50E-10	mg/kg-day	2.00E-02	mg/kg-day	2.75E-08	
			Cadmium	6.55E-09	mg/m <sup>3</sup>	3.21E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	4.81E-09	8.97E-10	mg/kg-day	5.71E-06	mg/kg-day	1.57E-04	
			Chromium	7.57E-08	mg/m <sup>3</sup>	3.70E-09	mg/kg-day	--	--	--	1.04E-08	mg/kg-day	--	--	--	
			Cobalt	5.64E-09	mg/m <sup>3</sup>	2.76E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	2.70E-09	7.72E-10	mg/kg-day	5.71E-06	mg/kg-day	1.35E-04	
			Copper	4.55E-08	mg/m <sup>3</sup>	2.23E-09	mg/kg-day	--	--	--	6.23E-09	mg/kg-day	--	--	--	
			Dibenz(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	1.02E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.19E-11	2.86E-11	mg/kg-day	--	--	--	
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.41E-12	mg/kg-day	--	--	--	3.94E-12	mg/kg-day	8.00E-01	mg/kg-day	4.93E-12	

TABLE H-7.15

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	8.52E-11	mg/kg-day	--	--	--	2.39E-10	mg/kg-day	1.00E-01	mg/kg-day	2.39E-09				
				Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	2.33E-12	mg/kg-day	--	--	--	6.54E-12	mg/kg-day	3.00E-04	mg/kg-day	2.18E-08				
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	3.71E-13	mg/kg-day	--	--	--	1.04E-12	mg/kg-day	3.00E-04	mg/kg-day	3.46E-09				
				Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	3.65E-13	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.01E-12	1.02E-12	mg/kg-day	1.30E-05	mg/kg-day	7.87E-08				
				Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	1.84E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	7.19E-12	5.16E-11	mg/kg-day	--	--	--				
				Iron	2.79E-05	mg/m <sup>3</sup>	1.36E-05	mg/kg-day	--	--	--	3.82E-06	mg/kg-day	--	--	--				
				Isophorone	1.52E-10	mg/m <sup>3</sup>	7.41E-12	mg/kg-day	--	--	--	2.08E-11	mg/kg-day	--	--	--				
				Lead	1.81E-06	mg/m <sup>3</sup>	8.88E-08	mg/kg-day	--	--	--	2.48E-07	mg/kg-day	--	--	--				
				Manganese	2.31E-07	mg/m <sup>3</sup>	1.13E-08	mg/kg-day	--	--	--	3.16E-08	mg/kg-day	1.43E-05	mg/kg-day	2.21E-03				
				Mercury	2.01E-10	mg/m <sup>3</sup>	9.83E-12	mg/kg-day	--	--	--	2.75E-11	mg/kg-day	8.60E-05	mg/kg-day	3.20E-07				
				Nickel	2.95E-08	mg/m <sup>3</sup>	1.44E-09	mg/kg-day	9.10E-01	(mg/kg-day)-1	1.31E-09	4.04E-09	mg/kg-day	1.40E-05	mg/kg-day	2.89E-04				
				Phenol	4.39E-10	mg/m <sup>3</sup>	2.15E-11	mg/kg-day	--	--	--	6.02E-11	mg/kg-day	5.71E-02	mg/kg-day	1.05E-09				
				Selenium	2.15E-10	mg/m <sup>3</sup>	1.05E-11	mg/kg-day	--	--	--	2.94E-11	mg/kg-day	5.70E-03	mg/kg-day	5.16E-09				
				Silver	7.42E-10	mg/m <sup>3</sup>	3.63E-11	mg/kg-day	--	--	--	1.02E-10	mg/kg-day	--	--	--				
				Thallium	3.66E-10	mg/m <sup>3</sup>	1.79E-11	mg/kg-day	--	--	--	5.01E-11	mg/kg-day	--	--	--				
				Vanadium	2.55E-08	mg/m <sup>3</sup>	1.25E-09	mg/kg-day	--	--	--	3.50E-09	mg/kg-day	--	--	--				
				Zinc	2.51E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	--	--	--	3.44E-08	mg/kg-day	--	--	--				
				Exposure Route Total							1.37E-06					3.63E-03				
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.11E-06	mg/kg-day	--	--	--	1.43E-05	mg/kg-day	1.10E-03	mg/kg-day	1.30E-02
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.74E-05	mg/kg-day	--	--	--	4.86E-05	mg/kg-day	1.10E-03	mg/kg-day	4.42E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	5.73E-06	mg/kg-day	--	--	--	1.61E-05	mg/kg-day	1.70E-03	mg/kg-day	9.44E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.60E-04	mg/kg-day	--	--	--	7.29E-04	mg/kg-day	5.70E-02	mg/kg-day	1.28E-02
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.40E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.04E-09	3.92E-07	mg/kg-day	1.14E-03	mg/kg-day	3.44E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.79E-06	mg/kg-day	--	--	--	5.01E-06	mg/kg-day	1.70E-03	mg/kg-day	2.94E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	7.97E-06	mg/kg-day	--	--	--	2.23E-05	mg/kg-day	3.00E-02	mg/kg-day	7.44E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	7.64E-05	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.06E-05	2.14E-04	mg/kg-day	2.30E-01	mg/kg-day	9.31E-04
								2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	3.14E-06	mg/kg-day	--	--	--	8.79E-06	mg/kg-day	5.00E-02	mg/kg-day	1.76E-04
4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	4.32E-10					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.47E-10	1.21E-09	mg/kg-day	5.00E-04	mg/kg-day	2.42E-06				
Acenaphthene	4.77E-05	mg/m <sup>3</sup>	2.33E-06					mg/kg-day	--	--	--	6.53E-06	mg/kg-day	6.00E-02	mg/kg-day	1.09E-04				
Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	6.02E-08					mg/kg-day	--	--	--	1.68E-07	mg/kg-day	6.00E-02	mg/kg-day	2.81E-06				
Aldrin	5.63E-09	mg/m <sup>3</sup>	2.76E-10					mg/kg-day	1.70E+01	(mg/kg-day)-1	4.68E-09	7.72E-10	mg/kg-day	3.00E-05	mg/kg-day	2.57E-05				
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.78E-10					mg/kg-day	2.70E+00	(mg/kg-day)-1	4.81E-10	4.98E-10	mg/kg-day	5.00E-04	mg/kg-day	9.97E-07				
alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	3.38E-10					mg/kg-day	1.20E+00	(mg/kg-day)-1	4.06E-10	9.47E-10	mg/kg-day	2.00E-04	mg/kg-day	4.73E-06				
Anthracene	1.25E-05	mg/m <sup>3</sup>	6.13E-07					mg/kg-day	--	--	--	1.72E-06	mg/kg-day	3.00E-01	mg/kg-day	5.72E-06				
Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	7.51E-08					mg/kg-day	3.90E-01	(mg/kg-day)-1	2.93E-08	2.10E-07	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.21E-08					mg/kg-day	--	--	--	6.20E-08	mg/kg-day	2.00E-01	mg/kg-day	3.10E-07				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.53E-06					mg/kg-day	--	--	--	7.09E-06	mg/kg-day	2.86E-01	mg/kg-day	2.48E-05				
Chrysene	5.27E-06	mg/m <sup>3</sup>	2.58E-07					mg/kg-day	3.90E-02	(mg/kg-day)-1	1.01E-08	7.22E-07	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.05E-09					mg/kg-day	1.50E+00	(mg/kg-day)-1	3.07E-09	5.73E-09	mg/kg-day	2.00E-04	mg/kg-day	2.87E-05				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.19E-06					mg/kg-day	--	--	--	6.15E-06	mg/kg-day	2.00E-03	mg/kg-day	3.07E-03				
Dieldrin	6.58E-08	mg/m <sup>3</sup>	3.22E-09					mg/kg-day	1.60E+01	(mg/kg-day)-1	5.15E-08	9.01E-09	mg/kg-day	5.00E-05	mg/kg-day	1.80E-04				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	3.94E-09					mg/kg-day	--	--	--	1.10E-08	mg/kg-day	6.00E-03	mg/kg-day	1.84E-06				
Endosulfan II	8.19E-08	mg/m <sup>3</sup>	4.00E-09					mg/kg-day	--	--	--	1.12E-08	mg/kg-day	6.00E-03	mg/kg-day	1.87E-06				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	7.37E-09					mg/kg-day	--	--	--	2.06E-08	mg/kg-day	6.00E-03	mg/kg-day	3.44E-06				
Fluoranthene	1.44E-05	mg/m <sup>3</sup>	7.04E-07					mg/kg-day	--	--	--	1.97E-06	mg/kg-day	4.00E-02	mg/kg-day	4.93E-05				
Fluorene	1.48E+05	mg/m <sup>3</sup>	7.24E-07					mg/kg-day	--	--	--	2.03E-06	mg/kg-day	4.00E-02	mg/kg-day	5.07E-05				
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	7.80E-10					mg/kg-day	1.10E+00	(mg/kg-day)-1	8.58E-10	2.18E-09	mg/kg-day	3.00E-04	mg/kg-day	7.28E-06				
gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	6.15E-10					mg/kg-day	1.20E+00	(mg/kg-day)-1	7.38E-10	1.72E-09	mg/kg-day	2.00E-04	mg/kg-day	8.61E-06				
Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.65E-08					mg/kg-day	4.10E+00	(mg/kg-day)-1	6.78E-08	4.63E-08	mg/kg-day	5.00E-04	mg/kg-day	9.26E-05				
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.22E-09					mg/kg-day	--	--	--	1.18E-08	mg/kg-day	5.00E-03	mg/kg-day	2.37E-06				
Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.42E-05					mg/kg-day	1.20E-01	(mg/kg-day)-1	4.11E-06	9.58E-05	mg/kg-day	8.57E-04	mg/kg-day	1.12E-01				

TABLE H-7.15

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (continued)	Phenanthrene	1.60E-04	mg/m <sup>3</sup>	7.85E-06	mg/kg-day	--	--	--	--	2.20E-05	mg/kg-day	3.00E-01	mg/kg-day	7.32E-05			
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	9.38E-06	mg/kg-day	--	--	--	--	2.63E-05	mg/kg-day	1.10E-01	mg/kg-day	2.39E-04			
				Pyrene	1.56E-05	mg/m <sup>3</sup>	7.61E-07	mg/kg-day	--	--	--	--	2.13E-06	mg/kg-day	3.00E-02	mg/kg-day	7.10E-05			
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.37E-06	mg/kg-day	--	--	--	--	3.85E-06	mg/kg-day	4.00E-02	mg/kg-day	9.62E-05			
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	2.62E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.14E-08	--	7.33E-08	mg/kg-day	2.00E-04	mg/kg-day	3.67E-04			
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.53E-08	mg/kg-day	--	--	--	--	4.28E-08	mg/kg-day	1.43E+00	mg/kg-day	2.98E-08			
				Exposure Route Total							7.37E-06					2.01E-01				
				Exposure Point Total							7.37E-06					2.05E-01				
				Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	3.99E+00	(a) ug/m <sup>3</sup>	1.95E-04	mg/kg-day	--	--	--	--	5.46E-04	mg/kg-day	1.10E-03	mg/kg-day	4.97E-01	
						1,2,4-Trichlorobenzene	1.36E+01	(a) ug/m <sup>3</sup>	6.63E-04	mg/kg-day	--	--	--	--	1.86E-03	mg/kg-day	1.10E-03	mg/kg-day	1.69E+00	
						1,2,4-Trimethylbenzene	1.33E+00	(a) ug/m <sup>3</sup>	6.50E-05	mg/kg-day	--	--	--	--	1.82E-04	mg/kg-day	1.70E-03	mg/kg-day	1.07E-01	
						1,2-Dichlorobenzene	6.91E+01	(a) ug/m <sup>3</sup>	3.38E-03	mg/kg-day	--	--	--	--	9.47E-03	mg/kg-day	5.70E-02	mg/kg-day	1.66E-01	
						1,2-Dichloropropane	9.57E-03	(a) ug/m <sup>3</sup>	4.68E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.69E-08	--	1.31E-06	mg/kg-day	1.14E-03	mg/kg-day	1.15E-03	
						1,3,5-Trimethylbenzene	4.25E-01	(a) ug/m <sup>3</sup>	2.08E-05	mg/kg-day	--	--	--	--	5.83E-05	mg/kg-day	1.70E-03	mg/kg-day	3.43E-02	
						1,3-Dichlorobenzene	2.93E+00	(a) ug/m <sup>3</sup>	1.43E-04	mg/kg-day	--	--	--	--	4.01E-04	mg/kg-day	3.00E-02	mg/kg-day	1.34E-02	
1,4-Dichlorobenzene	1.81E+01	(a) ug/m <sup>3</sup>	8.85E-04			mg/kg-day	4.00E-02	(mg/kg-day)-1	3.54E-05	--	2.48E-03	mg/kg-day	2.30E-01	mg/kg-day	1.08E-02					
2-Methylnaphthalene	1.96E+00	(a) ug/m <sup>3</sup>	9.60E-05			mg/kg-day	--	--	--	--	2.69E-04	mg/kg-day	5.00E-02	mg/kg-day	5.38E-03					
4,4'-DDE	2.42E-06	(a) ug/m <sup>3</sup>	1.19E-10			mg/kg-day	3.40E-01	(mg/kg-day)-1	4.03E-11	--	3.32E-10	mg/kg-day	5.00E-04	mg/kg-day	6.64E-07					
Acenaphthene	6.79E-01	(a) ug/m <sup>3</sup>	3.32E-05			mg/kg-day	--	--	--	--	9.30E-05	mg/kg-day	6.00E-02	mg/kg-day	1.56E-03					
Acenaphthylene	1.75E-02	(a) ug/m <sup>3</sup>	8.58E-07			mg/kg-day	--	--	--	--	2.40E-06	mg/kg-day	6.00E-02	mg/kg-day	4.00E-05					
Aldrin	6.43E-06	(a) ug/m <sup>3</sup>	3.14E-10			mg/kg-day	1.70E+01	(mg/kg-day)-1	5.34E-09	--	8.80E-10	mg/kg-day	3.00E-05	mg/kg-day	2.93E-05					
alpha-BHC	4.31E-05	(a) ug/m <sup>3</sup>	2.11E-09			mg/kg-day	2.70E+00	(mg/kg-day)-1	5.69E-09	--	5.90E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05					
alpha-Chlordane	2.17E-05	(a) ug/m <sup>3</sup>	1.06E-09			mg/kg-day	1.20E+00	(mg/kg-day)-1	1.27E-09	--	2.97E-09	mg/kg-day	2.00E-04	mg/kg-day	1.48E-05					
Anthracene	1.79E-01	(a) ug/m <sup>3</sup>	8.74E-06			mg/kg-day	--	--	--	--	2.45E-05	mg/kg-day	3.00E-01	mg/kg-day	8.16E-05					
Benzo(b)fluoranthene	1.26E-03	(a) ug/m <sup>3</sup>	6.16E-08			mg/kg-day	3.90E-01	(mg/kg-day)-1	2.40E-08	--	1.72E-07	mg/kg-day	--	--	--					
Carbon Disulfide	6.38E-04	(a) ug/m <sup>3</sup>	3.12E-08			mg/kg-day	--	--	--	--	8.74E-08	mg/kg-day	2.00E-01	mg/kg-day	4.37E-07					
Chlorobenzene	2.93E-01	(a) ug/m <sup>3</sup>	1.43E-05			mg/kg-day	--	--	--	--	4.01E-05	mg/kg-day	2.86E-01	mg/kg-day	1.40E-04					
Chrysene	7.10E-03	(a) ug/m <sup>3</sup>	3.47E-07			mg/kg-day	3.90E-02	(mg/kg-day)-1	1.38E-08	--	9.73E-07	mg/kg-day	--	--	--					
Delta-BHC	7.37E-04	(a) ug/m <sup>3</sup>	3.61E-08			mg/kg-day	1.50E+00	(mg/kg-day)-1	5.41E-08	--	1.01E-07	mg/kg-day	2.00E-04	mg/kg-day	5.05E-04					
Dibenzofuran	9.47E-03	(a) ug/m <sup>3</sup>	4.63E-07			mg/kg-day	--	--	--	--	1.30E-06	mg/kg-day	2.00E-03	mg/kg-day	6.48E-04					
Dieldrin	2.09E-04	(a) ug/m <sup>3</sup>	1.02E-08			mg/kg-day	1.60E+01	(mg/kg-day)-1	1.64E-07	--	2.87E-08	mg/kg-day	5.00E-05	mg/kg-day	5.74E-04					
Endosulfan I	8.63E-04	(a) ug/m <sup>3</sup>	4.22E-08			mg/kg-day	--	--	--	--	1.18E-07	mg/kg-day	6.00E-03	mg/kg-day	1.97E-05					
Endosulfan II	8.78E-04	(a) ug/m <sup>3</sup>	4.30E-08			mg/kg-day	--	--	--	--	1.20E-07	mg/kg-day	6.00E-03	mg/kg-day	2.00E-05					
Endosulfan Sulfate	1.61E-03	(a) ug/m <sup>3</sup>	7.89E-08			mg/kg-day	--	--	--	--	2.21E-07	mg/kg-day	6.00E-03	mg/kg-day	3.68E-05					
fluoranthene	1.96E-03	(a) ug/m <sup>3</sup>	9.59E-08			mg/kg-day	--	--	--	--	2.69E-07	mg/kg-day	4.00E-02	mg/kg-day	6.71E-06					
Fluorene	1.07E-01	(a) ug/m <sup>3</sup>	5.24E-06			mg/kg-day	--	--	--	--	1.47E-05	mg/kg-day	4.00E-02	mg/kg-day	3.67E-04					
gamma-BHC (Lindane)	2.28E-04	(a) ug/m <sup>3</sup>	1.12E-08			mg/kg-day	1.10E+00	(mg/kg-day)-1	1.23E-08	--	3.13E-08	mg/kg-day	3.00E-04	mg/kg-day	1.04E-04					
gamma-Chlordane	3.94E-07	(a) ug/m <sup>3</sup>	1.93E-11			mg/kg-day	1.20E+00	(mg/kg-day)-1	2.31E-11	--	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07					
Heptachlor	4.34E-05	(a) ug/m <sup>3</sup>	2.12E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.70E-09	--	5.94E-09	mg/kg-day	5.00E-04	mg/kg-day	1.19E-05							
Methoxychlor	1.18E-04	(a) ug/m <sup>3</sup>	5.80E-09	mg/kg-day	--	--	--	--	1.62E-08	mg/kg-day	5.00E-03	mg/kg-day	3.25E-06							
Methylene Chloride	6.38E-03	(a) ug/m <sup>3</sup>	3.12E-07	mg/kg-day	3.50E-03	(mg/kg-day)-1	1.09E-09	--	8.74E-07	mg/kg-day	1.10E-01	mg/kg-day	7.95E-06							
Naphthalene	2.55E+01	(a) ug/m <sup>3</sup>	1.25E-03	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.50E-04	--	3.49E-03	mg/kg-day	8.57E-04	mg/kg-day	4.08E+00							
Phenanthrene	2.29E+00	(a) ug/m <sup>3</sup>	1.12E-04	mg/kg-day	--	--	--	--	3.14E-04	mg/kg-day	3.00E-01	mg/kg-day	1.05E-03							
p-isopropyltoluene	2.93E-01	(a) ug/m <sup>3</sup>	1.43E-05	mg/kg-day	--	--	--	--	4.01E-05	mg/kg-day	1.10E-01	mg/kg-day	3.64E-04							
Pyrene	1.59E-02	(a) ug/m <sup>3</sup>	7.78E-07	mg/kg-day	--	--	--	--	2.18E-06	mg/kg-day	3.00E-02	mg/kg-day	7.28E-05							

TABLE H-7.15

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	sec-Butylbenzene	9.25E-02	(a) ug/m <sup>3</sup>	4.53E-06	mg/kg-day	--	--	--	1.27E-05	mg/kg-day	4.00E-02	mg/kg-day	3.17E-04
				Technical Chlordane	1.68E-03	(a) ug/m <sup>3</sup>	8.21E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.86E-08	2.30E-07	mg/kg-day	2.00E-04	mg/kg-day	1.15E-03
				Toluene	1.14E-03	(a) ug/m <sup>3</sup>	5.59E-08	mg/kg-day	--	--	--	1.57E-07	mg/kg-day	1.43E+00	mg/kg-day	1.10E-07
				<b>Exposure Route Total</b>												
		<b>Exposure Point Total</b>														
		<b>Exposure Medium Total</b>														
<b>Medium Total</b>																
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.1E-08	mg/kg-day	5.70E-03	(mg/kg-day)-1	1.18E-10	5.8E-08	mg/kg-day	1.40E-01	mg/kg-day	4.14E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.2E-09	mg/kg-day	--	--	--	1.7E-08	mg/kg-day	1.70E-03	mg/kg-day	1.02E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.0E-08	mg/kg-day	--	--	--	1.1E-07	mg/kg-day	5.70E-02	mg/kg-day	1.99E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	2.9E-08	mg/kg-day	7.20E-02	(mg/kg-day)-1	2.10E-09	8.2E-08	mg/kg-day	1.40E-03	mg/kg-day	5.82E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.1E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	3.93E-10	3.1E-08	mg/kg-day	1.14E-03	mg/kg-day	2.68E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.5E-09	mg/kg-day	--	--	--	9.8E-09	mg/kg-day	1.70E-03	mg/kg-day	5.79E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.4E-08	mg/kg-day	4.00E-02	(mg/kg-day)-1	5.51E-10	3.9E-08	mg/kg-day	2.30E-01	mg/kg-day	1.68E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	5.3E-10	mg/kg-day	--	--	--	1.5E-09	mg/kg-day	1.43E+00	mg/kg-day	1.04E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	4.7E-11	mg/kg-day	--	--	--	1.3E-10	mg/kg-day	5.00E-02	mg/kg-day	2.65E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	6.3E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.15E-11	1.8E-10	mg/kg-day	5.00E-04	mg/kg-day	3.54E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.0E-10	mg/kg-day	--	--	--	5.5E-10	mg/kg-day	8.60E-01	mg/kg-day	6.44E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.9E-09	mg/kg-day	--	--	--	5.3E-09	mg/kg-day	6.00E-02	mg/kg-day	8.85E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	8.1E-11	mg/kg-day	--	--	--	2.3E-10	mg/kg-day	6.00E-02	mg/kg-day	3.77E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.1E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.86E-09	3.1E-10	mg/kg-day	3.00E-05	mg/kg-day	1.02E-05
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.4E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.74E-11	3.9E-11	mg/kg-day	5.00E-04	mg/kg-day	7.76E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.3E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.93E-11	9.2E-11	mg/kg-day	2.00E-04	mg/kg-day	4.98E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.6E-10	mg/kg-day	--	--	--	4.5E-10	mg/kg-day	3.00E-01	mg/kg-day	1.50E-09
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.3E-08	mg/kg-day	1.00E-01	(mg/kg-day)-1	1.28E-09	3.6E-08	mg/kg-day	8.60E-03	mg/kg-day	4.16E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.4E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	9.28E-12	6.7E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	3.6E-10	mg/kg-day	3.90E-03	(mg/kg-day)-1	1.40E-12	1.0E-09	mg/kg-day	2.00E-02	mg/kg-day	5.04E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.2E-07	mg/kg-day	--	--	--	6.2E-07	mg/kg-day	2.00E-01	mg/kg-day	3.09E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	3.6E-09	mg/kg-day	--	--	--	1.0E-08	mg/kg-day	2.86E-01	mg/kg-day	3.51E-08
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.0E-07	mg/kg-day	1.90E-02	(mg/kg-day)-1	1.92E-09	2.8E-07	mg/kg-day	8.57E-02	mg/kg-day	3.30E-06
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	3.7E-08	mg/kg-day	--	--	--	1.0E-07	mg/kg-day	2.60E-02	mg/kg-day	3.95E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	6.4E-11	mg/kg-day	3.90E-02	(mg/kg-day)-1	2.51E-12	1.8E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.6E-08	mg/kg-day	--	--	--	7.3E-08	mg/kg-day	1.00E-02	mg/kg-day	7.26E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	4.8E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	7.69E-10	1.3E-10	mg/kg-day	5.00E-05	mg/kg-day	2.69E-06
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.1E-11	mg/kg-day	--	--	--	3.1E-11	mg/kg-day	6.00E-03	mg/kg-day	5.11E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.8E-14	mg/kg-day	--	--	--	5.0E-14	mg/kg-day	6.00E-03	mg/kg-day	8.40E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	9.8E-09	mg/kg-day	--	--	--	2.7E-08	mg/kg-day	2.90E-01	mg/kg-day	9.42E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.5E-11	mg/kg-day	--	--	--	6.9E-11	mg/kg-day	4.00E-02	mg/kg-day	1.73E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	4.9E-11	mg/kg-day	--	--	--	1.4E-10	mg/kg-day	4.00E-02	mg/kg-day	3.42E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.1E-14	mg/kg-day	1.10E+00	(mg/kg-day)-1	6.69E-14	1.7E-13	mg/kg-day	3.00E-04	mg/kg-day	5.67E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	8.5E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.02E-10	2.4E-10	mg/kg-day	2.00E-04	mg/kg-day	1.19E-06
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	8.7E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.58E-09	2.4E-09	mg/kg-day	5.00E-04	mg/kg-day	4.89E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.7E-06	mg/kg-day	--	--	--	4.7E-06	mg/kg-day	1.10E-01	mg/kg-day	4.27E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.4E-08	mg/kg-day	--	--	--	9.5E-08	mg/kg-day	2.90E-02	mg/kg-day	3.28E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.6E-10	mg/kg-day	--	--	--	4.5E-10	mg/kg-day	5.00E-03	mg/kg-day	8.95E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	2.7E-10	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.19E-11	7.4E-10	mg/kg-day	8.57E-04	mg/kg-day	8.68E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.2E-08	mg/kg-day	--	--	--	3.5E-08	mg/kg-day	8.57E-04	mg/kg-day	4.04E-05
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.4E-08	mg/kg-day	--	--	--	3.9E-08	mg/kg-day	4.00E-02	mg/kg-day	9.65E-07
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.3E-10	mg/kg-day	--	--	--	3.6E-10	mg/kg-day	3.00E-01	mg/kg-day	1.20E-09
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.7E-06	mg/kg-day	--	--	--	4.7E-06	mg/kg-day	1.10E-01	mg/kg-day	4.27E-05
				Pyrene	4.61E-10	mg/m <sup>3</sup>	2.3E-11	mg/kg-day	--	--	--	6.3E-11	mg/kg-day	3.00E-02	mg/kg-day	2.11E-09

TABLE H-7.15

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	3.9E-08	mg/kg-day	--	--	--	--	1.1E-07	mg/kg-day	4.00E-02	mg/kg-day	2.74E-06			
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	4.4E-08	mg/kg-day	--	--	--	--	1.2E-07	mg/kg-day	4.00E-02	mg/kg-day	3.11E-06			
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.9E-08	mg/kg-day	--	--	--	--	5.2E-08	mg/kg-day	1.43E+00	mg/kg-day	3.64E-08			
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.4E-08	mg/kg-day	--	--	--	--	1.2E-07	mg/kg-day	2.00E-02	mg/kg-day	6.14E-06			
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	4.6E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	3.19E-10	--	1.3E-07	mg/kg-day	1.70E-01	mg/kg-day	7.51E-07			
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	9.4E-08	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	2.55E-08	--	2.6E-07	mg/kg-day	2.86E-02	mg/kg-day	9.25E-08			
				<b>Exposure Route Total</b>					<b>3.86E-08</b>						<b>2.98E-04</b>					
				<b>Exposure Point Total</b>					<b>3.86E-08</b>						<b>2.98E-04</b>					
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	5.98E-02	ug/m <sup>3</sup>	2.92E-06	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	1.67E-08	8.19E-06	mg/kg-day	1.40E-01	mg/kg-day	5.85E-05
								1,2,4-Trimethylbenzene	2.69E-03	ug/m <sup>3</sup>	1.32E-07	mg/kg-day	--	--	--	--	3.69E-07	mg/kg-day	1.70E-03	mg/kg-day
1,2-Dichlorobenzene	1.72E-02	ug/m <sup>3</sup>	8.43E-07					mg/kg-day	--	--	--	--	2.36E-06	mg/kg-day	5.70E-02	mg/kg-day	4.14E-05			
1,2-Dichloroethane	1.31E-02	ug/m <sup>3</sup>	6.39E-07					mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	4.60E-08	--	1.79E-06	mg/kg-day	1.40E-03	mg/kg-day	1.28E-03			
1,2-Dichloropropane	5.23E-03	ug/m <sup>3</sup>	2.56E-07					mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	9.21E-09	--	7.16E-07	mg/kg-day	1.14E-03	mg/kg-day	6.28E-04			
1,3,5-Trimethylbenzene	1.54E-03	ug/m <sup>3</sup>	7.52E-08					mg/kg-day	--	--	--	--	2.10E-07	mg/kg-day	1.70E-03	mg/kg-day	1.24E-04			
1,4-Dichlorobenzene	5.99E-03	ug/m <sup>3</sup>	2.93E-07					mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	1.17E-08	--	8.20E-07	mg/kg-day	2.30E-01	mg/kg-day	3.57E-06			
2-Hexanone	2.54E-04	ug/m <sup>3</sup>	1.25E-08					mg/kg-day	--	--	--	--	3.49E-08	mg/kg-day	1.43E+00	mg/kg-day	2.44E-08			
2-Methylnaphthalene	1.77E-05	ug/m <sup>3</sup>	8.68E-10					mg/kg-day	--	--	--	--	2.43E-09	mg/kg-day	5.00E-02	mg/kg-day	4.86E-08			
4,4'-DDE	4.94E-08	ug/m <sup>3</sup>	2.41E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	8.21E-13	--	6.78E-12	mg/kg-day	5.00E-04	mg/kg-day	1.35E-08			
4-Methyl-2-pentanone	9.24E-05	ug/m <sup>3</sup>	4.52E-09					mg/kg-day	--	--	--	--	1.27E-08	mg/kg-day	8.60E-01	mg/kg-day	1.47E-08			
Acenaphthene	8.04E-04	ug/m <sup>3</sup>	3.93E-08					mg/kg-day	--	--	--	--	1.10E-07	mg/kg-day	6.00E-02	mg/kg-day	1.84E-06			
Acenaphthylene	3.42E-05	ug/m <sup>3</sup>	1.67E-09					mg/kg-day	--	--	--	--	4.68E-09	mg/kg-day	6.00E-02	mg/kg-day	7.81E-08			
Aldrin	1.05E-07	ug/m <sup>3</sup>	5.13E-12					mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	8.72E-11	--	1.44E-11	mg/kg-day	3.00E-05	mg/kg-day	4.79E-07			
alpha-BHC	1.39E-08	ug/m <sup>3</sup>	6.79E-13					mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.83E-12	--	1.90E-12	mg/kg-day	5.00E-04	mg/kg-day	3.80E-09			
alpha-Chlordane	8.38E-08	ug/m <sup>3</sup>	4.10E-12					mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.92E-12	--	1.15E-11	mg/kg-day	2.00E-04	mg/kg-day	5.74E-08			
Anthracene	6.79E-05	ug/m <sup>3</sup>	3.32E-09					mg/kg-day	--	--	--	--	9.31E-09	mg/kg-day	3.00E-01	mg/kg-day	3.10E-08			
Benzene	6.09E-03	ug/m <sup>3</sup>	2.98E-07					mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	2.98E-08	--	8.34E-07	mg/kg-day	8.60E-03	mg/kg-day	9.69E-05			
Benzo(b)fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.19E-10					mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.63E-10	--	1.17E-09	mg/kg-day	--	--	--			
Bromoform	2.09E-04	ug/m <sup>3</sup>	1.02E-08					mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	3.99E-11	--	2.87E-08	mg/kg-day	2.00E-02	mg/kg-day	1.43E-06			
Carbon disulfide	1.07E-01	ug/m <sup>3</sup>	5.21E-06					mg/kg-day	--	--	--	--	1.46E-05	mg/kg-day	2.00E-01	mg/kg-day	7.30E-05			
Chlorobenzene	1.65E-03	ug/m <sup>3</sup>	8.06E-08					mg/kg-day	--	--	--	--	2.26E-07	mg/kg-day	2.86E-01	mg/kg-day	7.90E-07			
Chloroform	4.74E-02	ug/m <sup>3</sup>	2.32E-06					mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	4.41E-08	--	6.50E-06	mg/kg-day	8.57E-02	mg/kg-day	7.58E-05			
Chloromethane	1.86E-02	ug/m <sup>3</sup>	9.09E-07					mg/kg-day	--	--	--	--	2.55E-06	mg/kg-day	2.60E-02	mg/kg-day	9.79E-05			
Chrysene	2.39E-05	ug/m <sup>3</sup>	1.17E-09					mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	4.56E-11	--	3.27E-09	mg/kg-day	--	--	--			
cis-1,2-Dichloroethene	1.31E-02	ug/m <sup>3</sup>	6.43E-07					mg/kg-day	--	--	--	--	1.80E-08	mg/kg-day	1.00E-02	mg/kg-day	1.80E-04			
Dieldrin	1.62E-08	ug/m <sup>3</sup>	7.91E-13					mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.27E-11	--	2.21E-12	mg/kg-day	5.00E-05	mg/kg-day	4.43E-08			
Endosulfan I	2.10E-08	ug/m <sup>3</sup>	1.03E-12					mg/kg-day	--	--	--	--	2.87E-12	mg/kg-day	6.00E-03	mg/kg-day	4.78E-10			
Endosulfan II	7.00E-09	ug/m <sup>3</sup>	3.42E-13					mg/kg-day	--	--	--	--	9.58E-13	mg/kg-day	6.00E-03	mg/kg-day	1.60E-10			
Ethylbenzene	4.38E-03	ug/m <sup>3</sup>	2.14E-07					mg/kg-day	--	--	--	--	6.00E-07	mg/kg-day	2.90E-01	mg/kg-day	2.07E-06			
Fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.19E-10					mg/kg-day	--	--	--	--	1.17E-09	mg/kg-day	4.00E-02	mg/kg-day	2.93E-08			
Fluorene	2.18E-05	ug/m <sup>3</sup>	1.06E-09					mg/kg-day	--	--	--	--	2.98E-09	mg/kg-day	4.00E-02	mg/kg-day	7.45E-08			
gamma-BHC (Lindane)	1.87E-08	ug/m <sup>3</sup>	9.17E-13					mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	1.01E-12	--	2.57E-12	mg/kg-day	3.00E-04	mg/kg-day	8.56E-09			
gamma-Chlordane	4.05E-08	ug/m <sup>3</sup>	1.98E-12					mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.38E-12	--	5.55E-12	mg/kg-day	2.00E-04	mg/kg-day	2.78E-08			
Heptachlor	2.94E-07	ug/m <sup>3</sup>	1.44E-11					mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	5.90E-11	--	4.03E-11	mg/kg-day	5.00E-04	mg/kg-day	8.05E-08			
Isopropylbenzene	6.87E-01	ug/m <sup>3</sup>	3.36E-05					mg/kg-day	--	--	--	--	9.41E-05	mg/kg-day	1.10E-01	mg/kg-day	8.56E-04			
m,p-Xylene	1.54E-02	ug/m <sup>3</sup>	7.53E-07					mg/kg-day	--	--	--	--	2.11E-06	mg/kg-day	2.90E-02	mg/kg-day	7.27E-05			
Methoxychlor	5.41E-08	ug/m <sup>3</sup>	2.65E-12					mg/kg-day	--	--	--	--	7.41E-12	mg/kg-day	5.00E-03	mg/kg-day	1.48E-09			
Naphthalene	1.13E-04	ug/m <sup>3</sup>	5.51E-09					mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	6.61E-10	--	1.54E-08	mg/kg-day	8.57E-04	mg/kg-day	1.80E-05			
n-Butylbenzene	5.41E-03	ug/m <sup>3</sup>	2.65E-07					mg/kg-day	--	--	--	--	7.41E-07	mg/kg-day	8.57E-04	mg/kg-day	8.64E-04			
n-Propylbenzene	6.10E-03	ug/m <sup>3</sup>	2.99E-07					mg/kg-day	--	--	--	--	8.38E-07	mg/kg-day	4.00E-02	mg/kg-day	2.09E-05			
Phenanthrene	5.55E-05	ug/m <sup>3</sup>	2.71E-09					mg/kg-day	--	--	--	--	7.60E-09	mg/kg-day	3.00E-01	mg/kg-day	2.53E-08			
p-Isopropyltoluene	6.87E-01	ug/m <sup>3</sup>	3.36E-05					mg/kg-day	--	--	--	--	9.41E-05	mg/kg-day	1.10E-01	mg/kg-day	8.56E-04			

TABLE H-7.15

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Pyrene	7.39E-08	ug/m <sup>3</sup>	3.62E-10	mg/kg-day	--	--	--	1.01E-09	mg/kg-day	3.00E-02	mg/kg-day	3.37E-08	
				sec-Butylbenzene	2.17E-04	ug/m <sup>3</sup>	1.06E-08	mg/kg-day	--	--	--	2.98E-08	mg/kg-day	4.00E-02	mg/kg-day	7.45E-07	
				Tert-Butylbenzene	2.17E-02	ug/m <sup>3</sup>	1.06E-06	mg/kg-day	--	--	--	2.97E-06	mg/kg-day	4.00E-02	mg/kg-day	7.43E-05	
				Toluene	8.34E-04	ug/m <sup>3</sup>	4.08E-08	mg/kg-day	--	--	--	1.14E-07	mg/kg-day	1.43E+00	mg/kg-day	8.00E-08	
				trans-1,2-Dichloroethene	2.31E-02	ug/m <sup>3</sup>	1.13E-06	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	2.00E-02	mg/kg-day	1.58E-04	
				Trichloroethene	2.18E-02	ug/m <sup>3</sup>	1.07E-06	mg/kg-day	7.00E-03	(mg/kg-day)-1	7.47E-09	2.99E-06	mg/kg-day	1.70E-01	mg/kg-day	1.76E-05	
				Vinyl chloride	4.98E-02	ug/m <sup>3</sup>	2.44E-06	mg/kg-day	2.70E-01	(mg/kg-day)-1	6.58E-07	6.82E-06	mg/kg-day	2.86E-02	mg/kg-day	2.39E-04	
Exposure Route Total														8.06E-03			
Exposure Point Total														8.24E-07			
Exposure Medium Total														8.82E-07			
Medium Total														8.82E-07			
Total of Receptor Risks Across All Media										2.68E-04		Total of Receptor Hazards Across All Media					7.37E+00

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.16

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	6.92E-08	mg/kg-day	--	--	--	4.84E-06	mg/kg-day	1.00E-02	mg/kg-day	4.84E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.35E-07	mg/kg-day	--	--	--	1.65E-05	mg/kg-day	1.00E-02	mg/kg-day	1.65E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.31E-08	mg/kg-day	--	--	--	1.61E-06	mg/kg-day	5.00E-02	mg/kg-day	3.23E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.20E-06	mg/kg-day	--	--	--	8.40E-05	mg/kg-day	9.00E-02	mg/kg-day	9.33E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.66E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.98E-12	1.16E-08	mg/kg-day	1.14E-03	mg/kg-day	1.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	7.38E-09	mg/kg-day	--	--	--	5.17E-07	mg/kg-day	5.00E-02	mg/kg-day	1.03E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.07E-08	mg/kg-day	--	--	--	3.55E-06	mg/kg-day	3.00E-02	mg/kg-day	1.18E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.14E-07	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.69E-09	2.20E-05	mg/kg-day	3.00E-02	mg/kg-day	7.32E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	9.69E-09	mg/kg-day	--	--	--	6.78E-07	mg/kg-day	2.00E-02	mg/kg-day	3.39E-05
				2-Methylphenol	8.10E-02	mg/kg	3.74E-09	mg/kg-day	--	--	--	2.62E-07	mg/kg-day	4.00E-03	mg/kg-day	6.54E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	7.71E-08	mg/kg-day	--	--	--	5.40E-06	mg/kg-day	5.00E-02	mg/kg-day	1.08E-04
				4,4'-DDD	1.20E-03	mg/kg	5.54E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.33E-11	3.87E-09	mg/kg-day	5.00E-04	mg/kg-day	7.75E-06
				4,4'-DDE	8.23E-02	mg/kg	3.80E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.29E-09	2.66E-07	mg/kg-day	5.00E-04	mg/kg-day	5.32E-04
				4,4'-DDT	4.45E-02	mg/kg	2.05E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.98E-10	1.44E-07	mg/kg-day	5.00E-04	mg/kg-day	2.87E-04
				4-Methylphenol	2.70E-01	mg/kg	1.25E-08	mg/kg-day	--	--	--	8.72E-07	mg/kg-day	5.00E-03	mg/kg-day	1.74E-04
				4-Nitroaniline	6.20E-01	mg/kg	2.86E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.01E-10	2.00E-06	mg/kg-day	3.00E-03	mg/kg-day	6.67E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.94E-08	mg/kg-day	--	--	--	1.36E-06	mg/kg-day	5.00E-04	mg/kg-day	2.71E-03
				Acenaphthene	4.23E+00	mg/kg	1.95E-07	mg/kg-day	--	--	--	1.37E-05	mg/kg-day	6.00E-02	mg/kg-day	2.28E-04
				Acenaphthylene	1.04E-01	mg/kg	4.81E-09	mg/kg-day	--	--	--	3.36E-07	mg/kg-day	6.00E-02	mg/kg-day	5.61E-06
				Aldrin	1.30E-02	mg/kg	6.00E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.02E-08	4.20E-08	mg/kg-day	3.00E-05	mg/kg-day	1.40E-03
				alpha-BHC	7.30E-04	mg/kg	3.37E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.09E-11	2.36E-09	mg/kg-day	5.00E-04	mg/kg-day	4.71E-06
				alpha-Chlordane	8.14E-03	mg/kg	3.76E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.88E-10	2.63E-08	mg/kg-day	5.00E-04	mg/kg-day	5.26E-05
				Aluminum	8.82E+03	mg/kg	4.07E-04	mg/kg-day	--	--	--	2.85E-02	mg/kg-day	1.00E+00	mg/kg-day	2.85E-02
				Anthracene	1.05E+00	mg/kg	4.87E-08	mg/kg-day	--	--	--	3.41E-06	mg/kg-day	3.00E-01	mg/kg-day	1.14E-05
				Antimony	4.08E+00	mg/kg	1.88E-07	mg/kg-day	--	--	--	1.32E-05	mg/kg-day	4.00E-04	mg/kg-day	3.29E-02
				Aroclor-1248	1.20E+00	mg/kg	5.54E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.11E-07	3.87E-06	mg/kg-day	2.00E-05	mg/kg-day	1.94E-01
				Aroclor-1254	4.44E-01	mg/kg	2.05E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.10E-08	1.43E-06	mg/kg-day	2.00E-05	mg/kg-day	7.17E-02
				Aroclor-1260	5.41E-01	mg/kg	2.50E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.99E-08	1.75E-06	mg/kg-day	2.00E-05	mg/kg-day	8.74E-02
				Aroclor-1268	2.78E-02	mg/kg	1.28E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.56E-09	8.96E-08	mg/kg-day	2.00E-05	mg/kg-day	4.48E-03
				Arsenic	6.17E+00	mg/kg	2.84E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	2.69E-06	1.99E-05	mg/kg-day	3.00E-04	mg/kg-day	6.64E-02
				Barium	6.78E+01	mg/kg	3.13E-06	mg/kg-day	--	--	--	2.19E-04	mg/kg-day	7.00E-02	mg/kg-day	3.13E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	2.31E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.77E-07	1.62E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	7.68E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	9.22E-07	5.38E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.26E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.52E-07	8.84E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.52E-08	mg/kg-day	--	--	--	2.47E-06	mg/kg-day	3.00E-02	mg/kg-day	8.22E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.50E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.80E-07	1.05E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.10E-08	mg/kg-day	--	--	--	7.69E-07	mg/kg-day	2.00E-03	mg/kg-day	3.84E-04
				Beta-BHC	2.20E-03	mg/kg	1.01E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.52E-10	7.10E-09	mg/kg-day	2.00E-04	mg/kg-day	3.55E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.61E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.08E-09	2.53E-05	mg/kg-day	2.00E-02	mg/kg-day	1.26E-03
				Cadmium	9.47E+00	mg/kg	4.37E-07	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.66E-07	3.06E-05	mg/kg-day	5.00E-04	mg/kg-day	6.12E-02
				Carbon disulfide	2.40E-04	mg/kg	1.11E-11	mg/kg-day	--	--	--	7.75E-10	mg/kg-day	1.00E-01	mg/kg-day	7.75E-09
				Chlorobenzene	1.10E-01	mg/kg	5.07E-09	mg/kg-day	--	--	--	3.55E-07	mg/kg-day	2.00E-02	mg/kg-day	1.78E-05
				Chromium	1.11E+02	mg/kg	5.13E-06	mg/kg-day	--	--	--	3.59E-04	mg/kg-day	1.50E+00	mg/kg-day	2.39E-04
				Chrysene	5.68E+00	mg/kg	2.62E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.15E-08	1.83E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.49E-07	mg/kg-day	--	--	--	2.45E-05	mg/kg-day	2.00E-02	mg/kg-day	1.22E-03
				Copper	5.71E+01	mg/kg	2.63E-06	mg/kg-day	--	--	--	1.84E-04	mg/kg-day	4.00E-02	mg/kg-day	4.61E-03
				Delta-BHC	8.40E-03	mg/kg	3.87E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.81E-10	2.71E-08	mg/kg-day	2.00E-04	mg/kg-day	1.36E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.46E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.00E-08	1.03E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.00E-07	mg/kg-day	--	--	--	4.20E-05	mg/kg-day	2.00E-03	mg/kg-day	2.10E-02
				Dieldrin	5.51E-02	mg/kg	2.54E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.07E-08	1.78E-07	mg/kg-day	5.00E-05	mg/kg-day	3.56E-03
				Dimethylphthalate	3.80E-02	mg/kg	1.75E-09	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	8.00E-01	mg/kg-day	1.53E-07

TABLE H-7.16

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																		
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient														
							Value	Units	Value	Units		Value	Units	Value	Units															
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	1.01E-07	mg/kg-day	--	--	--	7.10E-06	mg/kg-day	2.00E-01	mg/kg-day	3.55E-05														
				Endosulfan I	2.30E-02	mg/kg	1.06E-09	mg/kg-day	--	--	--	7.43E-08	mg/kg-day	6.00E-03	mg/kg-day	1.24E-05														
				Endosulfan II	2.38E-02	mg/kg	1.10E-09	mg/kg-day	--	--	--	7.69E-08	mg/kg-day	6.00E-03	mg/kg-day	1.28E-05														
				Endosulfan Sulfate	4.30E-02	mg/kg	1.98E-09	mg/kg-day	--	--	--	1.39E-07	mg/kg-day	6.00E-03	mg/kg-day	2.31E-05														
				Endrin aldehyde	4.21E-02	mg/kg	1.94E-09	mg/kg-day	--	--	--	1.36E-07	mg/kg-day	3.00E-04	mg/kg-day	4.53E-04														
				Endrin Ketone	1.00E-02	mg/kg	4.61E-10	mg/kg-day	--	--	--	3.23E-08	mg/kg-day	3.00E-04	mg/kg-day	1.08E-04														
				Fluoranthene	2.65E+01	mg/kg	1.22E-06	mg/kg-day	--	--	--	8.56E-05	mg/kg-day	4.00E-02	mg/kg-day	2.14E-03														
				Fluorene	2.92E+00	mg/kg	1.35E-07	mg/kg-day	--	--	--	9.42E-06	mg/kg-day	4.00E-02	mg/kg-day	2.35E-04														
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.20E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.32E-10	8.40E-09	mg/kg-day	3.00E-04	mg/kg-day	2.80E-05														
				gamma-Chlordane	1.31E-02	mg/kg	6.04E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	7.86E-10	4.23E-08	mg/kg-day	5.00E-04	mg/kg-day	8.46E-05														
				Heptachlor	6.90E-03	mg/kg	3.18E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.30E-09	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05														
				Heptachlor Epoxide	1.12E-02	mg/kg	5.15E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.83E-09	3.60E-08	mg/kg-day	1.30E-05	mg/kg-day	2.77E-03														
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.03E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.83E-08	2.82E-06	mg/kg-day	--	--	--														
				Iron	4.07E+04	mg/kg	1.88E-03	mg/kg-day	--	--	--	1.32E-01	mg/kg-day	3.00E-01	mg/kg-day	4.38E-01														
				Isophorone	2.00E-01	mg/kg	9.23E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	8.76E-12	6.46E-07	mg/kg-day	2.00E-01	mg/kg-day	3.23E-06														
				Lead	2.90E+03	mg/kg	1.34E-04	mg/kg-day	--	--	--	9.37E-03	mg/kg-day	--	--	--														
				Manganese	3.31E+02	mg/kg	1.53E-05	mg/kg-day	--	--	--	1.07E-03	mg/kg-day	2.40E-02	mg/kg-day	4.45E-02														
				Mercury	3.10E-01	mg/kg	1.43E-08	mg/kg-day	--	--	--	9.99E-07	mg/kg-day	3.00E-04	mg/kg-day	3.33E-03														
				Methoxychlor	1.20E-01	mg/kg	5.54E-09	mg/kg-day	--	--	--	3.87E-07	mg/kg-day	5.00E-03	mg/kg-day	7.75E-05														
				Molybdenum	2.50E+00	mg/kg	1.16E-07	mg/kg-day	--	--	--	8.09E-06	mg/kg-day	5.00E-03	mg/kg-day	1.62E-03														
				Naphthalene	1.30E+01	mg/kg	6.00E-07	mg/kg-day	--	--	--	4.20E-05	mg/kg-day	2.00E-02	mg/kg-day	2.10E-03														
				Nickel	3.91E+01	mg/kg	1.80E-06	mg/kg-day	--	--	--	1.26E-04	mg/kg-day	2.00E-02	mg/kg-day	6.32E-03														
				Phenanthrene	1.39E+01	mg/kg	6.42E-07	mg/kg-day	--	--	--	4.49E-05	mg/kg-day	3.00E-01	mg/kg-day	1.50E-04														
				Phenol	5.80E-01	mg/kg	2.68E-08	mg/kg-day	--	--	--	1.87E-06	mg/kg-day	3.00E-01	mg/kg-day	6.24E-06														
				p-Isopropyltoluene	1.10E-01	mg/kg	5.07E-09	mg/kg-day	--	--	--	3.55E-07	mg/kg-day	1.00E-01	mg/kg-day	3.55E-06														
				Pyrene	2.41E+01	mg/kg	1.11E-06	mg/kg-day	--	--	--	7.80E-05	mg/kg-day	3.00E-02	mg/kg-day	2.60E-03														
				sec-Butylbenzene	7.10E-02	mg/kg	3.28E-09	mg/kg-day	--	--	--	2.29E-07	mg/kg-day	4.00E-02	mg/kg-day	5.73E-06														
				Selenium	2.24E-01	mg/kg	1.04E-08	mg/kg-day	--	--	--	7.25E-07	mg/kg-day	5.00E-03	mg/kg-day	1.45E-04														
				Silver	1.16E+00	mg/kg	5.35E-08	mg/kg-day	--	--	--	3.74E-06	mg/kg-day	5.00E-03	mg/kg-day	7.48E-04														
				Technical Chlordane	5.51E-01	mg/kg	2.54E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.30E-08	1.78E-06	mg/kg-day	5.00E-04	mg/kg-day	3.56E-03														
				Thallium	4.97E-01	mg/kg	2.29E-08	mg/kg-day	--	--	--	1.60E-06	mg/kg-day	8.00E-05	mg/kg-day	2.01E-02														
				Toluene	4.30E-04	mg/kg	1.98E-11	mg/kg-day	--	--	--	1.39E-09	mg/kg-day	8.00E-02	mg/kg-day	1.74E-08														
				Vanadium	3.41E+01	mg/kg	1.58E-06	mg/kg-day	--	--	--	1.10E-04	mg/kg-day	1.00E-03	mg/kg-day	1.10E-01														
				Zinc	4.53E+02	mg/kg	2.09E-05	mg/kg-day	--	--	--	1.46E-03	mg/kg-day	3.00E-01	mg/kg-day	4.88E-03														
				<b>Exposure Route Total</b>											<b>4.82E-06</b>				<b>1.24E+00</b>											
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4'-DDD	4,4'-DDE	4,4'-DDT	4-Methylphenol	4-Nitroaniline	9.56E-08	mg/kg-day	--	--	--	6.69E-06	mg/kg-day	1.00E-02	mg/kg-day	6.69E-04
																					3.25E-08	mg/kg-day	--	--	--	2.28E-06	mg/kg-day	1.00E-02	mg/kg-day	2.28E-04
																					3.19E-09	mg/kg-day	--	--	--	2.23E-07	mg/kg-day	5.00E-02	mg/kg-day	4.46E-06
																					1.66E-07	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	9.00E-02	mg/kg-day	1.29E-04
																					2.29E-11	mg/kg-day	3.60E-02	(mg/kg-day)-1	8.26E-13	1.61E-09	mg/kg-day	1.14E-03	mg/kg-day	1.41E-06
																					1.02E-09	mg/kg-day	--	--	--	7.14E-08	mg/kg-day	5.00E-02	mg/kg-day	1.43E-06
																					7.01E-09	mg/kg-day	--	--	--	4.91E-07	mg/kg-day	3.00E-02	mg/kg-day	1.64E-05
--	mg/kg-day	5.40E-03	(mg/kg-day)-1																		--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
1.34E-09	mg/kg-day	--	--																		--	9.37E-08	mg/kg-day	2.00E-02	mg/kg-day	4.68E-06				
5.16E-09	mg/kg-day	--	--																		--	3.61E-07	mg/kg-day	4.00E-03	mg/kg-day	9.04E-05				
1.07E-08	mg/kg-day	--	--																		--	7.46E-07	mg/kg-day	5.00E-02	mg/kg-day	1.49E-05				
7.65E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1																		1.84E-12	5.35E-10	mg/kg-day	5.00E-04	mg/kg-day	1.07E-06				
5.25E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1																		1.78E-10	3.67E-08	mg/kg-day	5.00E-04	mg/kg-day	7.35E-05				
8.51E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1																		2.89E-10	5.96E-08	mg/kg-day	5.00E-04	mg/kg-day	1.19E-04				
1.72E-08	mg/kg-day	--	--																		--	1.20E-06	mg/kg-day	5.00E-03	mg/kg-day	2.41E-04				
3.95E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1																		8.30E-10	2.77E-06	mg/kg-day	3.00E-03	mg/kg-day	9.22E-04				

TABLE H-7.16

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	2.68E-08	mg/kg-day	--	--	--	--	1.87E-06	mg/kg-day	5.00E-04	mg/kg-day	3.75E-03
				Acenaphthene	4.23E+00	mg/kg	3.51E-07	mg/kg-day	--	--	--	--	2.46E-05	mg/kg-day	6.00E-02	mg/kg-day	4.09E-04
				Acenaphthylene	1.04E-01	mg/kg	6.64E-10	mg/kg-day	--	--	--	--	4.65E-08	mg/kg-day	6.00E-02	mg/kg-day	7.75E-07
				Aldrin	1.30E-02	mg/kg	8.29E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.41E-08	5.80E-05	mg/kg-day	3.00E-05	mg/kg-day	1.93E-03	
				alpha-BHC	7.30E-04	mg/kg	4.65E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.26E-11	3.26E-10	mg/kg-day	5.00E-04	mg/kg-day	6.51E-07	
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	5.00E-04	mg/kg-day	--	
				Aluminum	8.82E+03	mg/kg	5.62E-06	mg/kg-day	--	--	--	--	3.94E-04	mg/kg-day	1.00E+00	mg/kg-day	3.94E-04
				Anthracene	1.05E+00	mg/kg	8.74E-08	mg/kg-day	--	--	--	--	6.12E-06	mg/kg-day	3.00E-01	mg/kg-day	2.04E-05
				Antimony	4.08E+00	mg/kg	2.60E-09	mg/kg-day	--	--	--	--	1.82E-07	mg/kg-day	4.00E-04	mg/kg-day	4.55E-04
				Aroclor-1248	1.20E+00	mg/kg	1.07E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.14E-07	7.50E-06	mg/kg-day	2.00E-05	mg/kg-day	3.75E-01	
				Aroclor-1254	4.44E-01	mg/kg	3.96E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.93E-08	2.77E-06	mg/kg-day	2.00E-05	mg/kg-day	1.39E-01	
				Aroclor-1260	5.41E-01	mg/kg	4.83E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.66E-08	3.38E-06	mg/kg-day	2.00E-05	mg/kg-day	1.69E-01	
				Aroclor-1268	2.78E-02	mg/kg	2.48E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.95E-09	1.73E-07	mg/kg-day	2.00E-05	mg/kg-day	8.67E-03	
				Arsenic	6.17E+00	mg/kg	1.18E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.11E-06	8.25E-06	mg/kg-day	3.00E-04	mg/kg-day	2.75E-02	
				Barium	6.78E+01	mg/kg	4.32E-08	mg/kg-day	--	--	--	3.03E-06	mg/kg-day	7.00E-02	mg/kg-day	4.32E-05	
				Benzo(a)anthracene	5.00E+00	mg/kg	4.15E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.98E-07	2.90E-05	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.67E+00	mg/kg	1.38E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.66E-06	9.66E-06	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.27E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.72E-07	1.59E-05	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	6.33E-08	mg/kg-day	--	--	--	4.43E-06	mg/kg-day	3.00E-02	mg/kg-day	1.48E-04	
				Benzo(k)fluoranthene	3.26E+00	mg/kg	2.70E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.24E-07	1.89E-05	mg/kg-day	--	--	--	
				Beryllium	2.38E-01	mg/kg	1.52E-10	mg/kg-day	--	--	--	1.06E-08	mg/kg-day	2.00E-03	mg/kg-day	5.31E-06	
				Beta-BHC	2.20E-03	mg/kg	1.40E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.10E-11	9.82E-10	mg/kg-day	2.00E-04	mg/kg-day	4.91E-06	
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	4.99E-08	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.50E-10	3.49E-08	mg/kg-day	2.00E-02	mg/kg-day	1.75E-04	
				Cadmium	9.47E+00	mg/kg	6.04E-09	mg/kg-day	3.80E-01	(mg/kg-day)-1	2.29E-09	4.23E-07	mg/kg-day	5.00E-04	mg/kg-day	8.45E-04	
				Carbon disulfide	2.40E-04	mg/kg	3.82E-11	mg/kg-day	--	--	--	2.68E-09	mg/kg-day	1.00E-01	mg/kg-day	2.68E-08	
				Chlorobenzene	1.10E-01	mg/kg	7.01E-10	mg/kg-day	--	--	--	4.91E-08	mg/kg-day	2.00E-02	mg/kg-day	2.45E-06	
				Chromium	1.11E+02	mg/kg	7.09E-08	mg/kg-day	--	--	--	4.96E-06	mg/kg-day	1.50E+00	mg/kg-day	3.31E-06	
				Chrysene	5.68E+00	mg/kg	4.71E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	5.65E-08	3.30E-05	mg/kg-day	--	--	--	
				Cobalt	7.57E+00	mg/kg	4.83E-09	mg/kg-day	--	--	--	3.38E-07	mg/kg-day	2.00E-02	mg/kg-day	1.69E-05	
				Copper	5.71E+01	mg/kg	3.64E-08	mg/kg-day	--	--	--	2.55E-06	mg/kg-day	4.00E-02	mg/kg-day	6.36E-05	
				Delta-BHC	8.40E-03	mg/kg	2.68E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.02E-10	1.87E-08	mg/kg-day	2.00E-04	mg/kg-day	9.37E-05	
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	2.63E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.08E-07	1.84E-06	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	8.29E-08	mg/kg-day	--	--	--	5.80E-06	mg/kg-day	2.00E-03	mg/kg-day	2.90E-03	
				Dieldrin	5.51E-02	mg/kg	3.51E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	5.62E-09	2.46E-08	mg/kg-day	5.00E-05	mg/kg-day	4.92E-04	
				Dimethylphthalate	3.80E-02	mg/kg	2.42E-10	mg/kg-day	--	--	--	1.70E-08	mg/kg-day	8.00E-01	mg/kg-day	2.12E-08	
				di-n-Butylphthalate	2.20E+00	mg/kg	1.40E-08	mg/kg-day	--	--	--	9.82E-07	mg/kg-day	2.00E-01	mg/kg-day	4.91E-06	
				Endosulfan I	2.30E-02	mg/kg	7.33E-10	mg/kg-day	--	--	--	5.13E-08	mg/kg-day	6.00E-03	mg/kg-day	8.55E-06	
				Endosulfan II	2.38E-02	mg/kg	7.59E-10	mg/kg-day	--	--	--	5.31E-08	mg/kg-day	6.00E-03	mg/kg-day	8.86E-06	
				Endosulfan Sulfate	4.30E-02	mg/kg	1.37E-09	mg/kg-day	--	--	--	9.59E-08	mg/kg-day	6.00E-03	mg/kg-day	1.60E-05	
				Endrin aldehyde	4.21E-02	mg/kg	1.34E-09	mg/kg-day	--	--	--	9.39E-08	mg/kg-day	3.00E-04	mg/kg-day	3.13E-04	
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	
				Fluoranthene	2.65E+01	mg/kg	2.20E-06	mg/kg-day	--	--	--	1.54E-04	mg/kg-day	4.00E-02	mg/kg-day	3.84E-03	
				Fluorene	2.92E+00	mg/kg	2.42E-07	mg/kg-day	--	--	--	1.69E-05	mg/kg-day	4.00E-02	mg/kg-day	4.23E-04	
				gamma-BHC (Lindane)	2.60E-03	mg/kg	8.63E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.29E-11	4.64E-09	mg/kg-day	3.00E-04	mg/kg-day	1.55E-05	
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--	
Heptachlor	6.90E-03	mg/kg	4.40E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.80E-10	3.08E-09	mg/kg-day	5.00E-04	mg/kg-day	6.16E-06					
Heptachlor Epoxide	1.12E-02	mg/kg	7.11E-11	mg/kg-day	5.50E+00	(mg/kg-day)-1	3.91E-10	4.98E-09	mg/kg-day	1.30E-05	mg/kg-day	3.83E-04					
Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	7.23E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.69E-08	5.06E-06	mg/kg-day	--	--	--					
Iron	4.07E+04	mg/kg	2.60E-05	mg/kg-day	--	--	--	1.82E-03	mg/kg-day	3.00E-01	mg/kg-day	6.06E-03					
Isonphorone	2.00E-01	mg/kg	1.27E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.21E-11	8.92E-07	mg/kg-day	2.00E-01	mg/kg-day	4.46E-06					
Lead	2.90E+03	mg/kg	1.85E-06	mg/kg-day	--	--	--	1.29E-04	mg/kg-day	--	--	--					

TABLE H-7.16

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	2.11E-07	mg/kg-day	--	--	--	--	1.48E-05	mg/kg-day	2.40E-02	mg/kg-day	6.15E-04			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	--	--		
				Methoxychlor	1.20E-01	mg/kg	7.65E-10	mg/kg-day	--	--	--	--	5.35E-08	mg/kg-day	5.00E-03	mg/kg-day	1.07E-05	--	--	
				Molybdenum	2.50E+00	mg/kg	1.60E-09	mg/kg-day	--	--	--	--	1.12E-07	mg/kg-day	5.00E-03	mg/kg-day	2.23E-05	--	--	
				Naphthalene	1.30E+01	mg/kg	1.08E-06	mg/kg-day	--	--	--	--	7.54E-05	mg/kg-day	2.00E-02	mg/kg-day	3.77E-03	--	--	
				Nickel	3.91E+01	mg/kg	2.49E-08	mg/kg-day	--	--	--	--	1.75E-06	mg/kg-day	2.00E-02	mg/kg-day	8.73E-05	--	--	
				Phenanthrene	1.39E+01	mg/kg	8.87E-08	mg/kg-day	--	--	--	--	6.21E-06	mg/kg-day	3.00E-01	mg/kg-day	2.07E-05	--	--	
				Phenol	5.80E-01	mg/kg	3.70E-08	mg/kg-day	--	--	--	--	2.59E-06	mg/kg-day	3.00E-01	mg/kg-day	8.63E-06	--	--	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	--	--	--	
				Pyrene	2.41E+01	mg/kg	2.00E-06	mg/kg-day	--	--	--	--	1.40E-04	mg/kg-day	3.00E-02	mg/kg-day	4.67E-03	--	--	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	--	--	--	
				Selenium	2.24E-01	mg/kg	1.43E-10	mg/kg-day	--	--	--	--	1.00E-08	mg/kg-day	5.00E-03	mg/kg-day	2.00E-06	--	--	
				Silver	1.16E+00	mg/kg	7.39E-10	mg/kg-day	--	--	--	--	5.17E-08	mg/kg-day	5.00E-03	mg/kg-day	1.03E-05	--	--	
				Technical Chlordane	5.51E-01	mg/kg	1.41E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.83E-08	--	9.84E-07	mg/kg-day	5.00E-04	mg/kg-day	1.97E-03	--	--	
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	8.00E-05	mg/kg-day	--	--	--	--	
				Toluene	4.30E-04	mg/kg	2.74E-12	mg/kg-day	--	--	--	--	1.92E-10	mg/kg-day	8.00E-02	mg/kg-day	2.40E-09	--	--	
				Vanadium	3.41E+01	mg/kg	2.18E-08	mg/kg-day	--	--	--	--	1.52E-06	mg/kg-day	1.00E-03	mg/kg-day	1.52E-03	--	--	
				Zinc	4.53E+02	mg/kg	2.89E-07	mg/kg-day	--	--	--	--	2.02E-05	mg/kg-day	3.00E-01	mg/kg-day	6.74E-05	--	--	
				Exposure Point Total											4.55E-06					7.57E-01
				Exposure Medium Total											9.38E-06					1.99E+00
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	2.10E-07	mg/m <sup>3</sup>	5.87E-10	mg/kg-day	--	--	--	--	4.11E-08	mg/kg-day	2.00E-02	mg/kg-day	2.05E-06				
			2-Methylphenol	8.10E-08	mg/m <sup>3</sup>	2.26E-10	mg/kg-day	--	--	--	--	1.59E-08	mg/kg-day	--	--	--	--			
			4,4'-DDD	1.20E-09	mg/m <sup>3</sup>	3.35E-12	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	8.05E-13	--	2.35E-10	mg/kg-day	5.00E-04	mg/kg-day	4.70E-07	--			
			4,4'-DDT	4.45E-08	mg/m <sup>3</sup>	1.24E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.23E-11	--	8.71E-09	mg/kg-day	5.00E-04	mg/kg-day	1.74E-05	--			
			4-Methylphenol	2.70E-07	mg/m <sup>3</sup>	7.55E-10	mg/kg-day	--	--	--	--	5.28E-08	mg/kg-day	5.00E-03	mg/kg-day	1.06E-05	--			
			4-Nitroaniline	6.20E-07	mg/m <sup>3</sup>	1.73E-09	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	3.64E-11	--	1.21E-07	mg/kg-day	1.00E-03	mg/kg-day	1.21E-04	--			
			4-Nitrophenol	4.20E-07	mg/m <sup>3</sup>	1.17E-09	mg/kg-day	--	--	--	--	8.22E-08	mg/kg-day	5.70E-04	mg/kg-day	1.44E-04	--			
			Aluminum	8.82E-03	mg/m <sup>3</sup>	2.47E-05	mg/kg-day	--	--	--	--	1.73E-03	mg/kg-day	1.43E-03	mg/kg-day	1.21E+00	--			
			Antimony	4.08E-06	mg/m <sup>3</sup>	1.14E-08	mg/kg-day	--	--	--	--	7.98E-07	mg/kg-day	--	--	--	--			
			Aroclor-1248	1.20E-06	mg/m <sup>3</sup>	3.35E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.71E-09	--	2.35E-07	mg/kg-day	2.00E-05	mg/kg-day	1.17E-02	--			
			Aroclor-1254	4.44E-07	mg/m <sup>3</sup>	1.24E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.48E-09	--	8.69E-08	mg/kg-day	2.00E-05	mg/kg-day	4.35E-03	--			
			Aroclor-1260	5.41E-07	mg/m <sup>3</sup>	1.51E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.03E-09	--	1.06E-07	mg/kg-day	2.00E-05	mg/kg-day	5.30E-03	--			
			Aroclor-1268	2.78E-08	mg/m <sup>3</sup>	7.76E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.55E-10	--	5.43E-09	mg/kg-day	2.00E-05	mg/kg-day	2.72E-04	--			
			Arsenic	6.17E-06	mg/m <sup>3</sup>	1.72E-08	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	2.07E-07	--	1.21E-06	mg/kg-day	8.60E-06	mg/kg-day	1.40E-01	--			
			Barium	6.78E-05	mg/m <sup>3</sup>	1.90E-07	mg/kg-day	--	--	--	--	1.33E-05	mg/kg-day	1.40E-04	mg/kg-day	9.48E-02	--			
			Benzo(a)anthracene	5.00E-06	mg/m <sup>3</sup>	1.40E-08	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	5.46E-09	--	9.79E-07	mg/kg-day	--	--	--	--			
			Benzo(a)pyrene	1.67E-06	mg/m <sup>3</sup>	4.66E-09	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	1.82E-08	--	3.26E-07	mg/kg-day	--	--	--	--			
			Benzo(g,h,i)perylene	7.64E-07	mg/m <sup>3</sup>	2.13E-09	mg/kg-day	--	--	--	--	1.49E-07	mg/kg-day	3.00E-02	mg/kg-day	4.98E-06	--			
			Benzo(k)fluoranthene	3.26E-06	mg/m <sup>3</sup>	9.11E-09	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.55E-09	--	6.38E-07	mg/kg-day	--	--	--	--			
			Beryllium	2.38E-07	mg/m <sup>3</sup>	6.66E-09	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	5.59E-09	--	4.66E-08	mg/kg-day	5.71E-06	mg/kg-day	8.16E-03	--			
			Beta-BHC	2.20E-09	mg/m <sup>3</sup>	6.15E-12	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	9.23E-12	--	4.31E-10	mg/kg-day	2.00E-04	mg/kg-day	2.15E-06	--			
			bis(2-ethylhexyl)phthalate	7.83E-06	mg/m <sup>3</sup>	2.19E-08	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	1.84E-10	--	1.53E-06	mg/kg-day	2.00E-02	mg/kg-day	7.66E-05	--			
			Cadmium	9.47E-06	mg/m <sup>3</sup>	2.65E-08	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	3.97E-07	--	1.85E-06	mg/kg-day	5.71E-06	mg/kg-day	3.24E-01	--			
			Chromium	1.11E-04	mg/m <sup>3</sup>	3.11E-07	mg/kg-day	--	--	--	--	2.18E-05	mg/kg-day	--	--	--	--			
			Cobalt	7.57E-06	mg/m <sup>3</sup>	2.12E-08	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	2.07E-07	--	1.48E-06	mg/kg-day	5.71E-06	mg/kg-day	2.60E-01	--			
			Copper	5.71E-05	mg/m <sup>3</sup>	1.60E-07	mg/kg-day	--	--	--	--	1.12E-05	mg/kg-day	--	--	--	--			
			Dibenzo(a,h)anthracene	3.17E-07	mg/m <sup>3</sup>	8.88E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	3.64E-09	--	6.21E-08	mg/kg-day	--	--	--	--			
			Dimethylphthalate	3.80E-08	mg/m <sup>3</sup>	1.06E-10	mg/kg-day	--	--	--	--	7.44E-09	mg/kg-day	8.00E-01	mg/kg-day	9.30E-09	--			
			di-n-Butylphthalate	2.20E-06	mg/m <sup>3</sup>	6.15E-09	mg/kg-day	--	--	--	--	4.31E-07	mg/kg-day	1.00E-01	mg/kg-day	4.31E-06	--			
			Endrin aldehyde	4.21E-08	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	--	--	--	--	8.23E-09	mg/kg-day	3.00E-04	mg/kg-day	2.74E-05	--			

TABLE H-7.16

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units							
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	1.00E-08	mg/m <sup>3</sup>	2.80E-11	mg/kg-day	--	--	--	1.96E-09	mg/kg-day	3.00E-04	mg/kg-day	6.52E-06				
				Heptachlor Epoxide	1.12E-08	mg/m <sup>3</sup>	3.12E-11	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.72E-10	2.18E-09	mg/kg-day	1.30E-05	mg/kg-day	1.68E-04				
				Indeno(1,2,3-cd)pyrene	8.73E-07	mg/m <sup>3</sup>	2.44E-09	mg/kg-day	3.90E-01	(mg/kg-day)-1	9.52E-10	1.71E-07	mg/kg-day	--	--	--				
				Iron	4.07E-02	mg/m <sup>3</sup>	1.14E-04	mg/kg-day	--	--	--	7.97E-03	mg/kg-day	--	--	--				
				Isophorone	2.00E-07	mg/m <sup>3</sup>	5.59E-10	mg/kg-day	--	--	--	3.91E-08	mg/kg-day	--	--	--				
				Lead	2.90E-03	mg/m <sup>3</sup>	8.11E-06	mg/kg-day	--	--	--	5.68E-04	mg/kg-day	--	--	--				
				Manganese	3.31E-04	mg/m <sup>3</sup>	9.26E-07	mg/kg-day	--	--	--	6.48E-05	mg/kg-day	1.43E-05	mg/kg-day	4.54E+00				
				Mercury	3.10E-07	mg/m <sup>3</sup>	8.65E-10	mg/kg-day	--	--	--	6.06E-08	mg/kg-day	8.60E-05	mg/kg-day	7.04E-04				
				Molybdenum	2.50E-06	mg/m <sup>3</sup>	7.00E-09	mg/kg-day	--	--	--	4.90E-07	mg/kg-day	--	--	--				
				Nickel	3.91E-05	mg/m <sup>3</sup>	1.09E-07	mg/kg-day	9.10E-01	(mg/kg-day)-1	9.95E-08	7.66E-06	mg/kg-day	1.40E-05	mg/kg-day	5.47E-01				
				Phenol	5.80E-07	mg/m <sup>3</sup>	1.62E-09	mg/kg-day	--	--	--	1.14E-07	mg/kg-day	5.71E-02	mg/kg-day	1.99E-06				
				Selenium	2.24E-07	mg/m <sup>3</sup>	6.27E-10	mg/kg-day	--	--	--	4.39E-08	mg/kg-day	5.70E-03	mg/kg-day	7.71E-06				
				Silver	1.16E-06	mg/m <sup>3</sup>	3.24E-09	mg/kg-day	--	--	--	2.27E-07	mg/kg-day	--	--	--				
				Thallium	4.97E-07	mg/m <sup>3</sup>	1.39E-09	mg/kg-day	--	--	--	9.73E-08	mg/kg-day	--	--	--				
				Vanadium	3.41E-05	mg/m <sup>3</sup>	9.55E-08	mg/kg-day	--	--	--	6.68E-06	mg/kg-day	--	--	--				
				Zinc	4.53E-04	mg/m <sup>3</sup>	1.27E-06	mg/kg-day	--	--	--	8.87E-05	mg/kg-day	--	--	--				
				<b>Exposure Route Total</b>																
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.92E-07	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	1.10E-03	mg/kg-day	1.86E-02
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	9.93E-07	mg/kg-day	--	--	--	6.96E-05	mg/kg-day	1.10E-03	mg/kg-day	6.32E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	3.28E-07	mg/kg-day	--	--	--	2.29E-05	mg/kg-day	1.70E-03	mg/kg-day	1.35E-02
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.49E-05	mg/kg-day	--	--	--	1.04E-03	mg/kg-day	5.70E-02	mg/kg-day	1.83E-02
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	8.00E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.88E-10	5.60E-07	mg/kg-day	1.14E-03	mg/kg-day	4.91E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.02E-07	mg/kg-day	--	--	--	7.15E-06	mg/kg-day	1.70E-03	mg/kg-day	4.21E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	4.55E-07	mg/kg-day	--	--	--	3.19E-05	mg/kg-day	3.00E-02	mg/kg-day	1.06E-03
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	4.37E-06	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.75E-07	3.06E-04	mg/kg-day	2.30E-01	mg/kg-day	1.33E-03
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	2.07E-07	mg/kg-day	--	--	--	1.45E-05	mg/kg-day	5.00E-02	mg/kg-day	2.90E-04
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	2.71E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.22E-12	1.90E-09	mg/kg-day	5.00E-04	mg/kg-day	3.80E-06
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.63E-07	mg/kg-day	--	--	--	1.14E-05	mg/kg-day	6.00E-02	mg/kg-day	1.90E-04				
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	4.00E-09	mg/kg-day	--	--	--	2.80E-07	mg/kg-day	6.00E-02	mg/kg-day	4.66E-06				
				Aldrin	5.63E-09	mg/m <sup>3</sup>	1.57E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.68E-10	1.10E-09	mg/kg-day	3.00E-05	mg/kg-day	3.67E-05				
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.02E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.75E-11	7.12E-10	mg/kg-day	5.00E-04	mg/kg-day	1.42E-06				
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	2.25E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.70E-11	1.58E-09	mg/kg-day	2.00E-04	mg/kg-day	7.89E-06				
				Anthracene	1.45E-05	mg/m <sup>3</sup>	4.05E-08	mg/kg-day	--	--	--	2.83E-06	mg/kg-day	3.00E-01	mg/kg-day	9.45E-06				
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	4.95E-09	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.83E-09	3.46E-07	mg/kg-day	--	--	--				
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.26E-09	mg/kg-day	--	--	--	8.85E-08	mg/kg-day	2.00E-01	mg/kg-day	4.43E-07				
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.45E-07	mg/kg-day	--	--	--	1.01E-05	mg/kg-day	2.86E-01	mg/kg-day	3.55E-05				
				Chrysene	6.25E-06	mg/m <sup>3</sup>	1.75E-08	mg/kg-day	3.90E-02	(mg/kg-day)-1	6.81E-10	1.22E-06	mg/kg-day	--	--	--				
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.76E-10	8.19E-09	mg/kg-day	2.00E-04	mg/kg-day	4.10E-05				
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.25E-07	mg/kg-day	--	--	--	8.78E-06	mg/kg-day	2.00E-03	mg/kg-day	4.39E-03				
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	2.07E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.32E-09	1.45E-08	mg/kg-day	5.00E-05	mg/kg-day	2.90E-04				
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	2.25E-10	mg/kg-day	--	--	--	1.58E-08	mg/kg-day	6.00E-03	mg/kg-day	2.63E-06				
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	2.33E-10	mg/kg-day	--	--	--	1.63E-08	mg/kg-day	6.00E-03	mg/kg-day	2.72E-06				
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	4.21E-10	mg/kg-day	--	--	--	2.95E-08	mg/kg-day	6.00E-03	mg/kg-day	4.91E-06				
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	4.79E-08	mg/kg-day	--	--	--	3.35E-06	mg/kg-day	4.00E-02	mg/kg-day	8.39E-05				
				Fluorene	1.71E-05	mg/m <sup>3</sup>	4.77E-08	mg/kg-day	--	--	--	3.34E-06	mg/kg-day	4.00E-02	mg/kg-day	8.35E-05				
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	4.46E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.90E-11	3.12E-09	mg/kg-day	3.00E-04	mg/kg-day	1.04E-05				
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	3.63E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.35E-11	2.54E-09	mg/kg-day	2.00E-04	mg/kg-day	1.27E-05				
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	9.45E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.87E-09	6.61E-08	mg/kg-day	5.00E-04	mg/kg-day	1.32E-04				
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	2.41E-10	mg/kg-day	--	--	--	1.69E-08	mg/kg-day	5.00E-03	mg/kg-day	3.38E-06				
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.96E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.35E-07	1.37E-04	mg/kg-day	8.57E-04	mg/kg-day	1.60E-01				
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	5.34E-07	mg/kg-day	--	--	--	3.74E-05	mg/kg-day	3.00E-01	mg/kg-day	1.25E-04				

TABLE H-7.16

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	5.36E-07	mg/kg-day	--	--	--	3.75E-05	mg/kg-day	1.10E-01	mg/kg-day	3.41E-04	
				Pyrene	1.85E-05	mg/m <sup>3</sup>	5.16E-08	mg/kg-day	--	--	--	3.61E-06	mg/kg-day	3.00E-02	mg/kg-day	1.20E-04	
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	7.85E-08	mg/kg-day	--	--	--	5.50E-06	mg/kg-day	4.00E-02	mg/kg-day	1.37E-04	
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	1.53E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.83E-09	--	1.07E-07	mg/kg-day	2.00E-04	mg/kg-day	5.34E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	8.73E-10	mg/kg-day	--	--	--	6.11E-08	mg/kg-day	1.43E+00	mg/kg-day	4.28E-08	
Exposure Point Total											4.22E-07				2.87E-01		
Exposure Medium Total											1.38E-06				7.43E+00		
Medium Total											1.38E-06				7.43E+00		
Medium Total											1.08E-05				9.42E+00		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	1.18E-09	mg/kg-day	5.70E-03	(mg/kg-day)-1	6.75E-12	8.29E-08	mg/kg-day	1.40E-01	mg/kg-day	5.92E-07	
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	3.53E-10	mg/kg-day	--	--	--	2.47E-08	mg/kg-day	1.70E-03	mg/kg-day	1.45E-05	
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	5.70E-02	mg/kg-day	2.84E-06	
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.66E-09	mg/kg-day	7.20E-02	(mg/kg-day)-1	1.20E-10	1.16E-07	mg/kg-day	1.40E-03	mg/kg-day	8.32E-05	
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	6.24E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.24E-11	4.36E-08	mg/kg-day	1.14E-03	mg/kg-day	3.83E-05	
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	2.01E-10	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	1.70E-03	mg/kg-day	8.28E-06	
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	7.87E-10	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.15E-11	5.51E-08	mg/kg-day	2.30E-01	mg/kg-day	2.40E-07	
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	3.04E-11	mg/kg-day	--	--	--	2.13E-09	mg/kg-day	1.43E+00	mg/kg-day	1.49E-09	
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	2.70E-12	mg/kg-day	--	--	--	1.89E-10	mg/kg-day	5.00E-02	mg/kg-day	3.79E-09	
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	3.82E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.23E-12	2.53E-10	mg/kg-day	5.00E-04	mg/kg-day	5.06E-07	
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	1.13E-11	mg/kg-day	--	--	--	7.92E-10	mg/kg-day	8.60E-01	mg/kg-day	9.20E-10	
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.08E-10	mg/kg-day	--	--	--	7.58E-09	mg/kg-day	6.00E-02	mg/kg-day	1.26E-07	
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	4.81E-12	mg/kg-day	--	--	--	3.23E-10	mg/kg-day	6.00E-02	mg/kg-day	5.38E-09	
				Aldrin	2.24E-09	mg/m <sup>3</sup>	6.25E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.06E-10	4.37E-10	mg/kg-day	3.00E-05	mg/kg-day	1.46E-05	
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	7.92E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.14E-12	5.54E-11	mg/kg-day	5.00E-04	mg/kg-day	1.11E-07	
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.87E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.25E-12	1.31E-10	mg/kg-day	2.00E-04	mg/kg-day	6.56E-07	
				Anthracene	3.29E-09	mg/m <sup>3</sup>	9.18E-12	mg/kg-day	--	--	--	6.43E-10	mg/kg-day	3.00E-01	mg/kg-day	2.14E-09	
				Benzene	2.61E-07	mg/m <sup>3</sup>	7.30E-10	mg/kg-day	1.00E-01	(mg/kg-day)-1	7.30E-11	5.11E-08	mg/kg-day	8.60E-03	mg/kg-day	5.94E-06	
				Benz(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.36E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	5.30E-13	9.52E-11	mg/kg-day	--	--	--	
				Bromoform	7.36E-09	mg/m <sup>3</sup>	2.06E-11	mg/kg-day	3.90E-03	(mg/kg-day)-1	8.03E-14	1.44E-09	mg/kg-day	2.00E-02	mg/kg-day	7.20E-08	
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.26E-08	mg/kg-day	--	--	--	8.82E-07	mg/kg-day	2.00E-01	mg/kg-day	4.41E-06	
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	2.05E-10	mg/kg-day	--	--	--	1.43E-08	mg/kg-day	2.86E-01	mg/kg-day	5.02E-08	
				Chloroform	2.07E-06	mg/m <sup>3</sup>	5.78E-09	mg/kg-day	1.90E-02	(mg/kg-day)-1	1.10E-10	4.05E-07	mg/kg-day	8.57E-02	mg/kg-day	4.72E-06	
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	2.09E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	2.60E-02	mg/kg-day	5.64E-06	
				Chrysene	1.32E-09	mg/m <sup>3</sup>	3.68E-12	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.43E-13	2.58E-10	mg/kg-day	--	--	--	
				cis-1,2-Dichloroethane	5.30E-07	mg/m <sup>3</sup>	1.48E-09	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	1.00E-02	mg/kg-day	1.04E-05	
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.75E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.39E-11	1.92E-10	mg/kg-day	5.00E-05	mg/kg-day	3.84E-06	
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	6.26E-13	mg/kg-day	--	--	--	4.38E-11	mg/kg-day	6.00E-03	mg/kg-day	7.30E-09	
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.03E-15	mg/kg-day	--	--	--	7.20E-14	mg/kg-day	6.00E-03	mg/kg-day	1.20E-11	
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	5.58E-10	mg/kg-day	--	--	--	3.90E-08	mg/kg-day	3.00E-01	mg/kg-day	1.35E-07	
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.41E-12	mg/kg-day	--	--	--	9.89E-11	mg/kg-day	4.00E-02	mg/kg-day	2.47E-09	
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.79E-12	mg/kg-day	--	--	--	1.96E-10	mg/kg-day	4.00E-02	mg/kg-day	4.89E-09	
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	3.47E-15	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.82E-15	2.43E-13	mg/kg-day	3.00E-04	mg/kg-day	8.10E-10	
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	4.86E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.84E-12	3.41E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06	
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	4.99E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.05E-10	3.49E-09	mg/kg-day	5.00E-04	mg/kg-day	6.99E-06	
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	9.98E-08	mg/kg-day	--	--	--	6.70E-06	mg/kg-day	1.10E-01	mg/kg-day	6.09E-05	
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.94E-09	mg/kg-day	--	--	--	1.36E-07	mg/kg-day	2.90E-02	mg/kg-day	4.68E-06	
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	9.13E-12	mg/kg-day	--	--	--	6.39E-10	mg/kg-day	5.00E-03	mg/kg-day	1.28E-07	
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.52E-11	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.82E-12	1.06E-09	mg/kg-day	8.57E-04	mg/kg-day	1.24E-06	
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	7.07E-10	mg/kg-day	--	--	--	4.95E-08	mg/kg-day	8.57E-04	mg/kg-day	5.78E-05	
n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	7.87E-10	mg/kg-day	--	--	--	5.51E-08	mg/kg-day	4.00E-02	mg/kg-day	1.38E-06					
Phenanthrene	2.62E-09	mg/m <sup>3</sup>	7.32E-12	mg/kg-day	--	--	--	5.12E-10	mg/kg-day	3.00E-01	mg/kg-day	1.71E-09					

TABLE H-7.16

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	9.58E-08	mg/kg-day	--	--	--	6.70E-08	mg/kg-day	1.10E-01	mg/kg-day	6.09E-05		
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.29E-12	mg/kg-day	--	--	--	9.02E-11	mg/kg-day	3.00E-02	mg/kg-day	3.01E-09		
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	2.24E-09	mg/kg-day	--	--	--	1.57E-07	mg/kg-day	4.00E-02	mg/kg-day	3.92E-06		
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	2.54E-09	mg/kg-day	--	--	--	1.78E-07	mg/kg-day	4.00E-02	mg/kg-day	4.44E-06		
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	7.43E-08	mg/kg-day	1.43E+00	mg/kg-day	5.20E-08		
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	2.51E-09	mg/kg-day	--	--	--	1.75E-07	mg/kg-day	2.00E-02	mg/kg-day	8.77E-06		
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	2.61E-09	mg/kg-day	7.00E-03	(mg/kg-day)-1	1.82E-11	1.82E-07	mg/kg-day	1.70E-01	mg/kg-day	1.07E-06		
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	5.39E-09	mg/kg-day	2.70E-01	(mg/kg-day)-1	1.46E-09	3.77E-07	mg/kg-day	2.86E-02	mg/kg-day	1.32E-05		
				Exposure Route Total										2.21E-09				4.26E-04
				Exposure Point Total										2.21E-09				4.26E-04
Exposure Medium Total										2.21E-09				4.26E-04				
Medium Total										2.21E-09				4.26E-04				
Total of Receptor Risks Across All Media										1.08E-05	Total of Receptor Hazards Across All Media					9.42E+00		

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.17

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	6.92E-08	mg/kg-day	--	--	--	4.84E-06	mg/kg-day	1.00E-02	mg/kg-day	4.84E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.35E-07	mg/kg-day	--	--	--	1.65E-05	mg/kg-day	1.00E-02	mg/kg-day	1.65E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.31E-08	mg/kg-day	--	--	--	1.61E-06	mg/kg-day	5.00E-02	mg/kg-day	3.23E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.20E-06	mg/kg-day	--	--	--	8.40E-05	mg/kg-day	9.00E-02	mg/kg-day	9.33E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.66E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.98E-12	1.16E-08	mg/kg-day	1.14E-03	mg/kg-day	1.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	7.38E-09	mg/kg-day	--	--	--	5.17E-07	mg/kg-day	5.00E-02	mg/kg-day	1.03E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.07E-08	mg/kg-day	--	--	--	3.55E-06	mg/kg-day	3.00E-02	mg/kg-day	1.18E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.14E-07	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.69E-09	2.20E-05	mg/kg-day	3.00E-02	mg/kg-day	7.32E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	9.69E-09	mg/kg-day	--	--	--	6.78E-07	mg/kg-day	2.00E-02	mg/kg-day	3.39E-05
				2-Methylphenol	8.10E-02	mg/kg	3.74E-09	mg/kg-day	--	--	--	2.62E-07	mg/kg-day	4.00E-03	mg/kg-day	6.54E-05
				2-Methylnaphthalene	1.45E+00	mg/kg	6.69E-08	mg/kg-day	--	--	--	4.68E-06	mg/kg-day	5.00E-02	mg/kg-day	9.36E-05
				4,4'-DDD	1.20E-03	mg/kg	5.54E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.33E-11	3.87E-09	mg/kg-day	5.00E-04	mg/kg-day	7.75E-06
				4,4'-DDE	7.50E-02	mg/kg	3.46E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.18E-09	2.42E-07	mg/kg-day	5.00E-04	mg/kg-day	4.84E-04
				4,4'-DDT	4.20E-02	mg/kg	1.94E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.59E-10	1.36E-07	mg/kg-day	5.00E-04	mg/kg-day	2.71E-04
				4-Methylphenol	2.70E-01	mg/kg	1.25E-08	mg/kg-day	--	--	--	8.72E-07	mg/kg-day	5.00E-03	mg/kg-day	1.74E-04
				4-Nitroaniline	6.20E-01	mg/kg	2.86E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.01E-10	2.00E-06	mg/kg-day	3.00E-03	mg/kg-day	6.67E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.94E-08	mg/kg-day	--	--	--	1.36E-06	mg/kg-day	5.00E-04	mg/kg-day	2.71E-03
				Acenaphthene	3.47E+00	mg/kg	1.60E-07	mg/kg-day	--	--	--	1.12E-05	mg/kg-day	6.00E-02	mg/kg-day	1.87E-04
				Acenaphthylene	8.96E-02	mg/kg	4.13E-09	mg/kg-day	--	--	--	2.89E-07	mg/kg-day	6.00E-02	mg/kg-day	4.82E-06
				Aldrin	1.30E-02	mg/kg	6.00E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.02E-08	4.20E-08	mg/kg-day	3.00E-05	mg/kg-day	1.40E-03
				alpha-BHC	7.30E-04	mg/kg	3.37E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.09E-11	2.36E-09	mg/kg-day	5.00E-04	mg/kg-day	4.71E-06
				alpha-Chlordane	6.98E-03	mg/kg	3.22E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.19E-10	2.25E-08	mg/kg-day	5.00E-04	mg/kg-day	4.51E-05
				Aluminum	9.05E+03	mg/kg	4.18E-04	mg/kg-day	--	--	--	2.92E-02	mg/kg-day	1.00E+00	mg/kg-day	2.92E-02
				Anthracene	9.13E-01	mg/kg	4.21E-08	mg/kg-day	--	--	--	2.95E-06	mg/kg-day	3.00E-01	mg/kg-day	9.83E-06
				Antimony	2.72E+00	mg/kg	1.26E-07	mg/kg-day	--	--	--	8.79E-06	mg/kg-day	4.00E-04	mg/kg-day	2.20E-02
				Aroclor-1248	1.20E+00	mg/kg	5.54E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.11E-07	3.87E-06	mg/kg-day	2.00E-05	mg/kg-day	1.94E-01
				Aroclor-1254	4.38E-01	mg/kg	2.02E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.04E-08	1.41E-06	mg/kg-day	2.00E-05	mg/kg-day	7.07E-02
				Aroclor-1260	4.88E-01	mg/kg	2.25E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.50E-08	1.58E-06	mg/kg-day	2.00E-05	mg/kg-day	7.88E-02
				Aroclor-1268	2.72E-02	mg/kg	1.25E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.51E-09	8.78E-08	mg/kg-day	2.00E-05	mg/kg-day	4.39E-03
				Arsenic	9.53E+00	mg/kg	4.40E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	4.16E-06	3.08E-05	mg/kg-day	3.00E-04	mg/kg-day	1.03E-01
				Barium	6.94E+01	mg/kg	3.20E-06	mg/kg-day	--	--	--	2.24E-04	mg/kg-day	7.00E-02	mg/kg-day	3.20E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	1.94E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.33E-07	1.36E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	6.49E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	7.78E-07	4.54E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.09E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.31E-07	7.68E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	2.99E-08	mg/kg-day	--	--	--	2.09E-06	mg/kg-day	3.00E-02	mg/kg-day	6.97E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.30E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.56E-07	9.12E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.05E-08	mg/kg-day	--	--	--	7.36E-07	mg/kg-day	2.00E-03	mg/kg-day	3.68E-04
				Beta-BHC	2.20E-03	mg/kg	1.01E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.52E-10	7.10E-09	mg/kg-day	2.00E-04	mg/kg-day	3.55E-05
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	2.44E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	7.33E-10	1.71E-05	mg/kg-day	2.00E-02	mg/kg-day	8.55E-04
				Cadmium	8.65E+00	mg/kg	3.99E-07	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.52E-07	2.79E-05	mg/kg-day	5.00E-04	mg/kg-day	5.58E-02
				Carbon disulfide	2.40E-04	mg/kg	1.11E-11	mg/kg-day	--	--	--	7.75E-10	mg/kg-day	1.00E-01	mg/kg-day	7.75E-09
				Chlorobenzene	1.10E-01	mg/kg	5.07E-09	mg/kg-day	--	--	--	3.56E-07	mg/kg-day	2.00E-02	mg/kg-day	1.78E-05
				Chromium	1.00E+02	mg/kg	4.61E-06	mg/kg-day	--	--	--	3.23E-04	mg/kg-day	1.50E+00	mg/kg-day	2.15E-04
				Chrysene	4.80E+00	mg/kg	2.21E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.65E-08	1.55E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	3.43E-07	mg/kg-day	--	--	--	2.40E-05	mg/kg-day	2.00E-02	mg/kg-day	1.20E-03
				Copper	6.01E+01	mg/kg	2.77E-06	mg/kg-day	--	--	--	1.94E-04	mg/kg-day	4.00E-02	mg/kg-day	4.85E-03
				Delta-BHC	8.40E-03	mg/kg	3.87E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.81E-10	2.71E-08	mg/kg-day	2.00E-04	mg/kg-day	1.36E-04
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.27E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.21E-08	8.90E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.00E-07	mg/kg-day	--	--	--	4.20E-05	mg/kg-day	2.00E-03	mg/kg-day	2.10E-02
				Dieldrin	4.89E-02	mg/kg	2.26E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.61E-08	1.58E-07	mg/kg-day	5.00E-05	mg/kg-day	3.16E-03
				Dimethylphthalate	3.80E-02	mg/kg	1.75E-09	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	8.00E-01	mg/kg-day	1.53E-07

TABLE H-7.17

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	1.06E-07	mg/kg-day	--	--	--	7.43E-06	mg/kg-day	2.00E-01	mg/kg-day	3.71E-05				
				Endosulfan I	2.30E-02	mg/kg	1.06E-09	mg/kg-day	--	--	--	7.43E-08	mg/kg-day	6.00E-03	mg/kg-day	1.24E-05				
				Endosulfan II	2.34E-02	mg/kg	1.08E-09	mg/kg-day	--	--	--	7.55E-08	mg/kg-day	6.00E-03	mg/kg-day	1.26E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	1.98E-09	mg/kg-day	--	--	--	1.39E-07	mg/kg-day	6.00E-03	mg/kg-day	2.31E-05				
				Endrin aldehyde	6.30E-02	mg/kg	2.91E-09	mg/kg-day	--	--	--	2.03E-07	mg/kg-day	3.00E-04	mg/kg-day	6.78E-04				
				Endrin Ketone	1.00E-02	mg/kg	4.61E-10	mg/kg-day	--	--	--	3.23E-08	mg/kg-day	3.00E-04	mg/kg-day	1.08E-04				
				Fluoranthene	2.23E+01	mg/kg	1.03E-06	mg/kg-day	--	--	--	7.18E-05	mg/kg-day	4.00E-02	mg/kg-day	1.80E-03				
				Fluorene	2.53E+00	mg/kg	1.17E-07	mg/kg-day	--	--	--	8.18E-06	mg/kg-day	4.00E-02	mg/kg-day	2.04E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.20E-10	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	1.32E-10	8.40E-09	mg/kg-day	3.00E-04	mg/kg-day	2.80E-05				
				gamma-Chlordane	1.27E-02	mg/kg	5.86E-10	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	7.62E-10	4.10E-08	mg/kg-day	5.00E-04	mg/kg-day	8.20E-05				
				Heptachlor	6.90E-03	mg/kg	3.18E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.30E-09	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05				
				Heptachlor Epoxide	9.86E-03	mg/kg	4.55E-10	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	2.50E-09	3.18E-08	mg/kg-day	1.30E-05	mg/kg-day	2.45E-03				
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	2.29E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.75E-08	1.61E-06	mg/kg-day	--	--	--				
				Iron	3.68E+04	mg/kg	1.70E-03	mg/kg-day	--	--	--	1.19E-01	mg/kg-day	3.00E-01	mg/kg-day	3.96E-01				
				Isophorone	2.00E-01	mg/kg	9.23E-09	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	8.76E-12	6.48E-07	mg/kg-day	2.00E-01	mg/kg-day	3.23E-06				
				Lead	2.39E+03	mg/kg	1.10E-04	mg/kg-day	--	--	--	7.72E-03	mg/kg-day	--	--	--				
				Manganese	3.04E-02	mg/kg	1.40E-05	mg/kg-day	--	--	--	9.83E-04	mg/kg-day	2.40E-02	mg/kg-day	4.09E-02				
				Mercury	2.65E+01	mg/kg	1.22E-08	mg/kg-day	--	--	--	8.57E-07	mg/kg-day	3.00E-04	mg/kg-day	2.86E-03				
				Methoxychlor	1.20E-01	mg/kg	5.54E-09	mg/kg-day	--	--	--	3.87E-07	mg/kg-day	5.00E-03	mg/kg-day	7.75E-05				
				Methylene chloride	2.40E-03	mg/kg	1.11E-10	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.55E-12	7.75E-09	mg/kg-day	6.00E-02	mg/kg-day	1.29E-07				
				Molybdenum	2.18E+00	mg/kg	1.01E-07	mg/kg-day	--	--	--	7.04E-06	mg/kg-day	5.00E-03	mg/kg-day	1.41E-03				
				Naphthalene	1.30E+01	mg/kg	6.00E-07	mg/kg-day	--	--	--	4.20E-05	mg/kg-day	2.00E-02	mg/kg-day	2.10E-03				
				Nickel	3.89E+01	mg/kg	1.80E-06	mg/kg-day	--	--	--	1.26E-04	mg/kg-day	2.00E-02	mg/kg-day	6.29E-03				
				Phenanthrene	1.17E+01	mg/kg	5.39E-07	mg/kg-day	--	--	--	3.77E-05	mg/kg-day	3.00E-01	mg/kg-day	1.26E-04				
				Phenol	5.80E-01	mg/kg	2.68E-08	mg/kg-day	--	--	--	1.87E-06	mg/kg-day	3.00E-01	mg/kg-day	6.24E-06				
				p-Isopropyltoluene	1.10E-01	mg/kg	5.07E-09	mg/kg-day	--	--	--	3.55E-07	mg/kg-day	1.00E-01	mg/kg-day	3.55E-06				
				Pyrene	2.03E+01	mg/kg	9.38E-07	mg/kg-day	--	--	--	6.57E-05	mg/kg-day	3.00E-02	mg/kg-day	2.19E-03				
				sec-Butylbenzene	7.10E-02	mg/kg	3.28E-09	mg/kg-day	--	--	--	2.29E-07	mg/kg-day	4.00E-02	mg/kg-day	5.73E-06				
				Selenium	2.84E-01	mg/kg	1.31E-08	mg/kg-day	--	--	--	9.16E-07	mg/kg-day	5.00E-03	mg/kg-day	1.83E-04				
				Silver	9.80E-01	mg/kg	4.52E-08	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	5.00E-03	mg/kg-day	6.33E-04				
				Technical Chlordane	5.41E-01	mg/kg	2.49E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	3.24E-08	1.75E-06	mg/kg-day	5.00E-04	mg/kg-day	3.49E-03				
				Thallium	4.83E-01	mg/kg	2.23E-08	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	8.00E-05	mg/kg-day	1.95E-02				
				Toluene	4.30E-04	mg/kg	1.98E-11	mg/kg-day	--	--	--	1.39E-09	mg/kg-day	8.00E-02	mg/kg-day	1.74E-08				
				Vanadium	3.37E+01	mg/kg	1.55E-06	mg/kg-day	--	--	--	1.09E-04	mg/kg-day	1.00E-03	mg/kg-day	1.09E-01				
				Zinc	3.32E+02	mg/kg	1.53E-05	mg/kg-day	--	--	--	1.07E-03	mg/kg-day	3.00E-01	mg/kg-day	3.57E-03				
				<b>Exposure Route Total</b>											<b>6.00E-06</b>				<b>1.20E+00</b>	
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	9.56E-08	mg/kg-day	--	--	--	6.69E-06	mg/kg-day	1.00E-02	mg/kg-day	6.69E-04
								1,2,4-Trimethylbenzene	5.10E+00	mg/kg	3.25E-08	mg/kg-day	--	--	--	2.28E-06	mg/kg-day	1.00E-02	mg/kg-day	2.28E-04
								1,2-Dichlorobenzene	5.00E-01	mg/kg	3.19E-09	mg/kg-day	--	--	--	2.23E-07	mg/kg-day	5.00E-02	mg/kg-day	4.46E-06
								1,2-Dichloropropane	2.60E+01	mg/kg	1.66E-07	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	9.00E-02	mg/kg-day	1.29E-04
								1,3,5-Trimethylbenzene	3.60E-03	mg/kg	2.29E-11	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	8.26E-13	1.61E-09	mg/kg-day	1.14E-03	mg/kg-day	1.41E-06
1,3-Dichlorobenzene	1.60E-01	mg/kg	1.02E-09					mg/kg-day	--	--	--	7.14E-08	mg/kg-day	5.00E-02	mg/kg-day	1.43E-06				
1,4-Dichlorobenzene	1.10E+00	mg/kg	7.01E-09					mg/kg-day	--	--	--	4.91E-07	mg/kg-day	3.00E-02	mg/kg-day	1.64E-05				
2,4-Dimethylphenol	6.80E+00	mg/kg	--					mg/kg-day	5.40E-03	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2-Methylphenol	2.10E-01	mg/kg	1.34E-09					mg/kg-day	--	--	--	9.37E-08	mg/kg-day	2.00E-02	mg/kg-day	4.68E-06				
2-Methylnaphthalene	8.10E-02	mg/kg	5.18E-09					mg/kg-day	--	--	--	3.61E-07	mg/kg-day	4.00E-03	mg/kg-day	9.04E-05				
4,4'-DDD	1.45E+00	mg/kg	9.24E-09					mg/kg-day	--	--	--	6.47E-07	mg/kg-day	5.00E-02	mg/kg-day	1.29E-05				
4,4'-DDE	1.20E-03	mg/kg	7.65E-12					mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	1.84E-12	5.35E-10	mg/kg-day	5.00E-04	mg/kg-day	1.07E-06				
4,4'-DDT	7.50E-02	mg/kg	4.78E-10					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.63E-10	3.35E-08	mg/kg-day	5.00E-04	mg/kg-day	6.69E-05				
4-Methylphenol	4.20E-02	mg/kg	8.03E-10					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.73E-10	5.62E-08	mg/kg-day	5.00E-04	mg/kg-day	1.12E-04				
	2.70E-01	mg/kg	1.72E-08					mg/kg-day	--	--	--	1.20E-06	mg/kg-day	5.00E-03	mg/kg-day	2.41E-04				

TABLE H-7.17

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	3.95E-08	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	8.30E-10	2.77E-06	mg/kg-day	3.00E-03	mg/kg-day	9.22E-04
				4-Nitrophenol	4.20E-01	mg/kg	2.68E-08	mg/kg-day	--	--	--	1.87E-06	mg/kg-day	5.00E-04	mg/kg-day	3.75E-03
				Acenaphthene	3.47E+00	mg/kg	2.88E-07	mg/kg-day	--	--	--	2.01E-05	mg/kg-day	6.00E-02	mg/kg-day	3.36E-04
				Acenaphthylene	8.96E-02	mg/kg	5.71E-10	mg/kg-day	--	--	--	4.00E-08	mg/kg-day	6.00E-02	mg/kg-day	6.68E-07
				Aldrin	1.30E-02	mg/kg	8.29E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.41E-08	5.80E-08	mg/kg-day	3.00E-05	mg/kg-day	1.93E-03
				alpha-BHC	7.30E-04	mg/kg	4.65E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.26E-11	3.26E-10	mg/kg-day	5.00E-04	mg/kg-day	6.51E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	5.77E-06	mg/kg-day	--	--	--	4.04E-04	mg/kg-day	1.00E+00	mg/kg-day	4.04E-04
				Anthracene	9.13E-01	mg/kg	7.57E-08	mg/kg-day	--	--	--	5.30E-06	mg/kg-day	3.00E-01	mg/kg-day	1.77E-05
				Antimony	2.72E+00	mg/kg	1.74E-09	mg/kg-day	--	--	--	1.22E-07	mg/kg-day	4.00E-04	mg/kg-day	3.04E-04
				Aroclor-1248	1.20E+00	mg/kg	1.07E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.14E-07	7.50E-06	mg/kg-day	2.00E-05	mg/kg-day	3.75E-01
				Aroclor-1254	4.38E-01	mg/kg	3.91E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	7.81E-08	2.73E-06	mg/kg-day	2.00E-05	mg/kg-day	1.37E-01
				Aroclor-1260	4.88E-01	mg/kg	4.36E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	8.71E-08	3.05E-06	mg/kg-day	2.00E-05	mg/kg-day	1.52E-01
				Aroclor-1268	2.72E-02	mg/kg	2.43E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.65E-09	1.70E-07	mg/kg-day	2.00E-05	mg/kg-day	8.69E-03
				Arsenic	9.53E+00	mg/kg	1.82E-07	mg/kg-day	9.45E+00	(mg/kg-day) <sup>-1</sup>	1.72E-06	1.28E-05	mg/kg-day	3.00E-04	mg/kg-day	4.25E-02
				Barium	6.94E+01	mg/kg	4.43E-08	mg/kg-day	--	--	--	3.10E-06	mg/kg-day	7.00E-02	mg/kg-day	4.43E-05
				Benzo(a)anthracene	4.21E+00	mg/kg	3.49E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.19E-07	2.44E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.17E-07	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	1.40E-06	8.16E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.97E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.38E-07	1.38E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	5.37E-08	mg/kg-day	--	--	--	3.76E-06	mg/kg-day	3.00E-02	mg/kg-day	1.25E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	2.34E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.81E-07	1.64E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.45E-10	mg/kg-day	--	--	--	1.02E-08	mg/kg-day	2.00E-03	mg/kg-day	5.08E-06
				Beta-BHC	2.20E-03	mg/kg	1.40E-11	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	2.10E-11	9.82E-10	mg/kg-day	2.00E-04	mg/kg-day	4.91E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	3.38E-08	mg/kg-day	3.00E-03	(mg/kg-day) <sup>-1</sup>	1.01E-10	2.36E-06	mg/kg-day	2.00E-02	mg/kg-day	1.18E-04
				Cadmium	8.65E+00	mg/kg	5.51E-09	mg/kg-day	3.80E-01	(mg/kg-day) <sup>-1</sup>	2.09E-09	3.86E-07	mg/kg-day	5.00E-04	mg/kg-day	7.72E-04
				Carbon disulfide	2.40E-04	mg/kg	3.82E-11	mg/kg-day	--	--	--	2.68E-09	mg/kg-day	1.00E-01	mg/kg-day	2.68E-08
				Chlorobenzene	1.10E-01	mg/kg	7.01E-10	mg/kg-day	--	--	--	4.91E-08	mg/kg-day	2.00E-02	mg/kg-day	2.45E-06
				Chromium	1.00E-02	mg/kg	6.37E-08	mg/kg-day	--	--	--	4.46E-06	mg/kg-day	1.50E+00	mg/kg-day	2.97E-06
				Chrysene	4.80E+00	mg/kg	3.97E-07	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	4.77E-08	2.78E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	4.74E-09	mg/kg-day	--	--	--	3.32E-07	mg/kg-day	2.00E-02	mg/kg-day	1.66E-05
				Copper	6.01E+01	mg/kg	3.83E-08	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	4.00E-02	mg/kg-day	6.70E-05
				Deha-BHC	8.40E-03	mg/kg	2.68E-10	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	4.02E-10	1.87E-08	mg/kg-day	2.00E-04	mg/kg-day	9.37E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	2.28E-08	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	9.36E-08	1.60E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	8.29E-08	mg/kg-day	--	--	--	5.80E-06	mg/kg-day	2.00E-03	mg/kg-day	2.90E-03
				Dieldrin	4.89E-02	mg/kg	3.12E-10	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	4.99E-09	2.18E-08	mg/kg-day	5.00E-05	mg/kg-day	4.37E-04
				Dimethylphthalate	3.80E-02	mg/kg	2.42E-10	mg/kg-day	--	--	--	1.70E-08	mg/kg-day	8.00E-01	mg/kg-day	2.12E-08
				di-n-Butylphthalate	2.30E+00	mg/kg	1.47E-08	mg/kg-day	--	--	--	1.03E-06	mg/kg-day	2.00E-01	mg/kg-day	5.13E-06
				Endosulfan I	2.30E-02	mg/kg	7.33E-10	mg/kg-day	--	--	--	5.13E-08	mg/kg-day	6.00E-03	mg/kg-day	8.55E-06
				Endosulfan II	2.34E-02	mg/kg	7.45E-10	mg/kg-day	--	--	--	5.21E-08	mg/kg-day	6.00E-03	mg/kg-day	8.69E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	1.37E-09	mg/kg-day	--	--	--	9.59E-08	mg/kg-day	6.00E-03	mg/kg-day	1.60E-05
				Endrin aldehyde	6.30E-02	mg/kg	2.01E-09	mg/kg-day	--	--	--	1.41E-07	mg/kg-day	3.00E-04	mg/kg-day	4.68E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	1.84E-06	mg/kg-day	--	--	--	1.29E-04	mg/kg-day	4.00E-02	mg/kg-day	3.23E-03
				Fluorene	2.53E+00	mg/kg	2.09E-07	mg/kg-day	--	--	--	1.47E-05	mg/kg-day	4.00E-02	mg/kg-day	3.67E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	6.63E-11	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	7.29E-11	4.64E-09	mg/kg-day	3.00E-04	mg/kg-day	1.55E-05
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	4.40E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.80E-10	3.09E-09	mg/kg-day	5.00E-04	mg/kg-day	6.16E-06
				Heptachlor Epoxide	9.86E-03	mg/kg	6.28E-11	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	3.46E-10	4.40E-09	mg/kg-day	1.30E-05	mg/kg-day	3.38E-04
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	4.12E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.94E-08	2.88E-06	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	2.34E-05	mg/kg-day	--	--	--	1.64E-03	mg/kg-day	3.00E-01	mg/kg-day	5.47E-03
				Isophorone	2.00E-01	mg/kg	1.27E-08	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	1.21E-11	8.92E-07	mg/kg-day	2.00E-01	mg/kg-day	4.46E-06

TABLE H-7.17

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	1.52E-06	mg/kg-day	--	--	--	--	1.07E-04	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	1.94E-07	mg/kg-day	--	--	--	--	1.38E-05	mg/kg-day	2.40E-02	mg/kg-day	5.66E-04
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	7.65E-10	mg/kg-day	--	--	--	--	5.35E-08	mg/kg-day	5.00E-03	mg/kg-day	1.07E-05
				Methylene chloride	2.40E-03	mg/kg	1.53E-11	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	2.14E-13	1.07E-09	mg/kg-day	6.00E-02	mg/kg-day	1.78E-08	
				Molybdenum	2.18E+00	mg/kg	1.39E-09	mg/kg-day	--	--	--	9.72E-08	mg/kg-day	5.00E-03	mg/kg-day	1.94E-05	
				Naphthalene	1.30E+01	mg/kg	1.08E-06	mg/kg-day	--	--	--	7.54E-05	mg/kg-day	2.00E-02	mg/kg-day	3.77E-03	
				Nickel	3.89E+01	mg/kg	2.48E-08	mg/kg-day	--	--	--	1.74E-06	mg/kg-day	2.00E-02	mg/kg-day	8.69E-05	
				Phenanthrene	1.17E+01	mg/kg	7.45E-08	mg/kg-day	--	--	--	5.21E-06	mg/kg-day	3.00E-01	mg/kg-day	1.74E-05	
				Phenol	5.80E-01	mg/kg	3.70E-08	mg/kg-day	--	--	--	2.59E-06	mg/kg-day	3.00E-01	mg/kg-day	8.63E-06	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	
				Pyrene	2.03E+01	mg/kg	1.69E-06	mg/kg-day	--	--	--	1.18E-04	mg/kg-day	3.00E-02	mg/kg-day	3.93E-03	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	
				Selenium	2.84E-01	mg/kg	1.81E-10	mg/kg-day	--	--	--	1.27E-08	mg/kg-day	5.00E-03	mg/kg-day	2.53E-06	
				Silver	9.80E-01	mg/kg	6.25E-10	mg/kg-day	--	--	--	4.37E-08	mg/kg-day	5.00E-03	mg/kg-day	8.75E-06	
				Technical Chlordane	5.41E-01	mg/kg	1.38E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.79E-08	9.65E-07	mg/kg-day	5.00E-04	mg/kg-day	1.93E-03	
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--	
				Toluene	4.30E-04	mg/kg	2.74E-12	mg/kg-day	--	--	--	1.92E-10	mg/kg-day	8.00E-02	mg/kg-day	2.40E-09	
				Vanadium	3.37E+01	mg/kg	2.15E-08	mg/kg-day	--	--	--	1.50E-06	mg/kg-day	1.00E-03	mg/kg-day	1.50E-03	
				Zinc	3.32E+02	mg/kg	2.11E-07	mg/kg-day	--	--	--	1.48E-05	mg/kg-day	3.00E-01	mg/kg-day	4.93E-05	
				Exposure Route Total										4.67E-08			
Exposure Point Total										1.07E-05							1.95E+00
Exposure Medium Total										1.07E-05							1.95E+00
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	2.10E-07	mg/m <sup>3</sup>	5.87E-10	mg/kg-day	--	--	--	--	4.11E-08	mg/kg-day	2.00E-02	mg/kg-day	2.05E-06	
			2-Methylphenol	8.10E-08	mg/m <sup>3</sup>	2.26E-10	mg/kg-day	--	--	--	--	1.59E-08	mg/kg-day	--	--	--	
			4,4'-DDD	1.20E-09	mg/m <sup>3</sup>	3.35E-12	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	8.05E-13	2.35E-10	mg/kg-day	5.00E-04	mg/kg-day	4.70E-07		
			4,4'-DDT	4.20E-08	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.99E-11	8.22E-09	mg/kg-day	5.00E-04	mg/kg-day	1.64E-05		
			4-Methylphenol	2.70E-07	mg/m <sup>3</sup>	7.55E-10	mg/kg-day	--	--	--	5.28E-08	mg/kg-day	5.00E-03	mg/kg-day	1.06E-05		
			4-Nitroaniline	6.20E-07	mg/m <sup>3</sup>	1.73E-09	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	3.64E-11	1.21E-07	mg/kg-day	1.00E-03	mg/kg-day	1.21E-04		
			4-Nitrophenol	4.20E-07	mg/m <sup>3</sup>	1.17E-09	mg/kg-day	--	--	--	8.22E-08	mg/kg-day	5.70E-04	mg/kg-day	1.44E-04		
			Aluminum	9.05E-03	mg/m <sup>3</sup>	2.53E-05	mg/kg-day	--	--	--	1.77E-03	mg/kg-day	1.43E-03	mg/kg-day	1.24E+00		
			Antimony	2.72E-06	mg/m <sup>3</sup>	7.61E-09	mg/kg-day	--	--	--	5.33E-07	mg/kg-day	--	--	--		
			Aroclor-1248	1.20E-06	mg/m <sup>3</sup>	3.35E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.71E-09	2.35E-07	mg/kg-day	2.00E-05	mg/kg-day	1.17E-02		
			Aroclor-1254	4.38E-07	mg/m <sup>3</sup>	1.22E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.45E-09	8.56E-08	mg/kg-day	2.00E-05	mg/kg-day	4.28E-03		
			Aroclor-1260	4.88E-07	mg/m <sup>3</sup>	1.36E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.73E-09	9.55E-08	mg/kg-day	2.00E-05	mg/kg-day	4.78E-03		
			Aroclor-1268	2.72E-08	mg/m <sup>3</sup>	7.60E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.52E-10	5.32E-09	mg/kg-day	2.00E-05	mg/kg-day	2.66E-04		
			Arsenic	9.53E-06	mg/m <sup>3</sup>	2.67E-08	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	3.20E-07	1.87E-06	mg/kg-day	8.60E-06	mg/kg-day	2.17E-01		
			Barium	6.94E-05	mg/m <sup>3</sup>	1.94E-07	mg/kg-day	--	--	--	1.36E-05	mg/kg-day	1.40E-04	mg/kg-day	9.71E-02		
			Benzo(a)anthracene	4.21E-06	mg/m <sup>3</sup>	1.18E-08	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	4.59E-09	8.24E-07	mg/kg-day	--	--	--		
			Benzo(a)pyrene	1.41E-06	mg/m <sup>3</sup>	3.93E-09	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	1.53E-08	2.75E-07	mg/kg-day	--	--	--		
			Benzo(g,h,i)perylene	6.48E-07	mg/m <sup>3</sup>	1.81E-09	mg/kg-day	--	--	--	1.27E-07	mg/kg-day	3.00E-02	mg/kg-day	4.23E-06		
			Benzo(k)fluoranthene	2.82E-06	mg/m <sup>3</sup>	7.90E-09	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.08E-09	5.53E-07	mg/kg-day	--	--	--		
			Beryllium	2.28E-07	mg/m <sup>3</sup>	6.37E-10	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	5.35E-09	4.46E-08	mg/kg-day	5.71E-06	mg/kg-day	7.80E-03		
			Beta-BHC	2.20E-09	mg/m <sup>3</sup>	6.15E-12	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	9.23E-12	4.31E-10	mg/kg-day	2.00E-04	mg/kg-day	2.15E-06		
			bis(2-ethylhexyl)phthalate	5.30E-06	mg/m <sup>3</sup>	1.48E-08	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	1.24E-10	1.04E-06	mg/kg-day	2.00E-02	mg/kg-day	5.18E-05		
			Cadmium	8.65E-06	mg/m <sup>3</sup>	2.42E-08	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	3.63E-07	1.69E-06	mg/kg-day	5.71E-06	mg/kg-day	2.96E-01		
			Chromium	1.00E-04	mg/m <sup>3</sup>	2.79E-07	mg/kg-day	--	--	--	1.96E-05	mg/kg-day	--	--	--		
			Cobalt	7.44E-06	mg/m <sup>3</sup>	2.08E-08	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	2.04E-07	1.46E-06	mg/kg-day	5.71E-06	mg/kg-day	2.55E-01		
			Copper	6.01E-05	mg/m <sup>3</sup>	1.68E-07	mg/kg-day	--	--	--	1.18E-05	mg/kg-day	--	--	--		
			Dibenzo(a,h)anthracene	2.76E-07	mg/m <sup>3</sup>	7.71E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	3.16E-09	5.39E-08	mg/kg-day	--	--	--		
			Dimethylphthalate	3.80E-08	mg/m <sup>3</sup>	1.06E-10	mg/kg-day	--	--	--	7.44E-09	mg/kg-day	8.00E-01	mg/kg-day	9.30E-09		

TABLE H-7.17

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	di-n-Butylphthalate	2.30E-06	mg/m <sup>3</sup>	6.43E-09	mg/kg-day	--	--	--	4.50E-07	mg/kg-day	1.00E-01	mg/kg-day	4.50E-06				
				Endrin aldehyde	6.30E-08	mg/m <sup>3</sup>	1.76E-10	mg/kg-day	--	--	--	1.23E-08	mg/kg-day	3.00E-04	mg/kg-day	4.11E-05				
				Endrin Ketone	1.00E-08	mg/m <sup>3</sup>	2.80E-11	mg/kg-day	--	--	--	1.96E-09	mg/kg-day	3.00E-04	mg/kg-day	6.52E-06				
				Heptachlor Epoxide	9.86E-09	mg/m <sup>3</sup>	2.76E-11	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.52E-10	1.93E-09	mg/kg-day	1.30E-05	mg/kg-day	1.48E-04				
				Indeno(1,2,3-cd)pyrene	4.97E-07	mg/m <sup>3</sup>	1.39E-09	mg/kg-day	3.90E-01	(mg/kg-day)-1	5.42E-10	8.73E-08	mg/kg-day	--	--	--				
				Iron	3.68E-02	mg/m <sup>3</sup>	1.03E-04	mg/kg-day	--	--	--	7.19E-03	mg/kg-day	--	--	--				
				Isophorone	2.00E-07	mg/m <sup>3</sup>	5.59E-10	mg/kg-day	--	--	--	3.91E-08	mg/kg-day	--	--	--				
				Lead	2.39E-03	mg/m <sup>3</sup>	6.68E-06	mg/kg-day	--	--	--	4.68E-04	mg/kg-day	--	--	--				
				Manganese	3.04E-04	mg/m <sup>3</sup>	8.51E-07	mg/kg-day	--	--	--	5.96E-05	mg/kg-day	1.43E-05	mg/kg-day	4.17E+00				
				Mercury	2.65E-07	mg/m <sup>3</sup>	7.42E-10	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	8.60E-05	mg/kg-day	6.04E-04				
				Nickel	3.89E-05	mg/m <sup>3</sup>	1.09E-07	mg/kg-day	9.10E-01	(mg/kg-day)-1	9.91E-08	7.62E-06	mg/kg-day	1.40E-05	mg/kg-day	5.44E-01				
				Phenol	5.80E-07	mg/m <sup>3</sup>	1.62E-09	mg/kg-day	--	--	--	1.14E-07	mg/kg-day	5.71E-02	mg/kg-day	1.99E-06				
				Selenium	2.84E-07	mg/m <sup>3</sup>	7.93E-10	mg/kg-day	--	--	--	5.55E-08	mg/kg-day	5.70E-03	mg/kg-day	9.74E-06				
				Silver	9.80E-07	mg/m <sup>3</sup>	2.74E-09	mg/kg-day	--	--	--	1.92E-07	mg/kg-day	--	--	--				
				Thallium	4.83E-07	mg/m <sup>3</sup>	1.35E-09	mg/kg-day	--	--	--	9.44E-08	mg/kg-day	--	--	--				
				Vanadium	3.37E-05	mg/m <sup>3</sup>	9.42E-08	mg/kg-day	--	--	--	6.59E-06	mg/kg-day	--	--	--				
				Zinc	3.32E-04	mg/m <sup>3</sup>	9.28E-07	mg/kg-day	--	--	--	6.49E-05	mg/kg-day	--	--	--				
				Exposure Route Total										1.03E-06			6.85E+00			
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.92E-07	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	1.10E-03	mg/kg-day	1.86E-02
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	9.93E-07	mg/kg-day	--	--	--	6.95E-05	mg/kg-day	1.10E-03	mg/kg-day	6.32E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	3.28E-07	mg/kg-day	--	--	--	2.29E-05	mg/kg-day	1.70E-03	mg/kg-day	1.35E-02
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.49E-05	mg/kg-day	--	--	--	1.04E-03	mg/kg-day	5.70E-02	mg/kg-day	1.83E-02
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	8.00E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.88E-10	5.60E-07	mg/kg-day	1.14E-03	mg/kg-day	4.91E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.02E-07	mg/kg-day	--	--	--	7.15E-06	mg/kg-day	1.70E-03	mg/kg-day	4.21E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	4.55E-07	mg/kg-day	--	--	--	3.19E-05	mg/kg-day	3.00E-02	mg/kg-day	1.06E-03
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	4.37E-06	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.75E-07	3.06E-04	mg/kg-day	2.30E-01	mg/kg-day	1.33E-03
								2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	1.79E-07	mg/kg-day	--	--	--	1.26E-05	mg/kg-day	5.00E-02	mg/kg-day	2.51E-04
4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	2.47E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	8.40E-12	1.73E-09	mg/kg-day	5.00E-04	mg/kg-day	3.46E-06				
Acenaphthene	4.77E-05	mg/m <sup>3</sup>	1.33E-07					mg/kg-day	--	--	--	9.33E-06	mg/kg-day	6.00E-02	mg/kg-day	1.55E-04				
Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	3.44E-09					mg/kg-day	--	--	--	2.41E-07	mg/kg-day	6.00E-02	mg/kg-day	4.01E-06				
Aldrin	5.63E-09	mg/m <sup>3</sup>	1.57E-11					mg/kg-day	1.70E+01	(mg/kg-day)-1	2.68E-10	1.10E-09	mg/kg-day	3.00E-05	mg/kg-day	3.67E-05				
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.02E-11					mg/kg-day	2.70E+00	(mg/kg-day)-1	2.75E-11	7.12E-10	mg/kg-day	5.00E-04	mg/kg-day	1.42E-06				
alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	1.93E-11					mg/kg-day	1.20E+00	(mg/kg-day)-1	2.32E-11	1.35E-09	mg/kg-day	2.00E-04	mg/kg-day	6.76E-06				
Anthracene	1.25E-05	mg/m <sup>3</sup>	3.51E-08					mg/kg-day	--	--	--	2.45E-06	mg/kg-day	3.00E-01	mg/kg-day	8.18E-06				
Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	4.29E-09					mg/kg-day	3.90E-01	(mg/kg-day)-1	1.67E-09	3.00E-07	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.26E-09					mg/kg-day	--	--	--	8.85E-08	mg/kg-day	2.00E-01	mg/kg-day	4.43E-07				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.45E-07					mg/kg-day	--	--	--	1.01E-05	mg/kg-day	2.86E-01	mg/kg-day	3.55E-05				
Chrysene	5.27E-06	mg/m <sup>3</sup>	1.47E-08					mg/kg-day	3.90E-02	(mg/kg-day)-1	5.75E-10	1.03E-06	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	1.17E-10					mg/kg-day	1.50E+00	(mg/kg-day)-1	1.76E-10	8.19E-09	mg/kg-day	2.00E-04	mg/kg-day	4.10E-05				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.25E-07					mg/kg-day	--	--	--	8.78E-06	mg/kg-day	2.00E-03	mg/kg-day	4.39E-03				
Dieldrin	6.58E-08	mg/m <sup>3</sup>	1.84E-10					mg/kg-day	1.60E+01	(mg/kg-day)-1	2.94E-09	1.29E-08	mg/kg-day	5.00E-05	mg/kg-day	2.58E-04				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	2.25E-10					mg/kg-day	--	--	--	1.58E-08	mg/kg-day	6.00E-03	mg/kg-day	2.63E-06				
Endosulfan II	8.19E-08	mg/m <sup>3</sup>	2.29E-10					mg/kg-day	--	--	--	1.60E-08	mg/kg-day	6.00E-03	mg/kg-day	2.67E-06				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	4.21E-10					mg/kg-day	--	--	--	2.95E-08	mg/kg-day	6.00E-03	mg/kg-day	4.91E-06				
Fluoranthene	1.44E-05	mg/m <sup>3</sup>	4.02E-08					mg/kg-day	--	--	--	2.82E-06	mg/kg-day	4.00E-02	mg/kg-day	7.04E-05				
Fluorene	1.48E-05	mg/m <sup>3</sup>	4.14E-08	mg/kg-day	--	--	--	2.89E-06	mg/kg-day	4.00E-02	mg/kg-day	7.24E-05								
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	4.46E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.90E-11	3.12E-09	mg/kg-day	3.00E-04	mg/kg-day	1.04E-05								
gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	3.51E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.22E-11	2.46E-09	mg/kg-day	2.00E-04	mg/kg-day	1.23E-05								
Heptachlor	3.38E-07	mg/m <sup>3</sup>	9.45E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.87E-09	6.61E-08	mg/kg-day	5.00E-04	mg/kg-day	1.32E-04								
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	2.41E-10	mg/kg-day	--	--	--	1.69E-08	mg/kg-day	5.00E-03	mg/kg-day	3.38E-06								
Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.96E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.35E-07	1.37E-04	mg/kg-day	8.57E-04	mg/kg-day	1.60E-01								

TABLE H-7.17

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	1.60E-04	mg/m <sup>3</sup>	4.48E-07	mg/kg-day	--	--	--	3.14E-05	mg/kg-day	3.00E-01	mg/kg-day	1.05E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	5.38E-07	mg/kg-day	--	--	--	3.75E-05	mg/kg-day	1.10E-01	mg/kg-day	3.41E-04
				Pyrene	1.56E-05	mg/m <sup>3</sup>	4.35E-08	mg/kg-day	--	--	--	3.04E-06	mg/kg-day	3.00E-02	mg/kg-day	1.01E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	7.85E-08	mg/kg-day	--	--	--	5.50E-06	mg/kg-day	4.00E-02	mg/kg-day	1.37E-04
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	1.50E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.80E-09	1.05E-07	mg/kg-day	2.00E-04	mg/kg-day	5.24E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	8.73E-10	mg/kg-day	--	--	--	6.11E-08	mg/kg-day	1.43E+00	mg/kg-day	4.28E-08
Exposure Route Total											4.21E-07				2.87E-01	
Exposure Point Total											1.45E-06				7.13E+00	
Exposure Medium Total											1.45E-06				7.13E+00	
Medium Total											1.21E-05				9.08E+00	
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	1.18E-09	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	6.75E-12	8.29E-08	mg/kg-day	1.40E-01	mg/kg-day	5.92E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	3.53E-10	mg/kg-day	--	--	--	2.47E-08	mg/kg-day	1.70E-03	mg/kg-day	1.45E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	5.70E-02	mg/kg-day	2.84E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.66E-09	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	1.20E-10	1.16E-07	mg/kg-day	1.40E-03	mg/kg-day	8.32E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	6.24E-10	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	2.24E-11	4.36E-08	mg/kg-day	1.14E-03	mg/kg-day	3.83E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	2.01E-10	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	1.70E-03	mg/kg-day	8.28E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	7.87E-10	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	3.15E-11	5.51E-08	mg/kg-day	2.30E-01	mg/kg-day	2.40E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	3.04E-11	mg/kg-day	--	--	--	2.13E-09	mg/kg-day	1.43E+00	mg/kg-day	1.49E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	2.70E-12	mg/kg-day	--	--	--	1.89E-10	mg/kg-day	5.00E-02	mg/kg-day	3.79E-09
				4'-DDE	1.29E-09	mg/m <sup>3</sup>	3.62E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.23E-12	2.53E-10	mg/kg-day	5.00E-04	mg/kg-day	5.06E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	1.13E-11	mg/kg-day	--	--	--	7.92E-10	mg/kg-day	8.60E-01	mg/kg-day	9.20E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.08E-10	mg/kg-day	--	--	--	7.58E-09	mg/kg-day	6.00E-02	mg/kg-day	1.26E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	4.61E-12	mg/kg-day	--	--	--	3.23E-10	mg/kg-day	6.00E-02	mg/kg-day	5.38E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	6.25E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.06E-10	4.37E-10	mg/kg-day	3.00E-05	mg/kg-day	1.46E-05
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	7.92E-13	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	2.14E-12	5.54E-11	mg/kg-day	5.00E-04	mg/kg-day	1.11E-07
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.87E-12	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.25E-12	1.31E-10	mg/kg-day	2.00E-04	mg/kg-day	6.56E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	9.18E-12	mg/kg-day	--	--	--	6.43E-10	mg/kg-day	3.00E-01	mg/kg-day	2.14E-09
				Benzene	2.61E-07	mg/m <sup>3</sup>	7.30E-10	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	7.30E-11	5.11E-08	mg/kg-day	8.60E-03	mg/kg-day	5.94E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.36E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	5.30E-13	9.52E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	2.06E-11	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	8.03E-14	1.44E-09	mg/kg-day	2.00E-02	mg/kg-day	7.20E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.26E-08	mg/kg-day	--	--	--	8.82E-07	mg/kg-day	2.00E-01	mg/kg-day	4.41E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	2.05E-10	mg/kg-day	--	--	--	1.43E-08	mg/kg-day	2.86E-01	mg/kg-day	5.02E-08
				Chloroform	2.07E-06	mg/m <sup>3</sup>	5.78E-09	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	1.10E-10	4.05E-07	mg/kg-day	8.57E-02	mg/kg-day	4.72E-06
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	2.09E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	2.60E-02	mg/kg-day	5.64E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	3.68E-12	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	1.43E-13	2.58E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethane	5.30E-07	mg/m <sup>3</sup>	1.48E-09	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	1.00E-02	mg/kg-day	1.04E-05
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.75E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	4.39E-11	1.92E-10	mg/kg-day	5.00E-05	mg/kg-day	3.84E-06
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	6.26E-13	mg/kg-day	--	--	--	4.38E-11	mg/kg-day	6.00E-03	mg/kg-day	7.30E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.03E-15	mg/kg-day	--	--	--	7.20E-14	mg/kg-day	6.00E-03	mg/kg-day	1.20E-11
				Ethylbenzene	1.89E-07	mg/m <sup>3</sup>	5.58E-10	mg/kg-day	--	--	--	3.90E-08	mg/kg-day	2.90E-01	mg/kg-day	1.35E-07
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.41E-12	mg/kg-day	--	--	--	9.89E-11	mg/kg-day	4.00E-02	mg/kg-day	2.47E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.79E-12	mg/kg-day	--	--	--	1.96E-10	mg/kg-day	4.00E-02	mg/kg-day	4.89E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	3.47E-15	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	3.82E-15	2.43E-13	mg/kg-day	3.00E-04	mg/kg-day	8.10E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	4.86E-12	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	5.84E-12	3.41E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-09
				Heptachlor	1.78E-08	mg/m <sup>3</sup>	4.99E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	2.05E-10	3.49E-09	mg/kg-day	5.00E-04	mg/kg-day	6.99E-06
Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	9.58E-08	mg/kg-day	--	--	--	8.70E-08	mg/kg-day	1.10E-01	mg/kg-day	6.09E-05				
m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.94E-09	mg/kg-day	--	--	--	1.36E-07	mg/kg-day	2.90E-02	mg/kg-day	4.68E-06				
Methoxychlor	3.27E-09	mg/m <sup>3</sup>	9.13E-12	mg/kg-day	--	--	--	6.39E-10	mg/kg-day	5.00E-03	mg/kg-day	1.28E-07				
Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.52E-11	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.82E-12	1.06E-09	mg/kg-day	8.57E-04	mg/kg-day	1.24E-06				
n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	7.07E-10	mg/kg-day	--	--	--	4.85E-08	mg/kg-day	8.57E-04	mg/kg-day	5.78E-05				
n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	7.87E-10	mg/kg-day	--	--	--	5.51E-08	mg/kg-day	4.00E-02	mg/kg-day	1.38E-06				

TABLE H-7.17

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	2.62E-09	mg/m <sup>3</sup>	7.32E-12	mg/kg-day	--	--	--	--	5.12E-10	mg/kg-day	3.00E-01	mg/kg-day	1.71E-09
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	9.58E-08	mg/kg-day	--	--	--	--	6.70E-06	mg/kg-day	1.10E-01	mg/kg-day	6.09E-05
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.29E-12	mg/kg-day	--	--	--	--	9.02E-11	mg/kg-day	3.00E-02	mg/kg-day	3.01E-09
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	2.24E-09	mg/kg-day	--	--	--	--	1.57E-07	mg/kg-day	4.00E-02	mg/kg-day	3.92E-06
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	2.54E-09	mg/kg-day	--	--	--	--	1.78E-07	mg/kg-day	4.00E-02	mg/kg-day	4.44E-06
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	--	7.43E-08	mg/kg-day	1.43E+00	mg/kg-day	5.20E-08
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	2.51E-09	mg/kg-day	--	--	--	--	1.75E-07	mg/kg-day	2.00E-02	mg/kg-day	8.77E-06
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	2.61E-09	mg/kg-day	7.00E-03	(mg/kg-day)-1	1.82E-11	(mg/kg-day)-1	1.82E-07	mg/kg-day	1.70E-01	mg/kg-day	1.07E-06
				Vinyl chloride	1.93E-08	mg/m <sup>3</sup>	5.39E-09	mg/kg-day	2.70E-01	(mg/kg-day)-1	1.46E-09	(mg/kg-day)-1	3.77E-07	mg/kg-day	2.86E-02	mg/kg-day	1.32E-05
				Exposure Route Total											2.21E-09		
Exposure Point Total												2.21E-09			4.26E-04		
Exposure Medium Total												2.21E-09			4.26E-04		
Medium Total												2.21E-09			4.26E-04		
										Total of Receptor Risks Across All Media		1.21E-05	Total of Receptor Hazards Across All Media		9.08E+00		

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.18

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.05E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	1.00E-02	mg/kg-day	2.05E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.40E-06	mg/kg-day	--	--	--	6.99E-06	mg/kg-day	1.00E-02	mg/kg-day	6.99E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.35E-07	mg/kg-day	--	--	--	6.85E-07	mg/kg-day	5.00E-02	mg/kg-day	1.37E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.22E-05	mg/kg-day	--	--	--	3.56E-05	mg/kg-day	9.00E-02	mg/kg-day	3.96E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.69E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	6.09E-11	4.93E-09	mg/kg-day	1.14E-03	mg/kg-day	4.33E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	7.51E-08	mg/kg-day	--	--	--	2.19E-07	mg/kg-day	5.00E-02	mg/kg-day	4.38E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.17E-07	mg/kg-day	--	--	--	1.51E-06	mg/kg-day	3.00E-02	mg/kg-day	5.02E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.19E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.72E-08	9.32E-06	mg/kg-day	3.00E-02	mg/kg-day	3.11E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	9.86E-08	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	2.00E-02	mg/kg-day	1.44E-05
				2-Methylphenol	8.10E-02	mg/kg	3.80E-08	mg/kg-day	--	--	--	1.11E-07	mg/kg-day	4.00E-03	mg/kg-day	2.77E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	7.85E-07	mg/kg-day	--	--	--	2.29E-06	mg/kg-day	5.00E-02	mg/kg-day	4.58E-05
				4,4'-DDD	1.20E-03	mg/kg	5.64E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.35E-10	1.64E-09	mg/kg-day	5.00E-04	mg/kg-day	3.29E-06
				4,4'-DDE	8.23E-02	mg/kg	3.87E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.31E-08	1.13E-07	mg/kg-day	5.00E-04	mg/kg-day	2.26E-04
				4,4'-DDT	4.45E-02	mg/kg	2.09E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.10E-09	6.09E-08	mg/kg-day	5.00E-04	mg/kg-day	1.22E-04
				4-Methylphenol	2.70E-01	mg/kg	1.27E-07	mg/kg-day	--	--	--	3.70E-07	mg/kg-day	5.00E-03	mg/kg-day	7.40E-05
				4-Nitroaniline	6.20E-01	mg/kg	2.91E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.12E-09	8.49E-07	mg/kg-day	3.00E-03	mg/kg-day	2.83E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.97E-07	mg/kg-day	--	--	--	5.75E-07	mg/kg-day	5.00E-04	mg/kg-day	1.15E-03
				Acenaphthene	4.23E+00	mg/kg	1.99E-06	mg/kg-day	--	--	--	5.80E-06	mg/kg-day	6.00E-02	mg/kg-day	9.67E-05
				Acenaphthylene	1.04E-01	mg/kg	4.89E-08	mg/kg-day	--	--	--	1.43E-07	mg/kg-day	6.00E-02	mg/kg-day	2.38E-06
				Aldrin	1.30E-02	mg/kg	6.11E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.04E-07	1.78E-08	mg/kg-day	3.00E-05	mg/kg-day	5.94E-04
				alpha-BHC	7.30E-04	mg/kg	3.43E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.26E-10	1.00E-09	mg/kg-day	5.00E-04	mg/kg-day	2.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	3.82E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.97E-09	1.12E-08	mg/kg-day	5.00E-04	mg/kg-day	2.23E-05
				Aluminum	8.82E+03	mg/kg	4.14E-03	mg/kg-day	--	--	--	1.21E-02	mg/kg-day	1.00E+00	mg/kg-day	1.21E-02
				Anthracene	1.05E+00	mg/kg	4.95E-07	mg/kg-day	--	--	--	1.45E-06	mg/kg-day	3.00E-01	mg/kg-day	4.82E-06
				Antimony	4.08E+00	mg/kg	1.92E-06	mg/kg-day	--	--	--	5.59E-06	mg/kg-day	4.00E-04	mg/kg-day	1.40E-02
				Aroclor-1248	1.20E+00	mg/kg	5.64E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.13E-06	1.64E-06	mg/kg-day	2.00E-05	mg/kg-day	8.22E-02
				Aroclor-1254	4.44E-01	mg/kg	2.09E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.17E-07	6.08E-07	mg/kg-day	2.00E-05	mg/kg-day	3.04E-02
				Aroclor-1260	5.41E-01	mg/kg	2.54E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.09E-07	7.42E-07	mg/kg-day	2.00E-05	mg/kg-day	3.71E-02
				Aroclor-1268	2.78E-02	mg/kg	1.30E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.61E-08	3.80E-08	mg/kg-day	2.00E-05	mg/kg-day	1.90E-03
				Arsenic	6.17E+00	mg/kg	2.90E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	2.74E-05	8.45E-06	mg/kg-day	3.00E-04	mg/kg-day	2.82E-02
				Barium	6.78E+01	mg/kg	3.19E-05	mg/kg-day	--	--	--	9.29E-05	mg/kg-day	7.00E-02	mg/kg-day	1.33E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	2.35E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.82E-06	6.86E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	7.82E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	9.39E-06	2.28E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.29E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.54E-06	3.75E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.59E-07	mg/kg-day	--	--	--	1.05E-06	mg/kg-day	3.00E-02	mg/kg-day	3.49E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.53E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.84E-06	4.47E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.12E-07	mg/kg-day	--	--	--	3.26E-07	mg/kg-day	2.00E-03	mg/kg-day	1.63E-04
				Beta-BHC	2.20E-03	mg/kg	1.03E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.55E-09	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.51E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.68E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.10E-08	1.07E-05	mg/kg-day	2.00E-02	mg/kg-day	5.36E-04
				Cadmium	9.47E+00	mg/kg	4.45E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.69E-06	1.30E-05	mg/kg-day	5.00E-04	mg/kg-day	2.60E-02
				Carbon disulfide	2.40E-04	mg/kg	1.13E-10	mg/kg-day	--	--	--	3.29E-10	mg/kg-day	1.00E-01	mg/kg-day	3.29E-09
				Chlorobenzene	1.10E-01	mg/kg	5.17E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	2.00E-02	mg/kg-day	7.53E-06
				Chromium	1.11E+02	mg/kg	5.22E-05	mg/kg-day	--	--	--	1.52E-04	mg/kg-day	1.50E+00	mg/kg-day	1.02E-04
				Chrysene	5.68E+00	mg/kg	2.67E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.20E-07	7.78E-06	mg/kg-day	--	--	--
				Cobalt	5.75E+00	mg/kg	3.56E-06	mg/kg-day	--	--	--	1.04E-05	mg/kg-day	2.00E-02	mg/kg-day	5.19E-04
				Copper	5.71E+01	mg/kg	2.68E-05	mg/kg-day	--	--	--	7.82E-05	mg/kg-day	4.00E-02	mg/kg-day	1.95E-03
				Delta-BHC	8.40E-03	mg/kg	3.95E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.92E-09	1.15E-08	mg/kg-day	2.00E-04	mg/kg-day	5.75E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.49E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.11E-07	4.35E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.11E-06	mg/kg-day	--	--	--	1.78E-05	mg/kg-day	2.00E-03	mg/kg-day	8.90E-03
				Dieldrin	5.51E-02	mg/kg	2.59E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.14E-07	7.55E-08	mg/kg-day	5.00E-05	mg/kg-day	1.51E-03
Dimethylphthalate	3.80E-02	mg/kg	1.78E-08	mg/kg-day	--	--	--	5.21E-08	mg/kg-day	8.00E-01	mg/kg-day	6.51E-08				

TABLE H-7.18

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient																
							Value	Units	Value	Units		Value	Units	Value	Units																	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	1.03E-06	mg/kg-day	--	--	--	3.01E-06	mg/kg-day	2.00E-01	mg/kg-day	1.51E-05																
				Endosulfan I	2.30E-02	mg/kg	1.08E-08	mg/kg-day	--	--	--	3.15E-08	mg/kg-day	6.00E-03	mg/kg-day	5.25E-06																
				Endosulfan II	2.38E-02	mg/kg	1.12E-08	mg/kg-day	--	--	--	3.26E-08	mg/kg-day	6.00E-03	mg/kg-day	5.44E-06																
				Endosulfan Sulfate	4.30E-02	mg/kg	2.02E-08	mg/kg-day	--	--	--	5.89E-08	mg/kg-day	6.00E-03	mg/kg-day	9.82E-06																
				Endrin aldehyde	4.21E-02	mg/kg	1.98E-08	mg/kg-day	--	--	--	5.76E-08	mg/kg-day	3.00E-04	mg/kg-day	1.92E-04																
				Endrin Ketone	1.00E-02	mg/kg	4.70E-09	mg/kg-day	--	--	--	1.37E-08	mg/kg-day	3.00E-04	mg/kg-day	4.57E-05																
				Fluoranthene	2.65E+01	mg/kg	1.24E-05	mg/kg-day	--	--	--	3.63E-05	mg/kg-day	4.00E-02	mg/kg-day	9.08E-04																
				Fluorene	2.92E+00	mg/kg	1.37E-06	mg/kg-day	--	--	--	3.89E-06	mg/kg-day	4.00E-02	mg/kg-day	9.99E-05																
				gamma-BHC (Lindane)	2.60E+03	mg/kg	1.22E-09	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	1.34E-09	3.56E-09	mg/kg-day	3.00E-04	mg/kg-day	1.19E-05																
				gamma-Chlordane	1.31E-02	mg/kg	6.15E-09	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	8.00E-09	1.79E-08	mg/kg-day	5.00E-04	mg/kg-day	3.59E-05																
				Heptachlor	6.80E-03	mg/kg	3.24E-09	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.33E-08	9.45E-09	mg/kg-day	5.00E-04	mg/kg-day	1.89E-05																
				Heptachlor Epoxide	1.12E-02	mg/kg	5.24E-09	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	2.88E-08	1.53E-08	mg/kg-day	1.30E-05	mg/kg-day	1.18E-03																
				Indeno(1,2,3-cd)pyrene	9.73E-01	mg/kg	4.10E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.92E-07	1.20E-06	mg/kg-day	--	--	--																
				Iron	4.07E+04	mg/kg	1.91E-02	mg/kg-day	--	--	--	5.58E-02	mg/kg-day	3.00E-01	mg/kg-day	1.86E-01																
				Isophorone	2.00E-01	mg/kg	9.39E-08	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	8.92E-11	2.74E-07	mg/kg-day	2.00E-01	mg/kg-day	1.37E-06																
				Lead	2.90E+03	mg/kg	1.36E-03	mg/kg-day	--	--	--	3.98E-03	mg/kg-day	--	--	--																
				Manganese	3.31E+02	mg/kg	1.55E-04	mg/kg-day	--	--	--	4.54E-04	mg/kg-day	2.40E-02	mg/kg-day	1.89E-02																
				Mercury	3.10E-01	mg/kg	1.45E-07	mg/kg-day	--	--	--	4.24E-07	mg/kg-day	3.00E-04	mg/kg-day	1.41E-03																
				Methoxychlor	1.20E-01	mg/kg	5.64E-08	mg/kg-day	--	--	--	1.64E-07	mg/kg-day	5.00E-03	mg/kg-day	3.29E-05																
				Molybdenum	2.50E+00	mg/kg	1.18E-06	mg/kg-day	--	--	--	3.43E-06	mg/kg-day	5.00E-03	mg/kg-day	6.86E-04																
				Naphthalene	1.30E+01	mg/kg	6.11E-06	mg/kg-day	--	--	--	1.78E-05	mg/kg-day	2.00E-02	mg/kg-day	8.90E-04																
				Nickel	3.91E+01	mg/kg	1.84E-05	mg/kg-day	--	--	--	5.36E-05	mg/kg-day	2.00E-02	mg/kg-day	2.68E-03																
				Phenanthrene	1.39E+01	mg/kg	6.54E-06	mg/kg-day	--	--	--	1.91E-05	mg/kg-day	3.00E-01	mg/kg-day	6.36E-05																
				Phenol	5.80E-01	mg/kg	2.72E-07	mg/kg-day	--	--	--	7.95E-07	mg/kg-day	3.00E-01	mg/kg-day	2.65E-06																
				p-Isopropyltoluene	1.10E-01	mg/kg	5.17E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	1.00E-01	mg/kg-day	1.51E-06																
				Pyrene	2.41E+01	mg/kg	1.13E-05	mg/kg-day	--	--	--	3.31E-05	mg/kg-day	3.00E-02	mg/kg-day	1.10E-03																
				sec-Butylbenzene	7.10E-02	mg/kg	3.33E-08	mg/kg-day	--	--	--	9.73E-08	mg/kg-day	4.00E-02	mg/kg-day	2.43E-06																
				Selenium	2.24E-01	mg/kg	1.05E-07	mg/kg-day	--	--	--	3.07E-07	mg/kg-day	5.00E-03	mg/kg-day	6.15E-05																
				Silver	1.16E+00	mg/kg	5.44E-07	mg/kg-day	--	--	--	1.59E-06	mg/kg-day	5.00E-03	mg/kg-day	3.18E-04																
				Technical Chlordane	5.51E-01	mg/kg	2.59E-07	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	3.36E-07	7.55E-07	mg/kg-day	5.00E-04	mg/kg-day	1.51E-03																
				Thallium	4.97E-01	mg/kg	2.33E-07	mg/kg-day	--	--	--	6.81E-07	mg/kg-day	8.00E-05	mg/kg-day	8.51E-03																
				Toluene	4.30E-04	mg/kg	2.02E-10	mg/kg-day	--	--	--	5.89E-10	mg/kg-day	8.00E-02	mg/kg-day	7.36E-09																
				Vanadium	3.41E+01	mg/kg	1.60E-05	mg/kg-day	--	--	--	4.68E-05	mg/kg-day	1.00E-03	mg/kg-day	4.68E-02																
				Zinc	4.53E+02	mg/kg	2.13E-04	mg/kg-day	--	--	--	6.21E-04	mg/kg-day	3.00E-01	mg/kg-day	2.07E-03																
				Exposure Route Total											4.91E-05				5.25E-01													
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4'-DDD	4,4'-DDE	4,4'-DDT	4-Methylphenol	4-Nitroaniline	1.50E+00	mg/kg	2.81E-07	mg/kg-day	--	--	--	8.20E-07	mg/kg-day	1.00E-02	mg/kg-day	8.20E-05
																					5.10E+00	mg/kg	9.56E-08	mg/kg-day	--	--	--	2.79E-07	mg/kg-day	1.00E-02	mg/kg-day	2.79E-05
																					5.00E-01	mg/kg	9.37E-09	mg/kg-day	--	--	--	2.73E-08	mg/kg-day	5.00E-02	mg/kg-day	5.47E-07
																					2.60E+01	mg/kg	4.87E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	5.00E-02	mg/kg-day	1.58E-05
																					3.60E-03	mg/kg	6.75E-11	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	2.43E-12	1.97E-10	mg/kg-day	1.14E-03	mg/kg-day	1.73E-07
																					1.60E-01	mg/kg	3.00E-09	mg/kg-day	--	--	--	8.75E-09	mg/kg-day	5.00E-02	mg/kg-day	1.75E-07
																					1.10E+00	mg/kg	2.06E-08	mg/kg-day	--	--	--	6.01E-08	mg/kg-day	3.00E-02	mg/kg-day	2.00E-06
6.80E+00	mg/kg	--	mg/kg-day																		5.40E-03	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2.10E-01	mg/kg	3.94E-09	mg/kg-day																		--	--	--	1.15E-08	mg/kg-day	2.00E-02	mg/kg-day	5.74E-07				
8.10E-02	mg/kg	1.52E-08	mg/kg-day																		--	--	--	4.43E-08	mg/kg-day	4.00E-03	mg/kg-day	1.11E-05				
1.67E+00	mg/kg	3.13E-08	mg/kg-day																		--	--	--	9.14E-08	mg/kg-day	5.00E-02	mg/kg-day	1.83E-06				
1.20E-03	mg/kg	2.25E-11	mg/kg-day																		2.40E-01	(mg/kg-day) <sup>-1</sup>	5.40E-12	6.56E-11	mg/kg-day	5.00E-04	mg/kg-day	1.31E-07				
8.23E-02	mg/kg	1.54E-09	mg/kg-day																		3.40E-01	(mg/kg-day) <sup>-1</sup>	5.24E-10	4.50E-09	mg/kg-day	5.00E-04	mg/kg-day	9.00E-06				
4.45E-02	mg/kg	2.50E-09	mg/kg-day																		3.40E-01	(mg/kg-day) <sup>-1</sup>	8.50E-10	7.30E-09	mg/kg-day	5.00E-04	mg/kg-day	1.46E-05				
2.70E-01	mg/kg	5.06E-08	mg/kg-day																		--	--	--	1.48E-07	mg/kg-day	5.00E-03	mg/kg-day	2.95E-05				
8.20E-01	mg/kg	1.16E-07	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.44E-09	3.39E-07	mg/kg-day	3.00E-03	mg/kg-day	1.13E-04																					

TABLE H-7.18

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	7.87E-08	mg/kg-day	--	--	--	--	2.30E-07	mg/kg-day	5.00E-04	mg/kg-day	4.59E-04
				Acenaphthene	4.23E+00	mg/kg	1.03E-06	mg/kg-day	--	--	--	--	3.01E-06	mg/kg-day	6.00E-02	mg/kg-day	5.01E-05
				Acenaphthylene	1.04E-01	mg/kg	1.95E-09	mg/kg-day	--	--	--	--	5.69E-09	mg/kg-day	6.00E-02	mg/kg-day	9.49E-08
				Aldrin	1.30E-02	mg/kg	2.44E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.14E-08	7.11E-09	mg/kg-day	3.00E-05	mg/kg-day	2.37E-04	
				alpha-BHC	7.30E-04	mg/kg	1.37E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.69E-11	3.99E-11	mg/kg-day	5.00E-04	mg/kg-day	7.98E-08	
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	5.00E-04	mg/kg-day	--	
				Aluminum	8.82E+03	mg/kg	1.65E-05	mg/kg-day	--	--	--	--	4.82E-05	mg/kg-day	1.00E+00	mg/kg-day	4.82E-05
				Anthracene	1.05E+00	mg/kg	2.57E-07	mg/kg-day	--	--	--	--	7.50E-07	mg/kg-day	3.00E-01	mg/kg-day	2.50E-06
				Antimony	4.08E+00	mg/kg	7.64E-09	mg/kg-day	--	--	--	--	2.23E-08	mg/kg-day	4.00E-04	mg/kg-day	5.57E-05
				Aroclor-1248	1.20E+00	mg/kg	3.15E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.30E-07	9.18E-07	mg/kg-day	2.00E-05	mg/kg-day	4.59E-02	
				Aroclor-1254	4.44E-01	mg/kg	1.17E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.33E-07	3.40E-07	mg/kg-day	2.00E-05	mg/kg-day	1.70E-02	
				Aroclor-1260	5.41E-01	mg/kg	1.42E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.84E-07	4.14E-07	mg/kg-day	2.00E-05	mg/kg-day	2.07E-02	
				Aroclor-1268	2.78E-02	mg/kg	7.28E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.46E-08	2.12E-08	mg/kg-day	2.00E-05	mg/kg-day	1.06E-03	
				Arsenic	6.17E+00	mg/kg	3.47E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	3.28E-06	1.01E-06	mg/kg-day	3.00E-04	mg/kg-day	3.37E-03	
				Barium	6.78E+01	mg/kg	1.27E-07	mg/kg-day	--	--	--	3.71E-07	mg/kg-day	7.00E-02	mg/kg-day	5.30E-06	
				Benzo(a)anthracene	5.00E+00	mg/kg	1.22E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.46E-06	3.56E-06	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.67E+00	mg/kg	4.06E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	4.87E-06	1.18E-06	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.74E+00	mg/kg	6.67E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.01E-07	1.95E-06	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.86E-07	mg/kg-day	--	--	--	5.43E-07	mg/kg-day	3.00E-02	mg/kg-day	1.81E-05	
				Benzo(k)fluoranthene	3.26E+00	mg/kg	7.94E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.53E-07	2.32E-06	mg/kg-day	--	--	--	
				Beryllium	2.38E-01	mg/kg	4.46E-10	mg/kg-day	--	--	--	1.30E-09	mg/kg-day	2.00E-03	mg/kg-day	6.51E-07	
				Beta-BHC	2.20E-03	mg/kg	4.12E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	6.18E-11	1.20E-10	mg/kg-day	2.00E-04	mg/kg-day	6.01E-07	
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.47E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	4.40E-10	4.28E-07	mg/kg-day	2.00E-02	mg/kg-day	2.14E-05	
				Cadmium	9.47E+00	mg/kg	1.78E-08	mg/kg-day	3.80E-01	(mg/kg-day)-1	6.75E-09	5.18E-08	mg/kg-day	5.00E-04	mg/kg-day	1.04E-04	
				Carbon disulfide	2.40E-04	mg/kg	1.12E-10	mg/kg-day	--	--	--	3.28E-10	mg/kg-day	1.00E-01	mg/kg-day	3.28E-09	
				Chlorobenzene	1.10E-01	mg/kg	2.06E-09	mg/kg-day	--	--	--	6.01E-09	mg/kg-day	2.00E-02	mg/kg-day	3.01E-07	
				Chromium	1.11E+02	mg/kg	2.08E-07	mg/kg-day	--	--	--	6.08E-07	mg/kg-day	1.50E+00	mg/kg-day	4.05E-07	
				Chrysene	5.68E+00	mg/kg	1.38E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.66E-07	4.04E-06	mg/kg-day	--	--	--	
				Cobalt	7.57E+00	mg/kg	1.42E-08	mg/kg-day	--	--	--	4.14E-08	mg/kg-day	2.00E-02	mg/kg-day	2.07E-06	
				Copper	5.71E+01	mg/kg	1.07E-07	mg/kg-day	--	--	--	3.12E-07	mg/kg-day	4.00E-02	mg/kg-day	7.80E-06	
				Delta-BHC	8.40E-03	mg/kg	7.87E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.18E-09	2.30E-09	mg/kg-day	2.00E-04	mg/kg-day	1.15E-05	
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	7.73E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.17E-07	2.26E-07	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	2.44E-07	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	2.00E-03	mg/kg-day	3.55E-04	
				Dieldrin	5.51E-02	mg/kg	1.03E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.65E-08	3.01E-09	mg/kg-day	5.00E-05	mg/kg-day	6.03E-05	
				Dimethylphthalate	3.80E-02	mg/kg	7.12E-10	mg/kg-day	--	--	--	2.08E-09	mg/kg-day	8.00E-01	mg/kg-day	2.60E-09	
				di-n-Butylphthalate	2.20E+00	mg/kg	4.12E-08	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	2.00E-01	mg/kg-day	6.01E-07	
				Endosulfan I	2.30E-02	mg/kg	2.16E-09	mg/kg-day	--	--	--	6.29E-09	mg/kg-day	6.00E-03	mg/kg-day	1.05E-06	
				Endosulfan II	2.38E-02	mg/kg	2.23E-09	mg/kg-day	--	--	--	6.51E-09	mg/kg-day	6.00E-03	mg/kg-day	1.08E-06	
				Endosulfan Sulfate	4.30E-02	mg/kg	4.03E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	6.00E-03	mg/kg-day	1.96E-06	
				Endrin aldehyde	4.21E-02	mg/kg	3.94E-09	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	3.00E-04	mg/kg-day	3.83E-05	
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	
				Fluoranthene	2.65E+01	mg/kg	6.46E-06	mg/kg-day	--	--	--	1.88E-05	mg/kg-day	4.00E-02	mg/kg-day	4.71E-04	
				Fluorene	2.92E+00	mg/kg	7.10E-07	mg/kg-day	--	--	--	2.07E-06	mg/kg-day	4.00E-02	mg/kg-day	5.18E-05	
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.95E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.14E-10	5.68E-10	mg/kg-day	3.00E-04	mg/kg-day	1.89E-06	
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--	
				Heptachlor	6.90E-03	mg/kg	1.29E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.30E-10	3.77E-10	mg/kg-day	5.00E-04	mg/kg-day	7.54E-07	
				Heptachlor Epoxide	1.12E-02	mg/kg	2.09E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.15E-09	6.10E-10	mg/kg-day	1.30E-05	mg/kg-day	4.69E-05	
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.13E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.55E-07	6.20E-07	mg/kg-day	--	--	--	
				Iron	4.07E+04	mg/kg	7.63E-05	mg/kg-day	--	--	--	2.23E-04	mg/kg-day	3.00E-01	mg/kg-day	7.42E-04	
				Isophorone	2.00E-01	mg/kg	3.75E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.56E-11	1.09E-07	mg/kg-day	2.00E-01	mg/kg-day	5.47E-07	
Lead	2.90E+03	mg/kg	5.44E-06	mg/kg-day	--	--	--	1.59E-05	mg/kg-day	--	--	--					

TABLE H-7.18

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	6.20E-07	mg/kg-day	--	--	--	--	1.81E-06	mg/kg-day	2.40E-02	mg/kg-day	7.54E-05			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	2.25E-09	mg/kg-day	--	--	--	--	6.56E-09	mg/kg-day	5.00E-03	mg/kg-day	1.31E-06	mg/kg-day	1.31E-06	
				Molybdenum	2.50E+00	mg/kg	4.69E-09	mg/kg-day	--	--	--	--	1.37E-08	mg/kg-day	5.00E-03	mg/kg-day	2.74E-06	mg/kg-day	2.74E-06	
				Naphthalene	1.30E+01	mg/kg	3.17E-06	mg/kg-day	--	--	--	--	9.24E-08	mg/kg-day	2.00E-02	mg/kg-day	4.62E-04	mg/kg-day	4.62E-04	
				Nickel	3.91E+01	mg/kg	7.33E-08	mg/kg-day	--	--	--	--	2.14E-07	mg/kg-day	2.00E-02	mg/kg-day	1.07E-05	mg/kg-day	1.07E-05	
				Phenanthrene	1.39E+01	mg/kg	2.61E-07	mg/kg-day	--	--	--	--	7.61E-07	mg/kg-day	3.00E-01	mg/kg-day	2.54E-06	mg/kg-day	2.54E-06	
				Phenol	5.80E-01	mg/kg	1.09E-07	mg/kg-day	--	--	--	--	3.17E-07	mg/kg-day	3.00E-01	mg/kg-day	1.06E-06	mg/kg-day	1.06E-06	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	mg/kg-day	--	mg/kg-day	--
				Pyrene	2.41E+01	mg/kg	5.88E-06	mg/kg-day	--	--	--	--	1.72E-05	mg/kg-day	3.00E-02	mg/kg-day	5.72E-04	mg/kg-day	5.72E-04	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	mg/kg-day	--	mg/kg-day	--
				Selenium	2.24E-01	mg/kg	4.21E-10	mg/kg-day	--	--	--	--	1.23E-09	mg/kg-day	5.00E-03	mg/kg-day	2.45E-07	mg/kg-day	2.45E-07	
				Silver	1.16E+00	mg/kg	2.17E-09	mg/kg-day	--	--	--	--	6.33E-09	mg/kg-day	5.00E-03	mg/kg-day	1.27E-06	mg/kg-day	1.27E-06	
				Technical Chlordane	5.51E-01	mg/kg	4.13E-08	mg/kg-day	--	--	1.30E+00	(mg/kg-day)-1	5.37E-08	1.20E-07	5.00E-04	mg/kg-day	2.41E-04	mg/kg-day	2.41E-04	
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	8.00E-05	mg/kg-day	--	mg/kg-day	--	
				Toluene	4.30E-04	mg/kg	8.06E-12	mg/kg-day	--	--	--	--	2.35E-11	mg/kg-day	8.00E-02	mg/kg-day	2.94E-10	mg/kg-day	2.94E-10	
				Vanadium	3.41E+01	mg/kg	6.40E-08	mg/kg-day	--	--	--	--	1.87E-07	mg/kg-day	1.00E-03	mg/kg-day	1.87E-04	mg/kg-day	1.87E-04	
				Zinc	4.53E+02	mg/kg	8.50E-07	mg/kg-day	--	--	--	--	2.48E-06	mg/kg-day	3.00E-01	mg/kg-day	8.26E-06	mg/kg-day	8.26E-06	
				Exposure Route Total										1.34E-05						9.27E-02
				Exposure Point Total										6.25E-05						
	Homegrown Produce		Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--			
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--		
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
				1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--		
				1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	--	--	3.60E-02	(mg/kg-day)-1	--	--	mg/kg-day	1.14E-03	mg/kg-day	--		
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
				1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	--	--	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.09E-05	mg/kg-day	--	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03	mg/kg-day	1.58E-03	
				2-Methylphenol	8.10E-02	mg/kg	9.97E-06	mg/kg-day	--	--	--	--	2.91E-05	mg/kg-day	4.00E-03	mg/kg-day	7.27E-03	mg/kg-day	7.27E-03	
				2-Methylnaphthalene	1.67E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
				4,4'-DDD	1.20E-03	mg/kg	1.06E-10	mg/kg-day	--	--	2.40E-01	(mg/kg-day)-1	2.54E-11	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07	mg/kg-day	6.17E-07
				4,4'-DDE	8.23E-02	mg/kg	5.25E-09	mg/kg-day	--	--	3.40E-01	(mg/kg-day)-1	1.79E-09	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05	mg/kg-day	3.07E-05
				4,4'-DDT	4.45E-02	mg/kg	1.22E-08	mg/kg-day	--	--	3.40E-01	(mg/kg-day)-1	4.16E-09	3.57E-08	mg/kg-day	5.00E-04	mg/kg-day	7.14E-05	mg/kg-day	7.14E-05
				4-Methylphenol	2.70E-01	mg/kg	3.42E-05	mg/kg-day	--	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02	mg/kg-day	1.99E-02	
				4-Nitroaniline	6.20E-01	mg/kg	5.37E-05	mg/kg-day	--	--	2.10E-02	(mg/kg-day)-1	1.13E-06	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02	mg/kg-day	5.22E-02
				4-Nitrophenol	4.20E-01	mg/kg	5.46E-05	mg/kg-day	--	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.18E-01	mg/kg-day	3.18E-01	
				Acenaphthene	4.23E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
				Acenaphthylene	1.04E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
				Aldrin	1.30E-02	mg/kg	1.87E-09	mg/kg-day	--	--	1.70E+01	(mg/kg-day)-1	3.19E-08	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04	mg/kg-day	1.82E-04
				alpha-BHC	7.30E-04	mg/kg	2.27E-08	mg/kg-day	--	--	2.70E+00	(mg/kg-day)-1	6.14E-08	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04	mg/kg-day	1.33E-04
				alpha-Chlordane	8.14E-03	mg/kg	2.58E-09	mg/kg-day	--	--	1.30E+00	(mg/kg-day)-1	3.35E-09	7.52E-09	mg/kg-day	5.00E-04	mg/kg-day	1.50E-05	mg/kg-day	1.50E-05
				Aluminum	8.82E+03	mg/kg	3.81E-04	mg/kg-day	--	--	--	--	1.11E-03	mg/kg-day	1.00E+00	mg/kg-day	1.11E-03	mg/kg-day	1.11E-03	
				Anthracene	1.05E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--		
				Antimony	4.08E+00	mg/kg	8.12E-06	mg/kg-day	--	--	--	--	--	2.37E-05	mg/kg-day	4.00E-04	mg/kg-day	5.92E-02	mg/kg-day	5.92E-02
				Aroclor-1248	1.20E+00	mg/kg	1.06E-07	mg/kg-day	--	--	2.00E+00	(mg/kg-day)-1	2.12E-07	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02	mg/kg-day	1.55E-02
				Aroclor-1254	4.44E-01	mg/kg	5.25E-07	mg/kg-day	--	--	2.00E+00	(mg/kg-day)-1	1.05E-06	1.53E-06	mg/kg-day	2.00E-05	mg/kg-day	7.66E-02	mg/kg-day	7.66E-02
Aroclor-1260	5.41E-01	mg/kg	2.29E-08	mg/kg-day	--	--	2.00E+00	(mg/kg-day)-1	4.58E-08	6.68E-08	mg/kg-day	2.00E-05	mg/kg-day	3.34E-03	mg/kg-day	3.34E-03				
Aroclor-1268	2.78E-02	mg/kg	3.28E-08	mg/kg-day	--	--	2.00E+00	(mg/kg-day)-1	6.57E-08	9.58E-08	mg/kg-day	2.00E-05	mg/kg-day	4.79E-03	mg/kg-day	4.79E-03				
Arsenic	6.17E+00	mg/kg	2.46E-06	mg/kg-day	--	--	9.45E+00	(mg/kg-day)-1	2.32E-05	7.16E-06	mg/kg-day	3.00E-04	mg/kg-day	2.39E-02	mg/kg-day	2.39E-02				
Banum	6.78E+01	mg/kg	6.75E-05	mg/kg-day	--	--	--	--	--	1.97E-04	mg/kg-day	7.00E-02	mg/kg-day	2.81E-03	mg/kg-day	2.81E-03				

TABLE H-7.18

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	8.52E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.02E-07	2.49E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.61E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.93E-07	4.69E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.65E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.18E-07	7.72E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	5.63E-08	mg/kg-day	--	--	--	1.64E-07	mg/kg-day	3.00E-02	mg/kg-day	5.47E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.15E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.78E-07	9.19E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.37E-08	mg/kg-day	--	--	--	6.91E-08	mg/kg-day	2.00E-03	mg/kg-day	3.46E-05
				Beta-BHC	2.20E-03	mg/kg	6.85E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.03E-07	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.80E-04	mg/kg-day	3.00E-03	(mg/kg-day)-1	5.39E-07	5.24E-04	mg/kg-day	2.00E-02	mg/kg-day	2.62E-02
				Cadmium	9.47E+00	mg/kg	9.43E-05	mg/kg-day	3.80E-01	(mg/kg-day)-1	3.58E-05	2.75E-04	mg/kg-day	5.00E-04	mg/kg-day	5.50E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	3.32E-05	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	1.50E+00	mg/kg-day	6.46E-05
				Chrysene	5.68E+00	mg/kg	6.79E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	8.15E-08	1.98E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.52E-06	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	2.00E-02	mg/kg-day	5.13E-04
				Copper	5.71E+01	mg/kg	9.47E-04	mg/kg-day	--	--	--	2.76E-03	mg/kg-day	4.00E-02	mg/kg-day	6.90E-02
				Delta-BHC	8.40E-03	mg/kg	2.13E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.20E-09	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.90E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.77E-08	5.53E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Diendrin	5.51E-02	mg/kg	1.94E-06	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.10E-05	5.66E-06	mg/kg-day	5.00E-05	mg/kg-day	1.13E-01
				Dimethylphthalate	3.80E-02	mg/kg	3.75E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	8.00E-01	mg/kg-day	1.37E-05
				di-n-Butylphthalate	2.20E+00	mg/kg	3.04E-07	mg/kg-day	--	--	--	8.87E-07	mg/kg-day	2.00E-01	mg/kg-day	4.43E-06
				Endosulfan I	2.30E-02	mg/kg	6.84E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.38E-02	mg/kg	6.79E-07	mg/kg-day	--	--	--	1.98E-06	mg/kg-day	6.00E-03	mg/kg-day	3.30E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.20E-06	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endrin aldehyde	4.21E-02	mg/kg	4.63E-09	mg/kg-day	--	--	--	1.35E-08	mg/kg-day	3.00E-04	mg/kg-day	4.50E-05
				Endrin Ketone	1.00E-02	mg/kg	1.10E-09	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.65E+01	mg/kg	4.75E-06	mg/kg-day	--	--	--	1.39E-05	mg/kg-day	4.00E-02	mg/kg-day	3.47E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.85E-07	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.13E-07	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.31E-02	mg/kg	4.15E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.39E-09	1.21E-08	mg/kg-day	5.00E-04	mg/kg-day	2.42E-05
				Heptachlor	6.90E-03	mg/kg	1.62E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.66E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-08
				Heptachlor Epoxide	1.12E-02	mg/kg	8.54E-07	mg/kg-day	5.50E+00	(mg/kg-day)-1	4.70E-06	2.49E-06	mg/kg-day	1.30E-05	mg/kg-day	1.92E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	6.31E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.58E-08	1.84E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	2.69E-03	mg/kg-day	--	--	--	7.84E-03	mg/kg-day	3.00E-01	mg/kg-day	2.61E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	1.73E-03	mg/kg-day	--	--	--	5.06E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	1.10E-03	mg/kg-day	--	--	--	3.20E-03	mg/kg-day	2.40E-02	mg/kg-day	1.33E-01
				Mercury	3.10E-01	mg/kg	4.11E-06	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	3.00E-04	mg/kg-day	3.99E-02
				Methoxychlor	1.20E-01	mg/kg	6.90E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06
				Molybdenum	2.50E+00	mg/kg	9.97E-06	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	5.00E-03	mg/kg-day	5.82E-03
Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--				
Nickel	3.91E+01	mg/kg	1.56E-04	mg/kg-day	--	--	--	4.54E-04	mg/kg-day	2.00E-02	mg/kg-day	2.27E-02				
Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	1.90E-04	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.24E-01	mg/kg	3.72E-07	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	5.00E-03	mg/kg-day	2.17E-04				
Silver	1.16E+00	mg/kg	7.69E-06	mg/kg-day	--	--	--	2.24E-05	mg/kg-day	5.00E-03	mg/kg-day	4.49E-03				
Technical Chlordane	5.51E-01	mg/kg	1.75E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.27E-07	5.09E-07	mg/kg-day	5.00E-04	mg/kg-day	1.02E-03				
Thallium	4.97E-01	mg/kg	1.32E-08	mg/kg-day	--	--	--	3.85E-08	mg/kg-day	8.00E-05	mg/kg-day	4.81E-04				

TABLE H-7.18

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--
				Vanadium	3.41E+01	mg/kg	6.80E-06	mg/kg-day	--	--	--	1.98E-05	mg/kg-day	1.00E-03	mg/kg-day	1.98E-02	
				Zinc	4.53E+02	mg/kg	2.71E-02	mg/kg-day	--	--	--	7.90E-02	mg/kg-day	3.00E-01	mg/kg-day	2.63E-01	
Exposure Route Total															2.06E+00		
Exposure Point Total															2.06E+00		
Exposure Medium Total															2.68E+00		
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.6E-10	mg/m <sup>3</sup>	1.49E-11	mg/kg-day	--	--	--	--	4.34E-11	mg/kg-day	2.0E-02	mg/kg-day	2.17E-09	
			2-Methylphenol	6.1E-11	mg/m <sup>3</sup>	5.74E-12	mg/kg-day	--	--	--	1.67E-11	mg/kg-day	--	--	--	--	
			4,4'-DDD	9.1E-13	mg/m <sup>3</sup>	8.51E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.04E-14	2.48E-13	mg/kg-day	5.00E-04	mg/kg-day	4.96E-10		
			4,4'-DDT	3.4E-11	mg/m <sup>3</sup>	3.15E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.07E-12	9.20E-12	mg/kg-day	5.00E-04	mg/kg-day	1.84E-08		
			4-Methylphenol	2.0E-10	mg/m <sup>3</sup>	1.91E-11	mg/kg-day	--	--	--	5.58E-11	mg/kg-day	5.00E-03	mg/kg-day	1.12E-08		
			4-Nitroaniline	4.7E-10	mg/m <sup>3</sup>	4.39E-11	mg/kg-day	2.10E-02	(mg/kg-day)-1	9.23E-13	1.28E-10	mg/kg-day	1.00E-03	mg/kg-day	1.28E-07		
			4-Nitrophenol	3.2E-10	mg/m <sup>3</sup>	2.98E-11	mg/kg-day	--	--	--	8.68E-11	mg/kg-day	5.70E-04	mg/kg-day	1.52E-07		
			Aluminum	6.7E-06	mg/m <sup>3</sup>	6.25E-07	mg/kg-day	--	--	--	1.82E-06	mg/kg-day	1.43E-03	mg/kg-day	1.28E-03		
			Antimony	3.1E-09	mg/m <sup>3</sup>	2.89E-10	mg/kg-day	--	--	--	8.43E-10	mg/kg-day	--	--	--		
			Aroclor-1248	9.1E-10	mg/m <sup>3</sup>	8.51E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-10	2.48E-10	mg/kg-day	2.00E-05	mg/kg-day	1.24E-05		
			Aroclor-1254	3.4E-10	mg/m <sup>3</sup>	3.15E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.30E-11	9.18E-11	mg/kg-day	2.00E-05	mg/kg-day	4.69E-06		
			Aroclor-1260	4.1E-10	mg/m <sup>3</sup>	3.84E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.67E-11	1.12E-10	mg/kg-day	2.00E-05	mg/kg-day	5.60E-06		
			Aroclor-1268	2.1E-11	mg/m <sup>3</sup>	1.97E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.93E-12	5.74E-12	mg/kg-day	2.00E-05	mg/kg-day	2.87E-07		
			Arsenic	4.7E-09	mg/m <sup>3</sup>	4.37E-10	mg/kg-day	1.20E+01	(mg/kg-day)-1	5.24E-09	1.27E-09	mg/kg-day	8.60E-06	mg/kg-day	1.48E-04		
			Barium	5.1E-08	mg/m <sup>3</sup>	4.81E-09	mg/kg-day	--	--	--	1.40E-08	mg/kg-day	1.40E-04	mg/kg-day	1.00E-04		
			Benzo(a)anthracene	3.8E-09	mg/m <sup>3</sup>	3.55E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.38E-10	1.03E-09	mg/kg-day	--	--	--		
			Benzo(a)pyrene	1.3E-09	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	3.90E+00	(mg/kg-day)-1	4.60E-10	3.44E-10	mg/kg-day	--	--	--		
			Benzo(g,h,i)perylene	5.8E-10	mg/m <sup>3</sup>	5.41E-11	mg/kg-day	--	--	--	1.58E-10	mg/kg-day	3.00E-02	mg/kg-day	5.26E-09		
			Benzo(k)fluoranthene	2.5E-09	mg/m <sup>3</sup>	2.31E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	9.01E-11	6.74E-10	mg/kg-day	--	--	--		
			Beryllium	1.8E-10	mg/m <sup>3</sup>	1.69E-11	mg/kg-day	8.40E+00	(mg/kg-day)-1	1.42E-10	4.92E-11	mg/kg-day	5.71E-06	mg/kg-day	8.61E-06		
			Beta-BHC	1.7E-12	mg/m <sup>3</sup>	1.56E-13	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.34E-13	4.55E-13	mg/kg-day	2.00E-04	mg/kg-day	2.27E-09		
			bis(2-ethylhexyl)phthalate	5.9E-09	mg/m <sup>3</sup>	5.55E-10	mg/kg-day	8.40E-03	(mg/kg-day)-1	4.66E-12	1.62E-09	mg/kg-day	2.00E-02	mg/kg-day	8.10E-08		
			Cadmium	7.2E-09	mg/m <sup>3</sup>	6.71E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	1.01E-08	1.96E-09	mg/kg-day	5.71E-06	mg/kg-day	3.43E-04		
			Chromium	8.4E-08	mg/m <sup>3</sup>	7.88E-09	mg/kg-day	--	--	--	2.30E-08	mg/kg-day	--	--	--		
			Cobalt	5.7E-09	mg/m <sup>3</sup>	5.37E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	5.26E-09	1.57E-09	mg/kg-day	5.71E-06	mg/kg-day	2.74E-04		
			Copper	4.3E-08	mg/m <sup>3</sup>	4.04E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	--	--	--		
			Dibenzo(a,h)anthracene	2.4E-10	mg/m <sup>3</sup>	2.25E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	9.23E-11	6.56E-11	mg/kg-day	--	--	--		
			Dimethylphthalate	2.9E-11	mg/m <sup>3</sup>	2.69E-12	mg/kg-day	--	--	--	7.86E-12	mg/kg-day	8.00E-01	mg/kg-day	9.82E-12		
			di-n-Butylphthalate	1.7E-09	mg/m <sup>3</sup>	1.56E-10	mg/kg-day	--	--	--	4.55E-10	mg/kg-day	1.00E-01	mg/kg-day	4.55E-09		
			Endrin aldehyde	3.2E-11	mg/m <sup>3</sup>	2.98E-12	mg/kg-day	--	--	--	8.70E-12	mg/kg-day	3.00E-04	mg/kg-day	2.90E-08		
			Endrin Ketone	7.6E-12	mg/m <sup>3</sup>	7.09E-13	mg/kg-day	--	--	--	2.07E-12	mg/kg-day	3.00E-04	mg/kg-day	6.89E-09		
			Heptachlor Epoxide	8.5E-12	mg/m <sup>3</sup>	7.91E-13	mg/kg-day	5.50E+00	(mg/kg-day)-1	4.35E-12	2.31E-12	mg/kg-day	1.30E-05	mg/kg-day	1.77E-07		
			Indeno(1,2,3-cd)pyrene	6.6E-10	mg/m <sup>3</sup>	6.19E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.41E-11	1.80E-10	mg/kg-day	--	--	--		
			Iron	3.1E-05	mg/m <sup>3</sup>	2.89E-06	mg/kg-day	--	--	--	8.42E-06	mg/kg-day	--	--	--		
			Isophorone	1.5E-10	mg/m <sup>3</sup>	1.42E-11	mg/kg-day	--	--	--	4.13E-11	mg/kg-day	--	--	--		
			Lead	2.2E-06	mg/m <sup>3</sup>	2.06E-07	mg/kg-day	--	--	--	6.00E-07	mg/kg-day	--	--	--		
			Manganese	2.5E-07	mg/m <sup>3</sup>	2.35E-08	mg/kg-day	--	--	--	6.84E-08	mg/kg-day	1.43E-05	mg/kg-day	4.79E-03		
			Mercury	2.3E-10	mg/m <sup>3</sup>	2.19E-11	mg/kg-day	--	--	--	6.40E-11	mg/kg-day	8.60E-05	mg/kg-day	7.44E-07		
			Molybdenum	1.9E-09	mg/m <sup>3</sup>	1.78E-10	mg/kg-day	--	--	--	5.18E-10	mg/kg-day	--	--	--		
			Nickel	3.0E-08	mg/m <sup>3</sup>	2.77E-09	mg/kg-day	9.10E-01	(mg/kg-day)-1	2.52E-09	8.09E-09	mg/kg-day	1.40E-05	mg/kg-day	5.78E-04		
			Phenol	4.4E-10	mg/m <sup>3</sup>	4.11E-11	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	5.71E-02	mg/kg-day	2.10E-09		
			Selenium	1.7E-10	mg/m <sup>3</sup>	1.59E-11	mg/kg-day	--	--	--	4.64E-11	mg/kg-day	5.70E-03	mg/kg-day	8.14E-09		
Silver	8.8E-10	mg/m <sup>3</sup>	8.21E-11	mg/kg-day	--	--	--	2.40E-10	mg/kg-day	--	--	--					

TABLE H-7.18

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.8E-10	mg/m <sup>3</sup>	3.52E-11	mg/kg-day	--	--	--	1.03E-10	mg/kg-day	--	--	--	
				Vanadium	2.6E-08	mg/m <sup>3</sup>	2.42E-09	mg/kg-day	--	--	--	7.06E-09	mg/kg-day	--	--	--	
				Zinc	3.4E-07	mg/m <sup>3</sup>	3.21E-08	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	--	--	--	
			Exposure Route Total					2.44E-08					7.54E-03				
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	9.77E-06	mg/kg-day	--	--	--	2.85E-05	mg/kg-day	1.10E-03	mg/kg-day	2.59E-02	
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	3.32E-05	mg/kg-day	--	--	--	9.69E-05	mg/kg-day	1.10E-03	mg/kg-day	8.81E-02	
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.10E-05	mg/kg-day	--	--	--	3.20E-05	mg/kg-day	1.70E-03	mg/kg-day	1.88E-02	
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	4.98E-04	mg/kg-day	--	--	--	1.45E-03	mg/kg-day	5.70E-02	mg/kg-day	2.55E-02	
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	2.68E-07	mg/kg-day	--	--	3.60E-02 (mg/kg-day)-1	9.64E-09	7.81E-07	mg/kg-day	1.14E-03	mg/kg-day	6.85E-04
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	3.42E-06	mg/kg-day	--	--	--	9.97E-06	mg/kg-day	1.70E-03	mg/kg-day	5.87E-03	
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	1.52E-05	mg/kg-day	--	--	--	4.44E-05	mg/kg-day	3.00E-02	mg/kg-day	1.48E-03	
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	1.46E-04	mg/kg-day	4.00E-02 (mg/kg-day)-1	5.85E-06	4.26E-04	mg/kg-day	2.30E-01	mg/kg-day	1.85E-03		
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	6.92E-06	mg/kg-day	--	--	--	2.02E-05	mg/kg-day	5.00E-02	mg/kg-day	4.04E-04	
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	9.07E-10	mg/kg-day	3.40E-01 (mg/kg-day)-1	3.09E-10	2.65E-09	mg/kg-day	5.00E-04	mg/kg-day	5.29E-06		
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	5.44E-06	mg/kg-day	--	--	--	1.59E-05	mg/kg-day	6.00E-02	mg/kg-day	2.64E-04	
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	1.34E-07	mg/kg-day	--	--	--	3.90E-07	mg/kg-day	6.00E-02	mg/kg-day	6.50E-06	
				Aldrin	5.63E-09	mg/m <sup>3</sup>	5.27E-10	mg/kg-day	1.70E+01 (mg/kg-day)-1	8.96E-09	1.54E-09	mg/kg-day	3.00E-05	mg/kg-day	5.12E-05		
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	3.40E-10	mg/kg-day	2.70E+00 (mg/kg-day)-1	9.18E-10	9.93E-10	mg/kg-day	5.00E-04	mg/kg-day	1.99E-06		
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	7.54E-10	mg/kg-day	1.20E+00 (mg/kg-day)-1	9.05E-10	2.20E-09	mg/kg-day	2.00E-04	mg/kg-day	1.10E-05		
				Anthracene	1.45E-05	mg/m <sup>3</sup>	1.35E-06	mg/kg-day	--	--	--	3.95E-06	mg/kg-day	3.00E-01	mg/kg-day	1.32E-05	
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	1.66E-07	mg/kg-day	3.90E-01 (mg/kg-day)-1	6.46E-08	4.83E-07	mg/kg-day	--	--	--		
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	4.23E-08	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	2.00E-01	mg/kg-day	6.17E-07	
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	4.84E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	2.86E-01	mg/kg-day	4.94E-05	
				Chrysene	6.25E-06	mg/m <sup>3</sup>	5.84E-07	mg/kg-day	3.90E-02 (mg/kg-day)-1	2.28E-08	1.70E-06	mg/kg-day	--	--	--		
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	3.92E-09	mg/kg-day	1.50E+00 (mg/kg-day)-1	5.87E-09	1.14E-08	mg/kg-day	2.00E-04	mg/kg-day	5.71E-05		
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	4.20E-06	mg/kg-day	--	--	--	1.22E-05	mg/kg-day	2.00E-03	mg/kg-day	6.12E-03	
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	6.94E-09	mg/kg-day	1.60E+01 (mg/kg-day)-1	1.11E-07	2.02E-08	mg/kg-day	5.00E-05	mg/kg-day	4.05E-04		
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	7.54E-09	mg/kg-day	--	--	--	2.20E-08	mg/kg-day	6.00E-03	mg/kg-day	3.66E-06	
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	7.81E-09	mg/kg-day	--	--	--	2.28E-08	mg/kg-day	6.00E-03	mg/kg-day	3.79E-06	
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	1.41E-08	mg/kg-day	--	--	--	4.11E-08	mg/kg-day	6.00E-03	mg/kg-day	6.85E-06	
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	1.60E-06	mg/kg-day	--	--	--	4.68E-06	mg/kg-day	4.00E-02	mg/kg-day	1.17E-04	
				Fluorene	1.71E-05	mg/m <sup>3</sup>	1.60E-06	mg/kg-day	--	--	--	4.68E-06	mg/kg-day	4.00E-02	mg/kg-day	1.16E-04	
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	1.49E-09	mg/kg-day	1.10E+00 (mg/kg-day)-1	1.64E-09	4.35E-09	mg/kg-day	3.00E-04	mg/kg-day	1.45E-05		
gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>		1.21E-09	mg/kg-day	1.20E+00 (mg/kg-day)-1	1.46E-09	3.54E-09	mg/kg-day	2.00E-04	mg/kg-day	1.77E-05					
Heptachlor	3.38E-07	mg/m <sup>3</sup>		3.16E-08	mg/kg-day	4.10E+00 (mg/kg-day)-1	1.30E-07	9.22E-08	mg/kg-day	5.00E-04	mg/kg-day	1.84E-04					
Methoxychlor	8.63E-08	mg/m <sup>3</sup>		8.08E-09	mg/kg-day	--	--	--	2.36E-08	mg/kg-day	5.00E-03	mg/kg-day	4.71E-06				
Naphthalene	6.99E-04	mg/m <sup>3</sup>		6.54E-05	mg/kg-day	1.20E-01 (mg/kg-day)-1	7.85E-06	1.91E-04	mg/kg-day	8.57E-04	mg/kg-day	2.23E-01					
Phenanthrene	1.91E-04	mg/m <sup>3</sup>	1.79E-05	mg/kg-day	--	--	--	5.21E-05	mg/kg-day	3.00E-01	mg/kg-day	1.74E-04					
p-Isopropyltoluene	-1.92E-04	mg/m <sup>3</sup>	1.79E-05	mg/kg-day	--	--	--	5.23E-05	mg/kg-day	1.10E-01	mg/kg-day	4.75E-04					
Pyrene	1.85E-05	mg/m <sup>3</sup>	1.73E-06	mg/kg-day	--	--	--	5.04E-06	mg/kg-day	3.00E-02	mg/kg-day	1.68E-04					
sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	2.63E-06	mg/kg-day	--	--	--	7.68E-06	mg/kg-day	4.00E-02	mg/kg-day	1.92E-04					
Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	5.10E-08	mg/kg-day	1.20E+00 (mg/kg-day)-1	6.12E-08	1.49E-07	mg/kg-day	2.00E-04	mg/kg-day	7.44E-04						
Toluene	3.12E-07	mg/m <sup>3</sup>	2.92E-08	mg/kg-day	--	--	--	8.52E-08	mg/kg-day	1.43E+00	mg/kg-day	5.96E-08					
Exposure Route Total					1.41E-05					4.00E-01							
Exposure Point Total					1.41E-05					4.08E-01							
Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	8.24E-04	mg/kg-day	--	--	--	2.40E-03	mg/kg-day	1.10E-03	mg/kg-day	2.19E+00			
		1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	2.80E-03	mg/kg-day	--	--	--	8.17E-03	mg/kg-day	1.10E-03	mg/kg-day	7.43E+00			
		1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	2.75E-04	mg/kg-day	--	--	--	8.01E-04	mg/kg-day	1.70E-03	mg/kg-day	4.71E-01			
		1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	1.43E-02	mg/kg-day	--	--	--	4.17E-02	mg/kg-day	5.70E-02	mg/kg-day	7.31E-01			
		1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	1.98E-06	mg/kg-day	3.60E-02 (mg/kg-day)-1	7.12E-08	5.77E-06	mg/kg-day	1.14E-03	mg/kg-day	5.06E-03				
1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	8.78E-05	mg/kg-day	--	--	--	2.56E-04	mg/kg-day	1.70E-03	mg/kg-day	1.51E-01					

TABLE H-7.18

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	6.04E-04	mg/kg-day	--	--	--	--	1.76E-03	mg/kg-day	3.00E-02	mg/kg-day	5.88E-02		
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	3.74E-03	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.49E-04	1.09E-02	mg/kg-day	2.30E-01	mg/kg-day	4.74E-02			
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	4.54E-04	mg/kg-day	--	--	--	1.32E-03	mg/kg-day	5.00E-02	mg/kg-day	2.65E-02			
				4,4'-DDE	8.07E-06	(a) ug/m <sup>3</sup>	5.68E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.93E-10	1.66E-09	mg/kg-day	5.00E-04	mg/kg-day	3.31E-06			
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	1.58E-04	mg/kg-day	--	--	--	4.62E-04	mg/kg-day	6.00E-02	mg/kg-day	7.70E-03			
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	4.09E-06	mg/kg-day	--	--	--	1.19E-05	mg/kg-day	6.00E-02	mg/kg-day	1.99E-04			
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	1.51E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.56E-08	4.39E-09	mg/kg-day	3.00E-05	mg/kg-day	1.46E-04			
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.01E-08	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.72E-08	2.94E-08	mg/kg-day	5.00E-04	mg/kg-day	5.87E-05			
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	5.08E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.09E-09	1.48E-08	mg/kg-day	2.00E-04	mg/kg-day	7.40E-05			
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	4.17E-05	mg/kg-day	--	--	--	1.22E-04	mg/kg-day	3.00E-01	mg/kg-day	4.05E-04			
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	2.95E-07	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.15E-07	8.60E-07	mg/kg-day	--	--	--			
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	1.32E-07	mg/kg-day	--	--	--	3.85E-07	mg/kg-day	2.00E-01	mg/kg-day	1.92E-06			
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	6.04E-05	mg/kg-day	--	--	--	1.76E-04	mg/kg-day	2.86E-01	mg/kg-day	6.17E-04			
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	1.66E-06	mg/kg-day	3.90E-02	(mg/kg-day)-1	6.48E-08	4.85E-06	mg/kg-day	--	--	--			
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	1.72E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.58E-07	5.02E-07	mg/kg-day	2.00E-04	mg/kg-day	2.51E-03			
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	2.22E-06	mg/kg-day	--	--	--	6.46E-06	mg/kg-day	2.00E-03	mg/kg-day	3.23E-03			
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	4.91E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	7.85E-07	1.43E-07	mg/kg-day	5.00E-05	mg/kg-day	2.86E-03			
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	2.02E-07	mg/kg-day	--	--	--	5.89E-07	mg/kg-day	6.00E-03	mg/kg-day	9.81E-05			
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	2.05E-07	mg/kg-day	--	--	--	5.99E-07	mg/kg-day	6.00E-03	mg/kg-day	9.98E-05			
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	3.77E-07	mg/kg-day	--	--	--	1.10E-06	mg/kg-day	6.00E-03	mg/kg-day	1.83E-04			
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	4.59E-07	mg/kg-day	--	--	--	1.34E-06	mg/kg-day	4.00E-02	mg/kg-day	3.35E-05			
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	2.51E-05	mg/kg-day	--	--	--	7.31E-05	mg/kg-day	4.00E-02	mg/kg-day	1.83E-03			
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	5.33E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	5.86E-08	1.55E-07	mg/kg-day	3.00E-04	mg/kg-day	5.18E-04			
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	9.24E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.11E-10	2.69E-10	mg/kg-day	2.00E-04	mg/kg-day	1.35E-06			
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.02E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.17E-08	2.96E-08	mg/kg-day	5.00E-04	mg/kg-day	5.93E-05			
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	2.78E-08	mg/kg-day	--	--	--	8.09E-08	mg/kg-day	5.00E-03	mg/kg-day	1.62E-05			
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	1.32E-06	mg/kg-day	3.50E-03	(mg/kg-day)-1	4.61E-09	3.85E-06	mg/kg-day	1.10E-01	mg/kg-day	3.50E-05			
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	5.88E-03	mg/kg-day	1.20E-01	(mg/kg-day)-1	7.06E-04	1.72E-02	mg/kg-day	8.57E-04	mg/kg-day	2.00E+01			
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	5.34E-04	mg/kg-day	--	--	--	1.56E-03	mg/kg-day	3.00E-01	mg/kg-day	5.19E-03			
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	6.04E-05	mg/kg-day	--	--	--	1.76E-04	mg/kg-day	1.10E-01	mg/kg-day	1.60E-03			
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	3.72E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	3.00E-02	mg/kg-day	3.62E-04			
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	2.14E-05	mg/kg-day	--	--	--	6.25E-05	mg/kg-day	4.00E-02	mg/kg-day	1.56E-03			
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	3.93E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.72E-07	1.15E-06	mg/kg-day	2.00E-04	mg/kg-day	5.74E-03			
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	2.36E-07	mg/kg-day	--	--	--	6.89E-07	mg/kg-day	1.43E+00	mg/kg-day	4.82E-07							
				Exposure Route Total													3.12E+01		
				Exposure Point Total													3.12E+01		
				Exposure Medium Total													3.16E+01		
Medium Total											1.03E-03								3.43E+01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	3.96E-08	mg/kg-day	5.70E-03	(mg/kg-day)-1	2.26E-10	--	1.16E-07	mg/kg-day	1.40E-01	mg/kg-day	8.25E-07		
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.18E-08	mg/kg-day	--	--	--	--	3.44E-08	mg/kg-day	1.70E-03	mg/kg-day	2.03E-05		
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	7.74E-08	mg/kg-day	--	--	--	--	2.26E-07	mg/kg-day	5.70E-02	mg/kg-day	3.96E-06		
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	5.57E-08	mg/kg-day	7.20E-02	(mg/kg-day)-1	4.01E-09	1.62E-07	mg/kg-day	1.40E-03	mg/kg-day	1.16E-04			
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	2.09E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	7.51E-10	6.09E-08	mg/kg-day	1.14E-03	mg/kg-day	5.34E-05			
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	6.73E-09	mg/kg-day	--	--	--	1.96E-08	mg/kg-day	1.70E-03	mg/kg-day	1.15E-05			
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	2.63E-08	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.05E-09	7.68E-08	mg/kg-day	2.30E-01	mg/kg-day	3.34E-07			
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.02E-09	mg/kg-day	--	--	--	2.97E-09	mg/kg-day	1.43E+00	mg/kg-day	2.08E-09			
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	9.05E-11	mg/kg-day	--	--	--	2.64E-10	mg/kg-day	5.00E-02	mg/kg-day	5.28E-09			
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.21E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.12E-11	3.53E-10	mg/kg-day	5.00E-04	mg/kg-day	7.06E-07			
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	3.78E-10	mg/kg-day	--	--	--	1.10E-09	mg/kg-day	8.60E-01	mg/kg-day	1.28E-09			
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	3.63E-09	mg/kg-day	--	--	--	1.06E-08	mg/kg-day	6.00E-02	mg/kg-day	1.76E-07			
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	1.54E-10	mg/kg-day	--	--	--	4.50E-10	mg/kg-day	6.00E-02	mg/kg-day	7.51E-09			

TABLE H-7.18

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	2.09E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	3.56E-09	6.10E-10	mg/kg-day	3.00E-05	mg/kg-day	2.03E-05
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	2.65E-11	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	7.15E-11	7.73E-11	mg/kg-day	5.00E-04	mg/kg-day	1.55E-07
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	6.27E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	7.52E-11	1.83E-10	mg/kg-day	2.00E-04	mg/kg-day	9.14E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	3.07E-10	mg/kg-day	--	--	--	8.97E-10	mg/kg-day	3.00E-01	mg/kg-day	2.99E-09
				Benzene	2.61E-07	mg/m <sup>3</sup>	2.44E-08	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	2.44E-09	7.12E-08	mg/kg-day	8.60E-03	mg/kg-day	8.28E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	4.55E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.77E-11	1.33E-10	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	6.89E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	2.69E-12	2.01E-09	mg/kg-day	2.00E-02	mg/kg-day	1.00E-07
				Carbon disulfide	4.51E-08	mg/m <sup>3</sup>	4.22E-07	mg/kg-day	--	--	--	1.23E-06	mg/kg-day	2.00E-01	mg/kg-day	6.15E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	6.85E-09	mg/kg-day	--	--	--	2.00E-08	mg/kg-day	2.86E-01	mg/kg-day	7.00E-08
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.93E-07	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	3.67E-09	5.64E-07	mg/kg-day	8.57E-02	mg/kg-day	6.58E-06
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	7.01E-08	mg/kg-day	--	--	--	2.04E-07	mg/kg-day	2.60E-02	mg/kg-day	7.86E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.23E-10	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	4.80E-12	3.59E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	4.96E-08	mg/kg-day	--	--	--	1.45E-07	mg/kg-day	1.00E-02	mg/kg-day	1.45E-05
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	9.19E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.47E-09	2.68E-10	mg/kg-day	5.00E-05	mg/kg-day	5.36E-08
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	2.09E-11	mg/kg-day	--	--	--	6.11E-11	mg/kg-day	6.00E-03	mg/kg-day	1.02E-08
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	3.44E-14	mg/kg-day	--	--	--	1.00E-13	mg/kg-day	6.00E-03	mg/kg-day	1.67E-11
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.87E-08	mg/kg-day	--	--	--	5.44E-08	mg/kg-day	2.90E-01	mg/kg-day	1.88E-07
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	4.73E-11	mg/kg-day	--	--	--	1.38E-10	mg/kg-day	4.00E-02	mg/kg-day	3.45E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	9.35E-11	mg/kg-day	--	--	--	2.73E-10	mg/kg-day	4.00E-02	mg/kg-day	6.82E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.16E-13	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	1.28E-13	3.39E-13	mg/kg-day	3.00E-04	mg/kg-day	1.13E-09
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	1.63E-10	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.95E-10	4.75E-10	mg/kg-day	2.00E-04	mg/kg-day	2.37E-06
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	1.67E-09	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	6.85E-09	4.87E-09	mg/kg-day	5.00E-04	mg/kg-day	9.74E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	9.35E-06	mg/kg-day	1.10E-01	mg/kg-day	8.50E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	6.49E-08	mg/kg-day	--	--	--	1.89E-07	mg/kg-day	2.90E-02	mg/kg-day	6.53E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	3.06E-10	mg/kg-day	--	--	--	8.91E-10	mg/kg-day	5.00E-03	mg/kg-day	1.78E-07
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	5.08E-10	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	6.10E-11	1.48E-09	mg/kg-day	8.57E-04	mg/kg-day	1.73E-06
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	2.37E-08	mg/kg-day	--	--	--	6.90E-08	mg/kg-day	8.57E-04	mg/kg-day	8.06E-05
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	2.64E-08	mg/kg-day	--	--	--	7.69E-08	mg/kg-day	4.00E-02	mg/kg-day	1.92E-06
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	2.45E-10	mg/kg-day	--	--	--	7.14E-10	mg/kg-day	3.00E-01	mg/kg-day	2.38E-09
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	9.35E-06	mg/kg-day	1.10E-01	mg/kg-day	8.50E-05
				Pyrene	4.61E-10	mg/m <sup>3</sup>	4.31E-11	mg/kg-day	--	--	--	1.26E-10	mg/kg-day	3.00E-02	mg/kg-day	4.19E-09
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	7.50E-08	mg/kg-day	--	--	--	2.19E-07	mg/kg-day	4.00E-02	mg/kg-day	5.47E-06
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	8.49E-08	mg/kg-day	--	--	--	2.48E-07	mg/kg-day	4.00E-02	mg/kg-day	6.19E-06
Toluene	3.80E-07	mg/m <sup>3</sup>	3.55E-08	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	1.43E+00	mg/kg-day	7.26E-08				
trans-1,2-Dichloroethene	6.96E-07	mg/m <sup>3</sup>	6.39E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	2.00E-02	mg/kg-day	1.22E-05				
Trichloroethene	9.32E-07	mg/m <sup>3</sup>	8.72E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	6.10E-10	2.54E-07	mg/kg-day	1.70E-01	mg/kg-day	1.50E-06				
Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.80E-07	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	4.87E-08	5.26E-07	mg/kg-day	2.86E-02	mg/kg-day	1.84E-05				
				Exposure Route Total											5.95E-04	
				Exposure Point Total											5.95E-04	
Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	6.97E-06	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	3.97E-08	2.03E-05	mg/kg-day	1.40E-01	mg/kg-day	1.45E-04
				1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	3.06E-07	mg/kg-day	--	--	--	8.91E-07	mg/kg-day	1.70E-03	mg/kg-day	5.24E-04
				1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	2.06E-06	mg/kg-day	--	--	--	6.00E-06	mg/kg-day	5.70E-02	mg/kg-day	1.05E-04
				1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	1.67E-06	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	1.20E-07	4.88E-06	mg/kg-day	1.40E-03	mg/kg-day	3.47E-03
				1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	6.17E-07	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	2.22E-08	1.80E-06	mg/kg-day	1.14E-03	mg/kg-day	1.58E-03
				1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	1.75E-07	mg/kg-day	--	--	--	5.10E-07	mg/kg-day	1.70E-03	mg/kg-day	3.00E-04
				1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	7.06E-07	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	2.82E-08	2.06E-06	mg/kg-day	2.30E-01	mg/kg-day	8.95E-06
				2-Hexanone	5.60E-04	ug/m <sup>3</sup>	5.24E-08	mg/kg-day	--	--	--	1.53E-07	mg/kg-day	1.43E+00	mg/kg-day	1.07E-07
				2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	2.54E-09	mg/kg-day	--	--	--	7.40E-09	mg/kg-day	5.00E-02	mg/kg-day	1.48E-07
				4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	1.09E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.71E-12	3.18E-11	mg/kg-day	5.00E-04	mg/kg-day	6.36E-08
				4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	1.56E-08	mg/kg-day	--	--	--	4.54E-08	mg/kg-day	8.60E-01	mg/kg-day	5.28E-08
				Acenaphthene	1.65E-03	ug/m <sup>3</sup>	1.55E-07	mg/kg-day	--	--	--	4.51E-07	mg/kg-day	6.00E-02	mg/kg-day	7.51E-06



TABLE H-7.18

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.19

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.05E-07	mg/kg-day	--	--	--	--	2.05E-06	mg/kg-day	1.00E-02	mg/kg-day	2.05E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.40E-06	mg/kg-day	--	--	--	--	6.99E-06	mg/kg-day	1.00E-02	mg/kg-day	6.99E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.35E-07	mg/kg-day	--	--	--	--	8.85E-07	mg/kg-day	5.00E-02	mg/kg-day	1.37E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.22E-05	mg/kg-day	--	--	--	--	3.56E-05	mg/kg-day	9.00E-02	mg/kg-day	3.96E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.69E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	6.09E-11	4.93E-09	mg/kg-day	1.14E-03	mg/kg-day	4.33E-06	
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	7.51E-08	mg/kg-day	--	--	--	--	2.19E-07	mg/kg-day	5.00E-02	mg/kg-day	4.38E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.17E-07	mg/kg-day	--	--	--	--	1.51E-06	mg/kg-day	3.00E-02	mg/kg-day	5.02E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.19E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.72E-08	9.32E-06	mg/kg-day	3.00E-02	mg/kg-day	3.11E-04	
				2,4-Dimethylphenol	2.10E-01	mg/kg	9.86E-08	mg/kg-day	--	--	--	--	2.88E-07	mg/kg-day	2.00E-02	mg/kg-day	1.44E-05
				2-Methylphenol	8.10E-02	mg/kg	3.80E-08	mg/kg-day	--	--	--	--	1.11E-07	mg/kg-day	4.00E-03	mg/kg-day	2.77E-05
				2-Methylnaphthalene	1.45E+00	mg/kg	6.81E-07	mg/kg-day	--	--	--	--	1.99E-06	mg/kg-day	5.00E-02	mg/kg-day	3.97E-05
				4,4-DDD	1.20E-03	mg/kg	5.64E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.35E-10	1.64E-09	mg/kg-day	5.00E-04	mg/kg-day	3.29E-06	
				4,4-DDE	7.50E-02	mg/kg	3.52E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.20E-08	1.03E-07	mg/kg-day	5.00E-04	mg/kg-day	2.05E-04	
				4,4-DDT	4.20E-02	mg/kg	1.97E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.71E-09	5.75E-08	mg/kg-day	5.00E-04	mg/kg-day	1.15E-04	
				4-Methylphenol	2.70E-01	mg/kg	1.27E-07	mg/kg-day	--	--	--	--	3.70E-07	mg/kg-day	5.00E-03	mg/kg-day	7.40E-05
				4-Nitroaniline	6.20E-01	mg/kg	2.91E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.12E-09	8.49E-07	mg/kg-day	3.00E-03	mg/kg-day	2.83E-04	
				4-Nitrophenol	4.20E-01	mg/kg	1.97E-07	mg/kg-day	--	--	--	--	5.75E-07	mg/kg-day	5.00E-04	mg/kg-day	1.15E-03
				Acenaphthene	3.47E+00	mg/kg	1.63E-06	mg/kg-day	--	--	--	--	4.76E-06	mg/kg-day	6.00E-02	mg/kg-day	7.93E-05
				Acenaphthylene	8.96E-02	mg/kg	4.21E-08	mg/kg-day	--	--	--	--	1.23E-07	mg/kg-day	6.00E-02	mg/kg-day	2.05E-06
				Aldrin	1.30E-02	mg/kg	6.11E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.04E-07	1.78E-08	mg/kg-day	3.00E-05	mg/kg-day	5.94E-04	
				alpha-BHC	7.30E-04	mg/kg	3.43E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.26E-10	1.00E-09	mg/kg-day	5.00E-04	mg/kg-day	2.00E-06	
				alpha-Chlordane	6.98E-03	mg/kg	3.28E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.26E-09	9.58E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05	
				Aluminum	9.05E+03	mg/kg	4.25E+03	mg/kg-day	--	--	--	--	1.24E-02	mg/kg-day	1.00E+00	mg/kg-day	1.24E-02
				Anthracene	9.13E-01	mg/kg	4.29E-07	mg/kg-day	--	--	--	--	1.25E-06	mg/kg-day	3.00E-01	mg/kg-day	4.17E-06
				Antimony	2.72E+00	mg/kg	1.28E-06	mg/kg-day	--	--	--	--	3.73E-06	mg/kg-day	4.00E-04	mg/kg-day	9.33E-03
				Aroclor-1248	1.20E+00	mg/kg	5.64E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.13E-06	1.64E-06	mg/kg-day	2.00E-05	mg/kg-day	8.22E-02	
				Aroclor-1254	4.38E-01	mg/kg	2.06E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.11E-07	6.00E-07	mg/kg-day	2.00E-05	mg/kg-day	3.00E-02	
				Aroclor-1260	4.88E-01	mg/kg	2.29E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.59E-07	6.60E-07	mg/kg-day	2.00E-05	mg/kg-day	3.34E-02	
				Aroclor-1268	2.72E-02	mg/kg	1.28E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.55E-08	3.72E-08	mg/kg-day	2.00E-05	mg/kg-day	1.86E-03	
				Arsenic	9.53E+00	mg/kg	4.48E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	4.23E-05	1.31E-05	mg/kg-day	3.00E-04	mg/kg-day	4.35E-02	
				Barium	6.94E+01	mg/kg	3.26E-05	mg/kg-day	--	--	--	--	9.51E-05	mg/kg-day	7.00E-02	mg/kg-day	1.36E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	1.98E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.37E-06	5.77E-06	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.41E+00	mg/kg	6.60E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	7.92E-06	1.93E-06	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.11E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.34E-06	3.25E-06	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	3.04E-07	mg/kg-day	--	--	--	--	8.87E-07	mg/kg-day	3.00E-02	mg/kg-day	2.96E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.33E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.59E-06	3.87E-06	mg/kg-day	--	--	--	
				Beryllium	2.28E-01	mg/kg	1.07E-07	mg/kg-day	--	--	--	--	3.12E-07	mg/kg-day	2.00E-03	mg/kg-day	1.56E-04
				Beta-BHC	2.20E-03	mg/kg	1.03E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.55E-09	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.51E-05	
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	2.49E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	7.46E-09	7.25E-08	mg/kg-day	2.00E-02	mg/kg-day	3.63E-04	
				Cadmium	8.65E+00	mg/kg	4.06E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.54E-06	1.18E-05	mg/kg-day	5.00E-04	mg/kg-day	2.37E-02	
				Carbon disulfide	2.40E-04	mg/kg	1.13E-10	mg/kg-day	--	--	--	--	3.29E-10	mg/kg-day	1.00E-01	mg/kg-day	3.29E-09
				Chlorobenzene	1.10E-01	mg/kg	5.17E-08	mg/kg-day	--	--	--	--	1.51E-07	mg/kg-day	2.00E-02	mg/kg-day	7.53E-06
				Chromium	1.00E+02	mg/kg	4.69E-05	mg/kg-day	--	--	--	--	1.37E-04	mg/kg-day	1.50E+00	mg/kg-day	9.13E-05
				Chrysene	4.80E+00	mg/kg	2.25E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.70E-07	6.57E-06	mg/kg-day	--	--	--	
				Cobalt	7.44E+00	mg/kg	3.50E-06	mg/kg-day	--	--	--	--	1.02E-05	mg/kg-day	2.00E-02	mg/kg-day	5.10E-04
				Copper	6.01E+01	mg/kg	2.82E-05	mg/kg-day	--	--	--	--	8.23E-05	mg/kg-day	4.00E-02	mg/kg-day	2.06E-03
				Delta-BHC	8.40E-03	mg/kg	3.95E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.92E-09	1.15E-08	mg/kg-day	2.00E-04	mg/kg-day	7.55E-05	
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.29E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.31E-07	3.78E-07	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	6.11E-06	mg/kg-day	--	--	--	--	1.78E-05	mg/kg-day	2.00E-03	mg/kg-day	8.90E-03
				Dieldrin	4.89E-02	mg/kg	2.30E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.88E-07	6.70E-08	mg/kg-day	5.00E-05	mg/kg-day	1.34E-03	
Dimethylphthalate	3.80E-02	mg/kg	1.78E-08	mg/kg-day	--	--	--	--	5.21E-08	mg/kg-day	8.00E-01	mg/kg-day	6.51E-08				



TABLE H-7.19

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	1.16E-07	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.44E-09	3.39E-07	mg/kg-day	3.00E-03	mg/kg-day	1.13E-04
				4-Nitrophenol	4.20E-01	mg/kg	7.87E-08	mg/kg-day	--	--	--	2.30E-07	mg/kg-day	5.00E-04	mg/kg-day	4.59E-04
				Acenaphthene	3.47E+00	mg/kg	8.46E-07	mg/kg-day	--	--	--	2.47E-06	mg/kg-day	6.00E-02	mg/kg-day	4.11E-05
				Acenaphthylene	8.96E-02	mg/kg	1.68E-09	mg/kg-day	--	--	--	4.90E-09	mg/kg-day	6.00E-02	mg/kg-day	8.16E-08
				Aldrin	1.30E-02	mg/kg	2.44E-09	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	4.14E-08	7.11E-09	mg/kg-day	3.00E-05	mg/kg-day	2.37E-04
				alpha-BHC	7.30E-04	mg/kg	1.37E-11	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	3.89E-11	3.99E-11	mg/kg-day	5.00E-04	mg/kg-day	7.98E-08
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	1.70E-05	mg/kg-day	--	--	--	4.95E-05	mg/kg-day	1.00E+00	mg/kg-day	4.95E-05
				Anthracene	9.13E-01	mg/kg	2.22E-07	mg/kg-day	--	--	--	6.49E-07	mg/kg-day	3.00E-01	mg/kg-day	2.16E-06
				Antimony	2.72E+00	mg/kg	5.10E-09	mg/kg-day	--	--	--	1.49E-08	mg/kg-day	4.00E-04	mg/kg-day	3.72E-05
				Aroclor-1248	1.20E+00	mg/kg	3.15E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.30E-07	9.18E-07	mg/kg-day	2.00E-05	mg/kg-day	4.59E-02
				Aroclor-1254	4.38E-01	mg/kg	1.15E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.30E-07	3.35E-07	mg/kg-day	2.00E-05	mg/kg-day	1.67E-02
				Aroclor-1260	4.88E-01	mg/kg	1.28E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.56E-07	3.74E-07	mg/kg-day	2.00E-05	mg/kg-day	1.87E-02
				Aroclor-1268	2.72E-02	mg/kg	7.13E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.43E-08	2.08E-08	mg/kg-day	2.00E-05	mg/kg-day	1.04E-03
				Arsenic	9.53E+00	mg/kg	5.36E-07	mg/kg-day	9.45E+00	(mg/kg-day) <sup>-1</sup>	5.06E-06	1.56E-06	mg/kg-day	3.00E-04	mg/kg-day	5.21E-03
				Barium	6.94E+01	mg/kg	1.30E-07	mg/kg-day	--	--	--	3.80E-07	mg/kg-day	7.00E-02	mg/kg-day	5.42E-06
				Benzo(a)anthracene	4.21E+00	mg/kg	1.03E-06	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.23E-06	2.99E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	3.43E-07	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	4.11E-06	9.99E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	5.78E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	6.94E-07	1.69E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.58E-07	mg/kg-day	--	--	--	4.60E-07	mg/kg-day	3.00E-02	mg/kg-day	1.53E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	6.88E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	8.26E-07	2.01E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	4.27E-10	mg/kg-day	--	--	--	1.25E-09	mg/kg-day	2.00E-03	mg/kg-day	6.23E-07
				Beta-BHC	2.20E-03	mg/kg	4.12E-11	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	6.18E-11	1.20E-10	mg/kg-day	2.00E-04	mg/kg-day	6.01E-07
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	9.92E-08	mg/kg-day	3.00E-03	(mg/kg-day) <sup>-1</sup>	2.98E-10	2.89E-07	mg/kg-day	2.00E-02	mg/kg-day	1.45E-05
				Cadmium	8.65E+00	mg/kg	1.62E-08	mg/kg-day	3.80E-01	(mg/kg-day) <sup>-1</sup>	6.16E-09	4.73E-08	mg/kg-day	5.00E-04	mg/kg-day	9.45E-05
				Carbon disulfide	2.40E-04	mg/kg	1.12E-10	mg/kg-day	--	--	--	3.28E-10	mg/kg-day	1.00E-01	mg/kg-day	3.28E-09
				Chlorobenzene	1.10E-01	mg/kg	2.06E-09	mg/kg-day	--	--	--	6.01E-09	mg/kg-day	2.00E-02	mg/kg-day	3.01E-07
				Chromium	1.00E+02	mg/kg	1.87E-07	mg/kg-day	--	--	--	5.46E-07	mg/kg-day	1.50E+00	mg/kg-day	3.64E-07
				Chrysene	4.80E+00	mg/kg	1.17E-06	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.40E-07	3.41E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.39E-08	mg/kg-day	--	--	--	4.07E-08	mg/kg-day	2.00E-02	mg/kg-day	2.03E-06
				Copper	6.01E+01	mg/kg	1.13E-07	mg/kg-day	--	--	--	3.28E-07	mg/kg-day	4.00E-02	mg/kg-day	8.21E-06
				Delta-BHC	8.40E-03	mg/kg	7.87E-10	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.18E-09	2.30E-09	mg/kg-day	2.00E-04	mg/kg-day	1.15E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	6.71E-08	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	2.75E-07	1.96E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.44E-07	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	2.00E-03	mg/kg-day	3.55E-04
				Dieldrin	4.89E-02	mg/kg	9.17E-10	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.47E-08	2.67E-09	mg/kg-day	5.00E-05	mg/kg-day	5.35E-05
				Dimethylphthalate	3.80E-02	mg/kg	7.12E-10	mg/kg-day	--	--	--	2.08E-09	mg/kg-day	8.00E-01	mg/kg-day	2.60E-09
				di-n-Butylphthalate	2.30E+00	mg/kg	4.31E-08	mg/kg-day	--	--	--	1.26E-07	mg/kg-day	2.00E-01	mg/kg-day	6.29E-07
				Endosulfan I	2.30E-02	mg/kg	2.16E-09	mg/kg-day	--	--	--	6.29E-09	mg/kg-day	6.00E-03	mg/kg-day	1.05E-06
				Endosulfan II	2.34E-02	mg/kg	2.19E-09	mg/kg-day	--	--	--	6.39E-09	mg/kg-day	6.00E-03	mg/kg-day	1.06E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	4.03E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	6.00E-03	mg/kg-day	1.96E-06
				Endrin aldehyde	6.30E-02	mg/kg	5.90E-09	mg/kg-day	--	--	--	1.72E-08	mg/kg-day	3.00E-04	mg/kg-day	5.74E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	5.42E-06	mg/kg-day	--	--	--	1.58E-05	mg/kg-day	4.00E-02	mg/kg-day	3.95E-04
				Fluorene	2.53E+00	mg/kg	6.16E-07	mg/kg-day	--	--	--	1.80E-06	mg/kg-day	4.00E-02	mg/kg-day	4.49E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.95E-10	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.14E-10	5.68E-10	mg/kg-day	3.00E-04	mg/kg-day	1.89E-06
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.29E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	5.30E-10	3.77E-10	mg/kg-day	5.00E-04	mg/kg-day	7.54E-07
				Heptachlor Epoxide	9.86E-03	mg/kg	1.85E-10	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	1.02E-09	5.39E-10	mg/kg-day	1.30E-05	mg/kg-day	4.14E-05
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.21E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.45E-07	3.53E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	6.89E-05	mg/kg-day	--	--	--	2.01E-04	mg/kg-day	3.00E-01	mg/kg-day	6.70E-04
				Isophorone	2.00E-01	mg/kg	3.75E-08	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	3.56E-11	1.09E-07	mg/kg-day	2.00E-01	mg/kg-day	5.47E-07

TABLE H-7.19

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	4.48E-06	mg/kg-day	--	--	--	1.31E-05	mg/kg-day	--	--	--			
				Manganese	3.04E+02	mg/kg	5.70E-07	mg/kg-day	--	--	--	1.69E-06	mg/kg-day	2.40E-02	mg/kg-day	6.93E-05			
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--			
				Methoxychlor	1.20E-01	mg/kg	2.25E-09	mg/kg-day	--	--	--	6.56E-09	mg/kg-day	5.00E-03	mg/kg-day	1.31E-06			
				Methylene chloride	2.40E-03	mg/kg	4.50E-11	mg/kg-day	1.40E-02	(mg/kg-day)-1	6.30E-13	1.31E-10	mg/kg-day	6.00E-02	mg/kg-day	2.19E-09			
				Molybdenum	2.18E+00	mg/kg	4.08E-09	mg/kg-day	--	--	--	1.19E-08	mg/kg-day	5.00E-03	mg/kg-day	2.38E-06			
				Naphthalene	1.30E+01	mg/kg	3.17E-06	mg/kg-day	--	--	--	9.24E-06	mg/kg-day	2.00E-02	mg/kg-day	4.62E-04			
				Nickel	3.89E+01	mg/kg	7.30E-08	mg/kg-day	--	--	--	2.13E-07	mg/kg-day	2.00E-02	mg/kg-day	1.06E-05			
				Phenanthrene	1.17E+01	mg/kg	2.19E-07	mg/kg-day	--	--	--	6.39E-07	mg/kg-day	3.00E-01	mg/kg-day	2.13E-06			
				Phenol	5.80E-01	mg/kg	1.09E-07	mg/kg-day	--	--	--	3.17E-07	mg/kg-day	3.00E-01	mg/kg-day	1.06E-06			
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--			
				Pyrene	2.03E+01	mg/kg	4.96E-06	mg/kg-day	--	--	--	1.45E-05	mg/kg-day	3.00E-02	mg/kg-day	4.82E-04			
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--			
				Selenium	2.84E-01	mg/kg	5.31E-10	mg/kg-day	--	--	--	1.55E-09	mg/kg-day	5.00E-03	mg/kg-day	3.10E-07			
				Silver	9.80E-01	mg/kg	1.84E-09	mg/kg-day	--	--	--	5.36E-09	mg/kg-day	5.00E-03	mg/kg-day	1.07E-06			
				Technical Chlordane	5.41E-01	mg/kg	4.05E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.27E-08	1.18E-07	mg/kg-day	5.00E-04	mg/kg-day	2.36E-04			
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--			
				Toluene	4.30E-04	mg/kg	8.06E-12	mg/kg-day	--	--	--	2.35E-11	mg/kg-day	8.00E-02	mg/kg-day	2.94E-10			
				Vanadium	3.37E+01	mg/kg	6.31E-08	mg/kg-day	--	--	--	1.84E-07	mg/kg-day	1.00E-03	mg/kg-day	1.84E-04			
				Zinc	3.32E+02	mg/kg	6.22E-07	mg/kg-day	--	--	--	1.81E-06	mg/kg-day	3.00E-01	mg/kg-day	6.04E-06			
				Exposure Route Total											1.37E-05			9.20E-02	
				Exposure Point Total											7.48E-05			5.99E-01	
				Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--
						1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--
						1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--
						1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--
1,2-Dichloropropane	3.60E-03	mg/kg	--			mg/kg-day	3.60E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--				
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--				
1,3-Dichlorobenzene	1.10E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--			mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	1.09E-05			mg/kg-day	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03					
2-Methylphenol	8.10E-02	mg/kg	9.97E-06			mg/kg-day	--	--	--	2.91E-05	mg/kg-day	4.00E-03	mg/kg-day	7.27E-03					
2-Methylnaphthalene	1.45E+00	mg/kg	--			mg/kg-day	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--					
4,4'-DDD	1.20E-03	mg/kg	1.06E-10			mg/kg-day	2.40E-01	(mg/kg-day)-1	2.54E-11	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07					
4,4'-DDE	7.50E-02	mg/kg	4.79E-09			mg/kg-day	3.40E-01	(mg/kg-day)-1	1.63E-09	1.40E-08	mg/kg-day	5.00E-04	mg/kg-day	2.79E-05					
4,4'-DDT	4.20E-02	mg/kg	1.16E-08			mg/kg-day	3.40E-01	(mg/kg-day)-1	3.93E-09	3.37E-08	mg/kg-day	5.00E-04	mg/kg-day	6.74E-05					
4-Methylphenol	2.70E-01	mg/kg	3.42E-05			mg/kg-day	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02					
4-Nitroaniline	6.20E-01	mg/kg	5.37E-05			mg/kg-day	2.10E-02	(mg/kg-day)-1	1.13E+06	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02					
4-Nitrophenol	4.20E-01	mg/kg	5.46E-05			mg/kg-day	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.18E-01					
Acenaphthene	3.47E+00	mg/kg	--			mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--					
Acenaphthylene	8.95E-02	mg/kg	--			mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--					
Aldrin	1.30E-02	mg/kg	1.87E-09			mg/kg-day	1.70E+01	(mg/kg-day)-1	3.19E-08	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04					
alpha-BHC	7.30E-04	mg/kg	2.27E-08			mg/kg-day	2.70E+00	(mg/kg-day)-1	6.14E-08	6.83E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04					
alpha-Chlordane	6.99E-03	mg/kg	2.21E-09			mg/kg-day	1.30E+00	(mg/kg-day)-1	2.87E-09	6.45E-09	mg/kg-day	5.00E-04	mg/kg-day	1.29E-05					
Aluminum	9.05E+03	mg/kg	3.91E-04			mg/kg-day	--	--	--	1.14E-03	mg/kg-day	1.00E+00	mg/kg-day	1.14E-03					
Anthracene	9.13E-01	mg/kg	--			mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--					
Antimony	2.72E+00	mg/kg	5.42E-06			mg/kg-day	--	--	--	1.58E-05	mg/kg-day	4.00E-04	mg/kg-day	3.95E-02					
Aroclor-1248	1.20E+00	mg/kg	1.06E-07			mg/kg-day	2.00E+00	(mg/kg-day)-1	2.12E-07	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02					
Aroclor-1254	4.38E-01	mg/kg	5.18E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.04E-06	1.51E-06	mg/kg-day	2.00E-05	mg/kg-day	7.55E-02							
Aroclor-1260	4.88E-01	mg/kg	2.07E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.13E-08	6.02E-08	mg/kg-day	2.00E-05	mg/kg-day	3.01E-03							
Aroclor-1268	2.72E-02	mg/kg	3.22E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.43E-08	9.38E-08	mg/kg-day	2.00E-05	mg/kg-day	4.69E-03							

TABLE H-7.19

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	3.80E-06	mg/kg-day	9.45E+00	(mg/kg-day) <sup>-1</sup>	3.59E-05	1.11E-05	mg/kg-day	3.00E-04	mg/kg-day	3.69E-02
				Barium	6.94E+01	mg/kg	6.91E-05	mg/kg-day	--	--	--	2.02E-04	mg/kg-day	7.00E-02	mg/kg-day	2.88E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	7.17E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	8.61E-08	2.09E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.36E-08	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	1.63E-07	3.96E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	2.29E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.75E-07	6.69E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	4.78E-08	mg/kg-day	--	--	--	1.39E-07	mg/kg-day	3.00E-02	mg/kg-day	4.64E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	2.73E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.28E-07	7.96E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	2.27E-08	mg/kg-day	--	--	--	6.61E-08	mg/kg-day	2.00E-03	mg/kg-day	3.31E-05
				Beta-BHC	2.20E-03	mg/kg	6.85E-08	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.03E-07	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.21E-04	mg/kg-day	3.00E-03	(mg/kg-day) <sup>-1</sup>	3.64E-07	3.54E-04	mg/kg-day	2.00E-02	mg/kg-day	1.77E-02
				Cadmium	8.65E+00	mg/kg	8.61E-05	mg/kg-day	3.80E-01	(mg/kg-day) <sup>-1</sup>	3.27E-05	2.51E-04	mg/kg-day	5.00E-04	mg/kg-day	5.02E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	2.99E-05	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	1.50E+00	mg/kg-day	5.80E-05
				Chrysene	4.80E+00	mg/kg	5.73E-07	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	6.88E-08	1.67E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	3.46E-06	mg/kg-day	--	--	--	1.01E-05	mg/kg-day	2.00E-02	mg/kg-day	5.04E-04
				Copper	6.01E+01	mg/kg	9.97E-04	mg/kg-day	--	--	--	2.91E-03	mg/kg-day	4.00E-02	mg/kg-day	7.27E-02
				Delta-BHC	8.40E-03	mg/kg	2.13E-09	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	3.20E-09	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.65E-08	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	6.75E-08	4.60E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	1.72E-06	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.75E-05	5.02E-06	mg/kg-day	5.00E-05	mg/kg-day	1.00E-01
				Dimethylphthalate	3.80E-02	mg/kg	3.75E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	8.00E-01	mg/kg-day	1.37E-05
				di-n-Butylphthalate	2.30E+00	mg/kg	3.18E-07	mg/kg-day	--	--	--	9.27E-07	mg/kg-day	2.00E-01	mg/kg-day	4.64E-06
				Endosulfan I	2.30E-02	mg/kg	6.84E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.34E-02	mg/kg	6.66E-07	mg/kg-day	--	--	--	1.94E-06	mg/kg-day	6.00E-03	mg/kg-day	3.24E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.20E-06	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endrin aldehyde	6.30E-02	mg/kg	6.93E-09	mg/kg-day	--	--	--	2.02E-08	mg/kg-day	3.00E-04	mg/kg-day	6.74E-05
				Endrin Ketone	1.00E-02	mg/kg	1.10E-09	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.23E+01	mg/kg	3.99E-06	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	4.00E-02	mg/kg-day	2.81E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.85E-07	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	3.13E-07	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.27E-02	mg/kg	4.02E-09	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	5.23E-09	1.17E-08	mg/kg-day	5.00E-04	mg/kg-day	2.35E-05
				Heptachlor	6.90E-03	mg/kg	1.62E-09	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	6.68E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06
				Heptachlor Epoxide	9.86E-03	mg/kg	7.55E-07	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	4.15E-06	2.20E-06	mg/kg-day	1.30E-05	mg/kg-day	1.69E-01
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	3.59E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.31E-08	1.05E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	2.43E-03	mg/kg-day	--	--	--	7.07E-03	mg/kg-day	3.00E-01	mg/kg-day	2.36E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.39E+03	mg/kg	1.43E-03	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	1.01E-03	mg/kg-day	--	--	--	2.95E-03	mg/kg-day	2.40E-02	mg/kg-day	1.23E-01
				Mercury	2.65E-01	mg/kg	3.52E-06	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	3.00E-04	mg/kg-day	3.42E-02
				Methoxychlor	1.20E-01	mg/kg	6.90E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06
				Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	6.00E-02	mg/kg-day	--
				Molybdenum	2.18E+00	mg/kg	8.68E-06	mg/kg-day	--	--	--	2.53E-05	mg/kg-day	5.00E-03	mg/kg-day	5.06E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.89E+01	mg/kg	1.55E-04	mg/kg-day	--	--	--	4.52E-04	mg/kg-day	2.00E-02	mg/kg-day	2.26E-02
				Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
				Phenol	5.80E-01	mg/kg	1.90E-04	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	4.70E-07	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	5.00E-03	mg/kg-day	2.74E-04

TABLE H-7.19

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	6.50E-06	mg/kg-day	--	--	--	--	1.90E-05	mg/kg-day	5.00E-03	mg/kg-day	3.79E-03	
				Technical Chlordane	5.41E-01	mg/kg	1.71E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.23E-07	--	5.00E-07	mg/kg-day	5.00E-04	mg/kg-day	9.99E-04	
				Thallium	4.83E-01	mg/kg	1.28E-08	mg/kg-day	--	--	--	--	3.74E-08	mg/kg-day	8.00E-05	mg/kg-day	4.67E-04	
				Toluene	4.30E-04	mg/kg	--	--	--	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--	
				Vanadium	3.37E+01	mg/kg	6.70E-08	mg/kg-day	--	--	--	--	1.96E-05	mg/kg-day	1.00E-03	mg/kg-day	1.96E-02	
				Zinc	3.32E+02	mg/kg	1.98E-02	mg/kg-day	--	--	--	--	5.78E-02	mg/kg-day	3.00E-01	mg/kg-day	1.93E-01	
Exposure Route Total										1.05E-04						1.87E+00		
Exposure Point Total										1.05E-04							1.87E+00	
Exposure Medium Total										1.80E-04							2.47E+00	
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	1.49E-11	mg/kg-day	--	--	--	--	4.34E-11	mg/kg-day	2.00E-02	mg/kg-day	--	2.17E-09	
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	5.74E-12	mg/kg-day	--	--	--	--	1.67E-11	mg/kg-day	--	--	--	--	--
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	8.51E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.04E-14	--	2.48E-13	mg/kg-day	5.00E-04	mg/kg-day	4.96E-10		
			4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	2.98E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.01E-12	--	8.68E-12	mg/kg-day	5.00E-04	mg/kg-day	1.74E-08		
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.91E-11	mg/kg-day	--	--	--	--	5.58E-11	mg/kg-day	5.00E-03	mg/kg-day	1.12E-08		
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	4.39E-11	mg/kg-day	2.10E-02	(mg/kg-day)-1	9.23E-13	--	1.28E-10	mg/kg-day	1.00E-03	mg/kg-day	1.28E-07		
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	2.98E-11	mg/kg-day	--	--	--	--	8.68E-11	mg/kg-day	5.70E-04	mg/kg-day	1.52E-07		
			Aluminum	6.86E-06	mg/m <sup>3</sup>	6.42E-07	mg/kg-day	--	--	--	--	1.87E-06	mg/kg-day	1.43E-03	mg/kg-day	1.31E-03		
			Antimony	2.06E-09	mg/m <sup>3</sup>	1.93E-10	mg/kg-day	--	--	--	--	5.63E-10	mg/kg-day	--	--	--		
			Archlor-1248	9.09E-10	mg/m <sup>3</sup>	8.51E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-10	--	2.48E-10	mg/kg-day	2.00E-05	mg/kg-day	1.24E-05		
			Archlor-1254	3.32E-10	mg/m <sup>3</sup>	3.10E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.20E-11	--	9.05E-11	mg/kg-day	2.00E-05	mg/kg-day	4.52E-06		
			Archlor-1260	3.70E-10	mg/m <sup>3</sup>	3.46E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.92E-11	--	1.01E-10	mg/kg-day	2.00E-05	mg/kg-day	5.05E-06		
			Archlor-1268	2.06E-11	mg/m <sup>3</sup>	1.93E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.85E-12	--	5.62E-12	mg/kg-day	2.00E-05	mg/kg-day	2.81E-07		
			Arsenic	7.22E-09	mg/m <sup>3</sup>	6.76E-10	mg/kg-day	1.20E+01	(mg/kg-day)-1	8.11E-09	--	1.97E-09	mg/kg-day	8.60E-06	mg/kg-day	2.29E-04		
			Barium	5.26E-08	mg/m <sup>3</sup>	4.92E-09	mg/kg-day	--	--	--	--	1.44E-08	mg/kg-day	1.40E-04	mg/kg-day	1.03E-04		
			Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	2.99E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.16E-10	--	8.71E-10	mg/kg-day	--	--	--		
			Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	9.97E-11	mg/kg-day	3.90E+00	(mg/kg-day)-1	3.89E-10	--	2.91E-10	mg/kg-day	--	--	--		
			Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	4.59E-11	mg/kg-day	--	--	--	--	1.34E-10	mg/kg-day	3.00E-02	mg/kg-day	4.46E-09		
			Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	2.00E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	7.81E-11	--	5.84E-10	mg/kg-day	--	--	--		
			Beryllium	1.73E-10	mg/m <sup>3</sup>	1.61E-11	mg/kg-day	8.40E+00	(mg/kg-day)-1	1.36E-10	--	4.71E-11	mg/kg-day	5.71E-06	mg/kg-day	8.24E-06		
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	1.56E-13	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.34E-13	--	4.55E-13	mg/kg-day	2.00E-04	mg/kg-day	2.27E-09		
			bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	3.75E-10	mg/kg-day	8.40E-03	(mg/kg-day)-1	3.15E-12	--	1.09E-09	mg/kg-day	2.00E-02	mg/kg-day	5.47E-08		
			Cadmium	6.55E-09	mg/m <sup>3</sup>	6.13E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	9.19E-09	--	1.79E-09	mg/kg-day	5.71E-06	mg/kg-day	3.13E-04		
			Chromium	7.57E-08	mg/m <sup>3</sup>	7.09E-09	mg/kg-day	--	--	--	--	2.07E-08	mg/kg-day	--	--	--		
			Cobalt	5.64E-09	mg/m <sup>3</sup>	5.28E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	5.17E-09	--	1.54E-09	mg/kg-day	5.71E-06	mg/kg-day	2.69E-04		
			Copper	4.55E-08	mg/m <sup>3</sup>	4.26E-09	mg/kg-day	--	--	--	--	1.24E-08	mg/kg-day	--	--	--		
			Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	1.95E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.01E-11	--	5.70E-11	mg/kg-day	--	--	--		
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	2.69E-12	mg/kg-day	--	--	--	--	7.86E-12	mg/kg-day	8.00E-01	mg/kg-day	9.82E-12		
			di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	1.63E-10	mg/kg-day	--	--	--	--	4.75E-10	mg/kg-day	1.00E-01	mg/kg-day	4.75E-09		
			Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	4.47E-12	mg/kg-day	--	--	--	--	1.30E-11	mg/kg-day	3.00E-04	mg/kg-day	4.34E-08		
			Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	7.09E-13	mg/kg-day	--	--	--	--	2.07E-12	mg/kg-day	3.00E-04	mg/kg-day	6.89E-09		
			Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	6.99E-13	mg/kg-day	5.50E+00	(mg/kg-day)-1	3.84E-12	--	2.04E-12	mg/kg-day	1.30E-05	mg/kg-day	1.57E-07		
			Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	3.52E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.37E-11	--	1.03E-10	mg/kg-day	--	--	--		
			Iron	2.79E-05	mg/m <sup>3</sup>	2.61E-06	mg/kg-day	--	--	--	--	7.60E-06	mg/kg-day	--	--	--		
			Isophorone	1.52E-10	mg/m <sup>3</sup>	1.42E-11	mg/kg-day	--	--	--	--	4.13E-11	mg/kg-day	--	--	--		
			Lead	1.81E-06	mg/m <sup>3</sup>	1.69E-07	mg/kg-day	--	--	--	--	4.94E-07	mg/kg-day	--	--	--		
Manganese	2.31E-07	mg/m <sup>3</sup>	2.16E-08	mg/kg-day	--	--	--	--	6.29E-08	mg/kg-day	1.43E-05	mg/kg-day	4.40E-03					
Mercury	2.01E-10	mg/m <sup>3</sup>	1.88E-11	mg/kg-day	--	--	--	--	5.48E-11	mg/kg-day	8.60E-05	mg/kg-day	6.38E-07					
Nickel	2.95E-08	mg/m <sup>3</sup>	2.76E-09	mg/kg-day	9.10E-01	(mg/kg-day)-1	2.51E-09	--	8.05E-09	mg/kg-day	1.40E-05	mg/kg-day	5.75E-04					
Phenol	4.39E-10	mg/m <sup>3</sup>	4.11E-11	mg/kg-day	--	--	--	--	1.20E-10	mg/kg-day	5.71E-02	mg/kg-day	2.10E-09					
Selenium	2.15E-10	mg/m <sup>3</sup>	2.01E-11	mg/kg-day	--	--	--	--	5.86E-11	mg/kg-day	5.70E-03	mg/kg-day	1.03E-08					
Silver	7.42E-10	mg/m <sup>3</sup>	6.95E-11	mg/kg-day	--	--	--	--	2.03E-10	mg/kg-day	--	--	--					

TABLE H-7.19

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.66E-10	mg/m <sup>3</sup>	3.42E-11	mg/kg-day	--	--	--	9.98E-11	mg/kg-day	--	--	--
				Vanadium	2.55E-08	mg/m <sup>3</sup>	2.39E-09	mg/kg-day	--	--	--	6.96E-09	mg/kg-day	--	--	--
				Zinc	2.51E-07	mg/m <sup>3</sup>	2.35E-08	mg/kg-day	--	--	--	6.86E-08	mg/kg-day	--	--	--
Exposure Route Total										2.61E-08					7.23E-03	
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	9.77E-06	mg/kg-day	--	--	--	2.85E-05	mg/kg-day	1.10E-03	mg/kg-day	2.59E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	3.32E-05	mg/kg-day	--	--	--	9.69E-05	mg/kg-day	1.10E-03	mg/kg-day	8.81E-02
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.10E-05	mg/kg-day	--	--	--	3.20E-05	mg/kg-day	1.70E-03	mg/kg-day	1.88E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	4.98E-04	mg/kg-day	--	--	--	1.45E-03	mg/kg-day	5.70E-02	mg/kg-day	2.55E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	2.68E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	9.64E-09	7.81E-07	mg/kg-day	1.14E-03	mg/kg-day	6.85E-04
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	3.42E-06	mg/kg-day	--	--	--	9.97E-06	mg/kg-day	1.70E-03	mg/kg-day	5.87E-03
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	1.52E-05	mg/kg-day	--	--	--	4.44E-05	mg/kg-day	3.00E-02	mg/kg-day	1.48E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	1.46E-04	mg/kg-day	4.00E-02	(mg/kg-day)-1	5.85E-06	4.26E-04	mg/kg-day	2.30E-01	mg/kg-day	1.85E-03
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	6.00E-06	mg/kg-day	--	--	--	1.75E-05	mg/kg-day	5.00E-02	mg/kg-day	3.50E-04
				4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	8.27E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.81E-10	2.41E-09	mg/kg-day	5.00E-04	mg/kg-day	4.82E-06
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	4.46E-06	mg/kg-day	--	--	--	1.30E-05	mg/kg-day	6.00E-02	mg/kg-day	2.17E-04
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	1.15E-07	mg/kg-day	--	--	--	3.36E-07	mg/kg-day	6.00E-02	mg/kg-day	5.59E-06
				Aldrin	5.63E-09	mg/m <sup>3</sup>	5.27E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.96E-09	1.54E-09	mg/kg-day	3.00E-05	mg/kg-day	5.12E-05
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	3.40E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.19E-10	9.93E-10	mg/kg-day	5.00E-04	mg/kg-day	1.99E-06
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	6.47E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.76E-10	1.89E-09	mg/kg-day	2.00E-04	mg/kg-day	9.43E-06
				Anthracene	1.25E-05	mg/m <sup>3</sup>	1.17E-06	mg/kg-day	--	--	--	3.42E-06	mg/kg-day	3.00E-01	mg/kg-day	1.14E-05
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	1.44E-07	mg/kg-day	3.90E-01	(mg/kg-day)-1	5.60E-08	4.19E-07	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	4.23E-08	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	2.00E-01	mg/kg-day	6.17E-07
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	4.84E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	2.86E-01	mg/kg-day	4.94E-05
				Chrysene	5.27E-06	mg/m <sup>3</sup>	4.93E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.92E-08	1.44E-08	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	3.92E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.87E-09	1.14E-08	mg/kg-day	2.00E-04	mg/kg-day	5.71E-05
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	4.20E-06	mg/kg-day	--	--	--	1.22E-05	mg/kg-day	2.00E-03	mg/kg-day	6.12E-03
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	6.16E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	9.85E-08	1.80E-08	mg/kg-day	5.00E-05	mg/kg-day	3.59E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	7.54E-09	mg/kg-day	--	--	--	2.20E-08	mg/kg-day	6.00E-03	mg/kg-day	3.66E-06
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	7.66E-09	mg/kg-day	--	--	--	2.23E-08	mg/kg-day	6.00E-03	mg/kg-day	3.72E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	1.41E-08	mg/kg-day	--	--	--	4.11E-08	mg/kg-day	6.00E-03	mg/kg-day	6.85E-06
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	1.35E-06	mg/kg-day	--	--	--	3.93E-06	mg/kg-day	4.00E-02	mg/kg-day	9.81E-05
				Fluorene	1.48E-05	mg/m <sup>3</sup>	1.38E-06	mg/kg-day	--	--	--	4.04E-06	mg/kg-day	4.00E-02	mg/kg-day	1.01E-04
				gamma-BHC (Lindane)	1.59E-06	mg/m <sup>3</sup>	1.49E-09	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.64E-09	4.35E-09	mg/kg-day	3.00E-04	mg/kg-day	1.45E-05
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	1.18E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.41E-09	3.43E-09	mg/kg-day	2.00E-04	mg/kg-day	1.72E-05
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	3.16E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.30E-07	9.22E-08	mg/kg-day	5.00E-04	mg/kg-day	1.84E-04
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	8.08E-09	mg/kg-day	--	--	--	2.36E-08	mg/kg-day	5.00E-03	mg/kg-day	4.71E-06
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	6.54E-05	mg/kg-day	1.20E-01	(mg/kg-day)-1	7.85E-06	1.91E-04	mg/kg-day	8.57E-04	mg/kg-day	2.23E-01
				Phenanthrene	1.60E-04	mg/m <sup>3</sup>	1.50E-05	mg/kg-day	--	--	--	4.38E-05	mg/kg-day	3.00E-01	mg/kg-day	1.46E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.79E-05	mg/kg-day	--	--	--	5.23E-05	mg/kg-day	1.10E-01	mg/kg-day	4.75E-04
				Pyrene	1.56E-05	mg/m <sup>3</sup>	1.46E-06	mg/kg-day	--	--	--	4.25E-06	mg/kg-day	3.00E-02	mg/kg-day	1.42E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	2.63E-06	mg/kg-day	--	--	--	7.66E-06	mg/kg-day	4.00E-02	mg/kg-day	1.92E-04
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	5.01E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.01E-08	1.46E-07	mg/kg-day	2.00E-04	mg/kg-day	7.30E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	2.92E-08	mg/kg-day	--	--	--	8.52E-08	mg/kg-day	1.43E+00	mg/kg-day	5.96E-08
Exposure Route Total										1.41E-05					4.00E-01	
Exposure Point Total										1.41E-05					4.07E-01	
		Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	8.24E-04	mg/kg-day	--	--	--	2.40E-03	mg/kg-day	1.10E-03	mg/kg-day	2.19E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	2.80E-03	mg/kg-day	--	--	--	8.17E-03	mg/kg-day	1.10E-03	mg/kg-day	7.43E+00
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	2.75E-04	mg/kg-day	--	--	--	8.01E-04	mg/kg-day	1.70E-03	mg/kg-day	4.71E-01
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	1.43E-02	mg/kg-day	--	--	--	4.17E-02	mg/kg-day	5.70E-02	mg/kg-day	7.31E-01
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	1.98E-06	mg/kg-day	3.60E-02	(mg/kg-day)-1	7.12E-08	5.77E-06	mg/kg-day	1.14E-03	mg/kg-day	5.06E-03
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	8.79E-05	mg/kg-day	--	--	--	2.56E-04	mg/kg-day	1.70E-03	mg/kg-day	1.51E-01

TABLE H-7.19

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units			
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	6.04E-04	mg/kg-day	--	--	--	1.76E-03	mg/kg-day	3.00E-02	mg/kg-day	5.88E-02
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	3.74E-03	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.49E-04	1.09E-02	mg/kg-day	2.30E-01	mg/kg-day	4.74E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	4.54E-04	mg/kg-day	--	--	--	1.32E-03	mg/kg-day	5.00E-02	mg/kg-day	2.65E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	5.68E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.93E-10	1.66E-09	mg/kg-day	5.00E-04	mg/kg-day	3.31E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	1.58E-04	mg/kg-day	--	--	--	4.62E-04	mg/kg-day	6.00E-02	mg/kg-day	7.70E-03
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	4.09E-06	mg/kg-day	--	--	--	1.19E-05	mg/kg-day	6.00E-02	mg/kg-day	1.99E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	1.51E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.56E-08	4.39E-09	mg/kg-day	3.00E-05	mg/kg-day	1.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.01E-08	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.72E-08	2.94E-08	mg/kg-day	5.00E-04	mg/kg-day	5.87E-05
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	5.08E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.08E-09	1.48E-08	mg/kg-day	2.00E-04	mg/kg-day	7.40E-05
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	4.17E-05	mg/kg-day	--	--	--	1.22E-04	mg/kg-day	3.00E-01	mg/kg-day	4.05E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	2.95E-07	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.15E-07	8.60E-07	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	1.32E-07	mg/kg-day	--	--	--	3.85E-07	mg/kg-day	2.00E-01	mg/kg-day	1.92E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	6.04E-05	mg/kg-day	--	--	--	1.76E-04	mg/kg-day	2.86E-01	mg/kg-day	6.17E-04
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	1.66E-06	mg/kg-day	3.90E-02	(mg/kg-day)-1	6.48E-08	4.85E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	1.72E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.58E-07	5.02E-07	mg/kg-day	2.00E-04	mg/kg-day	2.51E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	2.22E-06	mg/kg-day	--	--	--	6.46E-06	mg/kg-day	2.00E-03	mg/kg-day	3.23E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	4.91E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	7.85E-07	1.43E-07	mg/kg-day	5.00E-05	mg/kg-day	2.86E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	2.02E-07	mg/kg-day	--	--	--	5.89E-07	mg/kg-day	6.00E-03	mg/kg-day	9.81E-05
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	2.05E-07	mg/kg-day	--	--	--	5.99E-07	mg/kg-day	6.00E-03	mg/kg-day	9.98E-05
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	3.77E-07	mg/kg-day	--	--	--	1.10E-06	mg/kg-day	6.00E-03	mg/kg-day	1.83E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	4.59E-07	mg/kg-day	--	--	--	1.34E-06	mg/kg-day	4.00E-02	mg/kg-day	3.35E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	2.51E-05	mg/kg-day	--	--	--	7.31E-05	mg/kg-day	4.00E-02	mg/kg-day	1.83E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	5.33E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	5.86E-08	1.55E-07	mg/kg-day	3.00E-04	mg/kg-day	5.18E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	9.24E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.11E-10	2.69E-10	mg/kg-day	2.00E-04	mg/kg-day	1.35E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.02E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.17E-08	2.96E-08	mg/kg-day	5.00E-04	mg/kg-day	5.93E-05
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	2.78E-08	mg/kg-day	--	--	--	8.09E-08	mg/kg-day	5.00E-03	mg/kg-day	1.62E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	1.32E-06	mg/kg-day	3.50E-03	(mg/kg-day)-1	4.61E-09	3.85E-06	mg/kg-day	1.10E-01	mg/kg-day	3.50E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	5.88E-03	mg/kg-day	1.20E-01	(mg/kg-day)-1	7.06E-04	1.72E-02	mg/kg-day	8.57E-04	mg/kg-day	2.00E-01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	5.34E-04	mg/kg-day	--	--	--	1.56E-03	mg/kg-day	3.00E-01	mg/kg-day	5.19E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	6.04E-05	mg/kg-day	--	--	--	1.78E-04	mg/kg-day	1.10E-01	mg/kg-day	1.60E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	3.72E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	3.00E-02	mg/kg-day	3.62E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	2.14E-05	mg/kg-day	--	--	--	6.25E-05	mg/kg-day	4.00E-02	mg/kg-day	1.56E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	3.93E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.72E-07	1.15E-06	mg/kg-day	2.00E-04	mg/kg-day	5.74E-03
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	2.36E-07	mg/kg-day	--	--	--	6.89E-07	mg/kg-day	1.43E+00	mg/kg-day	4.82E-07				
				Exposure Point Total							8.58E-04					3.12E+01
				Exposure Route Total							8.58E-04					3.12E+01
				Exposure Medium Total							8.72E-04					3.16E+01
				Medium Total							1.05E-03					3.40E+01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	3.96E-08	mg/kg-day	5.70E-03	(mg/kg-day)-1	2.26E-10	1.16E-07	mg/kg-day	1.40E-01	mg/kg-day	8.25E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.18E-08	mg/kg-day	--	--	--	3.44E-08	mg/kg-day	1.70E-03	mg/kg-day	2.03E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	7.74E-08	mg/kg-day	--	--	--	2.26E-07	mg/kg-day	5.70E-02	mg/kg-day	3.96E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	5.57E-08	mg/kg-day	7.20E-02	(mg/kg-day)-1	4.01E-09	1.62E-07	mg/kg-day	1.40E-03	mg/kg-day	1.16E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	2.09E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	7.51E-10	6.09E-08	mg/kg-day	1.14E-03	mg/kg-day	5.34E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	6.73E-09	mg/kg-day	--	--	--	1.96E-08	mg/kg-day	1.70E-03	mg/kg-day	1.15E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	2.63E-08	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.05E-09	7.68E-08	mg/kg-day	2.30E-01	mg/kg-day	3.34E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.02E-09	mg/kg-day	--	--	--	2.97E-09	mg/kg-day	1.43E+00	mg/kg-day	2.08E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	9.05E-11	mg/kg-day	--	--	--	2.64E-10	mg/kg-day	5.00E-02	mg/kg-day	5.28E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.21E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.12E-11	3.53E-10	mg/kg-day	5.00E-04	mg/kg-day	7.06E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	3.78E-10	mg/kg-day	--	--	--	1.10E-09	mg/kg-day	8.60E-01	mg/kg-day	1.28E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	3.63E-09	mg/kg-day	--	--	--	1.06E-08	mg/kg-day	6.00E-02	mg/kg-day	1.76E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	1.54E-10	mg/kg-day	--	--	--	4.50E-10	mg/kg-day	6.00E-02	mg/kg-day	7.51E-09

TABLE H-7.19

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	2.09E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	3.56E-09	6.10E-10	mg/kg-day	3.00E-05	mg/kg-day	2.03E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	2.65E-11	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	7.15E-11	7.73E-11	mg/kg-day	5.00E-04	mg/kg-day	1.55E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	6.27E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	7.52E-11	1.83E-10	mg/kg-day	2.00E-04	mg/kg-day	9.14E-07				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	3.07E-10	mg/kg-day	--	--	--	8.97E-10	mg/kg-day	3.00E-01	mg/kg-day	2.99E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	2.44E-08	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	2.44E-09	7.12E-08	mg/kg-day	8.60E-03	mg/kg-day	8.28E-06				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	4.55E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.77E-11	1.33E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	6.89E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	2.69E-12	2.01E-09	mg/kg-day	2.00E-02	mg/kg-day	1.00E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	4.22E-07	mg/kg-day	--	--	--	1.23E-08	mg/kg-day	2.00E-01	mg/kg-day	6.15E-06				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	6.85E-09	mg/kg-day	--	--	--	2.00E-08	mg/kg-day	2.86E-01	mg/kg-day	7.00E-08				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.93E-07	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	3.67E-09	5.64E-07	mg/kg-day	8.57E-02	mg/kg-day	6.58E-06				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	7.01E-08	mg/kg-day	--	--	--	2.04E-07	mg/kg-day	2.60E-02	mg/kg-day	7.86E-06				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.23E-10	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	4.80E-12	3.59E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	4.96E-08	mg/kg-day	--	--	--	1.45E-07	mg/kg-day	1.00E-02	mg/kg-day	1.45E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	9.19E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.47E-09	2.68E-10	mg/kg-day	5.00E-05	mg/kg-day	5.36E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	2.09E-11	mg/kg-day	--	--	--	6.11E-11	mg/kg-day	6.00E-03	mg/kg-day	1.02E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	3.44E-14	mg/kg-day	--	--	--	1.00E-13	mg/kg-day	6.00E-03	mg/kg-day	1.67E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.87E-08	mg/kg-day	--	--	--	5.44E-08	mg/kg-day	2.90E-01	mg/kg-day	1.88E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	4.73E-11	mg/kg-day	--	--	--	1.38E-10	mg/kg-day	4.00E-02	mg/kg-day	3.45E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	9.35E-11	mg/kg-day	--	--	--	2.73E-10	mg/kg-day	4.00E-02	mg/kg-day	6.82E-09				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.16E-13	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	1.28E-13	3.39E-13	mg/kg-day	3.00E-04	mg/kg-day	1.13E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	1.63E-10	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.95E-10	4.75E-10	mg/kg-day	2.00E-04	mg/kg-day	2.37E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	1.67E-09	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	6.85E-09	4.87E-09	mg/kg-day	5.00E-04	mg/kg-day	9.74E-06				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	9.35E-06	mg/kg-day	1.10E-01	mg/kg-day	8.50E-05				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	6.49E-08	mg/kg-day	--	--	--	1.89E-07	mg/kg-day	2.90E-02	mg/kg-day	6.53E-06				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	3.06E-10	mg/kg-day	--	--	--	8.91E-10	mg/kg-day	5.00E-03	mg/kg-day	1.78E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	5.08E-10	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	6.10E-11	1.48E-09	mg/kg-day	8.57E-04	mg/kg-day	1.73E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	2.37E-08	mg/kg-day	--	--	--	6.90E-08	mg/kg-day	8.57E-04	mg/kg-day	8.06E-05				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	2.64E-08	mg/kg-day	--	--	--	7.69E-08	mg/kg-day	4.00E-02	mg/kg-day	1.92E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	2.45E-10	mg/kg-day	--	--	--	7.14E-10	mg/kg-day	3.00E-01	mg/kg-day	2.38E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	9.35E-06	mg/kg-day	1.10E-01	mg/kg-day	8.50E-05				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	4.31E-11	mg/kg-day	--	--	--	1.26E-10	mg/kg-day	3.00E-02	mg/kg-day	4.19E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	7.50E-08	mg/kg-day	--	--	--	2.19E-07	mg/kg-day	4.00E-02	mg/kg-day	5.47E-06				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	8.49E-08	mg/kg-day	--	--	--	2.48E-07	mg/kg-day	4.00E-02	mg/kg-day	6.19E-06				
				Toluene	3.80E-07	mg/m <sup>3</sup>	3.55E-08	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	1.43E+00	mg/kg-day	7.26E-08				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	8.39E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	2.00E-02	mg/kg-day	1.22E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	8.72E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	6.10E-10	2.54E-07	mg/kg-day	1.70E-01	mg/kg-day	1.50E-06				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.80E-07	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	4.87E-08	5.26E-07	mg/kg-day	2.86E-02	mg/kg-day	1.84E-05				
				Exposure Route Total									7.38E-08						5.95E-04	
				Exposure Point Total									7.38E-08						5.95E-04	
				Indoor Air	Indoor Air	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	6.97E-06	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	3.97E-08	2.03E-05	mg/kg-day	1.40E-01	mg/kg-day	1.45E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	3.06E-07	mg/kg-day	--	--	--	8.91E-07	mg/kg-day	1.70E-03	mg/kg-day	5.24E-04
								1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	2.06E-06	mg/kg-day	--	--	--	6.00E-06	mg/kg-day	5.70E-02	mg/kg-day	1.05E-04
								1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	1.67E-06	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	1.20E-07	4.86E-06	mg/kg-day	1.40E-03	mg/kg-day	3.47E-03
								1,2-Dichloropropane	8.60E-03	ug/m <sup>3</sup>	6.17E-07	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	2.22E-08	1.80E-06	mg/kg-day	1.14E-03	mg/kg-day	1.58E-03
								1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	1.75E-07	mg/kg-day	--	--	--	5.10E-07	mg/kg-day	1.70E-03	mg/kg-day	3.00E-04
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	7.06E-07					mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	2.82E-08	2.06E-06	mg/kg-day	2.30E-01	mg/kg-day	8.95E-06				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	5.24E-08					mg/kg-day	--	--	--	1.53E-07	mg/kg-day	1.43E+00	mg/kg-day	1.07E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	2.54E-09					mg/kg-day	--	--	--	7.40E-09	mg/kg-day	5.00E-02	mg/kg-day	1.48E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	1.09E-11					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.71E-12	3.18E-11	mg/kg-day	5.00E-04	mg/kg-day	6.36E-08				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	1.56E-08					mg/kg-day	--	--	--	4.54E-08	mg/kg-day	8.60E-01	mg/kg-day	5.28E-08				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	1.55E-07					mg/kg-day	--	--	--	4.51E-07	mg/kg-day	6.00E-02	mg/kg-day	7.51E-06				



**TABLE H-7.19**

**EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

**Notes:**

- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.20

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.64E-06	mg/kg-day	--	--	--	1.92E-05	mg/kg-day	1.00E-02	mg/kg-day	1.92E-03
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	5.59E-06	mg/kg-day	--	--	--	6.52E-05	mg/kg-day	1.00E-02	mg/kg-day	6.52E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	5.48E-07	mg/kg-day	--	--	--	6.39E-06	mg/kg-day	5.00E-02	mg/kg-day	1.28E-04
				1,2-Dichlorobenzene	2.60E+01	mg/kg	2.85E-05	mg/kg-day	--	--	--	3.32E-04	mg/kg-day	9.00E-02	mg/kg-day	3.69E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	3.95E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.42E-10	4.60E-08	mg/kg-day	1.14E-03	mg/kg-day	4.04E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.75E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.09E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.21E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	3.00E-02	mg/kg-day	4.69E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	7.45E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	4.02E-08	8.69E-05	mg/kg-day	3.00E-02	mg/kg-day	2.90E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	2.30E-07	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	2.00E-02	mg/kg-day	1.34E-04
				2-Methylphenol	8.10E-02	mg/kg	8.88E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	4.00E-03	mg/kg-day	2.59E-04
				2-Methylnaphthalene	1.67E+00	mg/kg	1.83E-06	mg/kg-day	--	--	--	2.14E-05	mg/kg-day	5.00E-02	mg/kg-day	4.28E-04
				4,4'-DDD	1.20E-03	mg/kg	1.32E-09	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.16E-10	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05
				4,4'-DDE	8.23E-02	mg/kg	9.02E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.07E-08	1.05E-06	mg/kg-day	5.00E-04	mg/kg-day	2.10E-03
				4,4'-DDT	4.45E-02	mg/kg	4.88E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.66E-08	5.69E-07	mg/kg-day	5.00E-04	mg/kg-day	1.14E-03
				4-Methylphenol	2.70E-01	mg/kg	2.96E-07	mg/kg-day	--	--	--	3.45E-06	mg/kg-day	5.00E-03	mg/kg-day	6.90E-04
				4-Nitroaniline	6.20E-01	mg/kg	6.79E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.43E-08	7.93E-06	mg/kg-day	3.00E-03	mg/kg-day	2.64E-03
				4-Nitrophenol	4.20E-01	mg/kg	4.60E-07	mg/kg-day	--	--	--	5.37E-06	mg/kg-day	5.00E-04	mg/kg-day	1.07E-02
				Acenaphthene	4.23E+00	mg/kg	4.64E-06	mg/kg-day	--	--	--	5.41E-05	mg/kg-day	6.00E-02	mg/kg-day	9.02E-04
				Acenaphthylene	1.04E-01	mg/kg	1.14E-07	mg/kg-day	--	--	--	1.33E-06	mg/kg-day	6.00E-02	mg/kg-day	2.22E-05
				Aldrin	1.30E-02	mg/kg	1.42E-08	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.42E-07	1.68E-07	mg/kg-day	3.00E-05	mg/kg-day	5.54E-03
				alpha-BHC	7.30E-04	mg/kg	8.00E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.16E-09	9.33E-09	mg/kg-day	5.00E-04	mg/kg-day	1.87E-05
				alpha-Chlordane	8.14E-03	mg/kg	8.92E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.16E-08	1.04E-07	mg/kg-day	5.00E-04	mg/kg-day	2.08E-04
				Aluminum	8.82E+03	mg/kg	9.67E-03	mg/kg-day	--	--	--	1.13E-01	mg/kg-day	1.00E+00	mg/kg-day	1.13E-01
				Anthracene	1.05E+00	mg/kg	1.16E-06	mg/kg-day	--	--	--	1.35E-05	mg/kg-day	3.00E-01	mg/kg-day	4.50E-05
				Antimony	4.08E+00	mg/kg	4.47E-06	mg/kg-day	--	--	--	5.21E-05	mg/kg-day	4.00E-04	mg/kg-day	1.30E-01
				Aroclor-1248	1.20E+00	mg/kg	1.32E-06	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.63E-06	1.53E-05	mg/kg-day	2.00E-05	mg/kg-day	7.67E-01
				Aroclor-1254	4.44E-01	mg/kg	4.87E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.73E-07	5.68E-06	mg/kg-day	2.00E-05	mg/kg-day	2.84E-01
				Aroclor-1260	5.41E-01	mg/kg	5.93E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.19E-06	6.92E-06	mg/kg-day	2.00E-05	mg/kg-day	3.46E-01
				Aroclor-1268	2.78E-02	mg/kg	3.04E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.08E-08	3.55E-07	mg/kg-day	2.00E-05	mg/kg-day	1.77E-02
				Arsenic	6.17E+00	mg/kg	6.76E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	6.39E-05	7.88E-05	mg/kg-day	3.00E-04	mg/kg-day	2.63E-01
				Barium	6.78E+01	mg/kg	7.43E-05	mg/kg-day	--	--	--	8.67E-04	mg/kg-day	7.00E-02	mg/kg-day	1.24E-02
				Benzo(a)anthracene	5.00E+00	mg/kg	5.48E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.58E-06	6.40E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.82E-06	mg/kg-day	1.20E+01	(mg/kg-day)-1	2.19E-05	2.13E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	3.00E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.60E-06	3.50E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	8.37E-07	mg/kg-day	--	--	--	9.76E-06	mg/kg-day	3.00E-02	mg/kg-day	3.25E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.57E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.29E-06	4.17E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.61E-07	mg/kg-day	--	--	--	3.04E-06	mg/kg-day	2.00E-03	mg/kg-day	1.52E-03
				Beta-BHC	2.20E-03	mg/kg	2.41E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.62E-09	2.81E-08	mg/kg-day	2.00E-04	mg/kg-day	1.41E-04
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	8.58E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	2.58E-08	1.00E-04	mg/kg-day	2.00E-02	mg/kg-day	5.01E-03
				Cadmium	9.47E+00	mg/kg	1.04E-05	mg/kg-day	3.80E-01	(mg/kg-day)-1	3.95E-06	1.21E-04	mg/kg-day	5.00E-04	mg/kg-day	2.42E-01
				Carbon disulfide	2.40E-04	mg/kg	2.63E-10	mg/kg-day	--	--	--	3.07E-09	mg/kg-day	1.00E-01	mg/kg-day	3.07E-08
				Chlorobenzene	1.10E-01	mg/kg	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	2.00E-02	mg/kg-day	7.03E-05
				Chromium	1.11E+02	mg/kg	1.22E-04	mg/kg-day	--	--	--	1.42E-03	mg/kg-day	1.50E+00	mg/kg-day	9.48E-04
				Chrysene	5.68E+00	mg/kg	6.23E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	7.47E-07	7.27E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	8.30E-06	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	2.00E-02	mg/kg-day	4.84E-03
				Copper	5.71E+01	mg/kg	6.25E-05	mg/kg-day	--	--	--	7.30E-04	mg/kg-day	4.00E-02	mg/kg-day	1.82E-02
				Delta-BHC	8.40E-03	mg/kg	9.21E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.38E-08	1.07E-07	mg/kg-day	2.00E-04	mg/kg-day	5.37E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	3.48E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.43E-06	4.06E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	1.42E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-03	mg/kg-day	8.31E-02
				Dieldrin	5.51E-02	mg/kg	6.04E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	9.67E-07	7.05E-07	mg/kg-day	5.00E-05	mg/kg-day	1.41E-02
				Dimethylphthalate	3.80E-02	mg/kg	4.16E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	8.00E-01	mg/kg-day	6.07E-07

TABLE H-7.20

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																			
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient															
							Value	Units	Value	Units		Value	Units	Value	Units																
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	2.41E-06	mg/kg-day	--	--	--	--	2.81E-05	mg/kg-day	2.00E-01	mg/kg-day	1.41E-04														
				Endosulfan I	2.30E-02	mg/kg	2.52E-08	mg/kg-day	--	--	--	--	2.94E-07	mg/kg-day	6.00E-03	mg/kg-day	4.90E-05														
				Endosulfan II	2.38E-02	mg/kg	2.61E-08	mg/kg-day	--	--	--	--	3.05E-07	mg/kg-day	6.00E-03	mg/kg-day	5.08E-05														
				Endosulfan Sulfate	4.30E-02	mg/kg	4.71E-08	mg/kg-day	--	--	--	--	5.50E-07	mg/kg-day	6.00E-03	mg/kg-day	9.16E-05														
				Endrin aldehyde	4.21E-02	mg/kg	4.61E-08	mg/kg-day	--	--	--	--	5.38E-07	mg/kg-day	3.00E-04	mg/kg-day	1.79E-03														
				Endrin Ketone	1.00E-02	mg/kg	1.10E-08	mg/kg-day	--	--	--	--	1.28E-07	mg/kg-day	3.00E-04	mg/kg-day	4.26E-04														
				Fluoranthene	2.65E+01	mg/kg	2.90E-05	mg/kg-day	--	--	--	--	3.39E-04	mg/kg-day	4.00E-02	mg/kg-day	8.47E-03														
				Fluorene	2.92E+00	mg/kg	3.20E-06	mg/kg-day	--	--	--	--	3.73E-05	mg/kg-day	4.00E-02	mg/kg-day	9.32E-04														
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.85E-09	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.13E-09	3.32E-08	mg/kg-day	3.00E-04	mg/kg-day	1.11E-04															
				gamma-Chlordane	1.31E-02	mg/kg	1.44E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.87E-08	1.68E-07	mg/kg-day	5.00E-04	mg/kg-day	3.35E-04															
				Heptachlor	6.90E-03	mg/kg	7.56E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.10E-08	8.82E-08	mg/kg-day	5.00E-04	mg/kg-day	1.76E-04															
				Heptachlor Epoxide	1.12E-02	mg/kg	1.22E-08	mg/kg-day	5.50E+00	(mg/kg-day)-1	6.72E-08	1.43E-07	mg/kg-day	1.30E+05	mg/kg-day	1.10E-02															
				indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	9.57E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.15E-06	1.12E-05	mg/kg-day	--	--	--															
				Iron	4.07E+04	mg/kg	4.46E-02	mg/kg-day	--	--	--	5.21E-01	mg/kg-day	3.00E-01	mg/kg-day	1.74E+00															
				Isophorone	2.00E-01	mg/kg	2.19E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.08E-10	2.56E-06	mg/kg-day	2.00E-01	mg/kg-day	1.28E-05															
				Lead	2.90E+03	mg/kg	3.18E-03	mg/kg-day	--	--	--	3.71E-02	mg/kg-day	--	--	--															
				Manganese	3.31E+02	mg/kg	3.63E-04	mg/kg-day	--	--	--	4.23E-03	mg/kg-day	2.40E-02	mg/kg-day	1.76E-01															
				Mercury	3.10E-01	mg/kg	3.39E-07	mg/kg-day	--	--	--	3.96E-06	mg/kg-day	3.00E-04	mg/kg-day	1.32E-02															
				Methoxychlor	1.20E-01	mg/kg	1.32E-07	mg/kg-day	--	--	--	1.53E-06	mg/kg-day	5.00E-03	mg/kg-day	3.07E-04															
				Molybdenum	2.50E+00	mg/kg	2.74E-06	mg/kg-day	--	--	--	3.20E-05	mg/kg-day	5.00E-03	mg/kg-day	6.40E-03															
				Naphthalene	1.30E+01	mg/kg	1.42E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-02	mg/kg-day	8.31E-03															
				Nickel	3.91E+01	mg/kg	4.29E-05	mg/kg-day	--	--	--	5.00E-04	mg/kg-day	2.00E-02	mg/kg-day	2.50E-02															
				Phenanthrene	1.39E+01	mg/kg	1.53E-05	mg/kg-day	--	--	--	1.78E-04	mg/kg-day	3.00E-01	mg/kg-day	5.93E-04															
				Phenol	5.80E-01	mg/kg	6.36E-07	mg/kg-day	--	--	--	7.42E-06	mg/kg-day	3.00E-01	mg/kg-day	2.47E-05															
				p-Isopropyltoluene	1.10E-01	mg/kg	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	1.00E-01	mg/kg-day	1.41E-05															
				Pyrene	2.41E+01	mg/kg	2.65E-05	mg/kg-day	--	--	--	3.09E-04	mg/kg-day	3.00E-02	mg/kg-day	1.03E-02															
				sec-Butylbenzene	7.10E-02	mg/kg	7.78E-08	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	4.00E-02	mg/kg-day	2.27E-05															
				Selenium	2.24E-01	mg/kg	2.46E-07	mg/kg-day	--	--	--	2.87E-06	mg/kg-day	5.00E-03	mg/kg-day	5.74E-04															
				Silver	1.16E+00	mg/kg	1.27E-06	mg/kg-day	--	--	--	1.48E-05	mg/kg-day	5.00E-03	mg/kg-day	2.96E-03															
				Technical Chlordane	5.51E-01	mg/kg	6.04E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	7.85E-07	7.05E-06	mg/kg-day	5.00E-04	mg/kg-day	1.41E-02															
				Thallium	4.97E-01	mg/kg	5.45E-07	mg/kg-day	--	--	--	6.35E-06	mg/kg-day	8.00E-05	mg/kg-day	7.94E-02															
				Toluene	4.30E-04	mg/kg	4.71E-10	mg/kg-day	--	--	--	5.50E-09	mg/kg-day	8.00E-02	mg/kg-day	6.87E-08															
				Vanadium	3.41E+01	mg/kg	3.74E-05	mg/kg-day	--	--	--	4.37E-04	mg/kg-day	1.00E-03	mg/kg-day	4.37E-01															
				Zinc	4.53E+02	mg/kg	4.97E-04	mg/kg-day	--	--	--	5.80E-03	mg/kg-day	3.00E-01	mg/kg-day	1.93E-02															
				Exposure Route Total							1.15E-04					4.80E+00															
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4-DDD	4,4-DDE	4,4-DDT	4-Methylphenol	4-Nitroaniline	4.77E-07	mg/kg-day	--	--	--	--	5.58E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04
																					1.82E-07	mg/kg-day	--	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04
																					1.59E-08	mg/kg-day	--	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06
																					8.26E-07	mg/kg-day	--	--	--	--	9.64E-06	mg/kg-day	5.00E-02	mg/kg-day	1.07E-04
																					1.14E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.12E-12	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06	
																					5.08E-09	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.19E-06	
3.50E-08	mg/kg-day	--	--																		--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05					
--	mg/kg-day	5.40E-03	(mg/kg-day)-1																		--	--	mg/kg-day	3.00E-02	mg/kg-day	--					
6.67E-09	mg/kg-day	--	--																		--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06					
2.57E-08	mg/kg-day	--	--																		--	3.00E-07	mg/kg-day	4.00E-03	mg/kg-day	7.51E-05					
5.31E-08	mg/kg-day	--	--																		--	6.20E-07	mg/kg-day	5.00E-02	mg/kg-day	1.24E-05					
3.81E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1																		9.15E-12	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07					
2.62E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1																		8.89E-10	3.05E-08	mg/kg-day	5.00E-04	mg/kg-day	6.10E-05					
4.24E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1																		1.44E-09	4.95E-08	mg/kg-day	5.00E-04	mg/kg-day	9.90E-05					
8.58E-08	mg/kg-day	--	--																		--	1.00E-06	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04					
1.97E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.14E-09	2.30E-06	mg/kg-day	3.00E-03	mg/kg-day	7.86E-04																						

TABLE H-7.20

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.33E-07	mg/kg-day	--	--	--	--	1.56E-06	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	4.23E+00	mg/kg	1.75E-06	mg/kg-day	--	--	--	--	2.04E-05	mg/kg-day	6.00E-02	mg/kg-day	3.40E-04
				Acenaphthylene	1.04E-01	mg/kg	3.31E-09	mg/kg-day	--	--	--	--	3.86E-08	mg/kg-day	6.00E-02	mg/kg-day	6.44E-07
				Aldrin	1.30E-02	mg/kg	4.13E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.02E-08	--	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03
				alpha-BHC	7.30E-04	mg/kg	2.32E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	6.26E-11	--	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	2.80E-05	mg/kg-day	--	--	--	--	3.27E-04	mg/kg-day	1.00E+00	mg/kg-day	3.27E-04
				Anthracene	1.05E+00	mg/kg	4.36E-07	mg/kg-day	--	--	--	--	5.08E-06	mg/kg-day	3.00E-01	mg/kg-day	1.69E-05
				Antimony	4.08E+00	mg/kg	1.30E-08	mg/kg-day	--	--	--	--	1.51E-07	mg/kg-day	4.00E-04	mg/kg-day	3.78E-04
				Aroclor-1248	1.20E+00	mg/kg	5.34E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.07E-06	--	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.44E-01	mg/kg	1.98E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.95E-07	--	2.31E-06	mg/kg-day	2.00E+00	mg/kg-day	1.15E-01
				Aroclor-1260	5.41E-01	mg/kg	2.41E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.82E-07	--	2.81E-06	mg/kg-day	2.00E-05	mg/kg-day	1.41E-01
				Aroclor-1268	2.78E-02	mg/kg	1.24E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.47E-08	--	1.44E-07	mg/kg-day	2.00E-05	mg/kg-day	7.20E-03
				Arsenic	6.17E+00	mg/kg	5.88E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	5.56E-06	--	6.86E-06	mg/kg-day	3.00E-04	mg/kg-day	2.29E-02
				Banum	6.78E+01	mg/kg	2.16E-07	mg/kg-day	--	--	--	--	2.51E-06	mg/kg-day	7.00E-02	mg/kg-day	3.59E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	2.07E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.48E-06	--	2.41E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	6.88E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	8.26E-06	--	8.03E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.13E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.36E-06	--	1.32E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.16E-07	mg/kg-day	--	--	--	--	3.68E-06	mg/kg-day	3.00E-02	mg/kg-day	1.23E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.35E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.62E-06	--	1.57E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	7.57E-10	mg/kg-day	--	--	--	--	8.83E-09	mg/kg-day	2.00E-03	mg/kg-day	4.41E-06
				Beta-BHC	2.20E-03	mg/kg	6.99E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.05E-10	--	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.49E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	7.47E-10	--	2.90E-06	mg/kg-day	2.00E-02	mg/kg-day	1.45E-04
				Cadmium	9.47E+00	mg/kg	3.01E-08	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.14E-08	--	3.51E-07	mg/kg-day	5.00E-04	mg/kg-day	7.02E-04
				Carbon disulfide	2.40E-04	mg/kg	1.91E-10	mg/kg-day	--	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	3.50E-09	mg/kg-day	--	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.11E+02	mg/kg	3.53E-07	mg/kg-day	--	--	--	--	4.12E-06	mg/kg-day	1.50E+00	mg/kg-day	2.75E-06
				Chrysene	5.68E+00	mg/kg	2.35E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.82E-07	--	2.74E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.41E-08	mg/kg-day	--	--	--	--	2.81E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05
				Copper	5.71E+01	mg/kg	1.81E-07	mg/kg-day	--	--	--	--	2.12E-06	mg/kg-day	4.00E-02	mg/kg-day	5.29E-05
				Delta-BHC	8.40E-03	mg/kg	1.33E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.00E-09	--	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.31E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.38E-07	--	1.53E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.13E-07	mg/kg-day	--	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	5.51E-02	mg/kg	1.75E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.80E-08	--	2.04E-06	mg/kg-day	5.00E-05	mg/kg-day	4.09E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.21E-09	mg/kg-day	--	--	--	--	1.41E-08	mg/kg-day	8.00E-01	mg/kg-day	1.76E-08
				di-n-Butylphthalate	2.20E+00	mg/kg	6.99E-08	mg/kg-day	--	--	--	--	8.16E-07	mg/kg-day	2.00E-01	mg/kg-day	4.08E-06
				Endosulfan I	2.30E-02	mg/kg	3.65E-09	mg/kg-day	--	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.38E-02	mg/kg	3.78E-09	mg/kg-day	--	--	--	--	4.42E-08	mg/kg-day	6.00E-03	mg/kg-day	7.36E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.83E-09	mg/kg-day	--	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	4.21E-02	mg/kg	6.69E-09	mg/kg-day	--	--	--	--	7.80E-08	mg/kg-day	3.00E-04	mg/kg-day	2.60E-04
				Endrin ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.10E-05	mg/kg-day	--	--	--	--	1.28E-04	mg/kg-day	4.00E-02	mg/kg-day	3.19E-03
				Fluorene	2.92E+00	mg/kg	1.20E-06	mg/kg-day	--	--	--	--	1.41E-05	mg/kg-day	4.00E-02	mg/kg-day	3.51E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.31E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.64E-10	--	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
Heptachlor	6.90E-03	mg/kg	2.19E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.99E-10	--	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06				
Heptachlor Epoxide	1.12E-02	mg/kg	3.54E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.95E-09	--	4.14E-09	mg/kg-day	1.30E-05	mg/kg-day	3.18E-04				
Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	3.61E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.33E-07	--	4.21E-06	mg/kg-day	--	--	--				
Iron	4.07E+04	mg/kg	1.29E-04	mg/kg-day	--	--	--	--	1.51E-03	mg/kg-day	3.00E-01	mg/kg-day	5.03E-03				
Isophorone	2.00E-01	mg/kg	6.36E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.04E-11	--	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06				
Lead	2.90E+03	mg/kg	9.22E-06	mg/kg-day	--	--	--	--	1.08E-04	mg/kg-day	--	--	--				

TABLE H-7.20

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	1.05E-06	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.40E-02	mg/kg-day	5.11E-04			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	--	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	3.81E-09	mg/kg-day	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06	mg/kg-day	8.90E-06	
				Molybdenum	2.50E+00	mg/kg	7.96E-09	mg/kg-day	--	--	--	9.29E-08	mg/kg-day	5.00E-03	mg/kg-day	1.86E-05	mg/kg-day	1.86E-05	
				Naphthalene	1.30E+01	mg/kg	5.37E-06	mg/kg-day	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03	mg/kg-day	3.13E-03	
				Nickel	3.91E+01	mg/kg	1.24E-07	mg/kg-day	--	--	--	1.45E-06	mg/kg-day	2.00E-02	mg/kg-day	7.25E-05	mg/kg-day	7.25E-05	
				Phenanthrene	1.39E+01	mg/kg	4.42E-07	mg/kg-day	--	--	--	5.16E-06	mg/kg-day	3.00E-01	mg/kg-day	1.72E-05	mg/kg-day	1.72E-05	
				Phenol	5.80E-01	mg/kg	1.84E-07	mg/kg-day	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06	mg/kg-day	7.17E-06	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	1.00E-01	mg/kg-day	--	mg/kg-day	--		
				Pyrene	2.41E+01	mg/kg	9.98E-06	mg/kg-day	--	--	--	1.16E-04	mg/kg-day	3.00E-02	mg/kg-day	3.88E-03	mg/kg-day	3.88E-03	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	4.00E-02	mg/kg-day	--	mg/kg-day	--		
				Selenium	2.24E-01	mg/kg	7.13E-10	mg/kg-day	--	--	--	8.32E-09	mg/kg-day	5.00E-03	mg/kg-day	1.68E-06	mg/kg-day	1.68E-06	
				Silver	1.16E+00	mg/kg	3.68E-09	mg/kg-day	--	--	--	4.30E-08	mg/kg-day	5.00E-03	mg/kg-day	8.59E-06	mg/kg-day	8.59E-06	
				Technical Chlordane	5.51E-01	mg/kg	7.01E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	9.11E-08	8.17E-07	mg/kg-day	5.00E-04	mg/kg-day	1.63E-03	mg/kg-day	1.63E-03	
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	8.00E-05	mg/kg-day	--	mg/kg-day	--		
				Toluene	4.30E-04	mg/kg	1.37E-11	mg/kg-day	--	--	--	1.69E-10	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09	mg/kg-day	1.99E-09	
				Vanadium	3.41E+01	mg/kg	1.09E-07	mg/kg-day	--	--	--	1.27E-06	mg/kg-day	1.00E-03	mg/kg-day	1.27E-03	mg/kg-day	1.27E-03	
				Zinc	4.53E+02	mg/kg	1.44E-06	mg/kg-day	--	--	--	1.68E-05	mg/kg-day	3.00E-01	mg/kg-day	5.60E-05	mg/kg-day	5.60E-05	
				Exposure Route Total										2.27E-05					6.29E-01
				Exposure Point Total										1.37E-04					5.53E+00
Homegrown Produce	Ingestion		1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--				
			1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--			
			1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
			1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--			
			1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	3.60E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--			
			1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
			1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
			1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
			2,4-Dimethylphenol	2.10E-01	mg/kg	2.71E-06	mg/kg-day	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03	mg/kg-day	1.58E-03		
			2-Methylphenol	8.10E-02	mg/kg	2.49E-06	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	4.00E-03	mg/kg-day	7.27E-03	mg/kg-day	7.27E-03		
			2-Methylnaphthalene	1.67E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
			4,4'-DDD	1.20E-03	mg/kg	2.64E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	6.35E-12	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07	mg/kg-day	6.17E-07		
			4,4'-DDE	8.23E-02	mg/kg	1.31E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.47E-10	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05	mg/kg-day	3.07E-05		
			4,4'-DDT	4.45E-02	mg/kg	3.06E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.04E-09	3.57E-08	mg/kg-day	5.00E-04	mg/kg-day	7.14E-05	mg/kg-day	7.14E-05		
			4-Methylphenol	2.70E-01	mg/kg	8.54E-06	mg/kg-day	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02	mg/kg-day	1.99E-02		
			4-Nitroaniline	6.20E-01	mg/kg	1.34E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.82E-07	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02	mg/kg-day	5.22E-02		
			4-Nitrophenol	4.20E-01	mg/kg	1.36E-05	mg/kg-day	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.18E-01	mg/kg-day	3.18E-01		
			Acenaphthene	4.23E+00	mg/kg	--	mg/kg-day	--	--	--	--	6.00E-02	mg/kg-day	--	mg/kg-day	--			
			Acenaphthylene	1.04E-01	mg/kg	--	mg/kg-day	--	--	--	--	6.00E-02	mg/kg-day	--	mg/kg-day	--			
			Aldrin	1.30E-02	mg/kg	4.69E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.97E-09	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04	mg/kg-day	1.82E-04		
			alpha-BHC	7.30E-04	mg/kg	5.68E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.53E-08	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04	mg/kg-day	1.33E-04		
			alpha-Chlordane	8.14E-03	mg/kg	6.45E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.38E-10	7.52E-09	mg/kg-day	5.00E-04	mg/kg-day	1.50E-05	mg/kg-day	1.50E-05		
			Aluminum	8.82E+03	mg/kg	9.51E-05	mg/kg-day	--	--	--	1.11E-03	mg/kg-day	1.00E+00	mg/kg-day	1.11E-03	mg/kg-day	1.11E-03		
			Anthracene	1.05E+00	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-01	mg/kg-day	--	mg/kg-day	--			
			Antimony	4.08E+00	mg/kg	2.03E-06	mg/kg-day	--	--	--	2.37E-05	mg/kg-day	4.00E-04	mg/kg-day	5.92E-02	mg/kg-day	5.92E-02		
			Aroclor-1248	1.20E+00	mg/kg	2.65E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.30E-08	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02	mg/kg-day	1.55E-02		
			Aroclor-1254	4.44E-01	mg/kg	1.31E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.63E-07	1.53E-06	mg/kg-day	2.00E-05	mg/kg-day	7.66E-02	mg/kg-day	7.66E-02		
Aroclor-1260	5.41E-01	mg/kg	5.72E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.14E-08	6.68E-08	mg/kg-day	2.00E-05	mg/kg-day	3.34E-03	mg/kg-day	3.34E-03					
Aroclor-1268	2.78E-02	mg/kg	8.21E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.64E-08	9.58E-08	mg/kg-day	2.00E-05	mg/kg-day	4.79E-03	mg/kg-day	4.79E-03					
Arsenic	6.17E+00	mg/kg	6.14E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	5.80E-08	7.16E-06	mg/kg-day	3.00E-04	mg/kg-day	2.38E-02	mg/kg-day	2.38E-02					
Barium	6.78E+01	mg/kg	1.69E-05	mg/kg-day	--	--	--	1.97E-04	mg/kg-day	7.00E-02	mg/kg-day	2.81E-03	mg/kg-day	2.81E-03					

TABLE H-7.20

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	2.13E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.56E-08	2.49E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.02E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	4.83E-08	4.69E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	6.61E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.94E-08	7.72E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.41E-08	mg/kg-day	--	--	--	1.64E-07	mg/kg-day	3.00E-02	mg/kg-day	5.47E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	7.88E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.45E-08	9.19E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	5.93E-09	mg/kg-day	--	--	--	6.91E-08	mg/kg-day	2.00E-03	mg/kg-day	3.46E-05
				Beta-BHC	2.20E-03	mg/kg	1.71E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.57E-08	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	4.49E-05	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.35E-07	5.24E-04	mg/kg-day	2.00E-02	mg/kg-day	2.62E-02
				Cadmium	9.47E+00	mg/kg	2.36E-05	mg/kg-day	3.80E-01	(mg/kg-day)-1	8.96E-06	2.75E-04	mg/kg-day	5.00E-04	mg/kg-day	5.50E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	8.30E-06	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	1.50E+00	mg/kg-day	6.46E-05
				Chrysene	5.68E+00	mg/kg	1.70E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.04E-08	1.98E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	8.80E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	2.00E-02	mg/kg-day	5.13E-04
				Copper	5.71E+01	mg/kg	2.37E-04	mg/kg-day	--	--	--	2.76E-03	mg/kg-day	4.00E-02	mg/kg-day	6.90E-02
				Delta-BHC	8.40E-03	mg/kg	5.33E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	7.99E-10	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	4.74E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.94E-08	5.53E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	4.85E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	7.76E-06	5.66E-06	mg/kg-day	5.00E-05	mg/kg-day	1.13E-01
				Dimethylphthalate	3.80E-02	mg/kg	9.38E-07	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	8.00E-01	mg/kg-day	1.37E-05
				di-n-Butylphthalate	2.20E+00	mg/kg	7.60E-08	mg/kg-day	--	--	--	8.87E-07	mg/kg-day	2.00E-01	mg/kg-day	4.43E-06
				Endosulfan I	2.30E-02	mg/kg	1.71E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.38E-02	mg/kg	1.70E-07	mg/kg-day	--	--	--	1.98E-06	mg/kg-day	6.00E-03	mg/kg-day	3.30E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	2.99E-07	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endrin aldehyde	4.21E-02	mg/kg	1.16E-09	mg/kg-day	--	--	--	1.35E-08	mg/kg-day	3.00E-04	mg/kg-day	4.50E-05
				Endrin Ketone	1.00E-02	mg/kg	2.75E-10	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.65E+01	mg/kg	1.19E-06	mg/kg-day	--	--	--	1.39E-05	mg/kg-day	4.00E-02	mg/kg-day	3.47E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	7.12E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.83E-08	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.31E-02	mg/kg	1.04E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.35E-09	1.21E-08	mg/kg-day	5.00E-04	mg/kg-day	2.42E-05
				Heptachlor	6.90E-03	mg/kg	4.06E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.67E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06
				Heptachlor Epoxide	1.12E-02	mg/kg	2.14E-07	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.17E-06	2.49E-06	mg/kg-day	1.30E-05	mg/kg-day	1.92E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.58E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.89E-08	1.84E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	6.72E-04	mg/kg-day	--	--	--	7.84E-03	mg/kg-day	3.00E-01	mg/kg-day	2.61E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	4.33E-04	mg/kg-day	--	--	--	5.06E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	2.75E-04	mg/kg-day	--	--	--	3.20E-03	mg/kg-day	2.40E-02	mg/kg-day	1.33E-01
				Mercury	3.10E-01	mg/kg	1.03E-06	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	3.00E-04	mg/kg-day	3.99E-02
				Methoxychlor	1.20E-01	mg/kg	1.72E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06
				Molybdenum	2.50E+00	mg/kg	2.49E-06	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	5.00E-03	mg/kg-day	5.82E-03
Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--				
Nickel	3.91E+01	mg/kg	3.89E-05	mg/kg-day	--	--	--	4.54E-04	mg/kg-day	2.00E-02	mg/kg-day	2.27E-02				
Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	4.75E-05	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.24E-01	mg/kg	9.31E-08	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	5.00E-03	mg/kg-day	2.17E-04				
Silver	1.16E+00	mg/kg	1.92E-06	mg/kg-day	--	--	--	2.24E-05	mg/kg-day	5.00E-03	mg/kg-day	4.49E-03				
Technical Chlordane	5.51E-01	mg/kg	4.36E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.67E-08	5.09E-07	mg/kg-day	5.00E-04	mg/kg-day	1.02E-03				
Thallium	4.97E-01	mg/kg	3.30E-09	mg/kg-day	--	--	--	3.85E-08	mg/kg-day	8.00E-05	mg/kg-day	4.81E-04				

TABLE H-7.20

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--			
				Vanadium	3.41E+01	mg/kg	1.70E-06	mg/kg-day	--	--	--	1.98E-05	mg/kg-day	1.00E-03	mg/kg-day	1.98E-02			
				Zinc	4.53E+02	mg/kg	6.77E-03	mg/kg-day	--	--	--	7.90E-02	mg/kg-day	3.00E-01	mg/kg-day	2.63E-01			
				Exposure Route Total					2.49E-05						2.06E+00				
				Exposure Point Total					2.49E-05						2.06E+00				
				Exposure Medium Total					1.62E-04						7.59E+00				
				Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	8.79E-12	mg/kg-day	--	--	--	1.03E-10	mg/kg-day	2.00E-02	mg/kg-day	5.13E-09
							2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.39E-12	mg/kg-day	--	--	--	3.95E-11	mg/kg-day	--	--	--
							4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	5.02E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.21E-14	5.86E-13	mg/kg-day	5.00E-04	mg/kg-day	1.17E-09
							4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	1.86E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.33E-13	2.17E-11	mg/kg-day	5.00E-04	mg/kg-day	4.34E-08
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.13E-11	mg/kg-day	--	--	--	1.32E-10	mg/kg-day	5.00E-03	mg/kg-day	2.64E-08				
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.59E-11	mg/kg-day	2.10E-02	(mg/kg-day)-1	5.45E-13	3.03E-10	mg/kg-day	1.00E-03	mg/kg-day	3.03E-07				
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.76E-11	mg/kg-day	--	--	--	2.05E-10	mg/kg-day	5.70E-04	mg/kg-day	3.60E-07				
			Aluminum	6.68E-08	mg/m <sup>3</sup>	3.69E-07	mg/kg-day	--	--	--	4.31E-06	mg/kg-day	1.43E-03	mg/kg-day	3.01E-03				
			Antimony	3.09E-09	mg/m <sup>3</sup>	1.71E-10	mg/kg-day	--	--	--	1.99E-09	mg/kg-day	--	--	--				
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	5.02E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.00E-10	5.86E-10	mg/kg-day	2.00E-05	mg/kg-day	2.93E-05				
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	1.86E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.72E-11	2.17E-10	mg/kg-day	2.00E-05	mg/kg-day	1.08E-05				
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	2.27E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.53E-11	2.64E-10	mg/kg-day	2.00E-05	mg/kg-day	1.32E-05				
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	1.16E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.32E-12	1.36E-11	mg/kg-day	2.00E-05	mg/kg-day	6.78E-07				
			Arsenic	4.67E-09	mg/m <sup>3</sup>	2.58E-10	mg/kg-day	1.20E+01	(mg/kg-day)-1	3.10E-09	3.01E-09	mg/kg-day	8.60E-06	mg/kg-day	3.50E-04				
			Barium	5.14E-08	mg/m <sup>3</sup>	2.84E-08	mg/kg-day	--	--	--	3.31E-08	mg/kg-day	1.40E-04	mg/kg-day	2.36E-04				
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	2.09E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	8.17E-11	2.44E-09	mg/kg-day	--	--	--				
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	6.97E-11	mg/kg-day	3.90E+00	(mg/kg-day)-1	2.72E-10	8.13E-10	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	3.19E-11	mg/kg-day	--	--	--	3.73E-10	mg/kg-day	3.00E-02	mg/kg-day	1.24E-08				
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	1.36E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	5.32E-11	1.59E-09	mg/kg-day	--	--	--				
			Beryllium	1.80E-10	mg/m <sup>3</sup>	9.96E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	8.37E-11	1.16E-10	mg/kg-day	5.71E-06	mg/kg-day	2.03E-05				
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	9.21E-14	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.38E-13	1.07E-12	mg/kg-day	2.00E-04	mg/kg-day	5.37E-09				
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	3.28E-10	mg/kg-day	8.40E-03	(mg/kg-day)-1	2.75E-12	3.82E-09	mg/kg-day	2.00E-02	mg/kg-day	1.91E-07				
			Cadmium	7.18E-09	mg/m <sup>3</sup>	3.96E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	5.95E-09	4.62E-09	mg/kg-day	5.71E-06	mg/kg-day	8.09E-04				
			Chromium	8.42E-08	mg/m <sup>3</sup>	4.65E-09	mg/kg-day	--	--	--	5.43E-08	mg/kg-day	--	--	--				
			Cobalt	5.74E-09	mg/m <sup>3</sup>	3.17E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	3.11E-09	3.70E-09	mg/kg-day	5.71E-06	mg/kg-day	6.48E-04				
			Copper	4.32E-08	mg/m <sup>3</sup>	2.39E-09	mg/kg-day	--	--	--	2.79E-08	mg/kg-day	--	--	--				
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	1.33E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.45E-11	1.55E-10	mg/kg-day	--	--	--				
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.59E-12	mg/kg-day	--	--	--	1.86E-11	mg/kg-day	8.00E-01	mg/kg-day	2.32E-11				
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	9.21E-11	mg/kg-day	--	--	--	1.07E-09	mg/kg-day	1.00E-01	mg/kg-day	1.07E-08				
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	1.76E-12	mg/kg-day	--	--	--	2.05E-11	mg/kg-day	3.00E-04	mg/kg-day	6.85E-08				
			Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	4.18E-13	mg/kg-day	--	--	--	4.88E-12	mg/kg-day	3.00E-04	mg/kg-day	1.63E-08				
			Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	4.67E-13	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.57E-12	5.45E-12	mg/kg-day	1.30E-05	mg/kg-day	4.19E-07				
			Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	3.65E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.42E-11	4.26E-10	mg/kg-day	--	--	--				
			Iron	3.09E-05	mg/m <sup>3</sup>	1.70E-06	mg/kg-day	--	--	--	1.99E-05	mg/kg-day	--	--	--				
			Isophorone	1.52E-10	mg/m <sup>3</sup>	8.37E-12	mg/kg-day	--	--	--	9.76E-11	mg/kg-day	--	--	--				
			Lead	2.20E-06	mg/m <sup>3</sup>	1.21E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	--	--	--				
			Manganese	2.51E-07	mg/m <sup>3</sup>	1.39E-08	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	1.43E-05	mg/kg-day	1.13E-02				
			Mercury	2.34E-10	mg/m <sup>3</sup>	1.30E-11	mg/kg-day	--	--	--	1.51E-10	mg/kg-day	8.60E-05	mg/kg-day	1.76E-06				
			Molybdenum	1.90E-09	mg/m <sup>3</sup>	1.05E-10	mg/kg-day	--	--	--	1.22E-09	mg/kg-day	--	--	--				
			Nickel	2.96E-08	mg/m <sup>3</sup>	1.64E-09	mg/kg-day	9.10E-01	(mg/kg-day)-1	1.49E-09	1.91E-08	mg/kg-day	1.40E-05	mg/kg-day	1.36E-03				
			Phenol	4.39E-10	mg/m <sup>3</sup>	2.43E-11	mg/kg-day	--	--	--	2.83E-10	mg/kg-day	5.71E-02	mg/kg-day	4.95E-09				
			Selenium	1.70E-10	mg/m <sup>3</sup>	9.39E-12	mg/kg-day	--	--	--	1.10E-10	mg/kg-day	5.70E-03	mg/kg-day	1.92E-08				
			Silver	8.78E-10	mg/m <sup>3</sup>	4.85E-11	mg/kg-day	--	--	--	5.66E-10	mg/kg-day	--	--	--				

TABLE H-7.20

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.77E-10	mg/m <sup>3</sup>	2.08E-11	mg/kg-day	--	--	--	2.43E-10	mg/kg-day	--	--	--
				Vanadium	2.59E-08	mg/m <sup>3</sup>	1.43E-09	mg/kg-day	--	--	--	1.67E-08	mg/kg-day	--	--	--
				Zinc	3.44E-07	mg/m <sup>3</sup>	1.90E-08	mg/kg-day	--	--	--	2.21E-07	mg/kg-day	--	--	--
				<b>Exposure Route Total</b>												<b>1.78E-02</b>
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.77E-06	mg/kg-day	--	--	--	6.73E-05	mg/kg-day	1.10E-03	mg/kg-day	6.12E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.96E-05	mg/kg-day	--	--	--	2.29E-04	mg/kg-day	1.10E-03	mg/kg-day	2.08E-01
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.47E-06	mg/kg-day	--	--	--	7.55E-05	mg/kg-day	1.70E-03	mg/kg-day	4.44E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.94E-04	mg/kg-day	--	--	--	3.43E-03	mg/kg-day	5.70E-02	mg/kg-day	6.02E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.58E-07	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	5.69E-09	1.84E-06	mg/kg-day	1.14E-03	mg/kg-day	1.62E-03
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	2.02E-06	mg/kg-day	--	--	--	2.35E-05	mg/kg-day	1.70E-03	mg/kg-day	1.39E-02
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	9.00E-06	mg/kg-day	--	--	--	1.05E-04	mg/kg-day	3.00E-02	mg/kg-day	3.50E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.63E-05	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	3.45E-06	1.01E-03	mg/kg-day	2.30E-01	mg/kg-day	4.38E-03
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	4.09E-06	mg/kg-day	--	--	--	4.77E-05	mg/kg-day	5.00E-02	mg/kg-day	9.53E-04
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	5.36E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.82E-10	6.25E-09	mg/kg-day	5.00E-04	mg/kg-day	1.25E-05
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	3.21E-06	mg/kg-day	--	--	--	3.75E-05	mg/kg-day	6.00E-02	mg/kg-day	6.24E-04
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	7.90E-08	mg/kg-day	--	--	--	9.22E-07	mg/kg-day	6.00E-02	mg/kg-day	1.54E-05
				Aldrin	5.63E-09	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	5.29E-09	3.63E-09	mg/kg-day	3.00E-05	mg/kg-day	1.21E-04
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	2.01E-10	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	5.42E-10	2.34E-09	mg/kg-day	5.00E-04	mg/kg-day	4.69E-06
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	4.45E-10	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	5.34E-10	5.19E-09	mg/kg-day	2.00E-04	mg/kg-day	2.60E-05
				Anthracene	1.45E-05	mg/m <sup>3</sup>	8.00E-07	mg/kg-day	--	--	--	9.33E-06	mg/kg-day	3.00E-01	mg/kg-day	3.11E-05
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	9.78E-08	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.81E-08	1.14E-06	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.50E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.86E-06	mg/kg-day	--	--	--	3.34E-05	mg/kg-day	2.86E-01	mg/kg-day	1.17E-04
				Chrysene	6.25E-06	mg/m <sup>3</sup>	3.45E-07	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	1.35E-08	4.03E-06	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	3.47E-09	2.70E-08	mg/kg-day	2.00E-04	mg/kg-day	1.35E-04
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.48E-06	mg/kg-day	--	--	--	2.89E-05	mg/kg-day	2.00E-03	mg/kg-day	1.45E-02
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	4.10E-09	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	6.56E-08	4.78E-08	mg/kg-day	5.00E-05	mg/kg-day	9.56E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.45E-09	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	6.00E-03	mg/kg-day	8.65E-06
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	4.61E-09	mg/kg-day	--	--	--	5.38E-08	mg/kg-day	6.00E-03	mg/kg-day	8.96E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	8.32E-09	mg/kg-day	--	--	--	9.71E-08	mg/kg-day	6.00E-03	mg/kg-day	1.62E-05
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	9.47E-07	mg/kg-day	--	--	--	1.10E-05	mg/kg-day	4.00E-02	mg/kg-day	2.76E-04
				Fluorene	1.71E-05	mg/m <sup>3</sup>	9.43E-07	mg/kg-day	--	--	--	1.10E-05	mg/kg-day	4.00E-02	mg/kg-day	2.75E-04
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	8.81E-10	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	9.69E-10	1.03E-08	mg/kg-day	3.00E-04	mg/kg-day	3.42E-05
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	7.16E-10	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	8.60E-10	8.36E-09	mg/kg-day	2.00E-04	mg/kg-day	4.18E-05
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.87E-08	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	7.65E-08	2.18E-07	mg/kg-day	5.00E-04	mg/kg-day	4.36E-04
				Methoxychlor	8.83E-08	mg/m <sup>3</sup>	4.77E-09	mg/kg-day	--	--	--	5.56E-08	mg/kg-day	5.00E-03	mg/kg-day	1.11E-05
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.86E-05	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	4.64E-06	4.51E-04	mg/kg-day	8.57E-04	mg/kg-day	5.26E-01
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	1.06E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	3.00E-01	mg/kg-day	4.10E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.06E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	1.10E-01	mg/kg-day	1.12E-03
				Pyrene	1.85E-05	mg/m <sup>3</sup>	1.02E-06	mg/kg-day	--	--	--	1.18E-05	mg/kg-day	3.00E-02	mg/kg-day	3.97E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.55E-06	mg/kg-day	--	--	--	1.81E-05	mg/kg-day	4.00E-02	mg/kg-day	4.52E-04
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	3.01E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.62E-08	3.52E-07	mg/kg-day	2.00E-04	mg/kg-day	1.76E-03
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.72E-08	mg/kg-day	--	--	--	2.01E-07	mg/kg-day	1.43E+00	mg/kg-day	1.41E-07
				<b>Exposure Route Total</b>												<b>9.46E-01</b>
				<b>Exposure Point Total</b>												<b>9.63E-01</b>
		Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	4.87E-04	mg/kg-day	--	--	--	5.68E-03	mg/kg-day	1.10E-03	mg/kg-day	5.16E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	1.65E-03	mg/kg-day	--	--	--	1.93E-02	mg/kg-day	1.10E-03	mg/kg-day	1.75E+01
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	1.62E-04	mg/kg-day	--	--	--	1.89E-03	mg/kg-day	1.70E-03	mg/kg-day	1.11E+00
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	8.43E-03	mg/kg-day	--	--	--	9.84E-02	mg/kg-day	5.70E-02	mg/kg-day	1.73E+00
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	1.17E-06	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	4.20E-08	1.36E-05	mg/kg-day	1.14E-03	mg/kg-day	1.19E-02
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	5.19E-05	mg/kg-day	--	--	--	6.05E-04	mg/kg-day	1.70E-03	mg/kg-day	3.56E-01

TABLE H-7.20

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RD/RC		Hazard Quotient
							Value	Units	Value	Units		Value	Units			
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	3.57E-04	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	3.00E-02	mg/kg-day	1.39E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	2.21E-03	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	8.82E-05	2.57E-02	mg/kg-day	2.30E-01	mg/kg-day	1.12E-01
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	2.68E-04	mg/kg-day	--	--	--	3.12E-03	mg/kg-day	5.00E-02	mg/kg-day	6.25E-02
				4,4'-DDE	8.07E-06	(a) ug/m <sup>3</sup>	3.35E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.14E-10	3.91E-09	mg/kg-day	5.00E-04	mg/kg-day	7.82E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	9.35E-05	mg/kg-day	--	--	--	1.09E-03	mg/kg-day	6.00E-02	mg/kg-day	1.82E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	2.42E-06	mg/kg-day	--	--	--	2.82E-05	mg/kg-day	6.00E-02	mg/kg-day	4.70E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	8.89E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.51E-08	1.04E-08	mg/kg-day	3.00E-05	mg/kg-day	3.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	5.95E-09	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.61E-08	6.84E-08	mg/kg-day	5.00E-04	mg/kg-day	1.39E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	3.00E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.60E-09	3.50E-08	mg/kg-day	2.00E-04	mg/kg-day	1.75E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	2.46E-05	mg/kg-day	--	--	--	2.87E-04	mg/kg-day	3.00E-01	mg/kg-day	9.57E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	1.74E-07	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	6.79E-08	2.03E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	7.78E-08	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	2.00E-01	mg/kg-day	4.54E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	3.57E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	2.86E-01	mg/kg-day	1.46E-03
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	9.81E-07	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	3.83E-08	1.14E-05	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	1.02E-07	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.52E-07	1.18E-06	mg/kg-day	2.00E-04	mg/kg-day	5.92E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	1.31E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	2.00E-03	mg/kg-day	7.63E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	2.90E-08	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	4.64E-07	3.38E-07	mg/kg-day	5.00E-05	mg/kg-day	6.76E-03
				Endosulfan I	2.18E-03	(a) ug/m <sup>3</sup>	1.19E-07	mg/kg-day	--	--	--	1.39E-06	mg/kg-day	6.00E-03	mg/kg-day	2.32E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	6.00E-03	mg/kg-day	2.35E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	2.23E-07	mg/kg-day	--	--	--	2.60E-06	mg/kg-day	6.00E-03	mg/kg-day	4.33E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	2.71E-07	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	4.00E-02	mg/kg-day	7.90E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	1.48E-05	mg/kg-day	--	--	--	1.73E-04	mg/kg-day	4.00E-02	mg/kg-day	4.32E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	3.14E-08	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	3.46E-08	3.67E-07	mg/kg-day	3.00E-04	mg/kg-day	1.22E-03
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	5.45E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	6.54E-11	6.35E-10	mg/kg-day	2.00E-04	mg/kg-day	3.18E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	6.00E-09	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	2.46E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	1.64E-08	mg/kg-day	--	--	--	1.91E-07	mg/kg-day	5.00E-03	mg/kg-day	3.82E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	7.78E-07	mg/kg-day	3.50E-03	(mg/kg-day) <sup>-1</sup>	2.72E-09	9.08E-08	mg/kg-day	1.10E-01	mg/kg-day	8.26E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	3.47E-03	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	4.17E-04	4.05E-02	mg/kg-day	8.57E-04	mg/kg-day	4.73E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	3.15E-04	mg/kg-day	--	--	--	3.68E-03	mg/kg-day	3.00E-01	mg/kg-day	1.23E-02
				p-isopropyltoluene	6.48E-01	(a) ug/m <sup>3</sup>	3.57E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.10E-01	mg/kg-day	3.78E-03
Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	2.20E-06	mg/kg-day	--	--	--	2.56E-05	mg/kg-day	3.00E-02	mg/kg-day	8.54E-04				
sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	1.26E-05	mg/kg-day	--	--	--	1.47E-04	mg/kg-day	4.00E-02	mg/kg-day	3.69E-03				
Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	2.32E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.79E-07	2.71E-06	mg/kg-day	2.00E-04	mg/kg-day	1.35E-02				
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	1.39E-07	mg/kg-day	--	--	--	1.63E-06	mg/kg-day	1.43E+00	mg/kg-day	1.14E-06				
				Exposure Route Total					5.06E-04					7.36E+01		
		Exposure Point Total							5.06E-04					7.36E+01		
Medium Total									5.15E-04					7.46E+01		
									6.77E-04					8.21E+01		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.34E-08	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	1.33E-10	2.73E-07	mg/kg-day	1.40E-01	mg/kg-day	1.95E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.97E-09	mg/kg-day	--	--	--	8.13E-08	mg/kg-day	1.70E-03	mg/kg-day	4.78E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.57E-08	mg/kg-day	--	--	--	5.33E-07	mg/kg-day	5.70E-02	mg/kg-day	9.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.29E-08	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	2.37E-09	3.83E-07	mg/kg-day	1.40E-03	mg/kg-day	2.74E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	4.43E-10	1.44E-07	mg/kg-day	1.14E-03	mg/kg-day	1.26E-04
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.97E-09	mg/kg-day	--	--	--	4.63E-08	mg/kg-day	1.70E-03	mg/kg-day	2.73E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.56E-08	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	6.22E-10	1.81E-07	mg/kg-day	2.30E-01	mg/kg-day	7.89E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	6.01E-10	mg/kg-day	--	--	--	7.01E-09	mg/kg-day	1.43E+00	mg/kg-day	4.91E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.34E-11	mg/kg-day	--	--	--	6.23E-10	mg/kg-day	5.00E-02	mg/kg-day	1.25E-08
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	7.15E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.43E-11	8.34E-10	mg/kg-day	5.00E-04	mg/kg-day	1.67E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.23E-10	mg/kg-day	--	--	--	2.61E-09	mg/kg-day	8.60E-01	mg/kg-day	3.03E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.14E-09	mg/kg-day	--	--	--	2.50E-08	mg/kg-day	6.00E-02	mg/kg-day	4.16E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	9.12E-11	mg/kg-day	--	--	--	1.08E-09	mg/kg-day	6.00E-02	mg/kg-day	1.77E-08

TABLE H-7.20

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	1.23E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.10E-09	1.44E-09	mg/kg-day	3.00E-05	mg/kg-day	4.80E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.56E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.22E-11	1.82E-10	mg/kg-day	5.00E-04	mg/kg-day	3.65E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.70E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.44E-11	4.32E-10	mg/kg-day	2.00E-04	mg/kg-day	2.16E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.81E-10	mg/kg-day	--	--	--	2.12E-09	mg/kg-day	3.00E-01	mg/kg-day	7.06E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.44E-08	mg/kg-day	1.00E-01	(mg/kg-day)-1	1.44E-09	1.68E-07	mg/kg-day	8.60E-03	mg/kg-day	1.96E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.69E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.05E-11	3.13E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	4.07E-10	mg/kg-day	3.90E-03	(mg/kg-day)-1	1.59E-12	4.74E-09	mg/kg-day	2.00E-02	mg/kg-day	2.37E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.49E-07	mg/kg-day	--	--	--	2.90E-06	mg/kg-day	2.00E-01	mg/kg-day	1.45E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	4.05E-09	mg/kg-day	--	--	--	4.72E-08	mg/kg-day	2.86E-01	mg/kg-day	1.65E-07				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.14E-07	mg/kg-day	1.90E-02	(mg/kg-day)-1	2.17E-09	1.33E-06	mg/kg-day	8.57E-02	mg/kg-day	1.55E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	4.14E-08	mg/kg-day	--	--	--	4.83E-07	mg/kg-day	2.60E-02	mg/kg-day	1.86E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	7.27E-11	mg/kg-day	3.90E-02	(mg/kg-day)-1	2.83E-12	8.48E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.93E-08	mg/kg-day	--	--	--	3.41E-07	mg/kg-day	1.00E-02	mg/kg-day	3.41E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.43E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.68E-10	6.33E-10	mg/kg-day	5.00E-05	mg/kg-day	1.27E-05				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.24E-11	mg/kg-day	--	--	--	1.44E-10	mg/kg-day	6.00E-03	mg/kg-day	2.40E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	2.03E-14	mg/kg-day	--	--	--	2.37E-13	mg/kg-day	6.00E-03	mg/kg-day	3.95E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.29E-07	mg/kg-day	2.90E-01	mg/kg-day	4.43E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.79E-11	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	4.00E-02	mg/kg-day	8.14E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.52E-11	mg/kg-day	--	--	--	6.44E-10	mg/kg-day	4.00E-02	mg/kg-day	1.61E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.86E-14	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.55E-14	8.01E-13	mg/kg-day	3.00E-04	mg/kg-day	2.67E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	9.61E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.15E-10	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.61E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	9.86E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.04E-09	1.15E-08	mg/kg-day	5.00E-04	mg/kg-day	2.30E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.89E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.83E-08	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	2.90E-02	mg/kg-day	1.54E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.80E-10	mg/kg-day	--	--	--	2.10E-09	mg/kg-day	5.00E-03	mg/kg-day	4.21E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	3.00E-10	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.60E-11	3.50E-09	mg/kg-day	8.57E-04	mg/kg-day	4.08E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.40E-08	mg/kg-day	--	--	--	1.63E-07	mg/kg-day	8.57E-04	mg/kg-day	1.90E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.56E-08	mg/kg-day	--	--	--	1.82E-07	mg/kg-day	4.00E-02	mg/kg-day	4.54E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.45E-10	mg/kg-day	--	--	--	1.69E-09	mg/kg-day	3.00E-01	mg/kg-day	5.62E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.89E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	2.55E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	3.00E-02	mg/kg-day	9.90E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.42E-08	mg/kg-day	--	--	--	5.16E-07	mg/kg-day	4.00E-02	mg/kg-day	1.29E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	5.01E-08	mg/kg-day	--	--	--	5.85E-07	mg/kg-day	4.00E-02	mg/kg-day	1.46E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	2.10E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	1.43E+00	mg/kg-day	1.71E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.95E-08	mg/kg-day	--	--	--	5.78E-07	mg/kg-day	2.00E-02	mg/kg-day	2.89E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	5.15E-08	mg/kg-day	7.00E-03	(mg/kg-day)-1	3.60E-10	6.01E-07	mg/kg-day	1.70E-01	mg/kg-day	3.53E-08				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.07E-07	mg/kg-day	2.70E-01	(mg/kg-day)-1	2.88E-08	1.24E-06	mg/kg-day	2.86E-02	mg/kg-day	4.35E-05				
				Exposure Route Total										4.36E-08					1.40E-03	
				Exposure Point Total										4.36E-08						1.40E-03
				Indoor Air	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	4.11E-06	mg/kg-day	5.70E-03	(mg/kg-day)-1	2.34E-08	4.80E-05	mg/kg-day	1.40E-01	mg/kg-day	3.43E-04	
							1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	1.80E-07	mg/kg-day	--	--	--	2.10E-06	mg/kg-day	1.70E-03	mg/kg-day	1.24E-03	
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	1.21E-06				mg/kg-day	--	--	--	1.42E-05	mg/kg-day	5.70E-02	mg/kg-day	2.49E-04					
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	9.84E-07				mg/kg-day	7.20E-02	(mg/kg-day)-1	7.09E-08	1.15E-05	mg/kg-day	1.40E-03	mg/kg-day	8.20E-03					
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	3.65E-07				mg/kg-day	3.60E-02	(mg/kg-day)-1	1.31E-08	4.25E-06	mg/kg-day	1.14E-03	mg/kg-day	3.73E-03					
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	1.03E-07				mg/kg-day	--	--	--	1.20E-06	mg/kg-day	1.70E-03	mg/kg-day	7.09E-04					
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	4.17E-07				mg/kg-day	4.00E-02	(mg/kg-day)-1	1.67E-08	4.86E-06	mg/kg-day	2.30E-01	mg/kg-day	2.11E-05					
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	3.09E-08				mg/kg-day	--	--	--	3.61E-07	mg/kg-day	1.43E+00	mg/kg-day	2.53E-07					
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	1.50E-09				mg/kg-day	--	--	--	1.75E-08	mg/kg-day	5.00E-02	mg/kg-day	3.50E-07					
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	6.44E-12				mg/kg-day	3.40E-01	(mg/kg-day)-1	2.19E-12	7.51E-11	mg/kg-day	5.00E-04	mg/kg-day	1.50E-07					
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	9.18E-09				mg/kg-day	--	--	--	1.07E-07	mg/kg-day	8.60E-01	mg/kg-day	1.25E-07					
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	9.13E-08				mg/kg-day	--	--	--	1.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.77E-05					



**TABLE H-7.20**

**EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

**Notes:**

- Not applicable or not available
- CSF Cancer slope factor
- EPA U.S. Environmental Protection Agency
- EPC Exposure point concentration
- ft bgs Feet below ground surface
- mg/kg Milligram per kilogram
- mg/kg-day Milligram per kilogram per day
- (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
- mg/L Milligram per liter
- mg/m<sup>3</sup> Milligram per cubic meter
- RAGS Risk Assessment Guidelines for Superfund
- RfD Reference dose
- RfC Reference concentration
- RI Remedial Investigation
- RME Reasonable maximum exposure
- ug/m<sup>3</sup> Microgram per cubic meter
- VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.21

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.64E-06	mg/kg-day	--	--	--	1.92E-05	mg/kg-day	1.00E-02	mg/kg-day	1.92E-03
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	5.59E-06	mg/kg-day	--	--	--	6.52E-05	mg/kg-day	1.00E-02	mg/kg-day	6.52E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	5.48E-07	mg/kg-day	--	--	--	6.39E-06	mg/kg-day	5.00E-02	mg/kg-day	1.28E-04
				1,2-Dichlorobenzene	2.60E+01	mg/kg	2.85E-05	mg/kg-day	--	--	--	3.32E-04	mg/kg-day	9.00E-02	mg/kg-day	3.69E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	3.95E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.42E-10	4.60E-08	mg/kg-day	1.14E-03	mg/kg-day	4.04E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.75E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.09E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.21E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	3.00E-02	mg/kg-day	4.69E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	7.45E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	4.02E-08	8.69E-05	mg/kg-day	3.00E-02	mg/kg-day	2.90E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	2.30E-07	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	2.00E-02	mg/kg-day	1.34E-04
				2-Methylphenol	8.10E-02	mg/kg	8.88E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	4.00E-03	mg/kg-day	2.59E-04
				2-Methylnaphthalene	1.45E+00	mg/kg	1.59E-06	mg/kg-day	--	--	--	1.85E-05	mg/kg-day	5.00E-02	mg/kg-day	3.71E-04
				4,4'-DDD	1.20E-03	mg/kg	1.32E-09	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.16E-10	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05
				4,4'-DDE	7.50E-02	mg/kg	8.22E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.79E-08	9.59E-07	mg/kg-day	5.00E-04	mg/kg-day	1.92E-03
				4,4'-DDT	4.20E-02	mg/kg	4.60E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.56E-08	5.37E-07	mg/kg-day	5.00E-04	mg/kg-day	1.07E-03
				4-Methylphenol	2.70E-01	mg/kg	2.96E-07	mg/kg-day	--	--	--	3.45E-06	mg/kg-day	5.00E-03	mg/kg-day	6.90E-04
				4-Nitroaniline	6.20E-01	mg/kg	6.79E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.43E-08	7.93E-06	mg/kg-day	3.00E-03	mg/kg-day	2.64E-03
				4-Nitrophenol	4.20E-01	mg/kg	4.60E-07	mg/kg-day	--	--	--	5.37E-06	mg/kg-day	5.00E-04	mg/kg-day	1.07E-02
				Acenaphthene	3.47E+00	mg/kg	3.80E-06	mg/kg-day	--	--	--	4.44E-05	mg/kg-day	6.00E-02	mg/kg-day	7.40E-04
				Acenaphthylene	8.96E-02	mg/kg	9.82E-08	mg/kg-day	--	--	--	1.15E-06	mg/kg-day	6.00E-02	mg/kg-day	1.91E-05
				Aldrin	1.30E-02	mg/kg	1.42E-08	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.42E-07	1.66E-07	mg/kg-day	3.00E-05	mg/kg-day	5.54E-03
				alpha-BHC	7.30E-04	mg/kg	8.00E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.16E-09	9.33E-09	mg/kg-day	5.00E-04	mg/kg-day	1.87E-05
				alpha-Chlordane	6.98E-03	mg/kg	7.65E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	9.95E-09	8.93E-08	mg/kg-day	5.00E-04	mg/kg-day	1.79E-04
				Aluminum	9.05E+03	mg/kg	9.92E-03	mg/kg-day	--	--	--	1.16E-01	mg/kg-day	1.00E+00	mg/kg-day	1.16E-01
				Anthracene	9.13E-01	mg/kg	1.00E-06	mg/kg-day	--	--	--	1.17E-05	mg/kg-day	3.00E-01	mg/kg-day	3.89E-05
				Antimony	2.72E+00	mg/kg	2.98E-06	mg/kg-day	--	--	--	3.48E-05	mg/kg-day	4.00E-04	mg/kg-day	8.71E-02
				Aroclor-1248	1.20E+00	mg/kg	1.32E-06	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.63E-06	1.53E-05	mg/kg-day	2.00E-05	mg/kg-day	7.67E-01
				Aroclor-1254	4.38E-01	mg/kg	4.80E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.59E-07	5.60E-06	mg/kg-day	2.00E-05	mg/kg-day	2.80E-01
				Aroclor-1260	4.88E-01	mg/kg	5.35E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.07E-06	6.24E-06	mg/kg-day	2.00E-05	mg/kg-day	3.12E-01
				Aroclor-1268	2.72E-02	mg/kg	2.98E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.96E-08	3.48E-07	mg/kg-day	2.00E-05	mg/kg-day	1.74E-02
				Arsenic	9.53E+00	mg/kg	1.04E-05	mg/kg-day	9.45E+00	(mg/kg-day)-1	9.87E-05	1.22E-04	mg/kg-day	3.00E-04	mg/kg-day	4.06E-01
				Barium	6.84E+01	mg/kg	7.61E-05	mg/kg-day	--	--	--	8.88E-04	mg/kg-day	7.00E-02	mg/kg-day	1.27E-02
				Benzo(a)anthracene	4.21E+00	mg/kg	4.62E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.54E-06	5.39E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.54E-06	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.85E-05	1.80E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	2.60E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.12E-06	3.03E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	7.10E-07	mg/kg-day	--	--	--	8.28E-06	mg/kg-day	3.00E-02	mg/kg-day	2.76E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	3.10E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.71E-06	3.61E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	2.50E-07	mg/kg-day	--	--	--	2.91E-06	mg/kg-day	2.00E-03	mg/kg-day	1.46E-03
				Beta-BHC	2.20E-03	mg/kg	2.41E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.62E-09	2.81E-08	mg/kg-day	2.00E-04	mg/kg-day	1.41E-04
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	5.80E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.74E-08	6.77E-05	mg/kg-day	2.00E-02	mg/kg-day	3.39E-03
				Cadmium	8.65E+00	mg/kg	9.48E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	3.60E-06	1.11E-04	mg/kg-day	5.00E-04	mg/kg-day	2.21E-01
				Carbon disulfide	2.40E-04	mg/kg	2.63E-10	mg/kg-day	--	--	--	3.07E-09	mg/kg-day	1.00E-01	mg/kg-day	3.07E-08
				Chlorobenzene	1.10E-01	mg/kg	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	2.00E-02	mg/kg-day	7.03E-05
				Chromium	1.00E+02	mg/kg	1.10E-04	mg/kg-day	--	--	--	1.28E-03	mg/kg-day	1.50E+00	mg/kg-day	8.52E-04
				Chrysene	4.80E+00	mg/kg	5.26E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	6.31E-07	6.13E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	8.16E-06	mg/kg-day	--	--	--	9.52E-05	mg/kg-day	2.00E-02	mg/kg-day	4.76E-03
				Copper	6.01E+01	mg/kg	6.58E-05	mg/kg-day	--	--	--	7.68E-04	mg/kg-day	4.00E-02	mg/kg-day	1.92E-02
				Delta-BHC	8.40E-03	mg/kg	9.21E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.38E-08	1.07E-07	mg/kg-day	2.00E-04	mg/kg-day	5.37E-04
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	3.02E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.24E-06	3.52E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E-01	mg/kg	1.42E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-03	mg/kg-day	8.31E-02
				Dieldrin	4.89E-02	mg/kg	5.36E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.58E-07	6.26E-07	mg/kg-day	5.00E-05	mg/kg-day	1.25E-02
				Dimethylphthalate	3.80E-02	mg/kg	4.16E-08	mg/kg-day	--	--	--	4.88E-07	mg/kg-day	8.00E-01	mg/kg-day	6.07E-07



TABLE H-7.21

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	1.97E-07	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	4.14E-09	2.30E-06	mg/kg-day	3.00E-03	mg/kg-day	7.66E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.33E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	3.47E+00	mg/kg	1.43E-06	mg/kg-day	--	--	--	1.67E-05	mg/kg-day	6.00E-02	mg/kg-day	2.79E-04
				Acenaphthylene	8.96E-02	mg/kg	2.85E-09	mg/kg-day	--	--	--	3.32E-08	mg/kg-day	6.00E-02	mg/kg-day	5.54E-07
				Aldrin	1.30E-02	mg/kg	4.13E-09	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	7.02E-08	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03
				alpha-BHC	7.30E-04	mg/kg	2.32E-11	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	6.26E-11	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	2.88E-05	mg/kg-day	--	--	--	3.36E-04	mg/kg-day	1.00E+00	mg/kg-day	3.36E-04
				Anthracene	9.13E-01	mg/kg	3.77E-07	mg/kg-day	--	--	--	4.40E-06	mg/kg-day	3.00E-01	mg/kg-day	1.47E-05
				Antimony	2.72E+00	mg/kg	8.66E-09	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	4.00E-04	mg/kg-day	2.52E-04
				Aroclor-1248	1.20E+00	mg/kg	5.34E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.07E-06	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.38E-01	mg/kg	1.95E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.89E-07	2.27E-06	mg/kg-day	2.00E-05	mg/kg-day	1.14E-01
				Aroclor-1260	4.88E-01	mg/kg	2.17E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.34E-07	2.53E-06	mg/kg-day	2.00E-05	mg/kg-day	1.27E-01
				Aroclor-1268	2.72E-02	mg/kg	1.21E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.42E-08	1.41E-07	mg/kg-day	2.00E-05	mg/kg-day	7.05E-03
				Arsenic	9.53E+00	mg/kg	9.09E-07	mg/kg-day	9.45E+00	(mg/kg-day) <sup>-1</sup>	8.59E-06	1.08E-05	mg/kg-day	3.00E-04	mg/kg-day	3.53E-02
				Barium	6.94E+01	mg/kg	2.21E-07	mg/kg-day	--	--	--	2.57E-06	mg/kg-day	7.00E-02	mg/kg-day	3.68E-05
				Benzo(a)anthracene	4.21E+00	mg/kg	1.74E-06	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.09E-06	2.03E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	5.81E-07	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	6.97E-06	6.78E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	9.80E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.18E-06	1.14E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	2.68E-07	mg/kg-day	--	--	--	3.12E-06	mg/kg-day	3.00E-02	mg/kg-day	1.04E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.17E-06	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.40E-06	1.36E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	7.24E-10	mg/kg-day	--	--	--	8.45E-09	mg/kg-day	2.00E-03	mg/kg-day	4.22E-06
				Beta-BHC	2.20E-03	mg/kg	6.99E-11	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.05E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.68E-07	mg/kg-day	3.00E-03	(mg/kg-day) <sup>-1</sup>	5.05E-10	1.96E-06	mg/kg-day	2.00E-02	mg/kg-day	9.82E-05
				Cadmium	8.65E+00	mg/kg	2.75E-08	mg/kg-day	3.80E-01	(mg/kg-day) <sup>-1</sup>	1.04E-08	3.21E-07	mg/kg-day	5.00E-04	mg/kg-day	6.41E-04
				Carbon disulfide	2.40E-04	mg/kg	1.91E-10	mg/kg-day	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	3.50E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.00E-02	mg/kg	3.18E-07	mg/kg-day	--	--	--	3.71E-06	mg/kg-day	1.50E+00	mg/kg-day	2.47E-06
				Chrysene	4.80E+00	mg/kg	1.98E-06	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	2.38E-07	2.31E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.37E-08	mg/kg-day	--	--	--	2.76E-07	mg/kg-day	2.00E-02	mg/kg-day	1.38E-05
				Copper	6.01E+01	mg/kg	1.91E-07	mg/kg-day	--	--	--	2.23E-06	mg/kg-day	4.00E-02	mg/kg-day	5.57E-05
				Delta-BHC	8.40E-03	mg/kg	1.33E-09	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	2.00E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.14E-07	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	4.67E-07	1.33E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.13E-07	mg/kg-day	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	4.89E-02	mg/kg	1.55E-09	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.49E-08	1.81E-08	mg/kg-day	5.00E-05	mg/kg-day	3.63E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.21E-09	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	8.00E-01	mg/kg-day	1.76E-08
				di-n-Butylphthalate	2.30E+00	mg/kg	7.31E-08	mg/kg-day	--	--	--	8.53E-07	mg/kg-day	2.00E-01	mg/kg-day	4.26E-06
				Endosulfan I	2.30E-02	mg/kg	3.65E-09	mg/kg-day	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.34E-02	mg/kg	3.71E-09	mg/kg-day	--	--	--	4.33E-08	mg/kg-day	6.00E-03	mg/kg-day	7.22E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.83E-09	mg/kg-day	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	6.30E-02	mg/kg	1.00E-08	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.89E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	9.19E-06	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	4.00E-02	mg/kg-day	2.68E-03
				Fluorene	2.53E+00	mg/kg	1.04E-06	mg/kg-day	--	--	--	1.22E-05	mg/kg-day	4.00E-02	mg/kg-day	3.05E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.31E-10	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	3.64E-10	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05
gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Heptachlor	6.90E-03	mg/kg	2.19E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	8.99E-10	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06				
Heptachlor Epoxide	9.86E-03	mg/kg	3.13E-10	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	1.72E-09	3.65E-09	mg/kg-day	1.30E-05	mg/kg-day	2.81E-04				
Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	2.05E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.46E-07	2.40E-06	mg/kg-day	--	--	--				
Iron	3.68E+04	mg/kg	1.17E-04	mg/kg-day	--	--	--	1.36E-03	mg/kg-day	3.00E-01	mg/kg-day	4.54E-03				
Isophorone	2.00E-01	mg/kg	6.36E-08	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	6.04E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06				

TABLE H-7.21

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	7.59E-06	mg/kg-day	--	--	--	8.86E-05	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	9.67E-07	mg/kg-day	--	--	--	1.13E-05	mg/kg-day	2.40E-02	mg/kg-day	4.70E-04
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	3.81E-09	mg/kg-day	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06
				Methylene chloride	2.40E-03	mg/kg	7.63E-11	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.07E-12	8.90E-10	mg/kg-day	6.00E-02	mg/kg-day	1.48E-08
				Molybdenum	2.18E+00	mg/kg	6.93E-09	mg/kg-day	--	--	--	8.08E-08	mg/kg-day	5.00E-03	mg/kg-day	1.62E-05
				Naphthalene	1.30E+01	mg/kg	5.37E-06	mg/kg-day	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03
				Nickel	3.89E+01	mg/kg	1.24E-07	mg/kg-day	--	--	--	1.44E-06	mg/kg-day	2.00E-02	mg/kg-day	7.22E-05
				Phenanthrene	1.17E+01	mg/kg	3.71E-07	mg/kg-day	--	--	--	4.33E-06	mg/kg-day	3.00E-01	mg/kg-day	1.44E-05
				Phenol	5.80E-01	mg/kg	1.84E-07	mg/kg-day	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	8.40E-08	mg/kg-day	--	--	--	9.81E-05	mg/kg-day	3.00E-02	mg/kg-day	3.27E-03
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	9.01E-10	mg/kg-day	--	--	--	1.05E-08	mg/kg-day	5.00E-03	mg/kg-day	2.10E-06
				Silver	9.80E-01	mg/kg	3.11E-09	mg/kg-day	--	--	--	3.63E-08	mg/kg-day	5.00E-03	mg/kg-day	7.27E-06
				Technical Chlordane	5.41E-01	mg/kg	6.87E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.94E-08	8.02E-07	mg/kg-day	5.00E-04	mg/kg-day	1.60E-03
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	1.37E-11	mg/kg-day	--	--	--	1.59E-10	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09
				Vanadium	3.37E+01	mg/kg	1.07E-07	mg/kg-day	--	--	--	1.25E-06	mg/kg-day	1.00E-03	mg/kg-day	1.25E-03
				Zinc	3.32E+02	mg/kg	1.05E-06	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	3.00E-01	mg/kg-day	4.10E-05
				Exposure Route Total										2.33E-05		
Exposure Point Total										1.66E-04			5.36E+00			
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--		
		1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--		
		1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
		1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--		
		1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	3.60E-02	(mg/kg-day)-1	--	--	mg/kg-day	1.14E-03	mg/kg-day	--		
		1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
		1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
		1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
		2,4-Dimethylphenol	2.10E-01	mg/kg	2.71E-06	mg/kg-day	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03		
		2-Methylphenol	8.10E-02	mg/kg	2.49E-06	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	4.00E-03	mg/kg-day	7.27E-03		
		2-Methylnaphthalene	1.45E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
		4,4'-DDD	1.20E-03	mg/kg	2.64E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	6.35E-12	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07		
		4,4'-DDE	7.50E-02	mg/kg	1.20E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.07E-10	1.40E-08	mg/kg-day	5.00E-04	mg/kg-day	2.79E-05		
		4,4'-DDT	4.20E-02	mg/kg	2.89E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.82E-10	3.37E-08	mg/kg-day	5.00E-04	mg/kg-day	6.74E-05		
		4-Methylphenol	2.70E-01	mg/kg	8.54E-08	mg/kg-day	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02		
		4-Nitroaniline	6.20E-01	mg/kg	1.34E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.82E-07	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02		
		4-Nitrophenol	4.20E-01	mg/kg	1.36E-05	mg/kg-day	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.18E-01		
		Acenaphthene	3.47E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
		Acenaphthylene	8.96E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
		Aldrin	1.30E-02	mg/kg	4.69E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.97E-09	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04		
		alpha-BHC	7.30E-04	mg/kg	5.69E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.53E-08	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04		
		alpha-Chlordane	6.98E-03	mg/kg	5.53E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	7.18E-10	6.45E-09	mg/kg-day	5.00E-04	mg/kg-day	1.29E-05		
		Aluminum	9.05E+03	mg/kg	9.76E-05	mg/kg-day	--	--	--	1.14E-03	mg/kg-day	1.00E+00	mg/kg-day	1.14E-03		
		Anthracene	9.13E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--		
		Antimony	2.72E+00	mg/kg	1.36E-06	mg/kg-day	--	--	--	1.58E-05	mg/kg-day	4.00E-04	mg/kg-day	3.95E-02		
		Aroclor-1248	1.20E+00	mg/kg	2.65E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.30E-08	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02		
		Aroclor-1254	4.38E-01	mg/kg	1.29E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.59E-07	1.51E-06	mg/kg-day	2.00E-05	mg/kg-day	7.55E-02		
Aroclor-1260	4.88E-01	mg/kg	5.16E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.03E-08	6.02E-08	mg/kg-day	2.00E-05	mg/kg-day	3.01E-03				
Aroclor-1268	2.72E-02	mg/kg	8.04E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.61E-08	9.38E-08	mg/kg-day	2.00E-05	mg/kg-day	4.69E-03				

TABLE H-7.21

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	9.49E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	8.97E-06	1.11E-05	mg/kg-day	3.00E-04	mg/kg-day	3.69E-02
				Barium	6.94E+01	mg/kg	1.73E-05	mg/kg-day	--	--	--	2.02E-04	mg/kg-day	7.00E-02	mg/kg-day	2.88E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	1.79E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.15E-08	2.09E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	3.40E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	4.08E-08	3.96E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	5.73E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.88E-08	6.69E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	1.39E-07	mg/kg-day	3.00E-02	mg/kg-day	4.64E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	6.02E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.19E-08	7.96E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	5.67E-09	mg/kg-day	--	--	--	6.61E-08	mg/kg-day	2.00E-03	mg/kg-day	3.31E-05
				Beta-BHC	2.20E-03	mg/kg	1.71E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.57E-08	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	3.04E-05	mg/kg-day	3.00E-03	(mg/kg-day)-1	9.11E-08	3.54E-04	mg/kg-day	2.00E-02	mg/kg-day	1.77E-02
				Cadmium	8.65E+00	mg/kg	2.15E-05	mg/kg-day	3.80E-01	(mg/kg-day)-1	8.18E-06	2.51E-04	mg/kg-day	5.00E-04	mg/kg-day	5.02E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	7.46E-06	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	1.50E+00	mg/kg-day	5.80E-05
				Chrysene	4.80E+00	mg/kg	1.43E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.72E-08	1.67E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	8.64E-07	mg/kg-day	--	--	--	1.01E-05	mg/kg-day	2.00E-02	mg/kg-day	5.04E-04
				Copper	6.01E+01	mg/kg	2.49E-04	mg/kg-day	--	--	--	2.91E-03	mg/kg-day	4.00E-02	mg/kg-day	7.27E-02
				Delta-BHC	8.40E-03	mg/kg	5.33E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	7.99E-10	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	4.11E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.69E-08	4.80E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	4.30E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.88E-06	5.02E-06	mg/kg-day	5.00E-05	mg/kg-day	1.00E-01
				Dimethylphthalate	3.80E-02	mg/kg	9.38E-07	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	8.00E-01	mg/kg-day	1.37E-05
				di-n-Butylphthalate	2.30E+00	mg/kg	7.95E-08	mg/kg-day	--	--	--	9.27E-07	mg/kg-day	2.00E-01	mg/kg-day	4.64E-06
				Endosulfan I	2.30E-02	mg/kg	1.71E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.34E-02	mg/kg	1.66E-07	mg/kg-day	--	--	--	1.94E-06	mg/kg-day	6.00E-03	mg/kg-day	3.24E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	2.99E-07	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endrin aldehyde	6.30E-02	mg/kg	1.73E-09	mg/kg-day	--	--	--	2.02E-08	mg/kg-day	3.00E-04	mg/kg-day	6.74E-05
				Endrin Ketone	1.00E-02	mg/kg	2.75E-10	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.23E+01	mg/kg	9.97E-07	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	4.00E-02	mg/kg-day	2.91E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	7.12E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.83E-08	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.27E-02	mg/kg	1.01E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.31E-09	1.17E-08	mg/kg-day	5.00E-04	mg/kg-day	2.35E-05
				Heptachlor	6.90E-03	mg/kg	4.06E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.67E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06
				Heptachlor Epoxide	9.86E-03	mg/kg	1.89E-07	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.04E-06	2.20E-06	mg/kg-day	1.30E-05	mg/kg-day	1.69E-01
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	8.99E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.08E-08	1.05E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	6.06E-04	mg/kg-day	--	--	--	7.07E-03	mg/kg-day	3.00E-01	mg/kg-day	2.38E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.39E+03	mg/kg	3.57E-04	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	2.52E-04	mg/kg-day	--	--	--	2.95E-03	mg/kg-day	2.40E-02	mg/kg-day	1.23E-01
				Mercury	2.65E-01	mg/kg	8.80E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	3.00E-04	mg/kg-day	3.42E-02
				Methoxychlor	1.20E-01	mg/kg	1.72E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06
				Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	1.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	6.00E-02	mg/kg-day	--
				Molybdenum	2.18E+00	mg/kg	2.17E-06	mg/kg-day	--	--	--	2.53E-05	mg/kg-day	5.00E-03	mg/kg-day	5.06E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.89E+01	mg/kg	3.88E-05	mg/kg-day	--	--	--	4.52E-04	mg/kg-day	2.00E-02	mg/kg-day	2.26E-02
				Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
				Phenol	5.80E-01	mg/kg	4.75E-05	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	1.18E-07	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	5.00E-03	mg/kg-day	2.74E-04

TABLE H-7.21

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	1.63E-06	mg/kg-day	--	--	--	1.90E-05	mg/kg-day	5.00E-03	mg/kg-day	3.79E-03
				Technical Chlordane	5.41E-01	mg/kg	4.28E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	5.57E-08	5.00E-07	mg/kg-day	5.00E-04	mg/kg-day	9.99E-04
				Thallium	4.83E-01	mg/kg	3.20E-09	mg/kg-day	--	--	--	3.74E-08	mg/kg-day	8.00E-05	mg/kg-day	4.67E-04
				Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--
				Vanadium	3.37E+01	mg/kg	1.68E-06	mg/kg-day	--	--	--	1.96E-05	mg/kg-day	1.00E-03	mg/kg-day	1.96E-02
				Zinc	3.32E+02	mg/kg	4.95E-03	mg/kg-day	--	--	--	5.78E-02	mg/kg-day	3.00E-01	mg/kg-day	1.93E-01
Exposure Route Total										2.62E-05					1.87E+00	
Exposure Point Total										2.62E-05						1.87E+00
Exposure Medium Total										1.92E-04						7.23E+00
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	8.79E-12	mg/kg-day	--	--	--	1.03E-10	mg/kg-day	2.00E-02	mg/kg-day	5.13E-09	
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.39E-12	mg/kg-day	--	--	--	3.95E-11	mg/kg-day	--	--	--	
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	5.02E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	1.21E-14	5.86E-13	mg/kg-day	5.00E-04	mg/kg-day	1.17E-09	
			4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	1.76E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	5.97E-13	2.05E-11	mg/kg-day	5.00E-04	mg/kg-day	4.10E-08	
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.13E-11	mg/kg-day	--	--	--	1.32E-10	mg/kg-day	5.00E-03	mg/kg-day	2.64E-08	
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.59E-11	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	5.45E-13	3.03E-10	mg/kg-day	1.00E-03	mg/kg-day	3.03E-07	
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.76E-11	mg/kg-day	--	--	--	2.05E-10	mg/kg-day	5.70E-04	mg/kg-day	3.60E-07	
			Aluminum	6.86E-06	mg/m <sup>3</sup>	3.79E-07	mg/kg-day	--	--	--	4.42E-06	mg/kg-day	1.43E-03	mg/kg-day	3.09E-03	
			Antimony	2.06E-09	mg/m <sup>3</sup>	1.14E-10	mg/kg-day	--	--	--	1.33E-09	mg/kg-day	--	--	--	
			Arcochlor-1248	9.09E-10	mg/m <sup>3</sup>	5.02E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.00E-10	5.86E-10	mg/kg-day	2.00E-05	mg/kg-day	2.93E-05	
			Arcochlor-1254	3.32E-10	mg/m <sup>3</sup>	1.83E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.66E-11	2.14E-10	mg/kg-day	2.00E-05	mg/kg-day	1.07E-05	
			Arcochlor-1260	3.70E-10	mg/m <sup>3</sup>	2.04E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.09E-11	2.38E-10	mg/kg-day	2.00E-05	mg/kg-day	1.19E-05	
			Arcochlor-1268	2.06E-11	mg/m <sup>3</sup>	1.14E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.27E-12	1.33E-11	mg/kg-day	2.00E-05	mg/kg-day	6.63E-07	
			Arsenic	7.22E-09	mg/m <sup>3</sup>	3.99E-10	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	4.79E-09	4.65E-09	mg/kg-day	8.60E-06	mg/kg-day	5.41E-04	
			Barium	5.26E-08	mg/m <sup>3</sup>	2.91E-09	mg/kg-day	--	--	--	3.39E-08	mg/kg-day	1.40E-04	mg/kg-day	2.42E-04	
			Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	1.76E-10	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	6.87E-11	2.06E-09	mg/kg-day	--	--	--	
			Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	5.88E-11	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	2.29E-10	6.86E-10	mg/kg-day	--	--	--	
			Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	2.71E-11	mg/kg-day	--	--	--	3.16E-10	mg/kg-day	3.00E-02	mg/kg-day	1.05E-08	
			Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	4.61E-11	1.38E-09	mg/kg-day	--	--	--	
			Beryllium	1.73E-10	mg/m <sup>3</sup>	9.53E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	8.01E-11	1.11E-10	mg/kg-day	5.71E-06	mg/kg-day	1.95E-05	
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	9.21E-14	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.38E-13	1.07E-12	mg/kg-day	2.00E-04	mg/kg-day	5.37E-09	
			bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	2.22E-10	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	1.86E-12	2.58E-09	mg/kg-day	2.00E-02	mg/kg-day	1.29E-07	
			Cadmium	6.55E-09	mg/m <sup>3</sup>	3.62E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	5.43E-09	4.22E-09	mg/kg-day	5.71E-06	mg/kg-day	7.39E-04	
			Chromium	7.57E-08	mg/m <sup>3</sup>	4.18E-09	mg/kg-day	--	--	--	4.88E-08	mg/kg-day	--	--	--	
			Cobalt	5.64E-09	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	3.05E-09	3.63E-09	mg/kg-day	5.71E-06	mg/kg-day	6.36E-04	
			Copper	4.55E-08	mg/m <sup>3</sup>	2.51E-09	mg/kg-day	--	--	--	2.93E-08	mg/kg-day	--	--	--	
			Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	1.15E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	4.73E-11	1.35E-10	mg/kg-day	--	--	--	
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.59E-12	mg/kg-day	--	--	--	1.86E-11	mg/kg-day	8.00E-01	mg/kg-day	2.32E-11	
			di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	9.62E-11	mg/kg-day	--	--	--	1.12E-09	mg/kg-day	1.00E-01	mg/kg-day	1.12E-08	
			Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	2.64E-12	mg/kg-day	--	--	--	3.08E-11	mg/kg-day	3.00E-04	mg/kg-day	1.03E-07	
			Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	4.18E-13	mg/kg-day	--	--	--	4.88E-12	mg/kg-day	3.00E-04	mg/kg-day	1.63E-08	
			Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	4.12E-13	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	2.27E-12	4.81E-12	mg/kg-day	1.30E-05	mg/kg-day	3.70E-07	
			Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	2.08E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	8.11E-12	2.43E-10	mg/kg-day	--	--	--	
			Iron	2.79E-05	mg/m <sup>3</sup>	1.54E-06	mg/kg-day	--	--	--	1.79E-05	mg/kg-day	--	--	--	
			Isothorone	1.52E-10	mg/m <sup>3</sup>	8.37E-12	mg/kg-day	--	--	--	9.76E-11	mg/kg-day	--	--	--	
			Lead	1.81E-06	mg/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	1.17E-06	mg/kg-day	--	--	--	
			Manganese	2.31E-07	mg/m <sup>3</sup>	1.27E-08	mg/kg-day	--	--	--	1.49E-07	mg/kg-day	1.43E-05	mg/kg-day	1.04E-02	
			Mercury	2.01E-10	mg/m <sup>3</sup>	1.11E-11	mg/kg-day	--	--	--	1.30E-10	mg/kg-day	8.60E-05	mg/kg-day	1.51E-06	
			Nickel	2.95E-08	mg/m <sup>3</sup>	1.63E-09	mg/kg-day	9.10E-01	(mg/kg-day) <sup>-1</sup>	1.48E-09	1.90E-08	mg/kg-day	1.40E-05	mg/kg-day	1.36E-03	
			Phenol	4.39E-10	mg/m <sup>3</sup>	2.43E-11	mg/kg-day	--	--	--	2.83E-10	mg/kg-day	5.71E-02	mg/kg-day	4.95E-09	
			Selenium	2.15E-10	mg/m <sup>3</sup>	1.19E-11	mg/kg-day	--	--	--	1.38E-10	mg/kg-day	5.70E-03	mg/kg-day	2.43E-08	
			Silver	7.42E-10	mg/m <sup>3</sup>	4.10E-11	mg/kg-day	--	--	--	4.78E-10	mg/kg-day	--	--	--	

TABLE H-7.21

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates)	Thallium	3.66E-10	mg/m <sup>3</sup>	2.02E-11	mg/kg-day	--	--	--	2.38E-10	mg/kg-day	--	--	--
			(continued)	Vanadium	2.55E-08	mg/m <sup>3</sup>	1.41E-09	mg/kg-day	--	--	--	1.64E-08	mg/kg-day	--	--	--
			(continued)	Zinc	2.51E-07	mg/m <sup>3</sup>	1.39E-08	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	--	--	--
Exposure Route Total										1.54E-08					1.71E-02	
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.77E-06	mg/kg-day	--	--	--	6.73E-05	mg/kg-day	1.10E-03	mg/kg-day	6.12E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.96E-05	mg/kg-day	--	--	--	2.29E-04	mg/kg-day	1.10E-03	mg/kg-day	2.08E-01
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.47E-06	mg/kg-day	--	--	--	7.55E-05	mg/kg-day	1.70E-03	mg/kg-day	4.44E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.94E-04	mg/kg-day	--	--	--	3.43E-03	mg/kg-day	5.70E-02	mg/kg-day	6.02E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.58E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.69E-09	1.84E-06	mg/kg-day	1.14E-03	mg/kg-day	1.62E-03
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	2.02E-06	mg/kg-day	--	--	--	2.35E-05	mg/kg-day	1.70E-03	mg/kg-day	1.39E-02
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	9.00E-06	mg/kg-day	--	--	--	1.05E-04	mg/kg-day	3.00E-02	mg/kg-day	3.50E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.63E-05	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.45E-06	1.01E-03	mg/kg-day	2.30E-01	mg/kg-day	4.38E-03
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	3.54E-06	mg/kg-day	--	--	--	4.13E-05	mg/kg-day	5.00E-02	mg/kg-day	8.27E-04
				4,4-DDE	8.84E-09	mg/m <sup>3</sup>	4.88E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.66E-10	5.69E-09	mg/kg-day	5.00E-04	mg/kg-day	1.14E-05
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	2.63E-06	mg/kg-day	--	--	--	3.07E-05	mg/kg-day	6.00E-02	mg/kg-day	5.12E-04
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	6.79E-08	mg/kg-day	--	--	--	7.92E-07	mg/kg-day	6.00E-02	mg/kg-day	1.32E-05
				Aldrin	5.63E-09	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.29E-09	3.63E-09	mg/kg-day	3.00E-05	mg/kg-day	1.21E-04
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	2.01E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.42E-10	2.34E-09	mg/kg-day	5.00E-04	mg/kg-day	4.69E-06
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	3.82E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.58E-10	4.45E-09	mg/kg-day	2.00E-04	mg/kg-day	2.23E-05
				Anthracene	1.25E-05	mg/m <sup>3</sup>	6.92E-07	mg/kg-day	--	--	--	8.08E-06	mg/kg-day	3.00E-01	mg/kg-day	2.69E-05
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	8.47E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	3.30E-08	9.89E-07	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.50E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.86E-06	mg/kg-day	--	--	--	3.34E-05	mg/kg-day	2.86E-01	mg/kg-day	1.17E-04
				Chrysene	5.27E-06	mg/m <sup>3</sup>	2.91E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.14E-08	3.40E-06	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.47E-09	2.70E-08	mg/kg-day	2.00E-04	mg/kg-day	1.35E-04
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.48E-06	mg/kg-day	--	--	--	2.89E-05	mg/kg-day	2.00E-03	mg/kg-day	1.45E-02
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	3.63E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	5.82E-08	4.24E-08	mg/kg-day	5.00E-05	mg/kg-day	4.84E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.45E-09	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	6.00E-03	mg/kg-day	8.65E-06
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	4.52E-09	mg/kg-day	--	--	--	5.27E-08	mg/kg-day	6.00E-03	mg/kg-day	8.79E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	8.32E-09	mg/kg-day	--	--	--	9.71E-08	mg/kg-day	6.00E-03	mg/kg-day	1.62E-05
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	7.95E-07	mg/kg-day	--	--	--	9.27E-06	mg/kg-day	4.00E-02	mg/kg-day	2.32E-04
				Fluorene	1.48E-05	mg/m <sup>3</sup>	8.17E-07	mg/kg-day	--	--	--	9.53E-06	mg/kg-day	4.00E-02	mg/kg-day	2.38E-04
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	8.81E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	9.69E-10	1.03E-08	mg/kg-day	3.00E-04	mg/kg-day	3.42E-05
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	6.94E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.33E-10	8.10E-09	mg/kg-day	2.00E-04	mg/kg-day	4.05E-05
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.87E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.65E-08	2.18E-07	mg/kg-day	5.00E-04	mg/kg-day	4.36E-04
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.77E-09	mg/kg-day	--	--	--	5.56E-08	mg/kg-day	5.00E-03	mg/kg-day	1.11E-05
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.86E-05	mg/kg-day	1.20E-01	(mg/kg-day)-1	4.64E-06	4.51E-04	mg/kg-day	8.57E-04	mg/kg-day	5.26E-01
				Phenanthrene	1.60E-04	mg/m <sup>3</sup>	8.86E-06	mg/kg-day	--	--	--	1.03E-04	mg/kg-day	3.00E-01	mg/kg-day	3.44E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.06E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	1.10E-01	mg/kg-day	1.12E-03
				Pyrene	1.56E-05	mg/m <sup>3</sup>	8.59E-07	mg/kg-day	--	--	--	1.00E-05	mg/kg-day	3.00E-02	mg/kg-day	3.34E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.55E-06	mg/kg-day	--	--	--	1.81E-05	mg/kg-day	4.00E-02	mg/kg-day	4.52E-04
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	2.96E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.55E-08	3.45E-07	mg/kg-day	2.00E-04	mg/kg-day	1.72E-03
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.72E-08	mg/kg-day	--	--	--	2.01E-07	mg/kg-day	1.43E+00	mg/kg-day	1.41E-07
Exposure Route Total										8.32E-06					9.45E-01	
Exposure Point Total										8.34E-06					9.62E-01	
			Inhalation (Vapor Intrusion)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	4.87E-04	mg/kg-day	--	--	--	5.68E-03	mg/kg-day	1.10E-03	mg/kg-day	5.16E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	1.65E-03	mg/kg-day	--	--	--	1.93E-02	mg/kg-day	1.10E-03	mg/kg-day	1.75E+01
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	1.62E-04	mg/kg-day	--	--	--	1.89E-03	mg/kg-day	1.70E-03	mg/kg-day	1.11E+00
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	8.43E-03	mg/kg-day	--	--	--	9.84E-02	mg/kg-day	5.70E-02	mg/kg-day	1.73E+00
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	1.17E-06	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.20E-08	1.36E-05	mg/kg-day	1.14E-03	mg/kg-day	1.19E-02
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	5.19E-05	mg/kg-day	--	--	--	6.05E-04	mg/kg-day	1.70E-03	mg/kg-day	3.56E-01

TABLE H-7.21

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	3.57E-04	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	3.00E-02	mg/kg-day	1.39E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	2.21E-03	mg/kg-day	4.00E-02	(mg/kg-day)-1	8.82E-05	2.57E-02	mg/kg-day	2.30E-01	mg/kg-day	1.12E-01
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	2.68E-04	mg/kg-day	--	--	--	3.12E-03	mg/kg-day	5.00E-02	mg/kg-day	6.25E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	3.35E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.14E-10	3.91E-09	mg/kg-day	5.00E-04	mg/kg-day	7.82E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	9.35E-05	mg/kg-day	--	--	--	1.09E-03	mg/kg-day	6.00E-02	mg/kg-day	1.82E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	2.42E-06	mg/kg-day	--	--	--	2.82E-05	mg/kg-day	6.00E-02	mg/kg-day	4.70E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	8.89E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.51E-08	1.04E-08	mg/kg-day	3.00E-05	mg/kg-day	3.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	5.95E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.61E-08	6.94E-08	mg/kg-day	5.00E-04	mg/kg-day	1.39E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	3.00E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.60E-09	3.50E-08	mg/kg-day	2.00E-04	mg/kg-day	1.75E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	2.46E-05	mg/kg-day	--	--	--	2.87E-04	mg/kg-day	3.00E-01	mg/kg-day	9.57E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	1.74E-07	mg/kg-day	3.90E-01	(mg/kg-day)-1	6.79E-08	2.03E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	7.78E-08	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	2.00E-01	mg/kg-day	4.54E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	3.57E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	2.88E-01	mg/kg-day	1.46E-03
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	9.81E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	3.83E-08	1.14E-05	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	1.02E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.52E-07	1.18E-06	mg/kg-day	2.00E-04	mg/kg-day	5.92E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	1.31E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	2.00E-03	mg/kg-day	7.63E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	2.90E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.64E-07	3.38E-07	mg/kg-day	5.00E-05	mg/kg-day	6.76E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	1.19E-07	mg/kg-day	--	--	--	1.39E-06	mg/kg-day	6.00E-03	mg/kg-day	2.32E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	1.21E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	6.00E-03	mg/kg-day	2.36E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	2.23E-07	mg/kg-day	--	--	--	2.60E-06	mg/kg-day	6.00E-03	mg/kg-day	4.33E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	2.71E-07	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	4.00E-02	mg/kg-day	7.90E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	1.48E-05	mg/kg-day	--	--	--	1.73E-04	mg/kg-day	4.00E-02	mg/kg-day	4.32E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	3.14E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.46E-08	3.67E-07	mg/kg-day	3.00E-04	mg/kg-day	1.22E-03
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	5.45E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.54E-11	6.38E-10	mg/kg-day	2.00E-04	mg/kg-day	3.18E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	6.00E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.46E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	1.64E-08	mg/kg-day	--	--	--	1.91E-07	mg/kg-day	5.00E-03	mg/kg-day	3.82E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	7.78E-07	mg/kg-day	3.50E-03	(mg/kg-day)-1	2.72E-09	9.08E-06	mg/kg-day	1.10E-01	mg/kg-day	8.26E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	3.47E-03	mg/kg-day	1.20E-01	(mg/kg-day)-1	4.17E-04	4.05E-02	mg/kg-day	8.57E-04	mg/kg-day	4.73E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	3.15E-04	mg/kg-day	--	--	--	3.68E-03	mg/kg-day	3.00E-01	mg/kg-day	1.23E-02
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	3.57E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.10E-01	mg/kg-day	3.78E-03
Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	2.20E-06	mg/kg-day	--	--	--	2.56E-05	mg/kg-day	3.00E-02	mg/kg-day	8.54E-04				
sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	1.26E-05	mg/kg-day	--	--	--	1.47E-04	mg/kg-day	4.00E-02	mg/kg-day	3.69E-03				
Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	2.32E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.79E-07	2.71E-06	mg/kg-day	2.00E-04	mg/kg-day	1.35E-02				
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	1.39E-07	mg/kg-day	--	--	--	1.63E-06	mg/kg-day	1.43E+00	mg/kg-day	1.14E-06				
				Exposure Route Total							5.06E-04					7.36E+01
				Exposure Point Total							5.06E-04					7.36E+01
				Exposure Medium Total							5.15E-04					7.46E+01
				Medium Total							7.07E-04					8.18E+01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.34E-08	mg/kg-day	5.70E-03	(mg/kg-day)-1	1.33E-10	2.73E-07	mg/kg-day	1.40E-01	mg/kg-day	1.95E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.97E-09	mg/kg-day	--	--	--	8.13E-08	mg/kg-day	1.70E-03	mg/kg-day	4.78E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.57E-08	mg/kg-day	--	--	--	5.33E-07	mg/kg-day	5.70E-02	mg/kg-day	9.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.29E-08	mg/kg-day	7.20E-02	(mg/kg-day)-1	2.37E-09	3.83E-07	mg/kg-day	1.40E-03	mg/kg-day	2.74E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.43E-10	1.44E-07	mg/kg-day	1.14E-03	mg/kg-day	1.26E-04
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.97E-09	mg/kg-day	--	--	--	4.63E-08	mg/kg-day	1.70E-03	mg/kg-day	2.73E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.56E-08	mg/kg-day	4.00E-02	(mg/kg-day)-1	6.22E-10	1.81E-07	mg/kg-day	2.30E-01	mg/kg-day	7.89E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	6.01E-10	mg/kg-day	--	--	--	7.01E-09	mg/kg-day	1.43E+00	mg/kg-day	4.91E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.34E-11	mg/kg-day	--	--	--	6.23E-10	mg/kg-day	5.00E-02	mg/kg-day	1.25E-08
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	7.15E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.43E-11	8.34E-10	mg/kg-day	5.00E-04	mg/kg-day	1.67E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.23E-10	mg/kg-day	--	--	--	2.61E-09	mg/kg-day	8.60E-01	mg/kg-day	3.03E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.14E-09	mg/kg-day	--	--	--	2.50E-08	mg/kg-day	6.00E-02	mg/kg-day	4.16E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	9.12E-11	mg/kg-day	--	--	--	1.06E-09	mg/kg-day	6.00E-02	mg/kg-day	1.77E-08

TABLE H-7.21

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	1.23E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	2.10E-09	1.44E-09	mg/kg-day	3.00E-05	mg/kg-day	4.80E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.58E-11	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	4.22E-11	1.82E-10	mg/kg-day	5.00E-04	mg/kg-day	3.65E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.70E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.44E-11	4.32E-10	mg/kg-day	2.00E-04	mg/kg-day	2.16E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.81E-10	mg/kg-day	--	--	--	2.12E-09	mg/kg-day	3.00E-01	mg/kg-day	7.06E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.44E-08	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	1.44E-09	1.68E-07	mg/kg-day	8.60E-03	mg/kg-day	1.96E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.69E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.05E-11	3.13E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	4.07E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	1.59E-12	4.74E-09	mg/kg-day	2.00E-02	mg/kg-day	2.37E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.49E-07	mg/kg-day	--	--	--	2.90E-06	mg/kg-day	2.00E-01	mg/kg-day	1.45E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	4.05E-09	mg/kg-day	--	--	--	4.72E-08	mg/kg-day	2.86E-01	mg/kg-day	1.65E-07				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.14E-07	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	2.17E-09	1.33E-06	mg/kg-day	8.57E-02	mg/kg-day	1.55E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	4.14E-08	mg/kg-day	--	--	--	4.83E-07	mg/kg-day	2.60E-02	mg/kg-day	1.86E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	7.27E-11	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	2.83E-12	8.48E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.93E-08	mg/kg-day	--	--	--	3.41E-07	mg/kg-day	1.00E-02	mg/kg-day	3.41E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.43E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	8.68E-10	6.33E-10	mg/kg-day	5.00E-05	mg/kg-day	1.27E-05				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.24E-11	mg/kg-day	--	--	--	1.44E-10	mg/kg-day	6.00E-03	mg/kg-day	2.40E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	2.03E-14	mg/kg-day	--	--	--	2.37E-13	mg/kg-day	6.00E-03	mg/kg-day	3.95E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.29E-07	mg/kg-day	2.90E-01	mg/kg-day	4.43E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.79E-11	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	4.00E-02	mg/kg-day	8.14E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.52E-11	mg/kg-day	--	--	--	6.44E-10	mg/kg-day	4.00E-02	mg/kg-day	1.61E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.86E-14	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	7.55E-14	8.01E-13	mg/kg-day	3.00E-04	mg/kg-day	2.67E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	9.61E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.15E-10	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.61E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	9.86E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	4.04E-09	1.15E-08	mg/kg-day	5.00E-04	mg/kg-day	2.30E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.89E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.83E-08	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	2.90E-02	mg/kg-day	1.54E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.80E-10	mg/kg-day	--	--	--	2.10E-09	mg/kg-day	5.00E-03	mg/kg-day	4.21E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	3.00E-10	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	3.60E-11	3.50E-09	mg/kg-day	8.57E-04	mg/kg-day	4.08E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.40E-08	mg/kg-day	--	--	--	1.63E-07	mg/kg-day	8.57E-04	mg/kg-day	1.90E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.56E-08	mg/kg-day	--	--	--	1.82E-07	mg/kg-day	4.00E-02	mg/kg-day	4.54E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.45E-10	mg/kg-day	--	--	--	1.69E-09	mg/kg-day	3.00E-01	mg/kg-day	5.62E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.89E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	2.55E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	3.00E-02	mg/kg-day	9.90E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.42E-08	mg/kg-day	--	--	--	5.16E-07	mg/kg-day	4.00E-02	mg/kg-day	1.29E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	5.01E-08	mg/kg-day	--	--	--	5.85E-07	mg/kg-day	4.00E-02	mg/kg-day	1.46E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	2.10E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	1.43E+00	mg/kg-day	1.71E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.95E-08	mg/kg-day	--	--	--	5.78E-07	mg/kg-day	2.00E-02	mg/kg-day	2.89E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	5.15E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	3.60E-10	6.01E-07	mg/kg-day	1.70E-01	mg/kg-day	3.53E-06				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.07E-07	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	2.88E-08	1.24E-06	mg/kg-day	2.86E-02	mg/kg-day	4.35E-05				
								Exposure Route Total											4.38E-08	
								Exposure Point Total											1.40E-03	
					Indoor Air		Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	4.11E-06	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	2.34E-08	4.80E-05	mg/kg-day	1.40E-01	mg/kg-day	3.43E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	1.80E-07	mg/kg-day	--	--	--	2.10E-06	mg/kg-day	1.70E-03	mg/kg-day	1.24E-03
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	1.21E-06					mg/kg-day	--	--	--	1.42E-05	mg/kg-day	5.70E-02	mg/kg-day	2.49E-04				
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	9.84E-07					mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	7.09E-08	1.15E-05	mg/kg-day	1.40E-03	mg/kg-day	8.20E-03				
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	3.65E-07					mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.31E-08	4.25E-06	mg/kg-day	1.14E-03	mg/kg-day	3.73E-03				
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	1.03E-07					mg/kg-day	--	--	--	1.20E-06	mg/kg-day	1.70E-03	mg/kg-day	7.09E-04				
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	4.17E-07					mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	1.67E-08	4.86E-06	mg/kg-day	2.30E-01	mg/kg-day	2.11E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	3.09E-08					mg/kg-day	--	--	--	3.61E-07	mg/kg-day	1.43E+00	mg/kg-day	2.53E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	1.50E-09					mg/kg-day	--	--	--	1.75E-08	mg/kg-day	5.00E-02	mg/kg-day	3.50E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	6.44E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.19E-12	7.51E-11	mg/kg-day	5.00E-04	mg/kg-day	1.50E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	9.18E-09					mg/kg-day	--	--	--	1.07E-07	mg/kg-day	8.60E-01	mg/kg-day	1.25E-07				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	9.13E-08					mg/kg-day	--	--	--	1.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.77E-05				

TABLE H-7.21

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	3.88E-09	mg/kg-day	--	--	--	4.53E-08	mg/kg-day	6.00E-02	mg/kg-day	7.55E-07
				Aldrin	2.44E-07	ug/m <sup>3</sup>	1.35E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.29E-10	1.57E-10	mg/kg-day	3.00E-05	mg/kg-day	5.24E-06
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	2.01E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.42E-12	2.34E-11	mg/kg-day	5.00E-04	mg/kg-day	4.68E-08
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	1.22E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.46E-11	1.42E-10	mg/kg-day	2.00E-04	mg/kg-day	7.10E-07
				Anthracene	1.40E-04	ug/m <sup>3</sup>	7.71E-09	mg/kg-day	--	--	--	9.00E-08	mg/kg-day	3.00E-01	mg/kg-day	3.00E-07
				Benzene	7.66E-03	ug/m <sup>3</sup>	4.23E-07	mg/kg-day	1.00E-01	(mg/kg-day)-1	4.23E-08	4.94E-08	mg/kg-day	8.60E-03	mg/kg-day	5.74E-04
				Benz(a)fluoranthene	2.05E-05	ug/m <sup>3</sup>	1.13E-09	mg/kg-day	3.90E-01	(mg/kg-day)-1	4.41E-10	1.32E-08	mg/kg-day	--	--	--
				Bromoform	3.95E-04	ug/m <sup>3</sup>	2.18E-08	mg/kg-day	3.90E-03	(mg/kg-day)-1	8.52E-11	2.55E-07	mg/kg-day	2.00E-02	mg/kg-day	1.27E-05
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	7.47E-06	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	2.00E-01	mg/kg-day	4.36E-04
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	1.13E-07	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	2.86E-01	mg/kg-day	4.63E-06
				Chloroform	6.13E-02	ug/m <sup>3</sup>	3.39E-06	mg/kg-day	1.90E-02	(mg/kg-day)-1	6.43E-08	3.95E-05	mg/kg-day	8.57E-02	mg/kg-day	4.61E-04
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	1.34E-06	mg/kg-day	--	--	--	1.56E-05	mg/kg-day	2.60E-02	mg/kg-day	6.02E-04
				Chrysene	5.75E-05	ug/m <sup>3</sup>	3.18E-09	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.24E-10	3.71E-08	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	1.90E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.00E-02	mg/kg-day	2.21E-03
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	2.08E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.33E-11	2.43E-11	mg/kg-day	5.00E-05	mg/kg-day	4.85E-07
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	2.89E-12	mg/kg-day	--	--	--	3.13E-11	mg/kg-day	6.00E-03	mg/kg-day	5.21E-09
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	8.95E-13	mg/kg-day	--	--	--	1.04E-11	mg/kg-day	6.00E-03	mg/kg-day	1.74E-09
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	2.98E-07	mg/kg-day	--	--	--	3.47E-06	mg/kg-day	2.90E-01	mg/kg-day	1.20E-05
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	1.13E-09	mg/kg-day	--	--	--	1.32E-08	mg/kg-day	4.00E-02	mg/kg-day	3.29E-07
				Fluorene	5.21E-05	ug/m <sup>3</sup>	2.88E-09	mg/kg-day	--	--	--	3.36E-08	mg/kg-day	4.00E-02	mg/kg-day	8.39E-07
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	2.71E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.98E-12	3.16E-11	mg/kg-day	3.00E-04	mg/kg-day	1.05E-07
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	5.89E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.07E-12	6.87E-11	mg/kg-day	2.00E-04	mg/kg-day	3.44E-07
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	2.66E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.09E-10	3.10E-10	mg/kg-day	5.00E-04	mg/kg-day	6.20E-07
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	9.94E-05	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	1.10E-01	mg/kg-day	1.05E-02
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	2.23E-06	mg/kg-day	--	--	--	2.60E-05	mg/kg-day	2.90E-02	mg/kg-day	8.95E-04
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	7.82E-12	mg/kg-day	--	--	--	9.13E-11	mg/kg-day	5.00E-03	mg/kg-day	1.83E-08
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	1.63E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.95E-09	1.90E-07	mg/kg-day	8.57E-04	mg/kg-day	2.22E-04
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	7.83E-07	mg/kg-day	--	--	--	9.14E-06	mg/kg-day	8.57E-04	mg/kg-day	1.07E-02
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	8.84E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	4.00E-02	mg/kg-day	2.58E-04
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	8.03E-09	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	3.00E-01	mg/kg-day	3.12E-07
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	9.94E-05	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	1.10E-01	mg/kg-day	1.05E-02
				Pyrene	1.92E-05	ug/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	1.24E-08	mg/kg-day	3.00E-02	mg/kg-day	4.13E-07
sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	3.14E-08	mg/kg-day	--	--	--	3.66E-07	mg/kg-day	4.00E-02	mg/kg-day	9.16E-06				
Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	3.14E-06	mg/kg-day	--	--	--	3.67E-05	mg/kg-day	4.00E-02	mg/kg-day	9.17E-04				
Toluene	2.18E-03	ug/m <sup>3</sup>	1.20E-07	mg/kg-day	--	--	--	1.40E-06	mg/kg-day	1.43E+00	mg/kg-day	9.82E-07				
trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	3.33E-06	mg/kg-day	--	--	--	3.89E-05	mg/kg-day	2.00E-02	mg/kg-day	1.94E-03				
Trichloroethene	5.71E-02	ug/m <sup>3</sup>	3.15E-06	mg/kg-day	7.00E-03	(mg/kg-day)-1	2.21E-08	3.68E-05	mg/kg-day	1.70E-01	mg/kg-day	2.16E-04				
Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	7.16E-06	mg/kg-day	2.70E-01	(mg/kg-day)-1	1.93E-06	8.36E-05	mg/kg-day	2.86E-02	mg/kg-day	2.93E-03				
				Exposure Route Total											5.80E-02	
				Exposure Point Total											5.80E-02	
				Exposure Medium Total											5.94E-02	
				Medium Total											5.94E-02	
									Total of Receptor Risks Across All Media						7.09E-04	
											Total of Receptor Hazards Across All Media				8.18E+01	

TABLE H-7.21

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.35E-06	mg/kg-day	--	--	--	1.92E-05	mg/kg-day	1.00E-02	mg/kg-day	1.92E-03
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	7.98E-06	mg/kg-day	--	--	--	6.52E-05	mg/kg-day	1.00E-02	mg/kg-day	6.52E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	7.83E-07	mg/kg-day	--	--	--	6.39E-06	mg/kg-day	5.00E-02	mg/kg-day	1.28E-04
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.07E-05	mg/kg-day	--	--	--	3.32E-04	mg/kg-day	9.00E-02	mg/kg-day	3.69E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	5.64E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.03E-10	4.60E-08	mg/kg-day	1.14E-03	mg/kg-day	4.04E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.50E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.09E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.72E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	3.00E-02	mg/kg-day	4.69E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.06E-05	mg/kg-day	5.40E-03	(mg/kg-day)-1	5.75E-08	8.69E-05	mg/kg-day	3.00E-02	mg/kg-day	2.90E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	3.29E-07	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	2.00E-02	mg/kg-day	1.34E-04
				2-Methylphenol	8.10E-02	mg/kg	1.27E-07	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	4.00E-03	mg/kg-day	2.59E-04
				2-Methylnaphthalene	1.67E+00	mg/kg	2.62E-06	mg/kg-day	--	--	--	2.14E-05	mg/kg-day	5.00E-02	mg/kg-day	4.28E-04
				4,4-DDD	1.20E-03	mg/kg	1.88E-09	mg/kg-day	2.40E-01	(mg/kg-day)-1	4.51E-10	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05
				4,4'-DDE	8.23E-02	mg/kg	1.29E-07	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.38E-08	1.05E-06	mg/kg-day	5.00E-04	mg/kg-day	2.10E-03
				4,4'-DDT	4.45E-02	mg/kg	6.97E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.37E-08	5.69E-07	mg/kg-day	5.00E-04	mg/kg-day	1.14E-03
				4-Methylphenol	2.70E-01	mg/kg	4.23E-07	mg/kg-day	--	--	--	3.45E-06	mg/kg-day	5.00E-03	mg/kg-day	6.90E-04
				4-Nitroaniline	6.20E-01	mg/kg	9.71E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.04E-08	7.93E-06	mg/kg-day	3.00E-03	mg/kg-day	2.64E-03
				4-Nitrophenol	4.20E-01	mg/kg	6.58E-07	mg/kg-day	--	--	--	5.37E-06	mg/kg-day	5.00E-04	mg/kg-day	1.07E-02
				Acenaphthene	4.23E+00	mg/kg	6.63E-06	mg/kg-day	--	--	--	5.41E-05	mg/kg-day	6.00E-02	mg/kg-day	9.02E-04
				Acenaphthylene	1.04E-01	mg/kg	1.63E-07	mg/kg-day	--	--	--	1.33E-06	mg/kg-day	6.00E-02	mg/kg-day	2.22E-05
				Aldrin	1.30E-02	mg/kg	2.04E-08	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.46E-07	1.66E-07	mg/kg-day	3.00E-05	mg/kg-day	5.54E-03
				alpha-BHC	7.30E-04	mg/kg	1.14E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.09E-09	9.33E-09	mg/kg-day	5.00E-04	mg/kg-day	1.87E-05
				alpha-Chlordane	8.14E-03	mg/kg	1.27E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.66E-08	1.04E-07	mg/kg-day	5.00E-04	mg/kg-day	2.08E-04
				Aluminum	8.82E+03	mg/kg	1.38E-02	mg/kg-day	--	--	--	1.13E-01	mg/kg-day	1.00E+00	mg/kg-day	1.13E-01
				Anthracene	1.05E+00	mg/kg	1.65E-06	mg/kg-day	--	--	--	1.35E-05	mg/kg-day	3.00E-01	mg/kg-day	4.50E-05
				Antimony	4.08E+00	mg/kg	6.39E-08	mg/kg-day	--	--	--	5.21E-05	mg/kg-day	4.00E-04	mg/kg-day	1.30E-01
				Aroclor-1248	1.20E+00	mg/kg	1.88E-06	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.76E-06	1.53E-05	mg/kg-day	2.00E-05	mg/kg-day	7.67E-01
				Aroclor-1254	4.44E-01	mg/kg	6.95E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.39E-06	5.68E-06	mg/kg-day	2.00E-05	mg/kg-day	2.84E-01
				Aroclor-1260	5.41E-01	mg/kg	8.48E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-06	6.92E-06	mg/kg-day	2.00E-05	mg/kg-day	3.46E-01
				Aroclor-1268	2.78E-02	mg/kg	4.35E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.69E-08	3.55E-07	mg/kg-day	2.00E-05	mg/kg-day	1.77E-02
				Arsenic	6.17E+00	mg/kg	9.65E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	9.12E-05	7.88E-05	mg/kg-day	3.00E-04	mg/kg-day	2.63E-01
				Barium	6.78E+01	mg/kg	1.06E-04	mg/kg-day	--	--	--	8.67E-04	mg/kg-day	7.00E-02	mg/kg-day	1.24E-02
				Benzo(a)anthracene	5.00E+00	mg/kg	7.84E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.40E-06	6.40E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	2.61E-06	mg/kg-day	1.20E+01	(mg/kg-day)-1	3.13E-05	2.13E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	4.29E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.14E-06	3.50E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.20E-06	mg/kg-day	--	--	--	9.76E-06	mg/kg-day	3.00E-02	mg/kg-day	3.25E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	5.10E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.12E-06	4.17E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	3.73E-07	mg/kg-day	--	--	--	3.04E-06	mg/kg-day	2.00E-03	mg/kg-day	1.52E-03
				Beta-BHC	2.20E-03	mg/kg	3.44E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.17E-09	2.81E-08	mg/kg-day	2.00E-04	mg/kg-day	1.41E-04
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.23E-05	mg/kg-day	3.00E-03	(mg/kg-day)-1	3.68E-08	1.00E-04	mg/kg-day	2.00E-02	mg/kg-day	5.01E-03
				Cadmium	9.47E+00	mg/kg	1.48E-05	mg/kg-day	3.80E-01	(mg/kg-day)-1	5.64E-06	1.21E-04	mg/kg-day	5.00E-04	mg/kg-day	2.42E-01
				Carbon disulfide	2.40E-04	mg/kg	3.76E-10	mg/kg-day	--	--	--	3.07E-09	mg/kg-day	1.00E-01	mg/kg-day	3.07E-08
				Chlorobenzene	1.10E-01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	2.00E-02	mg/kg-day	7.03E-05
				Chromium	1.11E+02	mg/kg	1.74E-04	mg/kg-day	--	--	--	1.42E-03	mg/kg-day	1.50E+00	mg/kg-day	9.48E-04
				Chrysene	5.68E+00	mg/kg	8.90E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.07E-08	7.27E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.10E-05	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	2.00E-02	mg/kg-day	4.84E-03
				Copper	5.71E+01	mg/kg	8.93E-05	mg/kg-day	--	--	--	7.30E-04	mg/kg-day	4.00E-02	mg/kg-day	1.82E-02
				Delta-BHC	8.40E-03	mg/kg	1.32E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.97E-08	1.07E-07	mg/kg-day	2.00E-04	mg/kg-day	5.37E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	4.97E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.04E-06	4.06E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.04E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-03	mg/kg-day	8.31E-02
				Dieldrin	5.51E-02	mg/kg	8.63E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.38E-06	7.05E-07	mg/kg-day	5.00E-05	mg/kg-day	1.41E-02
				Dimethylphthalate	3.80E-02	mg/kg	5.95E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	8.00E-01	mg/kg-day	6.07E-07

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	3.44E-06	mg/kg-day	--	--	--	2.81E-05	mg/kg-day	2.00E-01	mg/kg-day	1.41E-04				
				Endosulfan I	2.30E-02	mg/kg	3.60E-08	mg/kg-day	--	--	--	2.94E-07	mg/kg-day	6.00E-03	mg/kg-day	4.80E-05				
				Endosulfan II	2.38E-02	mg/kg	3.73E-08	mg/kg-day	--	--	--	3.05E-07	mg/kg-day	6.00E-03	mg/kg-day	5.08E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	6.73E-08	mg/kg-day	--	--	--	5.50E-07	mg/kg-day	6.00E-03	mg/kg-day	9.16E-05				
				Endrin aldehyde	4.21E-02	mg/kg	6.59E-08	mg/kg-day	--	--	--	5.38E-07	mg/kg-day	3.00E-04	mg/kg-day	1.79E-03				
				Endrin Ketone	1.00E-02	mg/kg	1.57E-08	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	3.00E-04	mg/kg-day	4.26E-04				
				Fluoranthene	2.65E+01	mg/kg	4.15E-05	mg/kg-day	--	--	--	3.39E-04	mg/kg-day	4.00E-02	mg/kg-day	8.47E-03				
				Fluorene	2.92E+00	mg/kg	4.57E-06	mg/kg-day	--	--	--	3.73E-05	mg/kg-day	4.00E-02	mg/kg-day	9.32E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.07E-09	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.48E-09	3.32E-08	mg/kg-day	3.00E-04	mg/kg-day	1.11E-04				
				gamma-Chlordane	1.31E-02	mg/kg	2.05E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.67E-08	1.68E-07	mg/kg-day	5.00E-04	mg/kg-day	3.35E-04				
				Heptachlor	6.80E-03	mg/kg	1.08E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.43E-08	8.82E-08	mg/kg-day	5.00E-04	mg/kg-day	1.76E-04				
				Heptachlor Epoxide	1.12E-02	mg/kg	1.75E-08	mg/kg-day	5.50E+00	(mg/kg-day)-1	9.60E-08	1.43E-07	mg/kg-day	1.30E-05	mg/kg-day	1.10E-02				
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.37E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.64E-06	1.12E-05	mg/kg-day	--	--	--				
				Iron	4.07E+04	mg/kg	6.38E-02	mg/kg-day	--	--	--	5.21E-01	mg/kg-day	3.00E-01	mg/kg-day	1.74E+00				
				Isophorone	2.00E-01	mg/kg	3.13E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.97E-10	2.66E-06	mg/kg-day	2.00E-01	mg/kg-day	1.28E-05				
				Lead	2.90E+03	mg/kg	4.54E-03	mg/kg-day	--	--	--	3.71E-02	mg/kg-day	--	--	--				
				Manganese	3.31E+02	mg/kg	5.18E-04	mg/kg-day	--	--	--	4.23E-03	mg/kg-day	2.40E-02	mg/kg-day	1.76E-01				
				Mercury	3.10E-01	mg/kg	4.85E-07	mg/kg-day	--	--	--	3.96E-06	mg/kg-day	3.00E-04	mg/kg-day	1.32E-02				
				Methoxychlor	1.20E-01	mg/kg	1.88E-07	mg/kg-day	--	--	--	1.53E-06	mg/kg-day	5.00E-03	mg/kg-day	3.07E-04				
				Molybdenum	2.50E+00	mg/kg	3.92E-06	mg/kg-day	--	--	--	3.20E-05	mg/kg-day	5.00E-03	mg/kg-day	6.40E-03				
				Naphthalene	1.30E+01	mg/kg	2.04E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-02	mg/kg-day	8.31E-03				
				Nickel	3.91E+01	mg/kg	6.13E-05	mg/kg-day	--	--	--	5.00E-04	mg/kg-day	2.00E-02	mg/kg-day	2.50E-02				
				Phenanthrene	1.39E+01	mg/kg	2.18E-05	mg/kg-day	--	--	--	1.78E-04	mg/kg-day	3.00E-01	mg/kg-day	5.93E-04				
				Phenol	5.80E-01	mg/kg	9.08E-07	mg/kg-day	--	--	--	7.42E-06	mg/kg-day	3.00E-01	mg/kg-day	2.47E-05				
				p-Isopropyltoluene	1.10E-01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	1.00E-01	mg/kg-day	1.41E-05				
				Pyrene	2.41E+01	mg/kg	3.78E-05	mg/kg-day	--	--	--	3.09E-04	mg/kg-day	3.00E-02	mg/kg-day	1.03E-02				
				sec-Butylbenzene	7.10E-02	mg/kg	1.11E-07	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	4.00E-02	mg/kg-day	2.27E-05				
				Selenium	2.24E-01	mg/kg	3.51E-07	mg/kg-day	--	--	--	2.87E-06	mg/kg-day	5.00E-03	mg/kg-day	5.74E-04				
				Silver	1.16E+00	mg/kg	1.81E-06	mg/kg-day	--	--	--	1.48E-05	mg/kg-day	5.00E-03	mg/kg-day	2.96E-03				
				Technical Chlordane	5.51E-01	mg/kg	8.63E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.12E-06	7.05E-06	mg/kg-day	5.00E-04	mg/kg-day	1.41E-02				
				Thallium	4.97E-01	mg/kg	7.78E-07	mg/kg-day	--	--	--	6.35E-06	mg/kg-day	8.00E-05	mg/kg-day	7.94E-02				
				Toluene	4.30E-04	mg/kg	6.73E-10	mg/kg-day	--	--	--	5.50E-09	mg/kg-day	8.00E-02	mg/kg-day	6.87E-08				
				Vanadium	3.41E+01	mg/kg	5.35E-05	mg/kg-day	--	--	--	4.37E-04	mg/kg-day	1.00E-03	mg/kg-day	4.37E-01				
				Zinc	4.53E+02	mg/kg	7.10E-04	mg/kg-day	--	--	--	5.80E-03	mg/kg-day	3.00E-01	mg/kg-day	1.93E-02				
				Exposure Route Total										1.64E-04					4.80E+00	
				Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1,2,3-Trichlorobenzene	5.10E+00	mg/kg	7.58E-07	mg/kg-day	--	--	--	5.56E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04
								1,2,4-Trichlorobenzene	2.58E-07	mg/kg-day	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04		
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.53E-08	mg/kg-day	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06
								1,2-Dichlorobenzene	2.60E+01	mg/kg	1.31E-06	mg/kg-day	--	--	--	9.64E-06	mg/kg-day	9.00E-02	mg/kg-day	1.07E-04
								1,2-Dichloropropane	3.60E-03	mg/kg	1.82E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	6.55E-12	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06
								1,3,5-Trimethylbenzene	1.60E-01	mg/kg	8.08E-09	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.19E-06
1,3-Dichlorobenzene	1.10E+00	mg/kg	5.56E-08					mg/kg-day	--	--	--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	1.06E-08					mg/kg-day	--	--	--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06				
2-Methylphenol	8.10E-02	mg/kg	4.09E-08					mg/kg-day	--	--	--	3.00E-07	mg/kg-day	4.00E-03	mg/kg-day	7.51E-05				
2-Methylnaphthalene	1.67E+00	mg/kg	8.45E-08					mg/kg-day	--	--	--	6.20E-07	mg/kg-day	5.00E-02	mg/kg-day	1.24E-05				
4,4'-DDD	1.20E-03	mg/kg	6.06E-11					mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-11	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07				
4,4'-DDE	8.23E-02	mg/kg	4.16E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.41E-09	3.05E-08	mg/kg-day	5.00E-04	mg/kg-day	6.10E-05				
4,4'-DDT	4.45E-02	mg/kg	6.74E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	2.29E-09	4.95E-08	mg/kg-day	5.00E-04	mg/kg-day	9.90E-05				
4-Methylphenol	2.70E-01	mg/kg	1.36E-07					mg/kg-day	--	--	--	1.00E-06	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04				
4-Nitroaniline	6.20E-01	mg/kg	3.15E-07					mg/kg-day	2.10E-02	(mg/kg-day)-1	6.58E-09	2.30E-08	mg/kg-day	3.00E-03	mg/kg-day	7.66E-04				

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	2.12E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	4.23E+00	mg/kg	2.78E-06	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	6.00E-02	mg/kg-day	3.40E-04
				Acenaphthylene	1.04E-01	mg/kg	5.26E-09	mg/kg-day	--	--	--	3.86E-08	mg/kg-day	6.00E-02	mg/kg-day	6.44E-07
				Aldrin	1.30E-02	mg/kg	6.57E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.12E-07	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03
				alpha-BHC	7.30E-04	mg/kg	3.69E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.96E-11	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	4.46E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.00E+00	mg/kg-day	3.27E-04
				Anthracene	1.05E+00	mg/kg	6.93E-07	mg/kg-day	--	--	--	5.08E-06	mg/kg-day	3.00E-01	mg/kg-day	1.69E-05
				Antimony	4.08E+00	mg/kg	2.06E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	4.00E-04	mg/kg-day	3.78E-04
				Aroclor-1248	1.20E+00	mg/kg	8.49E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-06	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.44E-01	mg/kg	3.14E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.28E-07	2.31E-06	mg/kg-day	2.00E-05	mg/kg-day	1.15E-01
				Aroclor-1260	5.41E-01	mg/kg	3.83E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.66E-07	2.81E-06	mg/kg-day	2.00E-05	mg/kg-day	1.41E-01
				Aroclor-1268	2.78E-02	mg/kg	1.96E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.93E-08	1.44E-07	mg/kg-day	2.00E-05	mg/kg-day	7.20E-03
				Arsenic	6.17E+00	mg/kg	9.35E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	8.83E-06	6.86E-06	mg/kg-day	3.00E-04	mg/kg-day	2.29E-02
				Barium	6.78E+01	mg/kg	3.43E-07	mg/kg-day	--	--	--	2.51E-06	mg/kg-day	7.00E-02	mg/kg-day	3.59E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	3.29E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.94E-06	2.41E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.09E-06	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.31E-05	8.03E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.80E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.16E-06	1.32E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	5.01E-07	mg/kg-day	--	--	--	3.68E-06	mg/kg-day	3.00E-02	mg/kg-day	1.23E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	2.14E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.57E-06	1.57E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.20E-09	mg/kg-day	--	--	--	8.83E-09	mg/kg-day	2.00E-03	mg/kg-day	4.41E-06
				Beta-BHC	2.20E-03	mg/kg	1.11E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.67E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.96E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.19E-09	2.90E-06	mg/kg-day	2.00E-02	mg/kg-day	1.45E-04
				Cadmium	9.47E+00	mg/kg	4.79E-08	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.82E-08	3.51E-07	mg/kg-day	5.00E-04	mg/kg-day	7.02E-04
				Carbon disulfide	2.40E-04	mg/kg	3.03E-10	mg/kg-day	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	5.56E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.11E+02	mg/kg	5.62E-07	mg/kg-day	--	--	--	4.12E-06	mg/kg-day	1.50E+00	mg/kg-day	2.75E-06
				Chrysene	5.68E+00	mg/kg	3.73E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	4.48E-07	2.74E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	8.83E-08	mg/kg-day	--	--	--	2.81E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05
				Copper	5.71E+01	mg/kg	2.88E-07	mg/kg-day	--	--	--	2.12E-06	mg/kg-day	4.00E-02	mg/kg-day	5.29E-05
				Delta-BHC	8.40E-03	mg/kg	2.12E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.18E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	2.09E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.55E-07	1.53E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.57E-07	mg/kg-day	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	5.51E-02	mg/kg	2.79E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.46E-08	2.04E-08	mg/kg-day	5.00E-05	mg/kg-day	4.09E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.92E-09	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	8.00E-01	mg/kg-day	1.76E-08
				di-n-Butylphthalate	2.20E+00	mg/kg	1.11E-07	mg/kg-day	--	--	--	8.16E-07	mg/kg-day	2.00E-01	mg/kg-day	4.08E-06
				Endosulfan I	2.30E-02	mg/kg	5.81E-09	mg/kg-day	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.38E-02	mg/kg	6.02E-09	mg/kg-day	--	--	--	4.42E-08	mg/kg-day	6.00E-03	mg/kg-day	7.36E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	1.09E-08	mg/kg-day	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	4.21E-02	mg/kg	1.06E-08	mg/kg-day	--	--	--	7.80E-08	mg/kg-day	3.00E-04	mg/kg-day	2.60E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.74E-05	mg/kg-day	--	--	--	1.28E-04	mg/kg-day	4.00E-02	mg/kg-day	3.19E-03
				Fluorene	2.92E+00	mg/kg	1.92E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	4.00E-02	mg/kg-day	3.51E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	5.25E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	5.78E-10	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	3.49E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.43E-09	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06
				Heptachlor Epoxide	1.12E-02	mg/kg	5.64E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	3.10E-09	4.14E-09	mg/kg-day	1.30E-05	mg/kg-day	3.18E-04
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	5.73E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.88E-07	4.21E-06	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	2.06E-04	mg/kg-day	--	--	--	1.51E-03	mg/kg-day	3.00E-01	mg/kg-day	5.03E-03
				Isochlorone	2.00E-01	mg/kg	1.01E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.60E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06
				Lead	2.90E+03	mg/kg	1.47E-05	mg/kg-day	--	--	--	1.08E-04	mg/kg-day	--	--	--

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	1.67E-06	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.40E-02	mg/kg-day	5.11E-04			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	--	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	6.06E-09	mg/kg-day	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06	mg/kg-day	8.90E-06	
				Molybdenum	2.50E+00	mg/kg	1.27E-08	mg/kg-day	--	--	--	9.20E-08	mg/kg-day	5.00E-03	mg/kg-day	1.86E-05	mg/kg-day	1.86E-05	
				Naphthalene	1.30E+01	mg/kg	8.54E-06	mg/kg-day	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03	mg/kg-day	3.13E-03	
				Nickel	3.91E+01	mg/kg	1.98E-07	mg/kg-day	--	--	--	1.45E-06	mg/kg-day	2.00E-02	mg/kg-day	7.26E-05	mg/kg-day	7.26E-05	
				Phenanthrene	1.39E+01	mg/kg	7.03E-07	mg/kg-day	--	--	--	5.16E-06	mg/kg-day	3.00E-01	mg/kg-day	1.72E-05	mg/kg-day	1.72E-05	
				Phenol	5.80E-01	mg/kg	2.93E-07	mg/kg-day	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06	mg/kg-day	7.17E-06	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	1.00E-01	mg/kg-day	--	mg/kg-day	--		
				Pyrene	2.41E+01	mg/kg	1.59E-05	mg/kg-day	--	--	--	1.16E-04	mg/kg-day	3.00E-02	mg/kg-day	3.88E-03	mg/kg-day	3.88E-03	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	4.00E-02	mg/kg-day	--	mg/kg-day	--		
				Selenium	2.24E-01	mg/kg	1.13E-09	mg/kg-day	--	--	--	8.32E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-08	mg/kg-day	1.66E-08	
				Silver	1.16E+00	mg/kg	5.85E-09	mg/kg-day	--	--	--	4.30E-08	mg/kg-day	5.00E-03	mg/kg-day	8.59E-06	mg/kg-day	8.59E-06	
				Technical Chlordane	5.51E-01	mg/kg	1.11E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.45E-07	8.17E-07	mg/kg-day	5.00E-04	mg/kg-day	1.63E-03	mg/kg-day	1.63E-03	
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	8.00E-05	mg/kg-day	--	mg/kg-day	--		
				Toluene	4.30E-04	mg/kg	2.17E-11	mg/kg-day	--	--	--	1.59E-10	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09	mg/kg-day	1.99E-09	
				Vanadium	3.41E+01	mg/kg	1.73E-07	mg/kg-day	--	--	--	1.27E-06	mg/kg-day	1.00E-03	mg/kg-day	1.27E-03	mg/kg-day	1.27E-03	
				Zinc	4.53E+02	mg/kg	2.29E-06	mg/kg-day	--	--	--	1.68E-05	mg/kg-day	3.00E-01	mg/kg-day	5.60E-05	mg/kg-day	5.60E-05	
				Exposure Route Total										3.61E-05					6.29E-01
				Exposure Point Total										2.00E-04					5.33E+00
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.90E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-02	mg/kg-day	--	--				
			1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-02	mg/kg-day	--	--			
			1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	5.00E-02	mg/kg-day	--	--			
			1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	9.00E-02	mg/kg-day	--	--			
			1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	3.60E-02	(mg/kg-day)-1	--	--	--	1.14E-03	mg/kg-day	--	--			
			1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	5.00E-02	mg/kg-day	--	--			
			1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-02	mg/kg-day	--	--			
			1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	3.00E-02	mg/kg-day	--	--			
			2,4-Dimethylphenol	2.10E-01	mg/kg	1.36E-05	mg/kg-day	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03	mg/kg-day	1.58E-03		
			2-Methylphenol	8.10E-02	mg/kg	1.25E-05	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	4.00E-03	mg/kg-day	7.27E-03	mg/kg-day	7.27E-03		
			2-Methylnaphthalene	1.67E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	5.00E-02	mg/kg-day	--	--			
			4,4'-DDD	1.20E-03	mg/kg	1.32E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.17E-11	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07	mg/kg-day	6.17E-07		
			4,4'-DDE	8.23E-02	mg/kg	6.57E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.23E-09	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05	mg/kg-day	3.07E-05		
			4,4'-DDT	4.45E-02	mg/kg	1.53E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.20E-09	3.57E-08	mg/kg-day	5.00E-04	mg/kg-day	7.14E-05	mg/kg-day	7.14E-05		
			4-Methylphenol	2.70E-01	mg/kg	4.27E-05	mg/kg-day	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02	mg/kg-day	1.99E-02		
			4-Nitroaniline	6.20E-01	mg/kg	6.71E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.41E-06	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02	mg/kg-day	5.22E-02		
			4-Nitrophenol	4.20E-01	mg/kg	6.82E-05	mg/kg-day	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.18E-01	mg/kg-day	3.18E-01		
			Acenaphthene	4.23E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--	mg/kg-day	--		
			Acenaphthylene	1.04E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--	mg/kg-day	--		
			Aldrin	1.30E-02	mg/kg	2.34E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.98E-08	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04	mg/kg-day	1.82E-04		
			alpha-BHC	7.30E-04	mg/kg	2.84E-08	mg/kg-day	2.70E+00	(mg/kg-day)-1	7.67E-08	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04	mg/kg-day	1.33E-04		
			alpha-Chlordane	8.14E-03	mg/kg	3.22E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.19E-09	7.52E-09	mg/kg-day	5.00E-04	mg/kg-day	1.50E-05	mg/kg-day	1.50E-05		
			Aluminum	8.82E+03	mg/kg	4.76E-04	mg/kg-day	--	--	--	1.11E-03	mg/kg-day	1.00E+00	mg/kg-day	1.11E-03	mg/kg-day	1.11E-03		
			Anthracene	1.05E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--	mg/kg-day	--		
			Antimony	4.08E+00	mg/kg	1.01E-05	mg/kg-day	--	--	--	2.37E-05	mg/kg-day	4.00E-04	mg/kg-day	5.92E-02	mg/kg-day	5.92E-02		
			Aroclor-1248	1.20E+00	mg/kg	1.33E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.65E-07	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02	mg/kg-day	1.55E-02		
			Aroclor-1254	4.44E-01	mg/kg	6.57E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.31E-06	1.53E-06	mg/kg-day	2.00E-05	mg/kg-day	7.66E-02	mg/kg-day	7.66E-02		
			Aroclor-1260	5.41E-01	mg/kg	2.86E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.72E-08	6.68E-08	mg/kg-day	2.00E-05	mg/kg-day	3.34E-03	mg/kg-day	3.34E-03		
Aroclor-1268	2.78E-02	mg/kg	4.10E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.21E-08	9.58E-08	mg/kg-day	2.00E-05	mg/kg-day	4.79E-03	mg/kg-day	4.79E-03					
Arsenic	6.17E+00	mg/kg	3.07E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	2.90E-05	7.16E-06	mg/kg-day	3.00E-04	mg/kg-day	2.39E-02	mg/kg-day	2.39E-02					
Barium	6.78E+01	mg/kg	8.44E-05	mg/kg-day	--	--	--	1.97E-04	mg/kg-day	7.00E-02	mg/kg-day	2.81E-03	mg/kg-day	2.81E-03					

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	1.07E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.28E-07	2.49E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	2.01E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	2.41E-07	4.69E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	3.31E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.97E-07	7.72E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	7.04E-08	mg/kg-day	--	--	--	1.64E-07	mg/kg-day	3.00E-02	mg/kg-day	5.47E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.94E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.73E-07	9.19E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.96E-08	mg/kg-day	--	--	--	6.01E-08	mg/kg-day	2.00E-03	mg/kg-day	3.46E-05
				Beta-BHC	2.20E-03	mg/kg	8.56E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.28E-07	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.25E-04	mg/kg-day	3.00E-03	(mg/kg-day)-1	6.74E-07	5.24E-04	mg/kg-day	2.00E-02	mg/kg-day	2.62E-02
				Cadmium	9.47E+00	mg/kg	1.18E-04	mg/kg-day	3.80E-01	(mg/kg-day)-1	4.48E-05	2.75E-04	mg/kg-day	5.00E-04	mg/kg-day	5.50E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	4.15E-05	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	1.50E+00	mg/kg-day	6.46E-05
				Chrysene	5.68E+00	mg/kg	8.49E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.02E-07	1.98E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	4.40E-06	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	2.00E-02	mg/kg-day	5.13E-04
				Copper	5.71E+01	mg/kg	1.18E-03	mg/kg-day	--	--	--	2.76E-03	mg/kg-day	4.00E-02	mg/kg-day	6.90E-02
				Delta-BHC	8.40E-03	mg/kg	2.66E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.00E-09	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	2.37E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	9.72E-08	5.53E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	2.42E-06	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.88E-05	5.66E-06	mg/kg-day	5.00E-05	mg/kg-day	1.13E-01
				Dimethylphthalate	3.80E-02	mg/kg	4.69E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	8.00E-01	mg/kg-day	1.37E-05
				di-n-Butylphthalate	2.20E+00	mg/kg	3.80E-07	mg/kg-day	--	--	--	8.87E-07	mg/kg-day	2.00E-01	mg/kg-day	4.43E-06
				Endosulfan I	2.30E-02	mg/kg	8.55E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.38E-02	mg/kg	8.48E-07	mg/kg-day	--	--	--	1.98E-06	mg/kg-day	6.00E-03	mg/kg-day	3.30E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.50E-06	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endrin aldehyde	4.21E-02	mg/kg	5.79E-09	mg/kg-day	--	--	--	1.35E-08	mg/kg-day	3.00E-04	mg/kg-day	4.50E-05
				Endrin Ketone	1.00E-02	mg/kg	1.38E-09	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.65E+01	mg/kg	5.94E-06	mg/kg-day	--	--	--	1.39E-05	mg/kg-day	4.00E-02	mg/kg-day	3.47E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.56E-07	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.92E-07	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.31E-02	mg/kg	5.19E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	6.74E-09	1.21E-08	mg/kg-day	5.00E-04	mg/kg-day	2.42E-05
				Heptachlor	6.90E-03	mg/kg	2.03E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.33E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06
				Heptachlor Epoxide	1.12E-02	mg/kg	1.07E-06	mg/kg-day	5.50E+00	(mg/kg-day)-1	5.87E-06	2.49E-06	mg/kg-day	1.30E-05	mg/kg-day	1.92E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	7.89E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.47E-08	1.84E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	3.36E-03	mg/kg-day	--	--	--	7.84E-03	mg/kg-day	3.00E-01	mg/kg-day	2.61E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	2.17E-03	mg/kg-day	--	--	--	5.06E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	1.37E-03	mg/kg-day	--	--	--	3.20E-03	mg/kg-day	2.40E-02	mg/kg-day	1.33E-01
				Mercury	3.10E-01	mg/kg	5.14E-06	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	3.00E-04	mg/kg-day	3.99E-02
				Methoxychlor	1.20E-01	mg/kg	8.62E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06
				Molybdenum	2.50E+00	mg/kg	1.25E-05	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	5.00E-03	mg/kg-day	5.82E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.91E+01	mg/kg	1.95E-04	mg/kg-day	--	--	--	4.54E-04	mg/kg-day	2.00E-02	mg/kg-day	2.27E-02
				Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
				Phenol	5.80E-01	mg/kg	2.37E-04	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.24E-01	mg/kg	4.65E-07	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	5.00E-03	mg/kg-day	2.17E-04
				Silver	1.16E+00	mg/kg	9.61E-06	mg/kg-day	--	--	--	2.24E-05	mg/kg-day	5.00E-03	mg/kg-day	4.49E-03
				Technical Chlordane	5.51E-01	mg/kg	2.18E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.84E-07	5.09E-07	mg/kg-day	5.00E-04	mg/kg-day	1.02E-03
				Thallium	4.97E-01	mg/kg	1.65E-08	mg/kg-day	--	--	--	3.85E-08	mg/kg-day	8.00E-05	mg/kg-day	4.61E-04

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--
				Vanadium	3.41E+01	mg/kg	8.50E-06	mg/kg-day	--	--	--	1.98E-05	mg/kg-day	1.00E-03	mg/kg-day	1.98E-02	
				Zinc	4.53E+02	mg/kg	3.39E-02	mg/kg-day	--	--	--	7.90E-02	mg/kg-day	3.00E-01	mg/kg-day	2.63E-01	
				<b>Exposure Route Total</b>													
		<b>Exposure Point Total</b>															
	<b>Exposure Medium Total</b>																
	Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.37E-11	mg/kg-day	--	--	--	1.03E-10	mg/kg-day	2.00E-02	mg/kg-day	5.13E-09	
				2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	9.13E-12	mg/kg-day	--	--	--	3.95E-11	mg/kg-day	--	--	--	
				4,4-DDD	9.09E-13	mg/m <sup>3</sup>	1.35E-13	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	3.25E-14	5.86E-13	mg/kg-day	5.00E-04	mg/kg-day	1.17E-09	
				4,4-DDT	3.37E-11	mg/m <sup>3</sup>	5.02E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.71E-12	2.17E-11	mg/kg-day	5.00E-04	mg/kg-day	4.34E-08	
				4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.04E-11	mg/kg-day	--	--	--	1.32E-10	mg/kg-day	5.00E-03	mg/kg-day	2.64E-08	
				4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	6.99E-11	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.47E-12	3.03E-10	mg/kg-day	1.00E-03	mg/kg-day	3.03E-07	
				4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	4.73E-11	mg/kg-day	--	--	--	2.05E-10	mg/kg-day	5.70E-04	mg/kg-day	3.60E-07	
				Aluminum	6.68E-06	mg/m <sup>3</sup>	9.95E-07	mg/kg-day	--	--	--	4.31E-06	mg/kg-day	1.43E-03	mg/kg-day	3.01E-03	
				Antimony	3.09E-09	mg/m <sup>3</sup>	4.60E-10	mg/kg-day	--	--	--	1.98E-09	mg/kg-day	--	--	--	
				Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.35E-10	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.71E-10	5.86E-10	mg/kg-day	2.00E-05	mg/kg-day	2.93E-05	
				Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	5.01E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.00E-10	2.17E-10	mg/kg-day	2.00E-05	mg/kg-day	1.08E-05	
				Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	6.10E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.22E-10	2.64E-10	mg/kg-day	2.00E-05	mg/kg-day	1.32E-05	
				Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.13E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.26E-12	1.36E-11	mg/kg-day	2.00E-05	mg/kg-day	6.78E-07	
				Arsenic	4.67E-09	mg/m <sup>3</sup>	6.95E-10	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	8.34E-09	3.01E-09	mg/kg-day	8.60E-06	mg/kg-day	3.50E-04	
				Barium	5.14E-08	mg/m <sup>3</sup>	7.64E-09	mg/kg-day	--	--	--	3.31E-08	mg/kg-day	1.40E-04	mg/kg-day	2.36E-04	
				Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	5.64E-10	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	2.20E-10	2.44E-09	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	1.88E-10	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	7.32E-10	8.13E-10	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	8.61E-11	mg/kg-day	--	--	--	3.73E-10	mg/kg-day	3.00E-02	mg/kg-day	1.24E-08	
				Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	3.67E-10	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.43E-10	1.59E-09	mg/kg-day	--	--	--	
				Beryllium	1.80E-10	mg/m <sup>3</sup>	2.68E-11	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	2.25E-10	1.16E-10	mg/kg-day	5.71E-06	mg/kg-day	2.03E-05	
				Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.48E-13	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	3.72E-13	1.07E-12	mg/kg-day	2.00E-04	mg/kg-day	5.37E-09	
				bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	8.83E-10	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	7.42E-12	3.82E-09	mg/kg-day	2.00E-02	mg/kg-day	1.91E-07	
				Cadmium	7.18E-09	mg/m <sup>3</sup>	1.07E-09	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.60E-08	4.62E-09	mg/kg-day	5.71E-06	mg/kg-day	8.09E-04	
				Chromium	8.42E-08	mg/m <sup>3</sup>	1.25E-08	mg/kg-day	--	--	--	5.43E-08	mg/kg-day	--	--	--	
				Cobalt	5.74E-09	mg/m <sup>3</sup>	8.54E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	8.37E-09	3.70E-09	mg/kg-day	5.71E-06	mg/kg-day	6.48E-04	
				Copper	4.32E-08	mg/m <sup>3</sup>	6.43E-09	mg/kg-day	--	--	--	2.79E-08	mg/kg-day	--	--	--	
				Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	3.58E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.47E-10	1.55E-10	mg/kg-day	--	--	--	
				Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.28E-12	mg/kg-day	--	--	--	1.86E-11	mg/kg-day	8.00E-01	mg/kg-day	2.32E-11	
				di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	2.48E-10	mg/kg-day	--	--	--	1.07E-09	mg/kg-day	1.00E-01	mg/kg-day	1.07E-08	
				Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	4.74E-12	mg/kg-day	--	--	--	2.05E-11	mg/kg-day	3.00E-04	mg/kg-day	6.85E-08	
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.13E-12	mg/kg-day	--	--	--	4.88E-12	mg/kg-day	3.00E-04	mg/kg-day	1.63E-08	
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.26E-12	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	6.92E-12	5.45E-12	mg/kg-day	1.30E-05	mg/kg-day	4.19E-07	
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	9.84E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.84E-11	4.26E-10	mg/kg-day	--	--	--	
				Iron	3.09E-05	mg/m <sup>3</sup>	4.59E-06	mg/kg-day	--	--	--	1.99E-05	mg/kg-day	--	--	--	
				Isophorone	1.52E-10	mg/m <sup>3</sup>	2.25E-11	mg/kg-day	--	--	--	9.76E-11	mg/kg-day	--	--	--	
				Lead	2.20E-06	mg/m <sup>3</sup>	3.27E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	--	--	--	
				Manganese	2.51E-07	mg/m <sup>3</sup>	3.73E-08	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	1.43E-05	mg/kg-day	1.13E-02	
				Mercury	2.34E-10	mg/m <sup>3</sup>	3.49E-11	mg/kg-day	--	--	--	1.51E-10	mg/kg-day	8.60E-05	mg/kg-day	1.76E-06	
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	2.82E-10	mg/kg-day	--	--	--	1.22E-09	mg/kg-day	--	--	--	
				Nickel	2.96E-08	mg/m <sup>3</sup>	4.41E-09	mg/kg-day	9.10E-01	(mg/kg-day) <sup>-1</sup>	4.01E-09	1.91E-08	mg/kg-day	1.40E-05	mg/kg-day	1.36E-03	
				Phenol	4.39E-10	mg/m <sup>3</sup>	6.54E-11	mg/kg-day	--	--	--	2.83E-10	mg/kg-day	5.71E-02	mg/kg-day	4.95E-09	
				Selenium	1.70E-10	mg/m <sup>3</sup>	2.53E-11	mg/kg-day	--	--	--	1.10E-10	mg/kg-day	5.71E-03	mg/kg-day	1.92E-08	
				Silver	8.78E-10	mg/m <sup>3</sup>	1.31E-10	mg/kg-day	--	--	--	5.66E-10	mg/kg-day	--	--	--	

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.77E-10	mg/m <sup>3</sup>	5.60E-11	mg/kg-day	--	--	--	2.43E-10	mg/kg-day	--	--	--
				Vanadium	2.59E-08	mg/m <sup>3</sup>	3.85E-09	mg/kg-day	--	--	--	1.67E-08	mg/kg-day	--	--	--
				Zinc	3.44E-07	mg/m <sup>3</sup>	5.11E-08	mg/kg-day	--	--	--	2.21E-07	mg/kg-day	--	--	--
				<b>Exposure Route Total</b>												<b>1.78E-02</b>
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.55E-05	mg/kg-day	--	--	--	6.73E-05	mg/kg-day	1.10E-03	mg/kg-day	6.12E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	5.28E-05	mg/kg-day	--	--	--	2.29E-04	mg/kg-day	1.10E-03	mg/kg-day	2.08E-01
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.74E-05	mg/kg-day	--	--	--	7.55E-05	mg/kg-day	1.70E-03	mg/kg-day	4.44E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	7.92E-04	mg/kg-day	--	--	--	3.43E-03	mg/kg-day	5.70E-02	mg/kg-day	6.02E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.26E-07	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.53E-08	1.84E-06	mg/kg-day	1.14E-03	mg/kg-day	1.62E-03
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	5.44E-06	mg/kg-day	--	--	--	2.35E-05	mg/kg-day	1.70E-03	mg/kg-day	1.39E-02
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.42E-05	mg/kg-day	--	--	--	1.05E-04	mg/kg-day	3.00E-02	mg/kg-day	3.50E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.33E-04	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	9.30E-06	1.01E-03	mg/kg-day	2.30E-01	mg/kg-day	4.38E-03
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.10E-05	mg/kg-day	--	--	--	4.77E-05	mg/kg-day	5.00E-02	mg/kg-day	9.53E-04
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	1.44E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.91E-10	6.25E-09	mg/kg-day	5.00E-04	mg/kg-day	1.25E-05
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	8.65E-06	mg/kg-day	--	--	--	3.75E-05	mg/kg-day	6.00E-02	mg/kg-day	6.24E-04
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.13E-07	mg/kg-day	--	--	--	9.22E-07	mg/kg-day	6.00E-02	mg/kg-day	1.54E-05
				Aldrin	5.63E-09	mg/m <sup>3</sup>	8.38E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.42E-08	3.63E-09	mg/kg-day	3.00E-05	mg/kg-day	1.21E-04
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	5.41E-10	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.46E-09	2.34E-09	mg/kg-day	5.00E-04	mg/kg-day	4.69E-06
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.20E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.44E-09	5.19E-09	mg/kg-day	2.00E-04	mg/kg-day	2.60E-05
				Anthracene	1.45E-05	mg/m <sup>3</sup>	2.15E-06	mg/kg-day	--	--	--	9.33E-06	mg/kg-day	3.00E-01	mg/kg-day	3.11E-05
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	2.63E-07	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.03E-07	1.14E-06	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	6.73E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	7.70E-06	mg/kg-day	--	--	--	3.34E-05	mg/kg-day	2.86E-01	mg/kg-day	1.17E-04
				Chrysene	6.25E-06	mg/m <sup>3</sup>	9.29E-07	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	3.62E-08	4.03E-06	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	6.23E-09	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	9.34E-09	2.70E-08	mg/kg-day	2.00E-04	mg/kg-day	1.35E-04
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	6.67E-06	mg/kg-day	--	--	--	2.89E-05	mg/kg-day	2.00E-03	mg/kg-day	1.45E-02
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.77E-07	4.78E-08	mg/kg-day	5.00E-05	mg/kg-day	9.56E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	6.00E-03	mg/kg-day	6.85E-06
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.24E-08	mg/kg-day	--	--	--	5.38E-08	mg/kg-day	6.00E-03	mg/kg-day	6.86E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.24E-08	mg/kg-day	--	--	--	9.71E-08	mg/kg-day	6.00E-03	mg/kg-day	1.62E-05
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	2.55E-06	mg/kg-day	--	--	--	1.10E-05	mg/kg-day	4.00E-02	mg/kg-day	2.76E-04
				Fluorene	1.71E-05	mg/m <sup>3</sup>	2.54E-06	mg/kg-day	--	--	--	1.10E-05	mg/kg-day	4.00E-02	mg/kg-day	2.75E-04
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.37E-09	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.61E-09	1.03E-08	mg/kg-day	3.00E-04	mg/kg-day	3.42E-05
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	1.93E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.32E-09	8.36E-09	mg/kg-day	2.00E-04	mg/kg-day	4.18E-05
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	5.03E-08	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	2.06E-07	2.18E-07	mg/kg-day	5.00E-04	mg/kg-day	4.36E-04
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.28E-08	mg/kg-day	--	--	--	5.56E-08	mg/kg-day	5.00E-03	mg/kg-day	1.11E-05
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.04E-04	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.25E-05	4.51E-04	mg/kg-day	8.57E-04	mg/kg-day	5.26E-01
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	2.84E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	3.00E-01	mg/kg-day	4.10E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	2.85E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	1.10E-01	mg/kg-day	1.12E-03
				Pyrene	1.85E-05	mg/m <sup>3</sup>	2.75E-06	mg/kg-day	--	--	--	1.19E-05	mg/kg-day	3.00E-02	mg/kg-day	3.97E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.18E-06	mg/kg-day	--	--	--	1.81E-05	mg/kg-day	4.00E-02	mg/kg-day	4.52E-04
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	8.12E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	9.74E-08	3.52E-07	mg/kg-day	2.00E-04	mg/kg-day	1.76E-03
				Toluene	3.12E-07	mg/m <sup>3</sup>	4.65E-08	mg/kg-day	--	--	--	2.01E-07	mg/kg-day	1.43E+00	mg/kg-day	1.41E-07
				<b>Exposure Route Total</b>												<b>9.46E-01</b>
				<b>Exposure Point Total</b>												<b>9.63E-01</b>
		Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	1.31E-03	mg/kg-day	--	--	--	5.68E-03	mg/kg-day	1.10E-03	mg/kg-day	5.16E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	4.46E-03	mg/kg-day	--	--	--	1.93E-02	mg/kg-day	1.10E-03	mg/kg-day	1.75E+01
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	4.37E-04	mg/kg-day	--	--	--	1.89E-03	mg/kg-day	1.70E-03	mg/kg-day	1.11E+00
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	2.27E-02	mg/kg-day	--	--	--	9.84E-02	mg/kg-day	5.70E-02	mg/kg-day	1.73E+00
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	3.15E-06	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.13E-07	1.36E-05	mg/kg-day	1.14E-03	mg/kg-day	1.19E-02
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	1.40E-04	mg/kg-day	--	--	--	6.05E-04	mg/kg-day	1.70E-03	mg/kg-day	3.56E-01

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.48E+00	(a) ug/m <sup>3</sup>	9.61E-04	mg/kg-day	--	--	--	--	4.16E-03	mg/kg-day	3.00E-02	mg/kg-day	1.39E-01	
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	5.94E-03	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	2.38E-04	--	--	2.57E-02	mg/kg-day	2.30E-01	mg/kg-day	1.12E-01
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	7.22E-04	mg/kg-day	--	--	--	--	--	3.12E-03	mg/kg-day	5.00E-02	mg/kg-day	6.25E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	9.03E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.07E-10	--	--	3.91E-09	mg/kg-day	5.00E-04	mg/kg-day	7.82E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	2.52E-04	mg/kg-day	--	--	--	--	--	1.09E-03	mg/kg-day	6.00E-02	mg/kg-day	1.82E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	6.51E-06	mg/kg-day	--	--	--	--	--	2.82E-05	mg/kg-day	6.00E-02	mg/kg-day	4.70E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	2.39E-09	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	4.07E-08	--	--	1.04E-08	mg/kg-day	3.00E-05	mg/kg-day	3.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.60E-08	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	4.32E-08	--	--	6.94E-08	mg/kg-day	5.00E-04	mg/kg-day	1.39E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	8.07E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	9.69E-09	--	--	3.50E-08	mg/kg-day	2.00E-04	mg/kg-day	1.75E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	6.63E-05	mg/kg-day	--	--	--	--	--	2.87E-04	mg/kg-day	3.00E-01	mg/kg-day	9.57E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	4.68E-07	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.83E-07	--	--	2.03E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.10E-07	mg/kg-day	--	--	--	--	--	9.08E-07	mg/kg-day	2.00E-01	mg/kg-day	4.54E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	9.61E-05	mg/kg-day	--	--	--	--	--	4.18E-04	mg/kg-day	2.8E-01	mg/kg-day	1.46E-03
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	2.64E-06	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	1.03E-07	--	--	1.14E-05	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	2.74E-07	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	4.10E-07	--	--	1.18E-06	mg/kg-day	2.00E-04	mg/kg-day	5.92E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	3.52E-06	mg/kg-day	--	--	--	--	--	1.53E-05	mg/kg-day	2.00E-03	mg/kg-day	7.63E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	7.80E-08	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.25E-06	--	--	3.38E-07	mg/kg-day	5.00E-05	mg/kg-day	6.76E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	3.21E-07	mg/kg-day	--	--	--	--	--	1.39E-06	mg/kg-day	6.00E-03	mg/kg-day	2.32E-04
				Endosulfan II	2.18E-03	(a) ug/m <sup>3</sup>	3.27E-07	mg/kg-day	--	--	--	--	--	1.41E-06	mg/kg-day	6.00E-03	mg/kg-day	2.36E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	6.00E-07	mg/kg-day	--	--	--	--	--	2.60E-06	mg/kg-day	6.00E-03	mg/kg-day	4.33E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	7.30E-07	mg/kg-day	--	--	--	--	--	3.18E-06	mg/kg-day	4.00E-02	mg/kg-day	7.90E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	3.99E-05	mg/kg-day	--	--	--	--	--	1.73E-04	mg/kg-day	4.00E-02	mg/kg-day	4.32E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	8.47E-08	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	9.32E-08	--	--	3.67E-07	mg/kg-day	3.00E-04	mg/kg-day	1.22E-03
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	1.47E-10	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.76E-10	--	--	6.36E-10	mg/kg-day	2.00E-04	mg/kg-day	3.18E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.62E-08	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	6.63E-08	--	--	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	4.41E-08	mg/kg-day	--	--	--	--	--	1.91E-07	mg/kg-day	5.00E-03	mg/kg-day	3.82E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.10E-06	mg/kg-day	3.50E-03	(mg/kg-day) <sup>-1</sup>	7.34E-09	--	--	9.08E-06	mg/kg-day	1.10E-01	mg/kg-day	8.26E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	9.36E-03	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.12E-03	--	--	4.05E-02	mg/kg-day	8.57E-04	mg/kg-day	4.73E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	8.50E-04	mg/kg-day	--	--	--	--	--	3.68E-03	mg/kg-day	3.00E-01	mg/kg-day	1.23E-02
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	9.61E-05	mg/kg-day	--	--	--	--	--	4.16E-04	mg/kg-day	1.10E-01	mg/kg-day	3.78E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	5.92E-06	mg/kg-day	--	--	--	--	--	2.56E-05	mg/kg-day	3.00E-02	mg/kg-day	8.54E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	3.41E-05	mg/kg-day	--	--	--	--	--	1.47E-04	mg/kg-day	4.00E-02	mg/kg-day	3.69E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	6.26E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	7.51E-07	--	--	2.71E-06	mg/kg-day	2.00E-04	mg/kg-day	1.35E-02
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	3.76E-07	mg/kg-day	--	--	--	--	--	1.63E-06	mg/kg-day	1.43E+00	mg/kg-day	1.14E-06				
				Exposure Route Total							1.36E-03					7.36E+01		
				Exposure Point Total							1.36E-03					7.36E+01		
				Exposure Medium Total							1.39E-03					7.46E+01		
Medium Total											1.71E-03					8.21E+01		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.30E-08	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	3.59E-10	--	--	2.73E-07	mg/kg-day	1.40E-01	mg/kg-day	1.95E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	--	--	--	--	8.13E-08	mg/kg-day	1.70E-03	mg/kg-day	4.78E-05	
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.23E-07	mg/kg-day	--	--	--	--	5.33E-07	mg/kg-day	5.70E-02	mg/kg-day	9.35E-06	
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	8.85E-08	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	6.38E-09	--	--	3.83E-07	mg/kg-day	1.40E-03	mg/kg-day	2.74E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.32E-08	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.19E-09	--	--	1.44E-07	mg/kg-day	1.14E-03	mg/kg-day	1.26E-04
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.07E-08	mg/kg-day	--	--	--	--	4.63E-08	mg/kg-day	1.70E-03	mg/kg-day	2.73E-05	
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.19E-08	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	1.68E-09	--	--	1.81E-07	mg/kg-day	2.30E-01	mg/kg-day	7.89E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.62E-09	mg/kg-day	--	--	--	--	7.01E-09	mg/kg-day	1.43E+00	mg/kg-day	4.91E-09	
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.44E-10	mg/kg-day	--	--	--	--	6.23E-10	mg/kg-day	5.00E-02	mg/kg-day	1.25E-08	
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.93E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	6.55E-11	--	--	8.34E-10	mg/kg-day	5.00E-04	mg/kg-day	1.67E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	6.02E-10	mg/kg-day	--	--	--	--	2.61E-09	mg/kg-day	8.60E-01	mg/kg-day	3.03E-09	
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	5.77E-09	mg/kg-day	--	--	--	--	2.50E-08	mg/kg-day	6.00E-02	mg/kg-day	4.16E-07	
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.46E-10	mg/kg-day	--	--	--	--	1.06E-09	mg/kg-day	6.00E-02	mg/kg-day	1.77E-08	

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	3.33E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.65E-09	1.44E-09	mg/kg-day	3.00E-05	mg/kg-day	4.80E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.21E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.14E-10	1.82E-10	mg/kg-day	5.00E-04	mg/kg-day	3.65E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	9.97E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.20E-10	4.32E-10	mg/kg-day	2.00E-04	mg/kg-day	2.16E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	4.89E-10	mg/kg-day	--	--	--	2.12E-09	mg/kg-day	3.00E-01	mg/kg-day	7.06E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	3.88E-08	mg/kg-day	1.00E-01	(mg/kg-day)-1	3.88E-09	1.68E-07	mg/kg-day	8.60E-03	mg/kg-day	1.96E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.24E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.82E-11	3.13E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.10E-09	mg/kg-day	3.90E-03	(mg/kg-day)-1	4.27E-12	4.74E-09	mg/kg-day	2.00E-02	mg/kg-day	2.37E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	6.71E-07	mg/kg-day	--	--	--	2.90E-06	mg/kg-day	2.00E-01	mg/kg-day	1.45E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.09E-08	mg/kg-day	--	--	--	4.72E-08	mg/kg-day	2.86E-01	mg/kg-day	1.65E-07				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.08E-07	mg/kg-day	1.90E-02	(mg/kg-day)-1	5.84E-09	1.33E-06	mg/kg-day	8.57E-02	mg/kg-day	1.55E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.11E-07	mg/kg-day	--	--	--	4.83E-07	mg/kg-day	2.60E-02	mg/kg-day	1.86E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.96E-10	mg/kg-day	3.90E-02	(mg/kg-day)-1	7.64E-12	8.48E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	3.41E-07	mg/kg-day	1.00E-02	mg/kg-day	3.41E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.46E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.34E-09	6.33E-10	mg/kg-day	5.00E-05	mg/kg-day	1.27E-05				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.33E-11	mg/kg-day	--	--	--	1.44E-10	mg/kg-day	6.00E-03	mg/kg-day	2.40E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.48E-14	mg/kg-day	--	--	--	2.37E-13	mg/kg-day	6.00E-03	mg/kg-day	3.95E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	2.97E-08	mg/kg-day	--	--	--	1.29E-07	mg/kg-day	2.90E-01	mg/kg-day	4.43E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	7.52E-11	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	4.00E-02	mg/kg-day	8.14E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.49E-10	mg/kg-day	--	--	--	6.44E-10	mg/kg-day	4.00E-02	mg/kg-day	1.61E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.85E-13	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.03E-13	8.01E-13	mg/kg-day	3.00E-04	mg/kg-day	2.67E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.59E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.11E-10	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.61E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	2.66E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.09E-08	1.15E-08	mg/kg-day	5.00E-04	mg/kg-day	2.30E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	5.10E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.03E-07	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	2.90E-02	mg/kg-day	1.54E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	4.86E-10	mg/kg-day	--	--	--	2.10E-09	mg/kg-day	5.00E-03	mg/kg-day	4.21E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	8.08E-10	mg/kg-day	1.20E-01	(mg/kg-day)-1	9.70E-11	3.50E-09	mg/kg-day	8.57E-04	mg/kg-day	4.08E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	3.76E-08	mg/kg-day	--	--	--	1.63E-07	mg/kg-day	8.57E-04	mg/kg-day	1.90E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.19E-08	mg/kg-day	--	--	--	1.82E-07	mg/kg-day	4.00E-02	mg/kg-day	4.54E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	3.89E-10	mg/kg-day	--	--	--	1.69E-09	mg/kg-day	3.00E-01	mg/kg-day	5.62E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	5.10E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	6.86E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	3.00E-02	mg/kg-day	9.90E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.19E-07	mg/kg-day	--	--	--	5.16E-07	mg/kg-day	4.00E-02	mg/kg-day	1.29E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.35E-07	mg/kg-day	--	--	--	5.85E-07	mg/kg-day	4.00E-02	mg/kg-day	1.46E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	5.65E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	1.43E+00	mg/kg-day	1.71E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.33E-07	mg/kg-day	--	--	--	5.78E-07	mg/kg-day	2.00E-02	mg/kg-day	2.89E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.39E-07	mg/kg-day	7.00E-03	(mg/kg-day)-1	9.71E-10	6.01E-07	mg/kg-day	1.70E-01	mg/kg-day	3.53E-06				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	2.87E-07	mg/kg-day	2.70E-01	(mg/kg-day)-1	7.75E-08	1.24E-06	mg/kg-day	2.85E-02	mg/kg-day	4.35E-05				
				Exposure Route Total										1.17E-07					1.40E-03	
				Exposure Point Total										1.17E-07						1.40E-03
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.11E-05	mg/kg-day	5.70E-03	(mg/kg-day)-1	6.32E-08	4.80E-05	mg/kg-day	1.40E-01	mg/kg-day	3.43E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	4.86E-07	mg/kg-day	--	--	--	2.10E-06	mg/kg-day	1.70E-03	mg/kg-day	1.24E-03
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	3.27E-06					mg/kg-day	--	--	--	1.42E-05	mg/kg-day	5.70E-02	mg/kg-day	2.49E-04				
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	2.65E-06					mg/kg-day	7.20E-02	(mg/kg-day)-1	1.91E-07	1.15E-05	mg/kg-day	1.40E-03	mg/kg-day	8.20E-03				
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	9.82E-07					mg/kg-day	3.60E-02	(mg/kg-day)-1	3.54E-08	4.25E-06	mg/kg-day	1.14E-03	mg/kg-day	3.73E-03				
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	2.78E-07					mg/kg-day	--	--	--	1.20E-06	mg/kg-day	1.70E-03	mg/kg-day	7.09E-04				
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.12E-06					mg/kg-day	4.00E-02	(mg/kg-day)-1	4.49E-08	4.86E-06	mg/kg-day	2.30E-01	mg/kg-day	2.11E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	8.33E-08					mg/kg-day	--	--	--	3.61E-07	mg/kg-day	1.43E+00	mg/kg-day	2.53E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	4.04E-09					mg/kg-day	--	--	--	1.75E-08	mg/kg-day	5.00E-02	mg/kg-day	3.50E-07				
4,4-DDE	1.17E-07	ug/m <sup>3</sup>	1.73E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	5.89E-12	7.51E-11	mg/kg-day	5.00E-04	mg/kg-day	1.50E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	2.47E-08					mg/kg-day	--	--	--	1.07E-07	mg/kg-day	8.60E-01	mg/kg-day	1.25E-07				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	2.46E-07					mg/kg-day	--	--	--	1.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.77E-05				

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	1.05E-08	mg/kg-day	--	--	--	4.53E-08	mg/kg-day	6.00E-02	mg/kg-day	7.55E-07
				Aldrin	2.44E-07	ug/m <sup>3</sup>	3.63E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	6.17E-10	1.57E-10	mg/kg-day	3.00E-05	mg/kg-day	5.24E-06
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	5.41E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.46E-11	2.34E-11	mg/kg-day	5.00E-04	mg/kg-day	4.68E-08
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	3.28E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.93E-11	1.42E-10	mg/kg-day	2.00E-04	mg/kg-day	7.10E-07
				Anthracene	1.40E-04	ug/m <sup>3</sup>	2.08E-08	mg/kg-day	--	--	--	9.00E-08	mg/kg-day	3.00E-01	mg/kg-day	3.00E-07
				Benzene	7.66E-03	ug/m <sup>3</sup>	1.14E-06	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	1.14E-07	4.94E-06	mg/kg-day	8.60E-03	mg/kg-day	5.74E-04
				Benzot(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	3.04E-09	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.19E-09	1.32E-08	mg/kg-day	--	--	--
				Bromoform	3.95E-04	ug/m <sup>3</sup>	5.88E-08	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	2.29E-10	2.65E-07	mg/kg-day	2.00E-02	mg/kg-day	1.27E-05
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	2.01E-05	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	2.00E-01	mg/kg-day	4.36E-04
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	3.06E-07	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	2.86E-01	mg/kg-day	4.63E-06
				Chloroform	6.13E-02	ug/m <sup>3</sup>	9.12E-06	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	1.73E-07	3.95E-05	mg/kg-day	8.57E-02	mg/kg-day	4.61E-04
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	3.61E-06	mg/kg-day	--	--	--	1.56E-05	mg/kg-day	2.60E-02	mg/kg-day	6.02E-04
				Chrysene	5.75E-05	ug/m <sup>3</sup>	8.56E-09	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	3.34E-10	3.71E-08	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	5.11E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.00E-02	mg/kg-day	2.21E-03
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	5.60E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	8.96E-11	2.43E-11	mg/kg-day	5.00E-05	mg/kg-day	4.85E-07
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	7.22E-12	mg/kg-day	--	--	--	3.13E-11	mg/kg-day	6.00E-03	mg/kg-day	5.21E-09
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	2.41E-12	mg/kg-day	--	--	--	1.04E-11	mg/kg-day	6.00E-03	mg/kg-day	1.74E-09
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	8.02E-07	mg/kg-day	--	--	--	3.47E-06	mg/kg-day	2.90E-01	mg/kg-day	1.20E-05
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	3.04E-09	mg/kg-day	--	--	--	1.32E-08	mg/kg-day	4.00E-02	mg/kg-day	3.29E-07
				Fluorene	5.21E-05	ug/m <sup>3</sup>	7.75E-08	mg/kg-day	--	--	--	3.36E-08	mg/kg-day	4.00E-02	mg/kg-day	8.39E-07
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	7.30E-12	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	8.03E-12	3.16E-11	mg/kg-day	3.00E-04	mg/kg-day	1.05E-07
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	1.59E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.90E-11	6.87E-11	mg/kg-day	2.00E-04	mg/kg-day	3.44E-07
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	7.16E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	2.94E-10	3.10E-10	mg/kg-day	5.00E-04	mg/kg-day	6.20E-07
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	2.68E-04	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	1.10E-01	mg/kg-day	1.05E-02
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	6.00E-06	mg/kg-day	--	--	--	2.60E-05	mg/kg-day	2.90E-02	mg/kg-day	8.95E-04
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	2.11E-11	mg/kg-day	--	--	--	9.13E-11	mg/kg-day	5.00E-03	mg/kg-day	1.83E-08
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	4.39E-08	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	5.26E-09	1.90E-07	mg/kg-day	8.57E-04	mg/kg-day	2.22E-04
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	2.11E-06	mg/kg-day	--	--	--	9.14E-06	mg/kg-day	8.57E-04	mg/kg-day	1.07E-02
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	2.38E-06	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	4.00E-02	mg/kg-day	2.58E-04
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	2.16E-08	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	3.00E-01	mg/kg-day	3.12E-07
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	2.68E-04	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	1.10E-01	mg/kg-day	1.05E-02
				Pyrene	1.92E-05	ug/m <sup>3</sup>	2.86E-09	mg/kg-day	--	--	--	1.24E-08	mg/kg-day	3.00E-02	mg/kg-day	4.13E-07
sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	8.46E-08	mg/kg-day	--	--	--	3.66E-07	mg/kg-day	4.00E-02	mg/kg-day	9.16E-06				
Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	8.47E-06	mg/kg-day	--	--	--	3.67E-05	mg/kg-day	4.00E-02	mg/kg-day	9.17E-04				
Toluene	2.18E-03	ug/m <sup>3</sup>	3.24E-07	mg/kg-day	--	--	--	1.40E-06	mg/kg-day	1.43E+00	mg/kg-day	9.82E-07				
trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	8.98E-06	mg/kg-day	--	--	--	3.89E-05	mg/kg-day	2.00E-02	mg/kg-day	1.94E-03				
Trichloroethene	5.71E-02	ug/m <sup>3</sup>	8.49E-06	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	5.94E-08	3.68E-05	mg/kg-day	1.70E-01	mg/kg-day	2.16E-04				
Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	1.93E-05	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	5.21E-06	8.36E-05	mg/kg-day	2.86E-02	mg/kg-day	2.93E-03				
			Exposure Route Total													5.80E-02
			Exposure Point Total													5.80E-02
			Exposure Medium Total													5.94E-02
Medium Total																5.94E-02
Total of Receptor Risks Across All Media										1.72E-03	Total of Receptor Hazards Across All Media				8.22E+01	

TABLE H-7.22

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.23

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.35E-06	mg/kg-day	--	--	--	1.92E-05	mg/kg-day	1.00E-02	mg/kg-day	1.92E-03
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	7.98E-06	mg/kg-day	--	--	--	6.52E-05	mg/kg-day	1.00E-02	mg/kg-day	6.52E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	7.83E-07	mg/kg-day	--	--	--	6.39E-06	mg/kg-day	5.00E-02	mg/kg-day	1.28E-04
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.07E-05	mg/kg-day	--	--	--	3.32E-04	mg/kg-day	9.00E-02	mg/kg-day	3.69E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	5.64E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.03E-10	4.60E-08	mg/kg-day	1.14E-03	mg/kg-day	4.04E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.50E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.09E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.72E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	3.00E-02	mg/kg-day	4.69E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.06E-05	mg/kg-day	5.40E-03	(mg/kg-day)-1	5.75E-08	8.69E-05	mg/kg-day	3.00E-02	mg/kg-day	2.90E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	3.29E-07	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	2.00E-02	mg/kg-day	1.34E-04
				2-Methylphenol	8.10E-02	mg/kg	1.27E-07	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	4.00E-03	mg/kg-day	2.59E-04
				2-Methylnaphthalene	1.45E+00	mg/kg	2.27E-06	mg/kg-day	--	--	--	1.85E-05	mg/kg-day	5.00E-02	mg/kg-day	3.71E-04
				4,4'-DDD	1.20E-03	mg/kg	1.88E-09	mg/kg-day	2.40E-01	(mg/kg-day)-1	4.51E-10	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05
				4,4'-DDE	7.50E-02	mg/kg	1.17E-07	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.99E-08	9.59E-07	mg/kg-day	5.00E-04	mg/kg-day	1.92E-03
				4,4'-DDT	4.20E-02	mg/kg	6.57E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.24E-08	5.37E-07	mg/kg-day	5.00E-04	mg/kg-day	1.07E-03
				4-Methylphenol	2.70E-01	mg/kg	4.23E-07	mg/kg-day	--	--	--	3.45E-06	mg/kg-day	5.00E-03	mg/kg-day	6.90E-04
				4-Nitroaniline	6.20E-01	mg/kg	9.71E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.04E-08	7.93E-06	mg/kg-day	3.00E-03	mg/kg-day	2.64E-03
				4-Nitrophenol	4.20E-01	mg/kg	6.58E-07	mg/kg-day	--	--	--	5.37E-06	mg/kg-day	5.00E-04	mg/kg-day	1.07E-02
				Acenaphthene	3.47E+00	mg/kg	5.43E-06	mg/kg-day	--	--	--	4.44E-05	mg/kg-day	6.00E-02	mg/kg-day	7.40E-04
				Acenaphthylene	8.96E-02	mg/kg	1.40E-07	mg/kg-day	--	--	--	1.16E-06	mg/kg-day	6.00E-02	mg/kg-day	1.91E-05
				Aldrin	1.30E-02	mg/kg	2.04E-08	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.46E-07	1.66E-07	mg/kg-day	3.00E-05	mg/kg-day	5.54E-03
				alpha-BHC	7.30E-04	mg/kg	1.14E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.09E-09	9.33E-09	mg/kg-day	5.00E-04	mg/kg-day	1.87E-05
				alpha-Chlordane	6.98E-03	mg/kg	1.09E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.42E-08	8.93E-08	mg/kg-day	5.00E-04	mg/kg-day	1.79E-04
				Aluminum	9.05E+03	mg/kg	1.42E-02	mg/kg-day	--	--	--	1.16E-01	mg/kg-day	1.00E+00	mg/kg-day	1.16E-01
				Anthracene	9.13E-01	mg/kg	1.43E-06	mg/kg-day	--	--	--	1.17E-05	mg/kg-day	3.00E-01	mg/kg-day	3.86E-05
				Antimony	2.72E+00	mg/kg	4.26E-06	mg/kg-day	--	--	--	3.48E-05	mg/kg-day	4.00E-04	mg/kg-day	8.71E-02
				Aroclor-1248	1.20E+00	mg/kg	1.88E-06	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.76E-06	1.53E-05	mg/kg-day	2.00E-05	mg/kg-day	7.67E-01
				Aroclor-1254	4.38E-01	mg/kg	6.85E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.37E-06	5.60E-06	mg/kg-day	2.00E-05	mg/kg-day	2.80E-01
				Aroclor-1260	4.88E-01	mg/kg	7.64E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.53E-06	6.24E-06	mg/kg-day	2.00E-05	mg/kg-day	3.12E-01
				Aroclor-1268	2.72E-02	mg/kg	4.26E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.51E-08	3.48E-07	mg/kg-day	2.00E-05	mg/kg-day	1.74E-02
				Arsenic	9.53E+00	mg/kg	1.49E-05	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.41E-04	1.22E-04	mg/kg-day	3.00E-04	mg/kg-day	4.06E-01
				Barium	6.94E+01	mg/kg	1.09E-04	mg/kg-day	--	--	--	8.88E-04	mg/kg-day	7.00E-02	mg/kg-day	1.27E-02
				Benzo(a)anthracene	4.21E+00	mg/kg	6.60E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.91E-06	5.39E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	2.20E-06	mg/kg-day	1.20E+01	(mg/kg-day)-1	2.64E-05	1.80E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	3.71E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.46E-06	3.03E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.01E-06	mg/kg-day	--	--	--	8.28E-06	mg/kg-day	3.00E-02	mg/kg-day	2.76E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	4.42E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.31E-06	3.61E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	3.57E-07	mg/kg-day	--	--	--	2.91E-06	mg/kg-day	2.00E-03	mg/kg-day	1.46E-03
				Beta-BHC	2.20E-03	mg/kg	3.44E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.17E-09	2.81E-08	mg/kg-day	2.00E-04	mg/kg-day	1.41E-04
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	8.29E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	2.49E-08	6.77E-05	mg/kg-day	2.00E-02	mg/kg-day	3.39E-03
				Cadmium	8.65E+00	mg/kg	1.35E-05	mg/kg-day	3.80E-01	(mg/kg-day)-1	5.14E-06	1.11E-04	mg/kg-day	5.00E-04	mg/kg-day	2.21E-01
				Carbon disulfide	2.40E-04	mg/kg	3.76E-10	mg/kg-day	--	--	--	3.07E-09	mg/kg-day	1.00E-01	mg/kg-day	3.07E-08
				Chlorobenzene	1.10E-01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	2.00E-02	mg/kg-day	7.03E-05
				Chromium	1.00E+02	mg/kg	1.56E-04	mg/kg-day	--	--	--	1.28E-03	mg/kg-day	1.50E+00	mg/kg-day	8.52E-04
				Chrysene	4.80E+00	mg/kg	7.51E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	9.01E-07	6.13E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.17E-05	mg/kg-day	--	--	--	9.52E-05	mg/kg-day	2.00E-02	mg/kg-day	4.76E-03
Copper	6.01E+01	mg/kg	9.40E-05	mg/kg-day	--	--	--	7.68E-04	mg/kg-day	4.00E-02	mg/kg-day	1.92E-02				
Delta-BHC	8.40E-03	mg/kg	1.32E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.97E-08	1.07E-07	mg/kg-day	2.00E-04	mg/kg-day	5.37E-04				
Dibenzo(a,h)anthracene	2.76E-01	mg/kg	4.32E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.77E-06	3.52E-06	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	2.04E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-03	mg/kg-day	8.31E-02				
Diieldrin	4.89E-02	mg/kg	7.66E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.23E-06	6.26E-07	mg/kg-day	5.00E-05	mg/kg-day	1.25E-02				
Dimethylphthalate	3.80E-02	mg/kg	5.95E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	8.00E-01	mg/kg-day	6.07E-07				

TABLE H-7.23

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations																			
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient																
							Value	Units	Value	Units		Value	Units	Value	Units																	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	3.60E-06	mg/kg-day	--	--	--	--	2.94E-05	mg/kg-day	2.00E-01	mg/kg-day	1.47E-04															
				Endosulfan I	2.30E-02	mg/kg	3.60E-08	mg/kg-day	--	--	--	--	2.94E-07	mg/kg-day	6.00E-03	mg/kg-day	4.90E-05															
				Endosulfan II	2.34E-02	mg/kg	3.66E-08	mg/kg-day	--	--	--	--	2.99E-07	mg/kg-day	6.00E-03	mg/kg-day	4.98E-05															
				Endosulfan Sulfate	4.30E-02	mg/kg	6.73E-08	mg/kg-day	--	--	--	--	5.50E-07	mg/kg-day	6.00E-03	mg/kg-day	9.16E-05															
				Endrin aldehyde	6.30E-02	mg/kg	9.86E-08	mg/kg-day	--	--	--	--	8.05E-07	mg/kg-day	3.00E-04	mg/kg-day	2.68E-03															
				Endrin Ketone	1.00E-02	mg/kg	1.57E-08	mg/kg-day	--	--	--	--	1.28E-07	mg/kg-day	3.00E-04	mg/kg-day	4.26E-04															
				Fluoranthene	2.23E+01	mg/kg	3.48E-05	mg/kg-day	--	--	--	--	2.84E-04	mg/kg-day	4.00E-02	mg/kg-day	7.11E-03															
				Fluorene	2.53E+00	mg/kg	3.96E-06	mg/kg-day	--	--	--	--	3.23E-05	mg/kg-day	4.00E-02	mg/kg-day	8.08E-04															
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.07E-09	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.48E-09	3.32E-08	mg/kg-day	3.00E-04	mg/kg-day	1.11E-04																
				gamma-Chlordane	1.27E-02	mg/kg	1.99E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.58E-08	1.62E-07	mg/kg-day	5.00E-04	mg/kg-day	3.25E-04																
				Heptachlor	6.90E-03	mg/kg	1.08E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.43E-08	8.82E-08	mg/kg-day	5.00E-04	mg/kg-day	1.76E-04																
				Heptachlor Epoxide	9.86E-03	mg/kg	1.54E-08	mg/kg-day	5.50E+00	(mg/kg-day)-1	8.49E-08	1.26E-07	mg/kg-day	1.30E-05	mg/kg-day	9.69E-03																
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	7.78E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.34E-07	6.36E-06	mg/kg-day	--	--	--																
				Iron	3.68E+04	mg/kg	5.76E-02	mg/kg-day	--	--	--	4.70E-01	mg/kg-day	3.00E-01	mg/kg-day	1.57E+00																
				Isophorone	2.00E-01	mg/kg	3.13E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.97E-10	2.56E-06	mg/kg-day	2.00E-01	mg/kg-day	1.28E-05																
				Lead	2.39E+03	mg/kg	3.74E-03	mg/kg-day	--	--	--	3.06E-02	mg/kg-day	--	--	--																
				Manganese	3.04E+02	mg/kg	4.76E-04	mg/kg-day	--	--	--	3.89E-03	mg/kg-day	2.40E-02	mg/kg-day	1.62E-01																
				Mercury	2.65E-01	mg/kg	4.15E-07	mg/kg-day	--	--	--	3.39E-06	mg/kg-day	3.00E-04	mg/kg-day	1.13E-02																
				Methoxychlor	1.20E-01	mg/kg	1.88E-07	mg/kg-day	--	--	--	1.53E-06	mg/kg-day	5.00E-03	mg/kg-day	3.07E-04																
				Methylene chloride	2.40E-03	mg/kg	3.76E-09	mg/kg-day	1.40E-02	(mg/kg-day)-1	5.26E-11	3.07E-08	mg/kg-day	6.00E-02	mg/kg-day	5.11E-07																
				Molybdenum	2.18E+00	mg/kg	3.41E-06	mg/kg-day	--	--	--	2.79E-05	mg/kg-day	5.00E-03	mg/kg-day	5.57E-03																
				Naphthalene	1.30E+01	mg/kg	2.04E-05	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	2.00E-02	mg/kg-day	8.31E-03																
				Nickel	3.89E+01	mg/kg	6.10E-05	mg/kg-day	--	--	--	4.98E-04	mg/kg-day	2.00E-02	mg/kg-day	2.49E-02																
				Phenanthrene	1.17E+01	mg/kg	1.83E-05	mg/kg-day	--	--	--	1.49E-04	mg/kg-day	3.00E-01	mg/kg-day	4.98E-04																
				Phenol	5.80E-01	mg/kg	9.08E-07	mg/kg-day	--	--	--	7.42E-06	mg/kg-day	3.00E-01	mg/kg-day	2.47E-05																
				p-Isopropyltoluene	1.10E-01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	1.00E-01	mg/kg-day	1.41E-05																
				Pyrene	2.03E+01	mg/kg	3.18E-05	mg/kg-day	--	--	--	2.60E-04	mg/kg-day	3.00E-02	mg/kg-day	8.67E-03																
				sec-Butylbenzene	7.10E-02	mg/kg	1.11E-07	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	4.00E-02	mg/kg-day	2.27E-05																
				Selenium	2.84E-01	mg/kg	4.44E-07	mg/kg-day	--	--	--	3.63E-06	mg/kg-day	5.00E-03	mg/kg-day	7.25E-04																
				Silver	9.80E-01	mg/kg	1.53E-06	mg/kg-day	--	--	--	1.25E-05	mg/kg-day	5.00E-03	mg/kg-day	2.51E-03																
				Technical Chlordane	5.41E-01	mg/kg	8.47E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.10E-06	6.91E-06	mg/kg-day	5.00E-04	mg/kg-day	1.38E-02																
				Thallium	4.83E-01	mg/kg	7.56E-07	mg/kg-day	--	--	--	6.17E-06	mg/kg-day	8.00E-05	mg/kg-day	7.71E-02																
				Toluene	4.30E-04	mg/kg	6.73E-10	mg/kg-day	--	--	--	5.50E-09	mg/kg-day	8.00E-02	mg/kg-day	6.87E-08																
				Vanadium	3.37E+01	mg/kg	5.27E-05	mg/kg-day	--	--	--	4.31E-04	mg/kg-day	1.00E-03	mg/kg-day	4.31E-01																
				Zinc	3.32E+02	mg/kg	5.19E-04	mg/kg-day	--	--	--	4.24E-03	mg/kg-day	3.00E-01	mg/kg-day	1.41E-02																
				<b>Exposure Route Total</b>															<b>4.73E+00</b>													
				Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.58E-07	mg/kg-day	--	--	--	--	--	5.56E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04													
																				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.58E-07	mg/kg-day	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04
																				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.53E-08	mg/kg-day	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06
																				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.31E-06	mg/kg-day	--	--	--	9.64E-06	mg/kg-day	9.00E-02	mg/kg-day	1.07E-04
																				1,2-Dichloropropane	3.60E-03	mg/kg	1.82E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	6.55E-12	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06
																				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	8.08E-09	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.16E-08
1,3-Dichlorobenzene	1.10E+00	mg/kg	5.56E-08																	mg/kg-day	--	--	--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--																	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	1.06E-08																	mg/kg-day	--	--	--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06				
2-Methylphenol	8.10E-02	mg/kg	4.09E-08																	mg/kg-day	--	--	--	3.00E-07	mg/kg-day	4.00E-03	mg/kg-day	7.51E-05				
2-Methylnaphthalene	1.45E+00	mg/kg	7.32E-08																	mg/kg-day	--	--	--	5.37E-07	mg/kg-day	5.00E-02	mg/kg-day	1.07E-05				
4,4'-DDD	1.20E-03	mg/kg	6.06E-11																	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-11	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07				
4,4'-DDE	7.50E-02	mg/kg	3.79E-09																	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.29E-09	2.78E-08	mg/kg-day	5.00E-04	mg/kg-day	5.56E-05				
4,4'-DDT	4.20E-02	mg/kg	6.36E-09																	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.16E-09	4.67E-08	mg/kg-day	5.00E-04	mg/kg-day	9.34E-05				
4-Methylphenol	2.70E-01	mg/kg	1.36E-07																	mg/kg-day	--	--	--	1.00E-06	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04				

TABLE H-7.23

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	3.13E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.58E-09	2.30E-06	mg/kg-day	3.00E-03	mg/kg-day	7.66E-04
				4-Nitrophenol	4.20E-01	mg/kg	2.12E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	3.47E+00	mg/kg	2.28E-06	mg/kg-day	--	--	--	1.67E-05	mg/kg-day	6.00E-02	mg/kg-day	2.79E-04
				Acenaphthylene	8.96E-02	mg/kg	4.53E-09	mg/kg-day	--	--	--	3.32E-08	mg/kg-day	6.00E-02	mg/kg-day	5.54E-07
				Aldrin	1.30E-02	mg/kg	6.57E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.12E-07	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03
				alpha-BHC	7.30E-04	mg/kg	3.69E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.96E-11	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	4.57E-05	mg/kg-day	--	--	--	3.36E-04	mg/kg-day	1.00E+00	mg/kg-day	3.36E-04
				Anthracene	9.13E-01	mg/kg	6.00E-07	mg/kg-day	--	--	--	4.40E-06	mg/kg-day	3.00E-01	mg/kg-day	1.47E-05
				Antimony	2.72E+00	mg/kg	1.38E-08	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	4.00E-04	mg/kg-day	2.52E-04
				Aroclor-1248	1.20E+00	mg/kg	8.49E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-06	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.38E-01	mg/kg	3.10E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.19E-07	2.27E-06	mg/kg-day	2.00E-05	mg/kg-day	1.14E-01
				Aroclor-1260	4.88E-01	mg/kg	3.45E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.91E-07	2.53E-06	mg/kg-day	2.00E-05	mg/kg-day	1.27E-01
				Aroclor-1268	2.72E-02	mg/kg	1.92E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.85E-08	1.41E-07	mg/kg-day	2.00E-05	mg/kg-day	7.05E-03
				Arsenic	9.53E+00	mg/kg	1.44E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.37E-05	1.06E-05	mg/kg-day	3.00E-04	mg/kg-day	3.53E-02
				Barium	6.94E+01	mg/kg	3.51E-07	mg/kg-day	--	--	--	2.57E-06	mg/kg-day	7.00E-02	mg/kg-day	3.68E-05
				Benzo(a)anthracene	4.21E+00	mg/kg	2.77E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.32E-06	2.03E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	9.23E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.11E-05	6.78E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.56E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.87E-06	1.14E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	4.25E-07	mg/kg-day	--	--	--	3.12E-06	mg/kg-day	3.00E-02	mg/kg-day	1.04E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.86E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.23E-06	1.38E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.15E-09	mg/kg-day	--	--	--	8.45E-09	mg/kg-day	2.00E-03	mg/kg-day	4.22E-06
				Beta-BHC	2.20E-03	mg/kg	1.11E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.67E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	2.68E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	8.03E-10	1.96E-06	mg/kg-day	2.00E-02	mg/kg-day	9.82E-05
				Cadmium	8.65E+00	mg/kg	4.37E-08	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.66E-08	3.21E-07	mg/kg-day	5.00E-04	mg/kg-day	6.41E-04
				Carbon disulfide	2.40E-04	mg/kg	3.03E-10	mg/kg-day	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	5.56E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.00E+02	mg/kg	5.05E-07	mg/kg-day	--	--	--	3.71E-06	mg/kg-day	1.50E+00	mg/kg-day	2.47E-06
				Chrysene	4.80E+00	mg/kg	3.15E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.78E-07	2.31E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	3.76E-08	mg/kg-day	--	--	--	2.76E-07	mg/kg-day	2.00E-02	mg/kg-day	1.38E-05
				Copper	6.01E+01	mg/kg	3.03E-07	mg/kg-day	--	--	--	2.23E-06	mg/kg-day	4.00E-02	mg/kg-day	5.57E-05
				Delta-BHC	8.40E-03	mg/kg	2.12E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.18E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.81E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.42E-07	1.33E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.57E-07	mg/kg-day	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	4.89E-02	mg/kg	2.47E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.95E-08	1.81E-08	mg/kg-day	5.00E-05	mg/kg-day	3.63E-04
Dimethylphthalate	3.80E-02	mg/kg	1.92E-09	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	8.00E-01	mg/kg-day	1.76E-08				
di-n-Butylphthalate	2.30E+00	mg/kg	1.16E-07	mg/kg-day	--	--	--	8.53E-07	mg/kg-day	2.00E-01	mg/kg-day	4.26E-06				
Endosulfan I	2.30E-02	mg/kg	5.81E-09	mg/kg-day	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06				
Endosulfan II	2.34E-02	mg/kg	5.90E-09	mg/kg-day	--	--	--	4.33E-08	mg/kg-day	6.00E-03	mg/kg-day	7.22E-06				
Endosulfan Sulfate	4.30E-02	mg/kg	1.09E-08	mg/kg-day	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05				
Endrin aldehyde	6.30E-02	mg/kg	1.59E-08	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.89E-04				
Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--				
Fluoranthene	2.23E+01	mg/kg	1.46E-05	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	4.00E-02	mg/kg-day	2.68E-03				
Fluorene	2.53E+00	mg/kg	1.66E-06	mg/kg-day	--	--	--	1.22E-05	mg/kg-day	4.00E-02	mg/kg-day	3.05E-04				
gamma-BHC (Lindane)	2.60E-03	mg/kg	5.25E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	5.78E-10	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05				
gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Heptachlor	6.90E-03	mg/kg	3.49E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.43E-09	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06				
Heptachlor Epoxide	9.86E-03	mg/kg	4.98E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.74E-09	3.65E-09	mg/kg-day	1.30E-05	mg/kg-day	2.81E-04				
Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	3.26E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.92E-07	2.40E-06	mg/kg-day	--	--	--				
Iron	3.68E+04	mg/kg	1.86E-04	mg/kg-day	--	--	--	1.36E-03	mg/kg-day	3.00E-01	mg/kg-day	4.54E-03				
Isophorone	2.00E-01	mg/kg	1.01E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.60E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06				

TABLE H-7.23

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	1.21E-05	mg/kg-day	--	--	--	--	8.86E-05	mg/kg-day	--	--	--	
				Manganese	3.04E+02	mg/kg	1.54E-06	mg/kg-day	--	--	--	--	1.13E-05	mg/kg-day	2.40E-02	mg/kg-day	4.70E-04	
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	
				Methoxychlor	1.20E-01	mg/kg	6.06E-09	mg/kg-day	--	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06	
				Methylene chloride	2.40E-03	mg/kg	1.21E-10	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.70E-12	--	8.90E-10	mg/kg-day	6.00E-02	mg/kg-day	1.48E-08	
				Molybdenum	2.18E+00	mg/kg	1.10E-08	mg/kg-day	--	--	--	--	8.08E-08	mg/kg-day	5.00E-03	mg/kg-day	1.62E-05	
				Naphthalene	1.30E+01	mg/kg	8.54E-06	mg/kg-day	--	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03	
				Nickel	3.89E+01	mg/kg	1.97E-07	mg/kg-day	--	--	--	--	1.44E-06	mg/kg-day	2.00E-02	mg/kg-day	7.22E-05	
				Phenanthrene	1.17E+01	mg/kg	5.90E-07	mg/kg-day	--	--	--	--	4.33E-06	mg/kg-day	3.00E-01	mg/kg-day	1.44E-05	
				Phenol	5.80E-01	mg/kg	2.93E-07	mg/kg-day	--	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	
				Pyrene	2.03E+01	mg/kg	1.34E-05	mg/kg-day	--	--	--	--	9.81E-05	mg/kg-day	3.00E-02	mg/kg-day	3.27E-03	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	
				Selenium	2.84E-01	mg/kg	1.43E-09	mg/kg-day	--	--	--	--	1.05E-08	mg/kg-day	5.00E-03	mg/kg-day	2.10E-06	
				Silver	9.80E-01	mg/kg	4.95E-09	mg/kg-day	--	--	--	--	3.63E-08	mg/kg-day	5.00E-03	mg/kg-day	7.27E-06	
				Technical Chlordane	5.41E-01	mg/kg	1.09E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.42E-07	--	8.02E-07	mg/kg-day	5.00E-04	mg/kg-day	1.60E-03	
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--	
				Toluene	4.30E-04	mg/kg	2.17E-11	mg/kg-day	--	--	--	--	1.59E-10	mg/kg-day	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09
				Vanadium	3.37E+01	mg/kg	1.70E-07	mg/kg-day	--	--	--	--	1.25E-06	mg/kg-day	1.00E-03	mg/kg-day	1.25E-03	
				Zinc	3.32E+02	mg/kg	1.68E-06	mg/kg-day	--	--	--	--	1.23E-05	mg/kg-day	3.00E-01	mg/kg-day	4.10E-05	
				Exposure Route Total														
Exposure Point Total																		
	Homegrown Produce		Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--		
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--		
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
				1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--		
				1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	3.60E-02	(mg/kg-day)-1	--	--	mg/kg-day	1.14E-03	mg/kg-day	--		
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
				1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.36E-05	mg/kg-day	--	--	--	3.17E-05	mg/kg-day	2.00E-02	mg/kg-day	1.58E-03		
				2-Methylphenol	8.10E-02	mg/kg	1.25E-05	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	4.00E-03	mg/kg-day	7.27E-03		
				2-Methylnaphthalene	1.45E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
				4,4'-DDD	1.20E-03	mg/kg	1.32E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.17E-11	3.08E-10	mg/kg-day	5.00E-04	mg/kg-day	6.17E-07		
				4,4'-DDE	7.50E-02	mg/kg	5.98E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.03E-09	1.40E-08	mg/kg-day	5.00E-04	mg/kg-day	2.79E-05		
				4,4'-DDT	4.20E-02	mg/kg	1.44E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.91E-09	3.37E-08	mg/kg-day	5.00E-04	mg/kg-day	6.74E-05		
				4-Methylphenol	2.70E-01	mg/kg	4.27E-05	mg/kg-day	--	--	--	9.97E-05	mg/kg-day	5.00E-03	mg/kg-day	1.99E-02		
				4-Nitroaniline	6.20E-01	mg/kg	6.71E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.41E-06	1.57E-04	mg/kg-day	3.00E-03	mg/kg-day	5.22E-02		
				4-Nitrophenol	4.20E-01	mg/kg	6.82E-05	mg/kg-day	--	--	--	1.59E-04	mg/kg-day	5.00E-04	mg/kg-day	3.18E-01		
				Acenaphthene	3.47E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
				Acenaphthylene	8.96E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
				Aldrin	1.30E-02	mg/kg	2.34E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.98E-08	5.47E-09	mg/kg-day	3.00E-05	mg/kg-day	1.82E-04		
				alpha-BHC	7.30E-04	mg/kg	2.84E-08	mg/kg-day	2.70E+00	(mg/kg-day)-1	7.67E-08	6.63E-08	mg/kg-day	5.00E-04	mg/kg-day	1.33E-04		
				alpha-Chlordane	6.98E-03	mg/kg	2.76E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.59E-09	6.45E-09	mg/kg-day	5.00E-04	mg/kg-day	1.29E-05		
				Aluminum	9.05E+03	mg/kg	4.88E-04	mg/kg-day	--	--	--	1.14E-03	mg/kg-day	1.00E+00	mg/kg-day	1.14E-03		
				Anthracene	9.13E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--		
				Antimony	2.72E+00	mg/kg	6.78E-08	mg/kg-day	--	--	--	1.58E-05	mg/kg-day	4.00E-04	mg/kg-day	3.95E-02		
				Aroclor-1248	1.20E+00	mg/kg	1.33E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.65E-07	3.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.55E-02		
				Aroclor-1254	4.38E-01	mg/kg	6.47E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.29E-06	1.51E-06	mg/kg-day	2.00E-05	mg/kg-day	7.55E-02		
				Aroclor-1260	4.88E-01	mg/kg	2.58E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.16E-08	6.02E-08	mg/kg-day	2.00E-05	mg/kg-day	3.01E-03		
				Aroclor-1268	2.72E-02	mg/kg	4.02E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.04E-08	9.38E-08	mg/kg-day	2.00E-05	mg/kg-day	4.69E-03		

TABLE H-7.23

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	4.74E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	4.48E-05	1.11E-05	mg/kg-day	3.00E-04	mg/kg-day	3.69E-02
				Barium	6.94E+01	mg/kg	8.64E-05	mg/kg-day	--	--	--	2.02E-04	mg/kg-day	7.00E-02	mg/kg-day	2.88E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	8.97E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.08E-07	2.09E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.70E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	2.04E-07	3.98E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	2.87E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.44E-07	6.69E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	5.97E-08	mg/kg-day	--	--	--	1.39E-07	mg/kg-day	3.00E-02	mg/kg-day	4.64E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	3.41E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.09E-07	7.98E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	2.83E-08	mg/kg-day	--	--	--	6.61E-08	mg/kg-day	2.00E-03	mg/kg-day	3.31E-05
				Beta-BHC	2.20E-03	mg/kg	8.56E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.28E-07	2.00E-07	mg/kg-day	2.00E-04	mg/kg-day	9.99E-04
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.52E-04	mg/kg-day	3.00E-03	(mg/kg-day)-1	4.56E-07	3.54E-04	mg/kg-day	2.00E-02	mg/kg-day	1.77E-02
				Cadmium	8.65E+00	mg/kg	1.08E-04	mg/kg-day	3.80E-01	(mg/kg-day)-1	4.09E-05	2.51E-04	mg/kg-day	5.00E-04	mg/kg-day	5.02E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	3.73E-05	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	1.50E+00	mg/kg-day	5.80E-05
				Chrysene	4.80E+00	mg/kg	7.16E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	8.60E-08	1.67E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	4.32E-06	mg/kg-day	--	--	--	1.01E-05	mg/kg-day	2.00E-02	mg/kg-day	5.04E-04
				Copper	6.01E+01	mg/kg	1.25E-03	mg/kg-day	--	--	--	2.91E-03	mg/kg-day	4.00E-02	mg/kg-day	7.27E-02
				Delta-BHC	8.40E-03	mg/kg	2.66E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.00E-09	6.22E-09	mg/kg-day	2.00E-04	mg/kg-day	3.11E-05
				Dibenzo(a,h)anthracene	2.78E-01	mg/kg	2.06E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.43E-08	4.80E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	2.15E-06	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.44E-05	5.02E-06	mg/kg-day	5.00E-05	mg/kg-day	1.00E-01
				Dimethylphthalate	3.80E-02	mg/kg	4.69E-06	mg/kg-day	--	--	--	1.09E-05	mg/kg-day	8.00E-01	mg/kg-day	1.37E-05
				di-n-Butylphthalate	2.30E+00	mg/kg	3.97E-07	mg/kg-day	--	--	--	9.27E-07	mg/kg-day	2.00E-01	mg/kg-day	4.64E-06
				Endosulfan I	2.30E-02	mg/kg	8.55E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	6.00E-03	mg/kg-day	3.32E-04
				Endosulfan II	2.34E-02	mg/kg	8.32E-07	mg/kg-day	--	--	--	1.94E-06	mg/kg-day	6.00E-03	mg/kg-day	3.24E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.50E-06	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	6.00E-03	mg/kg-day	5.81E-04
				Endrin aldehyde	6.30E-02	mg/kg	8.67E-09	mg/kg-day	--	--	--	2.02E-08	mg/kg-day	3.00E-04	mg/kg-day	6.74E-05
				Endrin Ketone	1.00E-02	mg/kg	1.38E-09	mg/kg-day	--	--	--	3.21E-09	mg/kg-day	3.00E-04	mg/kg-day	1.07E-05
				Fluoranthene	2.23E+01	mg/kg	4.99E-06	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	4.00E-02	mg/kg-day	2.91E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.56E-07	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.92E-07	8.31E-07	mg/kg-day	3.00E-04	mg/kg-day	2.77E-03
				gamma-Chlordane	1.27E-02	mg/kg	5.03E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	6.54E-09	1.17E-08	mg/kg-day	5.00E-04	mg/kg-day	2.35E-05
				Heptachlor	6.90E-03	mg/kg	2.03E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.33E-09	4.74E-09	mg/kg-day	5.00E-04	mg/kg-day	9.48E-06
				Heptachlor Epoxide	9.88E-03	mg/kg	9.44E-07	mg/kg-day	5.50E+00	(mg/kg-day)-1	5.19E-06	2.20E-06	mg/kg-day	1.30E-05	mg/kg-day	1.69E-01
				Indeno(1,2,3-cd)pyrene	4.87E-01	mg/kg	4.49E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.39E-08	1.05E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	3.03E-03	mg/kg-day	--	--	--	7.07E-03	mg/kg-day	3.00E-01	mg/kg-day	2.36E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.39E+03	mg/kg	1.78E-03	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	1.26E-03	mg/kg-day	--	--	--	2.95E-03	mg/kg-day	2.40E-02	mg/kg-day	1.23E-01
				Mercury	2.65E-01	mg/kg	4.40E-06	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	3.00E-04	mg/kg-day	3.42E-02
Methoxychlor	1.20E-01	mg/kg	8.62E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	5.00E-03	mg/kg-day	4.02E-06				
Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	1.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	6.00E-02	mg/kg-day	--				
Molybdenum	2.18E+00	mg/kg	1.08E-05	mg/kg-day	--	--	--	2.53E-05	mg/kg-day	5.00E-03	mg/kg-day	5.06E-03				
Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--				
Nickel	3.89E+01	mg/kg	1.94E-04	mg/kg-day	--	--	--	4.52E-04	mg/kg-day	2.00E-02	mg/kg-day	2.26E-02				
Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	2.37E-04	mg/kg-day	--	--	--	5.54E-04	mg/kg-day	3.00E-01	mg/kg-day	1.85E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.84E-01	mg/kg	5.88E-07	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	5.00E-03	mg/kg-day	2.74E-04				

TABLE H-7.23

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	8.13E-06	mg/kg-day	--	--	--	--	1.90E-05	mg/kg-day	5.00E-03	mg/kg-day	3.79E-03	
				Technical Chlordane	5.41E-01	mg/kg	2.14E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.78E-07	--	--	5.00E-07	mg/kg-day	5.00E-04	mg/kg-day	9.99E-04
				Thallium	4.83E-01	mg/kg	1.60E-08	mg/kg-day	--	--	--	--	--	3.74E-08	mg/kg-day	8.00E-05	mg/kg-day	4.67E-04
				Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--
				Vanadium	3.37E+01	mg/kg	8.38E-06	mg/kg-day	--	--	--	--	--	1.96E-05	mg/kg-day	1.00E-03	mg/kg-day	1.96E-02
				Zinc	3.32E+02	mg/kg	2.48E-02	mg/kg-day	--	--	--	--	--	5.78E-02	mg/kg-day	3.00E-01	mg/kg-day	1.93E-01
Exposure Route Total																	1.87E+00	
Exposure Point Total																		1.87E+00
Exposure Medium Total																		7.23E+00
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.37E-11	mg/kg-day	--	--	--	--	1.03E-10	mg/kg-day	2.00E-02	mg/kg-day	--	5.13E-09	
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	9.13E-12	mg/kg-day	--	--	--	--	3.95E-11	mg/kg-day	--	--	--	--	
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.35E-13	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.25E-14	--	--	5.86E-13	mg/kg-day	5.00E-04	mg/kg-day	--	1.17E-09
			4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	4.73E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.61E-12	--	--	2.05E-11	mg/kg-day	5.00E-04	mg/kg-day	--	4.10E-08
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.04E-11	mg/kg-day	--	--	--	--	--	1.32E-10	mg/kg-day	5.00E-03	mg/kg-day	--	2.64E-08
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	6.99E-11	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.47E-12	--	--	3.03E-10	mg/kg-day	1.00E-03	mg/kg-day	--	3.03E-07
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	4.73E-11	mg/kg-day	--	--	--	--	--	2.05E-10	mg/kg-day	5.70E-04	mg/kg-day	--	3.60E-07
			Aluminum	6.86E-06	mg/m <sup>3</sup>	1.02E-06	mg/kg-day	--	--	--	--	--	4.42E-06	mg/kg-day	1.43E-03	mg/kg-day	--	3.09E-03
			Antimony	2.06E-09	mg/m <sup>3</sup>	3.07E-10	mg/kg-day	--	--	--	--	--	1.33E-09	mg/kg-day	--	--	--	--
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.35E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.71E-10	--	--	5.86E-10	mg/kg-day	2.00E-05	mg/kg-day	--	2.93E-05
			Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	4.93E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.87E-11	--	--	2.14E-10	mg/kg-day	2.00E-05	mg/kg-day	--	1.07E-05
			Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	5.50E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.10E-10	--	--	2.38E-10	mg/kg-day	2.00E-05	mg/kg-day	--	1.19E-05
			Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	3.06E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.13E-12	--	--	1.33E-11	mg/kg-day	2.00E-05	mg/kg-day	--	6.63E-07
			Arsenic	7.22E-09	mg/m <sup>3</sup>	1.07E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.29E-08	--	--	4.65E-09	mg/kg-day	8.60E-06	mg/kg-day	--	5.41E-04
			Barium	5.26E-08	mg/m <sup>3</sup>	7.83E-09	mg/kg-day	--	--	--	--	--	3.39E-08	mg/kg-day	1.40E-04	mg/kg-day	--	2.42E-04
			Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	4.75E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.85E-10	--	--	2.06E-09	mg/kg-day	--	--	--	--
			Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	1.58E-10	mg/kg-day	3.90E+00	(mg/kg-day)-1	6.18E-10	--	--	6.86E-10	mg/kg-day	--	--	--	--
			Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	7.30E-11	mg/kg-day	--	--	--	--	--	3.16E-10	mg/kg-day	3.00E-02	mg/kg-day	--	1.05E-08
			Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	3.18E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.24E-10	--	--	1.38E-09	mg/kg-day	--	--	--	--
			Beryllium	1.73E-10	mg/m <sup>3</sup>	2.57E-11	mg/kg-day	8.40E+00	(mg/kg-day)-1	2.16E-10	--	--	1.11E-10	mg/kg-day	5.71E-08	mg/kg-day	--	1.95E-05
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.48E-13	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.72E-13	--	--	1.07E-12	mg/kg-day	2.00E-04	mg/kg-day	--	5.37E-09
			bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	5.97E-10	mg/kg-day	8.40E-03	(mg/kg-day)-1	5.01E-12	--	--	2.58E-09	mg/kg-day	2.00E-02	mg/kg-day	--	1.29E-07
			Cadmium	6.55E-09	mg/m <sup>3</sup>	9.75E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	1.46E-08	--	--	4.22E-09	mg/kg-day	5.71E-06	mg/kg-day	--	7.39E-04
			Chromium	7.57E-08	mg/m <sup>3</sup>	1.13E-08	mg/kg-day	--	--	--	--	--	4.88E-08	mg/kg-day	--	--	--	--
			Cobalt	5.64E-09	mg/m <sup>3</sup>	8.39E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	8.22E-09	--	--	3.63E-09	mg/kg-day	5.71E-06	mg/kg-day	--	6.36E-04
			Copper	4.55E-08	mg/m <sup>3</sup>	6.77E-09	mg/kg-day	--	--	--	--	--	2.93E-08	mg/kg-day	--	--	--	--
			Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	3.11E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.27E-10	--	--	1.35E-10	mg/kg-day	--	--	--	--
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.28E-12	mg/kg-day	--	--	--	--	--	1.86E-11	mg/kg-day	8.00E-01	mg/kg-day	--	2.32E-11
			di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	2.59E-10	mg/kg-day	--	--	--	--	--	1.12E-09	mg/kg-day	1.00E-01	mg/kg-day	--	1.12E-08
			Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	7.10E-12	mg/kg-day	--	--	--	--	--	3.08E-11	mg/kg-day	3.00E-04	mg/kg-day	--	1.03E-07
			Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.13E-12	mg/kg-day	--	--	--	--	--	4.88E-12	mg/kg-day	3.00E-04	mg/kg-day	--	1.63E-08
			Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	1.11E-12	mg/kg-day	5.50E+00	(mg/kg-day)-1	6.11E-12	--	--	4.81E-12	mg/kg-day	1.30E-05	mg/kg-day	--	3.70E-07
			Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	5.80E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.19E-11	--	--	2.43E-10	mg/kg-day	--	--	--	--
			Iron	2.79E-05	mg/m <sup>3</sup>	4.14E-06	mg/kg-day	--	--	--	--	--	1.79E-05	mg/kg-day	--	--	--	--
			Isophorone	1.52E-10	mg/m <sup>3</sup>	2.25E-11	mg/kg-day	--	--	--	--	--	9.76E-11	mg/kg-day	--	--	--	--
			Lead	1.81E-06	mg/m <sup>3</sup>	2.69E-07	mg/kg-day	--	--	--	--	--	1.17E-06	mg/kg-day	--	--	--	--
			Manganese	2.31E-07	mg/m <sup>3</sup>	3.43E-08	mg/kg-day	--	--	--	--	--	1.49E-07	mg/kg-day	1.43E-05	mg/kg-day	--	1.04E-02
			Mercury	2.01E-10	mg/m <sup>3</sup>	2.99E-11	mg/kg-day	--	--	--	--	--	1.30E-10	mg/kg-day	8.60E-05	mg/kg-day	--	1.51E-06
			Nickel	2.95E-08	mg/m <sup>3</sup>	4.39E-09	mg/kg-day	9.10E-01	(mg/kg-day)-1	3.99E-09	--	--	1.90E-08	mg/kg-day	1.40E-05	mg/kg-day	--	1.36E-03
			Phenol	4.39E-10	mg/m <sup>3</sup>	6.54E-11	mg/kg-day	--	--	--	--	--	2.83E-10	mg/kg-day	5.71E-02	mg/kg-day	--	4.95E-09
			Selenium	2.15E-10	mg/m <sup>3</sup>	3.20E-11	mg/kg-day	--	--	--	--	--	1.38E-10	mg/kg-day	5.70E-03	mg/kg-day	--	2.43E-08
			Silver	7.42E-10	mg/m <sup>3</sup>	1.10E-10	mg/kg-day	--	--	--	--	--	4.78E-10	mg/kg-day	--	--	--	--

TABLE H-7.23

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.66E-10	mg/m <sup>3</sup>	5.44E-11	mg/kg-day	--	--	--	2.36E-10	mg/kg-day	--	--	--	
				Vanadium	2.55E-08	mg/m <sup>3</sup>	3.80E-09	mg/kg-day	--	--	--	1.64E-08	mg/kg-day	--	--	--	
				Zinc	2.51E-07	mg/m <sup>3</sup>	3.74E-08	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	--	--	--	
				<b>Exposure Route Total</b>												<b>4.15E-08</b>	
																	<b>1.71E-02</b>
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.55E-05	mg/kg-day	--	--	--	6.73E-05	mg/kg-day	1.10E-03	mg/kg-day	6.12E-02	
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	5.28E-05	mg/kg-day	--	--	--	2.29E-04	mg/kg-day	1.10E-03	mg/kg-day	2.08E-01	
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.74E-05	mg/kg-day	--	--	--	7.55E-05	mg/kg-day	1.70E-03	mg/kg-day	4.44E-02	
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	7.92E-04	mg/kg-day	--	--	--	3.43E-03	mg/kg-day	5.70E-02	mg/kg-day	6.02E-02	
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.26E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.53E-08	1.84E-06	mg/kg-day	1.14E-03	mg/kg-day	1.62E-03	
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	5.44E-06	mg/kg-day	--	--	--	2.35E-05	mg/kg-day	1.70E-03	mg/kg-day	1.39E-02	
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.42E-05	mg/kg-day	--	--	--	1.05E-04	mg/kg-day	3.00E-02	mg/kg-day	3.50E-03	
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.33E-04	mg/kg-day	4.00E-02	(mg/kg-day)-1	9.30E-06	1.01E-03	mg/kg-day	2.30E-01	mg/kg-day	4.38E-03	
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	9.54E-06	mg/kg-day	--	--	--	4.13E-05	mg/kg-day	5.00E-02	mg/kg-day	8.27E-04	
				4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	1.31E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.47E-10	5.69E-09	mg/kg-day	5.00E-04	mg/kg-day	1.14E-05	
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	7.09E-06	mg/kg-day	--	--	--	3.07E-05	mg/kg-day	6.00E-02	mg/kg-day	5.12E-04	
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	1.83E-07	mg/kg-day	--	--	--	7.92E-07	mg/kg-day	6.00E-02	mg/kg-day	1.32E-05	
				Aldrin	5.63E-09	mg/m <sup>3</sup>	8.38E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.42E-08	3.63E-09	mg/kg-day	3.00E-05	mg/kg-day	1.21E-04	
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	5.41E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.46E-09	2.34E-09	mg/kg-day	5.00E-04	mg/kg-day	4.69E-06	
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	1.03E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.23E-09	4.45E-09	mg/kg-day	2.00E-04	mg/kg-day	2.23E-05	
				Anthracene	1.25E-05	mg/m <sup>3</sup>	1.87E-06	mg/kg-day	--	--	--	8.08E-06	mg/kg-day	3.00E-01	mg/kg-day	2.69E-05	
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	2.28E-07	mg/kg-day	3.90E-01	(mg/kg-day)-1	8.90E-08	9.89E-07	mg/kg-day	--	--	--	
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	6.73E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06	
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	7.70E-06	mg/kg-day	--	--	--	3.34E-05	mg/kg-day	2.86E-01	mg/kg-day	1.17E-04	
				Chrysene	5.27E-06	mg/m <sup>3</sup>	7.84E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	3.06E-08	3.40E-06	mg/kg-day	--	--	--	
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	6.23E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.34E-09	2.70E-08	mg/kg-day	2.00E-04	mg/kg-day	1.35E-04	
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	6.67E-06	mg/kg-day	--	--	--	2.89E-05	mg/kg-day	2.00E-03	mg/kg-day	1.45E-02	
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	9.79E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.57E-07	4.24E-08	mg/kg-day	5.00E-05	mg/kg-day	8.48E-04	
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	6.00E-03	mg/kg-day	8.65E-06	
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	1.22E-08	mg/kg-day	--	--	--	5.27E-08	mg/kg-day	6.00E-03	mg/kg-day	8.79E-06	
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.24E-08	mg/kg-day	--	--	--	9.71E-08	mg/kg-day	6.00E-03	mg/kg-day	1.62E-05	
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	2.14E-06	mg/kg-day	--	--	--	9.27E-06	mg/kg-day	4.00E-02	mg/kg-day	2.32E-04	
				Fluorene	1.48E-05	mg/m <sup>3</sup>	2.20E-06	mg/kg-day	--	--	--	9.53E-06	mg/kg-day	4.00E-02	mg/kg-day	2.39E-04	
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.37E-09	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.61E-09	1.03E-08	mg/kg-day	3.00E-04	mg/kg-day	3.42E-05	
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	1.87E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.24E-09	8.10E-09	mg/kg-day	2.00E-04	mg/kg-day	4.05E-05	
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	5.03E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.06E-07	2.18E-07	mg/kg-day	5.00E-04	mg/kg-day	4.36E-04	
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.28E-08	mg/kg-day	--	--	--	5.56E-08	mg/kg-day	5.00E-03	mg/kg-day	1.11E-05	
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.04E-04	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.25E-05	4.51E-04	mg/kg-day	8.57E-04	mg/kg-day	5.26E-01	
				Phenanthrene	1.60E-04	mg/m <sup>3</sup>	2.39E-05	mg/kg-day	--	--	--	1.03E-04	mg/kg-day	3.00E-01	mg/kg-day	3.44E-04	
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	2.85E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	1.10E-01	mg/kg-day	1.12E-03	
				Pyrene	1.56E-05	mg/m <sup>3</sup>	2.31E-06	mg/kg-day	--	--	--	1.00E-05	mg/kg-day	3.00E-02	mg/kg-day	3.34E-04	
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.18E-06	mg/kg-day	--	--	--	1.81E-05	mg/kg-day	4.00E-02	mg/kg-day	4.52E-04	
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	7.97E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.50E-08	3.45E-07	mg/kg-day	2.00E-04	mg/kg-day	1.72E-03	
				Toluene	3.12E-07	mg/m <sup>3</sup>	4.65E-08	mg/kg-day	--	--	--	2.01E-07	mg/kg-day	1.43E+00	mg/kg-day	1.41E-07	
				<b>Exposure Route Total</b>													<b>2.24E-05</b>
				<b>Exposure Point Total</b>													<b>2.25E-05</b>
																	<b>9.62E-01</b>
		Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	1.31E-03	mg/kg-day	--	--	--	5.68E-03	mg/kg-day	1.10E-03	mg/kg-day	5.16E+00	
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	4.46E-03	mg/kg-day	--	--	--	1.93E-02	mg/kg-day	1.10E-03	mg/kg-day	1.75E+01	
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	4.37E-04	mg/kg-day	--	--	--	1.89E-03	mg/kg-day	1.70E-03	mg/kg-day	1.11E+00	
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	2.27E-02	mg/kg-day	--	--	--	9.84E-02	mg/kg-day	5.70E-02	mg/kg-day	1.73E+00	
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	3.15E-06	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.13E-07	1.36E-05	mg/kg-day	1.14E-03	mg/kg-day	1.19E-02	
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	1.40E-04	mg/kg-day	--	--	--	6.05E-04	mg/kg-day	1.70E-03	mg/kg-day	3.56E-01	

TABLE H-7.23

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	9.61E-04	mg/kg-day	--	--	--	4.16E-03	mg/kg-day	3.00E-02	mg/kg-day	1.39E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	5.94E-03	mg/kg-day	4.00E-02	(mg/kg-day)-1	2.38E-04	2.57E-02	mg/kg-day	2.30E-01	mg/kg-day	1.12E-01
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	7.22E-04	mg/kg-day	--	--	--	3.12E-03	mg/kg-day	5.00E-02	mg/kg-day	6.25E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	9.03E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.07E-10	3.91E-09	mg/kg-day	5.00E-04	mg/kg-day	7.82E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	2.52E-04	mg/kg-day	--	--	--	1.09E-03	mg/kg-day	6.00E-02	mg/kg-day	1.82E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	6.51E-06	mg/kg-day	--	--	--	2.82E-05	mg/kg-day	6.00E-02	mg/kg-day	4.70E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	2.39E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.07E-08	1.04E-08	mg/kg-day	3.00E-05	mg/kg-day	3.46E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.60E-08	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.32E-08	6.94E-08	mg/kg-day	5.00E-04	mg/kg-day	1.39E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	8.07E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.69E-09	3.50E-08	mg/kg-day	2.00E-04	mg/kg-day	1.75E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	6.63E-05	mg/kg-day	--	--	--	2.87E-04	mg/kg-day	3.00E-01	mg/kg-day	9.57E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	4.69E-07	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.83E-07	2.03E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.10E-07	mg/kg-day	--	--	--	9.08E-07	mg/kg-day	2.00E-01	mg/kg-day	4.54E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	9.61E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	2.86E-01	mg/kg-day	1.46E-03
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	2.64E-06	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.03E-07	1.14E-05	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	2.74E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.10E-07	1.18E-06	mg/kg-day	2.00E-04	mg/kg-day	5.92E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	3.52E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	2.00E-03	mg/kg-day	7.63E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	7.80E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.25E-06	3.38E-07	mg/kg-day	5.00E-05	mg/kg-day	6.76E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	3.21E-07	mg/kg-day	--	--	--	1.39E-06	mg/kg-day	6.00E-03	mg/kg-day	2.32E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	3.27E-07	mg/kg-day	--	--	--	1.41E-06	mg/kg-day	6.00E-03	mg/kg-day	2.36E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	6.00E-07	mg/kg-day	--	--	--	2.60E-06	mg/kg-day	6.00E-03	mg/kg-day	4.33E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	7.30E-07	mg/kg-day	--	--	--	3.16E-06	mg/kg-day	4.00E-02	mg/kg-day	7.90E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	3.99E-05	mg/kg-day	--	--	--	1.73E-04	mg/kg-day	4.00E-02	mg/kg-day	4.32E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	8.47E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	9.32E-08	3.67E-07	mg/kg-day	3.00E-04	mg/kg-day	1.22E-03
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	1.47E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.76E-10	6.36E-10	mg/kg-day	2.00E-04	mg/kg-day	3.18E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.62E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.63E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	4.41E-08	mg/kg-day	--	--	--	1.91E-07	mg/kg-day	5.00E-03	mg/kg-day	3.82E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.10E-06	mg/kg-day	3.50E-03	(mg/kg-day)-1	7.34E-09	9.08E-06	mg/kg-day	1.10E-01	mg/kg-day	8.26E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	9.36E-03	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.12E-03	4.05E-02	mg/kg-day	8.57E-04	mg/kg-day	4.73E-01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	8.50E-04	mg/kg-day	--	--	--	3.68E-03	mg/kg-day	3.00E-01	mg/kg-day	1.23E-02
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	9.61E-05	mg/kg-day	--	--	--	4.16E-04	mg/kg-day	1.10E-01	mg/kg-day	3.78E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	5.92E-06	mg/kg-day	--	--	--	2.56E-05	mg/kg-day	3.00E-02	mg/kg-day	8.54E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	3.41E-05	mg/kg-day	--	--	--	1.47E-04	mg/kg-day	4.00E-02	mg/kg-day	3.69E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	6.26E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.51E-07	2.71E-06	mg/kg-day	2.00E-04	mg/kg-day	1.35E-02
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	3.76E-07	mg/kg-day	--	--	--	1.63E-06	mg/kg-day	1.43E+00	mg/kg-day	1.14E-06				
				Exposure Route Total							1.36E-03			7.36E+01		
				Exposure Point Total							1.36E-03			7.36E+01		
				Exposure Medium Total							1.36E-03			7.46E+01		
				Medium Total							1.76E-03			8.18E+01		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.30E-08	mg/kg-day	5.70E-03	(mg/kg-day)-1	3.59E-10	2.73E-07	mg/kg-day	1.40E-01	mg/kg-day	1.95E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	--	--	--	8.13E-08	mg/kg-day	1.70E-03	mg/kg-day	4.78E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.23E-07	mg/kg-day	--	--	--	5.33E-07	mg/kg-day	5.70E-02	mg/kg-day	9.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	8.85E-08	mg/kg-day	7.20E-02	(mg/kg-day)-1	6.38E-09	3.83E-07	mg/kg-day	1.40E-03	mg/kg-day	2.74E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.32E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.19E-09	1.44E-07	mg/kg-day	1.14E-03	mg/kg-day	1.26E-04
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.07E-08	mg/kg-day	--	--	--	4.63E-08	mg/kg-day	1.70E-03	mg/kg-day	2.73E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.19E-08	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.68E-09	1.81E-07	mg/kg-day	2.30E-01	mg/kg-day	7.89E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.62E-09	mg/kg-day	--	--	--	7.01E-09	mg/kg-day	1.43E+00	mg/kg-day	4.91E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.44E-10	mg/kg-day	--	--	--	6.23E-10	mg/kg-day	5.00E-02	mg/kg-day	1.25E-08
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.93E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.55E-11	8.34E-10	mg/kg-day	5.00E-04	mg/kg-day	1.67E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	6.02E-10	mg/kg-day	--	--	--	2.61E-09	mg/kg-day	8.60E-01	mg/kg-day	3.03E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	5.77E-09	mg/kg-day	--	--	--	2.50E-08	mg/kg-day	6.00E-02	mg/kg-day	4.16E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.46E-10	mg/kg-day	--	--	--	1.06E-09	mg/kg-day	6.00E-02	mg/kg-day	1.77E-08

TABLE H-7.23

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	3.33E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.65E-09	1.44E-09	mg/kg-day	3.00E-05	mg/kg-day	4.80E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.21E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.14E-10	1.82E-10	mg/kg-day	5.00E-04	mg/kg-day	3.65E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	9.97E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.20E-10	4.32E-10	mg/kg-day	2.00E-04	mg/kg-day	2.16E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	4.89E-10	mg/kg-day	--	--	--	2.12E-09	mg/kg-day	3.00E-01	mg/kg-day	7.06E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	3.88E-08	mg/kg-day	1.00E-01	(mg/kg-day)-1	3.88E-09	1.68E-07	mg/kg-day	8.60E-03	mg/kg-day	1.96E-05				
				Benzol(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.24E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.82E-11	3.13E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.10E-09	mg/kg-day	3.90E-03	(mg/kg-day)-1	4.27E-12	4.74E-09	mg/kg-day	2.00E-02	mg/kg-day	2.37E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	6.71E-07	mg/kg-day	--	--	--	2.90E-08	mg/kg-day	2.00E-01	mg/kg-day	1.45E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.09E-08	mg/kg-day	--	--	--	4.72E-08	mg/kg-day	2.86E-01	mg/kg-day	1.65E-07				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.08E-07	mg/kg-day	1.90E-02	(mg/kg-day)-1	5.84E-09	1.33E-06	mg/kg-day	8.57E-02	mg/kg-day	1.55E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.11E-07	mg/kg-day	--	--	--	4.83E-07	mg/kg-day	2.60E-02	mg/kg-day	1.86E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.96E-10	mg/kg-day	3.90E-02	(mg/kg-day)-1	7.64E-12	8.48E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	3.41E-07	mg/kg-day	1.00E-02	mg/kg-day	3.41E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.46E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.34E-09	6.33E-10	mg/kg-day	5.00E-05	mg/kg-day	1.27E-05				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.33E-11	mg/kg-day	--	--	--	1.44E-10	mg/kg-day	6.00E-03	mg/kg-day	2.40E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.48E-14	mg/kg-day	--	--	--	2.37E-13	mg/kg-day	6.00E-03	mg/kg-day	3.95E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	2.97E-08	mg/kg-day	--	--	--	1.29E-07	mg/kg-day	2.90E-01	mg/kg-day	4.43E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	7.52E-11	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	4.00E-02	mg/kg-day	8.14E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.49E-10	mg/kg-day	--	--	--	6.44E-10	mg/kg-day	4.00E-02	mg/kg-day	1.61E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.85E-13	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.03E-13	8.01E-13	mg/kg-day	3.00E-04	mg/kg-day	2.67E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.59E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.11E-10	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.61E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	2.66E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.09E-08	1.15E-08	mg/kg-day	5.00E-04	mg/kg-day	2.30E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	5.10E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.03E-07	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	2.90E-02	mg/kg-day	1.54E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	4.86E-10	mg/kg-day	--	--	--	2.10E-09	mg/kg-day	5.00E-03	mg/kg-day	4.21E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	8.08E-10	mg/kg-day	1.20E-01	(mg/kg-day)-1	9.70E-11	3.50E-09	mg/kg-day	8.57E-04	mg/kg-day	4.08E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	3.76E-08	mg/kg-day	--	--	--	1.63E-07	mg/kg-day	8.57E-04	mg/kg-day	1.90E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.19E-08	mg/kg-day	--	--	--	1.82E-07	mg/kg-day	4.00E-02	mg/kg-day	4.54E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	3.89E-10	mg/kg-day	--	--	--	1.69E-09	mg/kg-day	3.00E-01	mg/kg-day	5.62E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	5.10E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.10E-01	mg/kg-day	2.01E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	6.86E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	3.00E-02	mg/kg-day	9.90E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.19E-07	mg/kg-day	--	--	--	5.16E-07	mg/kg-day	4.00E-02	mg/kg-day	1.29E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.35E-07	mg/kg-day	--	--	--	5.85E-07	mg/kg-day	4.00E-02	mg/kg-day	1.46E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	5.65E-08	mg/kg-day	--	--	--	2.45E-07	mg/kg-day	1.43E+00	mg/kg-day	1.71E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.33E-07	mg/kg-day	--	--	--	5.78E-07	mg/kg-day	2.00E-02	mg/kg-day	2.89E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.39E-07	mg/kg-day	7.00E-03	(mg/kg-day)-1	9.71E-10	6.01E-07	mg/kg-day	1.70E-01	mg/kg-day	3.53E-06				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	2.87E-07	mg/kg-day	2.70E-01	(mg/kg-day)-1	7.75E-08	1.24E-06	mg/kg-day	2.86E-02	mg/kg-day	4.35E-05				
				Exposure Route Total										1.17E-07					1.40E-03	
				Exposure Point Total										1.17E-07						1.40E-03
				Indoor Air	Indoor Air	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.11E-05	mg/kg-day	5.70E-03	(mg/kg-day)-1	6.32E-08	4.80E-05	mg/kg-day	1.40E-01	mg/kg-day	3.43E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	4.86E-07	mg/kg-day	--	--	--	2.10E-06	mg/kg-day	1.70E-03	mg/kg-day	1.24E-03
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	3.27E-06					mg/kg-day	--	--	--	1.42E-05	mg/kg-day	5.70E-02	mg/kg-day	2.49E-04				
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	2.65E-06					mg/kg-day	7.20E-02	(mg/kg-day)-1	1.91E-07	1.15E-05	mg/kg-day	1.40E-03	mg/kg-day	8.20E-03				
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	9.82E-07					mg/kg-day	3.60E-02	(mg/kg-day)-1	3.54E-08	4.25E-06	mg/kg-day	1.14E-03	mg/kg-day	3.73E-03				
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	2.78E-07					mg/kg-day	--	--	--	1.20E-06	mg/kg-day	1.70E-03	mg/kg-day	7.09E-04				
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.12E-06					mg/kg-day	4.00E-02	(mg/kg-day)-1	4.49E-08	4.86E-06	mg/kg-day	2.30E-01	mg/kg-day	2.11E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	8.33E-08					mg/kg-day	--	--	--	3.61E-07	mg/kg-day	1.43E+00	mg/kg-day	2.53E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	4.04E-09					mg/kg-day	--	--	--	1.75E-08	mg/kg-day	5.00E-02	mg/kg-day	3.60E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	1.73E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	5.89E-12	7.51E-11	mg/kg-day	5.00E-04	mg/kg-day	1.50E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	2.47E-08					mg/kg-day	--	--	--	1.07E-07	mg/kg-day	8.60E-01	mg/kg-day	1.25E-07				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	2.46E-07					mg/kg-day	--	--	--	1.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.77E-05				

TABLE H-7.23

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units						
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	1.05E-08	mg/kg-day	--	--	--	4.53E-08	mg/kg-day	6.00E-02	mg/kg-day	7.55E-07			
				Aldrin	2.44E-07	ug/m <sup>3</sup>	3.63E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	6.17E-10	1.57E-10	mg/kg-day	3.00E-05	mg/kg-day	5.24E-06			
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	5.41E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.46E-11	2.34E-11	mg/kg-day	5.00E-04	mg/kg-day	4.68E-08			
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	3.28E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.93E-11	1.42E-10	mg/kg-day	2.00E-04	mg/kg-day	7.10E-07			
				Anthracene	1.40E-04	ug/m <sup>3</sup>	2.08E-08	mg/kg-day	--	--	--	9.00E-08	mg/kg-day	3.00E-01	mg/kg-day	3.00E-07			
				Benzene	7.66E-03	ug/m <sup>3</sup>	1.14E-06	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	1.14E-07	4.94E-06	mg/kg-day	8.60E-03	mg/kg-day	5.74E-04			
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	3.04E-09	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.19E-09	1.32E-08	mg/kg-day	--	--	--			
				Bromoform	3.95E-04	ug/m <sup>3</sup>	5.88E-08	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	2.29E-10	2.55E-07	mg/kg-day	2.00E-02	mg/kg-day	1.27E-05			
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	2.01E-05	mg/kg-day	--	--	--	8.71E-05	mg/kg-day	2.00E-01	mg/kg-day	4.36E-04			
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	3.06E-07	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	2.86E-01	mg/kg-day	4.63E-06			
				Chloroform	6.13E-02	ug/m <sup>3</sup>	9.12E-06	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	1.73E-07	3.95E-05	mg/kg-day	8.57E-02	mg/kg-day	4.61E-04			
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	3.61E-06	mg/kg-day	--	--	--	1.56E-05	mg/kg-day	2.60E-02	mg/kg-day	6.02E-04			
				Chrysene	5.75E-05	ug/m <sup>3</sup>	8.56E-09	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	3.34E-10	3.71E-08	mg/kg-day	--	--	--			
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	5.11E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	1.00E-02	mg/kg-day	2.21E-03			
				Dieldrin	3.78E-08	ug/m <sup>3</sup>	5.60E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	8.86E-11	2.43E-11	mg/kg-day	5.00E-05	mg/kg-day	4.85E-07			
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	7.22E-12	mg/kg-day	--	--	--	3.13E-11	mg/kg-day	6.00E-03	mg/kg-day	5.21E-09			
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	2.41E-12	mg/kg-day	--	--	--	1.04E-11	mg/kg-day	6.00E-03	mg/kg-day	1.74E-09			
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	8.02E-07	mg/kg-day	--	--	--	3.47E-06	mg/kg-day	2.90E-01	mg/kg-day	1.20E-05			
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	3.04E-09	mg/kg-day	--	--	--	1.32E-08	mg/kg-day	4.00E-02	mg/kg-day	3.29E-07			
				Fluorene	5.21E-05	ug/m <sup>3</sup>	7.75E-09	mg/kg-day	--	--	--	3.36E-08	mg/kg-day	4.00E-02	mg/kg-day	8.39E-07			
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	7.30E-12	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	8.03E-12	3.15E-11	mg/kg-day	3.00E-04	mg/kg-day	1.05E-07			
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	1.59E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.90E-11	6.87E-11	mg/kg-day	2.00E-04	mg/kg-day	3.44E-07			
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	7.16E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	2.94E-10	3.10E-10	mg/kg-day	5.00E-04	mg/kg-day	6.20E-07			
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	2.68E-04	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	1.10E-01	mg/kg-day	1.05E-02			
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	6.00E-06	mg/kg-day	--	--	--	2.60E-05	mg/kg-day	2.90E-02	mg/kg-day	8.95E-04			
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	2.11E-11	mg/kg-day	--	--	--	9.13E-11	mg/kg-day	5.00E-03	mg/kg-day	1.83E-08			
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	4.39E-08	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	5.26E-09	1.90E-07	mg/kg-day	8.57E-04	mg/kg-day	2.22E-04			
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	2.11E-06	mg/kg-day	--	--	--	9.14E-06	mg/kg-day	8.57E-04	mg/kg-day	1.07E-02			
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	2.38E-06	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	4.00E-02	mg/kg-day	2.58E-04			
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	2.16E-08	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	3.00E-01	mg/kg-day	3.12E-07			
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	2.68E-04	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	1.10E-01	mg/kg-day	1.05E-02			
				Pyrene	1.92E-05	ug/m <sup>3</sup>	2.86E-09	mg/kg-day	--	--	--	1.24E-08	mg/kg-day	3.00E-02	mg/kg-day	4.13E-07			
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	8.46E-08	mg/kg-day	--	--	--	3.66E-07	mg/kg-day	4.00E-02	mg/kg-day	9.16E-06			
				Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	8.47E-08	mg/kg-day	--	--	--	3.67E-05	mg/kg-day	4.00E-02	mg/kg-day	9.17E-04			
				Toluene	2.18E-03	ug/m <sup>3</sup>	3.24E-07	mg/kg-day	--	--	--	1.40E-08	mg/kg-day	1.43E+00	mg/kg-day	9.82E-07			
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	8.98E-06	mg/kg-day	--	--	--	3.89E-05	mg/kg-day	2.00E-02	mg/kg-day	1.94E-03			
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	8.49E-06	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	5.94E-08	3.68E-05	mg/kg-day	1.70E-01	mg/kg-day	2.16E-04			
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	1.93E-05	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	5.21E-06	8.36E-05	mg/kg-day	2.86E-02	mg/kg-day	2.93E-03			
				Exposure Route Total										5.90E-06					5.80E-02
				Exposure Point Total										5.90E-06					
Exposure Medium Total										6.02E-06						5.94E-02			
Medium Total										6.02E-06						5.94E-02			
Total of Receptor Risks Across All Media										1.76E-03	Total of Receptor Hazards Across All Media				8.18E+01				

**TABLE H-7.23**

**EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

**Notes:**

- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RIC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.24

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.51E-07	mg/kg-day	--	--	--	4.40E-07	mg/kg-day	1.00E-02	mg/kg-day	4.40E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	5.13E-07	mg/kg-day	--	--	--	1.50E-08	mg/kg-day	1.00E-02	mg/kg-day	1.50E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	5.03E-08	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	5.00E-02	mg/kg-day	2.94E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	2.62E-08	mg/kg-day	--	--	--	7.63E-06	mg/kg-day	9.00E-02	mg/kg-day	8.48E-05
				1,2-Dichloropropane	3.60E-03	mg/kg	3.62E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.30E-11	1.06E-09	mg/kg-day	1.14E-03	mg/kg-day	9.27E-07
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.61E-08	mg/kg-day	--	--	--	4.70E-08	mg/kg-day	5.00E-02	mg/kg-day	9.39E-07
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.11E-07	mg/kg-day	--	--	--	3.23E-07	mg/kg-day	3.00E-02	mg/kg-day	1.08E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	6.84E-07	mg/kg-day	5.40E-03	(mg/kg-day)-1	3.70E-09	2.00E-06	mg/kg-day	3.00E-02	mg/kg-day	6.65E-05
				2,4-Dimethylphenol	2.10E-01	mg/kg	2.11E-08	mg/kg-day	--	--	--	6.16E-08	mg/kg-day	2.00E-02	mg/kg-day	3.08E-06
				2-Methylphenol	8.10E-02	mg/kg	8.15E-09	mg/kg-day	--	--	--	2.38E-08	mg/kg-day	4.00E-03	mg/kg-day	5.94E-06
				2-Methylnaphthalene	1.67E+00	mg/kg	1.68E-07	mg/kg-day	--	--	--	4.91E-07	mg/kg-day	5.00E-02	mg/kg-day	9.82E-06
				4,4'-DDD	1.20E-03	mg/kg	1.21E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.90E-11	3.52E-10	mg/kg-day	5.00E-04	mg/kg-day	7.05E-07
				4,4'-DDE	8.23E-02	mg/kg	8.28E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.82E-09	2.42E-08	mg/kg-day	5.00E-04	mg/kg-day	4.83E-05
				4,4'-DDT	4.45E-02	mg/kg	4.48E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.52E-09	1.31E-08	mg/kg-day	5.00E-04	mg/kg-day	2.61E-05
				4-Methylphenol	2.70E-01	mg/kg	2.72E-08	mg/kg-day	--	--	--	7.93E-08	mg/kg-day	5.00E-03	mg/kg-day	1.59E-05
				4-Nitroaniline	8.20E-01	mg/kg	8.24E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.31E-09	1.82E-07	mg/kg-day	3.00E-03	mg/kg-day	6.07E-05
				4-Nitrophenol	4.20E-01	mg/kg	4.23E-08	mg/kg-day	--	--	--	1.23E-07	mg/kg-day	5.00E-04	mg/kg-day	2.47E-04
				Acenaphthene	4.23E+00	mg/kg	4.26E-07	mg/kg-day	--	--	--	1.24E-06	mg/kg-day	6.00E-02	mg/kg-day	2.07E-05
				Acenaphthylene	1.04E-01	mg/kg	1.05E-08	mg/kg-day	--	--	--	3.06E-08	mg/kg-day	6.00E-02	mg/kg-day	5.10E-07
				Aldrin	1.30E-02	mg/kg	1.31E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.22E-08	3.82E-09	mg/kg-day	3.00E-05	mg/kg-day	1.27E-04
				alpha-BHC	7.30E-04	mg/kg	7.35E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.98E-10	2.14E-10	mg/kg-day	5.00E-04	mg/kg-day	4.29E-07
				alpha-Chlordane	8.14E-03	mg/kg	8.19E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.07E-09	2.39E-09	mg/kg-day	5.00E-04	mg/kg-day	4.78E-06
				Aluminum	8.82E+03	mg/kg	8.88E-04	mg/kg-day	--	--	--	2.59E-03	mg/kg-day	1.00E+00	mg/kg-day	2.59E-03
				Anthracene	1.05E+00	mg/kg	1.06E-07	mg/kg-day	--	--	--	3.10E-07	mg/kg-day	3.00E-01	mg/kg-day	1.03E-06
				Antimony	4.08E+00	mg/kg	4.10E-07	mg/kg-day	--	--	--	1.20E-06	mg/kg-day	4.00E-04	mg/kg-day	2.99E-03
				Aroclor-1248	1.20E+00	mg/kg	1.21E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.42E-07	3.52E-07	mg/kg-day	2.00E-05	mg/kg-day	1.76E-02
				Aroclor-1254	4.44E-01	mg/kg	4.47E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.94E-08	1.30E-07	mg/kg-day	2.00E-05	mg/kg-day	6.52E-03
				Aroclor-1260	5.41E-01	mg/kg	5.45E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.09E-07	1.59E-07	mg/kg-day	2.00E-05	mg/kg-day	7.95E-03
				Aroclor-1268	2.78E-02	mg/kg	2.79E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.59E-09	8.15E-09	mg/kg-day	2.00E-05	mg/kg-day	4.07E-04
				Arsenic	6.17E+00	mg/kg	6.21E-07	mg/kg-day	8.45E+00	(mg/kg-day)-1	5.86E-06	1.81E-06	mg/kg-day	3.00E-04	mg/kg-day	6.03E-03
				Barium	6.78E+01	mg/kg	6.83E-06	mg/kg-day	--	--	--	1.99E-05	mg/kg-day	7.00E-02	mg/kg-day	2.84E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	5.04E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.04E-07	1.47E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.68E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	2.01E-06	4.89E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.76E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.31E-07	8.04E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	7.68E-08	mg/kg-day	--	--	--	2.24E-07	mg/kg-day	3.00E-02	mg/kg-day	7.47E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.28E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.94E-07	9.57E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.40E-08	mg/kg-day	--	--	--	6.99E-08	mg/kg-day	2.00E-03	mg/kg-day	3.50E-05
				Beta-BHC	2.20E-03	mg/kg	2.21E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.32E-10	6.46E-10	mg/kg-day	2.00E-04	mg/kg-day	3.23E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	7.88E-07	mg/kg-day	3.00E+03	(mg/kg-day)-1	2.36E-09	2.30E-06	mg/kg-day	2.00E-02	mg/kg-day	1.15E-04
				Cadmium	9.47E+00	mg/kg	9.53E-07	mg/kg-day	3.80E-01	(mg/kg-day)-1	3.62E-07	2.78E-06	mg/kg-day	5.00E-04	mg/kg-day	5.56E-03
				Carbon disulfide	2.40E-04	mg/kg	2.42E-11	mg/kg-day	--	--	--	7.05E-11	mg/kg-day	1.00E-01	mg/kg-day	7.05E-10
				Chlorobenzene	1.10E-01	mg/kg	1.11E-08	mg/kg-day	--	--	--	3.23E-08	mg/kg-day	2.00E-02	mg/kg-day	1.61E-06
				Chromium	1.11E+02	mg/kg	1.12E-05	mg/kg-day	--	--	--	3.28E-05	mg/kg-day	1.50E+00	mg/kg-day	2.18E-05
				Chrysene	5.68E+00	mg/kg	5.72E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	6.86E-08	1.67E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	7.62E-07	mg/kg-day	--	--	--	2.22E-06	mg/kg-day	2.00E-02	mg/kg-day	1.11E-04
				Copper	5.71E+01	mg/kg	5.74E-06	mg/kg-day	--	--	--	1.67E-05	mg/kg-day	4.00E-02	mg/kg-day	4.19E-04
				Delta-BHC	8.40E-03	mg/kg	8.45E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.27E-09	2.47E-09	mg/kg-day	2.00E-04	mg/kg-day	1.23E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	3.20E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.31E-07	9.32E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E-01	mg/kg	1.31E-06	mg/kg-day	--	--	--	3.82E-06	mg/kg-day	2.00E-03	mg/kg-day	1.91E-03
				Dieldrin	5.51E-02	mg/kg	5.55E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.88E-08	1.62E-08	mg/kg-day	5.00E-05	mg/kg-day	3.24E-04
				Dimethylphthalate	3.80E-02	mg/kg	3.82E-09	mg/kg-day	--	--	--	1.12E-08	mg/kg-day	8.00E-01	mg/kg-day	1.39E-08

TABLE H-7.24

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	2.21E-07	mg/kg-day	--	--	--	6.46E-07	mg/kg-day	2.00E-01	mg/kg-day	3.23E-06			
				Endosulfan I	2.30E-02	mg/kg	2.31E-09	mg/kg-day	--	--	--	6.75E-09	mg/kg-day	6.00E-03	mg/kg-day	1.13E-06			
				Endosulfan II	2.38E-02	mg/kg	2.40E-09	mg/kg-day	--	--	--	6.99E-09	mg/kg-day	6.00E-03	mg/kg-day	1.17E-06			
				Endosulfan Sulfate	4.30E-02	mg/kg	4.33E-09	mg/kg-day	--	--	--	1.26E-08	mg/kg-day	6.00E-03	mg/kg-day	2.10E-06			
				Endrin aldehyde	4.21E-02	mg/kg	4.23E-09	mg/kg-day	--	--	--	1.24E-08	mg/kg-day	3.00E-04	mg/kg-day	4.12E-05			
				Endrin Ketone	1.00E-02	mg/kg	1.01E-09	mg/kg-day	--	--	--	2.94E-09	mg/kg-day	3.00E-04	mg/kg-day	9.78E-06			
				Fluoranthene	2.65E+01	mg/kg	2.67E-06	mg/kg-day	--	--	--	7.78E-06	mg/kg-day	4.00E-02	mg/kg-day	1.95E-04			
				Fluorene	2.92E+00	mg/kg	2.93E-07	mg/kg-day	--	--	--	8.66E-07	mg/kg-day	4.00E-02	mg/kg-day	2.14E-05			
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.62E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.88E-10	7.63E-10	mg/kg-day	3.00E-04	mg/kg-day	2.54E-06			
				gamma-Chlordane	1.31E-02	mg/kg	1.32E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.71E-09	3.85E-09	mg/kg-day	5.00E-04	mg/kg-day	7.69E-06			
				Heptachlor	6.90E-03	mg/kg	6.94E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.85E-09	2.03E-09	mg/kg-day	5.00E-04	mg/kg-day	4.05E-06			
				Heptachlor Epoxide	1.12E-02	mg/kg	1.12E-09	mg/kg-day	5.50E+00	(mg/kg-day)-1	6.17E-09	3.27E-09	mg/kg-day	1.30E-05	mg/kg-day	2.52E-04			
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	8.79E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.05E-07	2.56E-07	mg/kg-day	--	--	--			
				Iron	4.07E+04	mg/kg	4.10E-03	mg/kg-day	--	--	--	1.20E-02	mg/kg-day	3.00E-01	mg/kg-day	3.99E-02			
				Isophorone	2.00E-01	mg/kg	2.01E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.91E-11	5.87E-08	mg/kg-day	2.00E-01	mg/kg-day	2.94E-07			
				Lead	2.90E+03	mg/kg	2.92E-04	mg/kg-day	--	--	--	8.52E-04	mg/kg-day	--	--	--			
				Manganese	3.31E+02	mg/kg	3.33E-05	mg/kg-day	--	--	--	9.72E-05	mg/kg-day	2.40E-02	mg/kg-day	4.05E-03			
				Mercury	3.10E-01	mg/kg	3.12E-08	mg/kg-day	--	--	--	9.09E-08	mg/kg-day	3.00E-04	mg/kg-day	3.03E-04			
				Methoxychlor	1.20E-01	mg/kg	1.21E-08	mg/kg-day	--	--	--	3.52E-08	mg/kg-day	5.00E-03	mg/kg-day	7.05E-06			
				Molybdenum	2.50E+00	mg/kg	2.52E-07	mg/kg-day	--	--	--	7.35E-07	mg/kg-day	5.00E-03	mg/kg-day	1.47E-04			
				Naphthalene	1.30E+01	mg/kg	1.31E-06	mg/kg-day	--	--	--	3.82E-06	mg/kg-day	2.00E-02	mg/kg-day	1.91E-04			
				Nickel	3.91E+01	mg/kg	3.94E-06	mg/kg-day	--	--	--	1.15E-05	mg/kg-day	2.00E-02	mg/kg-day	5.74E-04			
				Phenanthrene	1.39E+01	mg/kg	1.40E-06	mg/kg-day	--	--	--	4.09E-06	mg/kg-day	3.00E-01	mg/kg-day	1.36E-05			
				Phenol	5.80E-01	mg/kg	5.84E-08	mg/kg-day	--	--	--	1.70E-07	mg/kg-day	3.00E-01	mg/kg-day	5.68E-07			
				p-Isopropyltoluene	1.10E-01	mg/kg	1.11E-08	mg/kg-day	--	--	--	3.23E-08	mg/kg-day	1.00E-01	mg/kg-day	3.23E-07			
				Pyrene	2.41E+01	mg/kg	2.43E-06	mg/kg-day	--	--	--	7.09E-06	mg/kg-day	3.00E-02	mg/kg-day	2.36E-04			
				sec-Butylbenzene	7.10E-02	mg/kg	7.15E-09	mg/kg-day	--	--	--	4.09E-08	mg/kg-day	4.00E-02	mg/kg-day	5.21E-07			
				Selenium	2.24E-01	mg/kg	2.26E-08	mg/kg-day	--	--	--	6.59E-08	mg/kg-day	5.00E-03	mg/kg-day	1.32E-05			
				Silver	1.16E+00	mg/kg	1.17E-07	mg/kg-day	--	--	--	3.40E-07	mg/kg-day	5.00E-03	mg/kg-day	6.80E-05			
				Technical Chlordane	5.51E-01	mg/kg	5.55E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	7.21E-08	1.62E-07	mg/kg-day	5.00E-04	mg/kg-day	3.24E-04			
				Thallium	4.97E-01	mg/kg	5.00E-08	mg/kg-day	--	--	--	1.46E-07	mg/kg-day	8.00E-05	mg/kg-day	1.82E-03			
				Toluene	4.30E-04	mg/kg	4.33E-11	mg/kg-day	--	--	--	1.26E-10	mg/kg-day	8.00E-02	mg/kg-day	1.58E-09			
				Vanadium	3.41E+01	mg/kg	3.44E-06	mg/kg-day	--	--	--	1.00E-05	mg/kg-day	1.00E-03	mg/kg-day	1.00E-02			
				Zinc	4.53E+02	mg/kg	4.56E-05	mg/kg-day	--	--	--	1.33E-04	mg/kg-day	3.00E-01	mg/kg-day	4.44E-04			
				Exposure Route Total											1.05E-05				1.12E-01
				Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1,2,4-Trichlorobenzene	2.81E-07	mg/kg-day	--	--	--	8.20E-07	mg/kg-day	1.00E-02	mg/kg-day	8.20E-05	
								1,2,4-Trimethylbenzene	9.56E-08	mg/kg-day	--	--	--	2.79E-07	mg/kg-day	1.00E-02	mg/kg-day	2.79E-05	
								1,2-Dichlorobenzene	9.37E-09	mg/kg-day	--	--	--	2.73E-08	mg/kg-day	5.00E-02	mg/kg-day	5.47E-07	
								1,2-Dichloropropane	4.87E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	9.00E-02	mg/kg-day	1.58E-05	
								1,3,5-Trimethylbenzene	6.75E-11	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.43E-12	1.97E-10	mg/kg-day	1.14E-03	mg/kg-day	1.73E-07	
1,3-Dichlorobenzene	3.00E-09	mg/kg-day	--					--	--	8.75E-09	mg/kg-day	5.00E-02	mg/kg-day	1.73E-07					
1,4-Dichlorobenzene	2.06E-08	mg/kg-day	--					--	--	6.01E-08	mg/kg-day	3.00E-02	mg/kg-day	2.00E-06					
2,4-Dimethylphenol	--	mg/kg-day	5.40E-03					(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2-Methylphenol	3.94E-09	mg/kg-day	--					--	--	1.15E-08	mg/kg-day	2.00E-02	mg/kg-day	5.74E-07					
2-Methylnaphthalene	1.52E-08	mg/kg-day	--					--	--	4.43E-08	mg/kg-day	4.00E-03	mg/kg-day	1.11E-05					
4,4'-DDD	3.13E-08	mg/kg-day	--					--	--	9.14E-08	mg/kg-day	5.00E-02	mg/kg-day	1.83E-06					
4,4'-DDE	2.25E-11	mg/kg-day	2.40E-01					(mg/kg-day)-1	5.40E-12	6.56E-11	mg/kg-day	5.00E-04	mg/kg-day	1.31E-07					
4,4'-DDT	1.54E-09	mg/kg-day	3.40E-01					(mg/kg-day)-1	5.24E-10	4.50E-09	mg/kg-day	5.00E-04	mg/kg-day	9.00E-06					
4-Methylphenol	2.50E-09	mg/kg-day	3.40E-01					(mg/kg-day)-1	8.50E-10	7.30E-09	mg/kg-day	5.00E-04	mg/kg-day	1.46E-05					
4-Nitroaniline	5.06E-08	mg/kg-day	--					--	--	1.48E-07	mg/kg-day	5.00E-03	mg/kg-day	2.95E-05					
	1.16E-07	mg/kg-day	2.10E-02					(mg/kg-day)-1	2.44E-09	3.39E-07	mg/kg-day	3.00E-03	mg/kg-day	1.13E-04					

TABLE H-7.24

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	7.87E-08	mg/kg-day	--	--	--	2.30E-07	mg/kg-day	5.00E-04	mg/kg-day	4.59E-04
				Acenaphthene	4.23E+00	mg/kg	1.03E-06	mg/kg-day	--	--	--	3.01E-06	mg/kg-day	6.00E-02	mg/kg-day	5.01E-05
				Acenaphthylene	1.04E-01	mg/kg	1.95E-09	mg/kg-day	--	--	--	5.69E-09	mg/kg-day	6.00E-02	mg/kg-day	9.49E-08
				Aldrin	1.30E-02	mg/kg	2.44E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.14E-08	7.11E-09	mg/kg-day	3.00E-05	mg/kg-day	2.37E-04
				alpha-BHC	7.30E-04	mg/kg	1.37E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.69E-11	3.99E-11	mg/kg-day	5.00E-04	mg/kg-day	7.98E-08
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	1.65E-05	mg/kg-day	--	--	--	4.82E-05	mg/kg-day	1.00E+00	mg/kg-day	4.82E-05
				Anthracene	1.05E+00	mg/kg	2.57E-07	mg/kg-day	--	--	--	7.50E-07	mg/kg-day	3.00E-01	mg/kg-day	2.50E-06
				Antimony	4.08E+00	mg/kg	7.64E-09	mg/kg-day	--	--	--	2.23E-08	mg/kg-day	4.00E-04	mg/kg-day	5.57E-05
				Aroclor-1248	1.20E+00	mg/kg	3.15E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.30E-07	9.18E-07	mg/kg-day	2.00E-05	mg/kg-day	4.59E-02
				Aroclor-1254	4.44E-01	mg/kg	1.17E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.33E-07	3.40E-07	mg/kg-day	2.00E-05	mg/kg-day	1.70E-02
				Aroclor-1260	5.41E-01	mg/kg	1.42E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.84E-07	4.14E-07	mg/kg-day	2.00E-05	mg/kg-day	2.07E-02
				Aroclor-1268	2.78E-02	mg/kg	7.28E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.46E-08	2.12E-08	mg/kg-day	2.00E-05	mg/kg-day	1.06E-03
				Arsenic	6.17E+00	mg/kg	3.47E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	3.28E-06	1.01E-06	mg/kg-day	3.00E-04	mg/kg-day	3.37E-03
				Barium	6.78E+01	mg/kg	1.27E-07	mg/kg-day	--	--	--	3.71E-07	mg/kg-day	7.00E-02	mg/kg-day	5.30E-06
				Benzo(a)anthracene	5.00E+00	mg/kg	1.22E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.46E-06	3.56E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.06E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	4.87E-06	1.18E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	6.67E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.01E-07	1.95E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.86E-07	mg/kg-day	--	--	--	5.43E-07	mg/kg-day	3.00E-02	mg/kg-day	1.81E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	7.94E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.53E-07	2.32E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	4.46E-10	mg/kg-day	--	--	--	1.30E-09	mg/kg-day	2.00E-03	mg/kg-day	6.51E-07
				Beta-BHC	2.20E-03	mg/kg	4.12E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	6.18E-11	1.20E-10	mg/kg-day	2.00E-04	mg/kg-day	6.01E-07
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.47E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	4.40E-10	4.28E-07	mg/kg-day	2.00E-02	mg/kg-day	2.14E-05
				Cadmium	9.47E+00	mg/kg	1.78E-08	mg/kg-day	3.80E-01	(mg/kg-day)-1	6.75E-09	5.18E-08	mg/kg-day	5.00E-04	mg/kg-day	1.04E-04
				Carbon disulfide	2.40E-04	mg/kg	1.12E-10	mg/kg-day	--	--	--	3.28E-10	mg/kg-day	1.00E-01	mg/kg-day	3.28E-09
				Chlorobenzene	1.10E-01	mg/kg	2.06E-09	mg/kg-day	--	--	--	6.01E-09	mg/kg-day	2.00E-02	mg/kg-day	3.01E-07
				Chromium	1.11E+02	mg/kg	2.08E-07	mg/kg-day	--	--	--	6.08E-07	mg/kg-day	1.50E+00	mg/kg-day	4.05E-07
				Chrysene	5.68E+00	mg/kg	1.38E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.66E-07	4.04E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.42E-08	mg/kg-day	--	--	--	4.14E-08	mg/kg-day	2.00E-02	mg/kg-day	2.07E-06
				Copper	5.71E+01	mg/kg	1.07E-07	mg/kg-day	--	--	--	3.12E-07	mg/kg-day	4.00E-02	mg/kg-day	7.80E-06
				Delta-BHC	8.40E-03	mg/kg	7.87E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.18E-09	2.30E-09	mg/kg-day	2.00E-04	mg/kg-day	1.15E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	7.73E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.17E-07	2.26E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.44E-07	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	2.00E-03	mg/kg-day	3.55E-04
				Dieldrin	5.51E-02	mg/kg	1.03E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.65E-08	3.01E-09	mg/kg-day	5.00E-05	mg/kg-day	6.03E-05
				Dimethylphthalate	3.80E-02	mg/kg	7.12E-10	mg/kg-day	--	--	--	2.08E-09	mg/kg-day	8.00E-01	mg/kg-day	2.60E-09
				di-n-Butylphthalate	2.20E+00	mg/kg	4.12E-08	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	2.00E-01	mg/kg-day	6.01E-07
				Endosulfan I	2.30E-02	mg/kg	2.16E-09	mg/kg-day	--	--	--	6.29E-09	mg/kg-day	6.00E-03	mg/kg-day	1.05E-06
				Endosulfan II	2.38E-02	mg/kg	2.23E-09	mg/kg-day	--	--	--	6.51E-09	mg/kg-day	6.00E-03	mg/kg-day	1.08E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	4.03E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	6.00E-03	mg/kg-day	1.96E-06
				Endrin aldehyde	4.21E-02	mg/kg	3.94E-09	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	3.00E-04	mg/kg-day	3.83E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	6.46E-06	mg/kg-day	--	--	--	1.88E-05	mg/kg-day	4.00E-02	mg/kg-day	4.71E-04
				Fluorene	2.92E+00	mg/kg	7.10E-07	mg/kg-day	--	--	--	2.07E-06	mg/kg-day	4.00E-02	mg/kg-day	5.18E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.95E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.14E-10	5.68E-10	mg/kg-day	3.00E-04	mg/kg-day	1.89E-06
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.29E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.30E-10	3.77E-10	mg/kg-day	5.00E-04	mg/kg-day	7.54E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	2.09E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.15E-09	6.10E-10	mg/kg-day	1.30E-05	mg/kg-day	4.69E-05
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.13E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.55E-07	6.20E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	7.63E-05	mg/kg-day	--	--	--	2.23E-04	mg/kg-day	3.00E-01	mg/kg-day	7.42E-04
				Isothorone	2.00E-01	mg/kg	3.75E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.56E-11	1.09E-07	mg/kg-day	2.00E-01	mg/kg-day	5.47E-07
				Lead	2.90E+03	mg/kg	5.44E-06	mg/kg-day	--	--	--	1.59E-05	mg/kg-day	--	--	--

TABLE H-7.24

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units						
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	6.20E-07	mg/kg-day	--	--	--	1.81E-06	mg/kg-day	2.40E-02	mg/kg-day	7.54E-05			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	--		
				Methoxychlor	1.20E-01	mg/kg	2.25E-09	mg/kg-day	--	--	--	6.56E-09	mg/kg-day	5.00E-03	mg/kg-day	1.31E-06	mg/kg-day	1.31E-06	
				Molybdenum	2.50E+00	mg/kg	4.69E-09	mg/kg-day	--	--	--	1.37E-08	mg/kg-day	5.00E-03	mg/kg-day	2.74E-06	mg/kg-day	2.74E-06	
				Naphthalene	1.30E+01	mg/kg	3.17E-06	mg/kg-day	--	--	--	9.24E-06	mg/kg-day	2.00E-02	mg/kg-day	4.62E-04	mg/kg-day	4.62E-04	
				Nickel	3.91E+01	mg/kg	7.33E-08	mg/kg-day	--	--	--	2.14E-07	mg/kg-day	2.00E-02	mg/kg-day	1.07E-05	mg/kg-day	1.07E-05	
				Phenanthrene	1.39E+01	mg/kg	2.61E-07	mg/kg-day	--	--	--	7.61E-07	mg/kg-day	3.00E-01	mg/kg-day	2.54E-06	mg/kg-day	2.54E-06	
				Phenol	5.80E-01	mg/kg	1.09E-07	mg/kg-day	--	--	--	3.17E-07	mg/kg-day	3.00E-01	mg/kg-day	1.06E-06	mg/kg-day	1.06E-06	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	1.00E-01	mg/kg-day	--	--	--	--	
				Pyrene	2.41E+01	mg/kg	5.88E-06	mg/kg-day	--	--	--	1.72E-05	mg/kg-day	3.00E-02	mg/kg-day	5.72E-04	mg/kg-day	5.72E-04	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	4.00E-02	mg/kg-day	--	--	--	--	
				Selenium	2.24E-01	mg/kg	4.21E-10	mg/kg-day	--	--	--	1.23E-09	mg/kg-day	5.00E-03	mg/kg-day	2.45E-07	mg/kg-day	2.45E-07	
				Silver	1.16E+00	mg/kg	2.17E-09	mg/kg-day	--	--	--	6.33E-09	mg/kg-day	5.00E-03	mg/kg-day	1.27E-06	mg/kg-day	1.27E-06	
				Technical Chlordane	5.51E-01	mg/kg	4.13E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.37E-08	1.20E-07	mg/kg-day	5.00E-04	mg/kg-day	2.41E-04	mg/kg-day	2.41E-04	
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	8.00E-05	mg/kg-day	--	--	--	--	
				Toluene	4.30E-04	mg/kg	8.06E-12	mg/kg-day	--	--	--	2.35E-11	mg/kg-day	8.00E-02	mg/kg-day	2.94E-10	mg/kg-day	2.94E-10	
				Vanadium	3.41E+01	mg/kg	6.40E-08	mg/kg-day	--	--	--	1.87E-07	mg/kg-day	1.00E-03	mg/kg-day	1.87E-04	mg/kg-day	1.87E-04	
				Zinc	4.53E+02	mg/kg	8.50E-07	mg/kg-day	--	--	--	2.48E-06	mg/kg-day	3.00E-01	mg/kg-day	8.26E-06	mg/kg-day	8.26E-06	
				Exposure Point Total			Exposure Route Total					1.34E-05							9.27E-02
				Exposure Medium Total									2.39E-05						
Exposure Medium Total									2.39E-05							2.05E-01			
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.54E-12	mg/kg-day	--	--	--	7.42E-12	mg/kg-day	2.00E-02	mg/kg-day	3.71E-10				
			2-Methylphenol	8.14E-11	mg/m <sup>3</sup>	9.81E-13	mg/kg-day	--	--	--	2.86E-12	mg/kg-day	--	--	--	--			
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.45E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.49E-15	4.24E-14	mg/kg-day	5.00E-04	mg/kg-day	8.48E-11	mg/kg-day	8.48E-11		
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	5.39E-13	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.83E-13	1.57E-12	mg/kg-day	5.00E-04	mg/kg-day	3.14E-09	mg/kg-day	3.14E-09		
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.27E-12	mg/kg-day	--	--	--	9.54E-12	mg/kg-day	5.00E-03	mg/kg-day	1.91E-09	mg/kg-day	1.91E-09		
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	7.51E-12	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.58E-13	2.19E-11	mg/kg-day	1.00E-03	mg/kg-day	2.19E-08	mg/kg-day	2.19E-08		
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	5.09E-12	mg/kg-day	--	--	--	1.48E-11	mg/kg-day	5.70E-04	mg/kg-day	2.60E-08	mg/kg-day	2.60E-08		
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.07E-07	mg/kg-day	--	--	--	3.12E-07	mg/kg-day	1.43E-03	mg/kg-day	2.18E-04	mg/kg-day	2.18E-04		
			Antimony	3.09E-09	mg/m <sup>3</sup>	4.94E-11	mg/kg-day	--	--	--	1.44E-10	mg/kg-day	--	--	--	--	--		
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.45E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.91E-11	4.24E-11	mg/kg-day	2.00E-05	mg/kg-day	2.12E-06	mg/kg-day	2.12E-06		
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	5.38E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.08E-11	1.57E-11	mg/kg-day	2.00E-05	mg/kg-day	7.84E-07	mg/kg-day	7.84E-07		
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	6.55E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.31E-11	1.91E-11	mg/kg-day	2.00E-05	mg/kg-day	9.56E-07	mg/kg-day	9.56E-07		
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.36E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.72E-13	9.80E-13	mg/kg-day	2.00E-05	mg/kg-day	4.90E-08	mg/kg-day	4.90E-08		
			Arsenic	4.67E-09	mg/m <sup>3</sup>	7.47E-11	mg/kg-day	1.20E+01	(mg/kg-day)-1	8.96E-10	2.18E-10	mg/kg-day	8.60E-06	mg/kg-day	2.53E-05	mg/kg-day	2.53E-05		
			Barium	5.14E-08	mg/m <sup>3</sup>	8.21E-10	mg/kg-day	--	--	--	2.40E-09	mg/kg-day	1.40E-04	mg/kg-day	1.71E-05	mg/kg-day	1.71E-05		
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	6.06E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.36E-11	1.77E-10	mg/kg-day	--	--	--	--	--		
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	2.02E-11	mg/kg-day	3.90E+00	(mg/kg-day)-1	7.86E-11	5.88E-11	mg/kg-day	--	--	--	--	--		
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	9.25E-12	mg/kg-day	--	--	--	2.70E-11	mg/kg-day	3.00E-02	mg/kg-day	8.99E-10	mg/kg-day	8.99E-10		
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	3.95E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.54E-11	1.15E-10	mg/kg-day	--	--	--	--	--		
			Beryllium	1.80E-10	mg/m <sup>3</sup>	2.88E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	2.42E-11	8.41E-12	mg/kg-day	5.71E-06	mg/kg-day	1.47E-06	mg/kg-day	1.47E-06		
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.66E-14	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.00E-14	7.77E-14	mg/kg-day	2.00E-04	mg/kg-day	3.88E-10	mg/kg-day	3.88E-10		
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	9.48E-11	mg/kg-day	8.40E-03	(mg/kg-day)-1	7.97E-13	2.77E-10	mg/kg-day	2.00E-02	mg/kg-day	1.38E-08	mg/kg-day	1.38E-08		
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.15E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	1.72E-09	3.35E-10	mg/kg-day	5.71E-06	mg/kg-day	5.85E-05	mg/kg-day	5.85E-05		
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.35E-09	mg/kg-day	--	--	--	3.93E-09	mg/kg-day	--	--	--	--	--		
			Cobalt	5.74E-09	mg/m <sup>3</sup>	9.17E-11	mg/kg-day	9.80E+00	(mg/kg-day)-1	8.99E-10	2.67E-10	mg/kg-day	5.71E-06	mg/kg-day	4.68E-05	mg/kg-day	4.68E-05		
			Copper	4.32E-08	mg/m <sup>3</sup>	6.91E-10	mg/kg-day	--	--	--	2.02E-09	mg/kg-day	--	--	--	--	--		
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	3.84E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.58E-11	1.12E-11	mg/kg-day	--	--	--	--	--		
Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.60E-13	mg/kg-day	--	--	--	1.34E-12	mg/kg-day	8.00E-01	mg/kg-day	1.68E-12	mg/kg-day	1.68E-12					
di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	2.66E-11	mg/kg-day	--	--	--	7.77E-11	mg/kg-day	1.00E-01	mg/kg-day	7.77E-10	mg/kg-day	7.77E-10					
Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	5.09E-13	mg/kg-day	--	--	--	1.49E-12	mg/kg-day	3.00E-04	mg/kg-day	4.95E-09	mg/kg-day	4.95E-09					

TABLE H-7.24

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.21E-13	mg/kg-day	--	--	--	3.53E-13	mg/kg-day	3.00E-04	mg/kg-day	1.18E-09				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.35E-13	mg/kg-day	5.50E+00	(mg/kg-day)-1	7.43E-13	3.94E-13	mg/kg-day	1.30E-05	mg/kg-day	3.03E-08				
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	1.06E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	4.12E-12	3.08E-11	mg/kg-day	--	--	--				
				Iron	3.09E-05	mg/m <sup>3</sup>	4.93E-07	mg/kg-day	--	--	--	1.44E-06	mg/kg-day	--	--	--				
				Isophorone	1.52E-10	mg/m <sup>3</sup>	2.42E-12	mg/kg-day	--	--	--	7.06E-12	mg/kg-day	--	--	--				
				Lead	2.20E-06	mg/m <sup>3</sup>	3.51E-08	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	--	--	--				
				Manganese	2.51E-07	mg/m <sup>3</sup>	4.01E-09	mg/kg-day	--	--	--	1.17E-08	mg/kg-day	1.43E-05	mg/kg-day	8.18E-04				
				Mercury	2.34E-10	mg/m <sup>3</sup>	3.75E-12	mg/kg-day	--	--	--	1.09E-11	mg/kg-day	8.60E-05	mg/kg-day	1.27E-07				
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	3.03E-11	mg/kg-day	--	--	--	8.84E-11	mg/kg-day	--	--	--				
				Nickel	2.96E-08	mg/m <sup>3</sup>	4.74E-10	mg/kg-day	9.10E-01	(mg/kg-day)-1	4.31E-10	1.38E-09	mg/kg-day	1.40E-05	mg/kg-day	9.87E-05				
				Phenol	4.39E-10	mg/m <sup>3</sup>	7.02E-12	mg/kg-day	--	--	--	2.05E-11	mg/kg-day	5.71E-02	mg/kg-day	3.58E-10				
				Selenium	1.70E-10	mg/m <sup>3</sup>	2.72E-12	mg/kg-day	--	--	--	7.93E-12	mg/kg-day	5.70E-03	mg/kg-day	1.39E-09				
				Silver	8.78E-10	mg/m <sup>3</sup>	1.40E-11	mg/kg-day	--	--	--	4.09E-11	mg/kg-day	--	--	--				
				Thallium	3.77E-10	mg/m <sup>3</sup>	6.02E-12	mg/kg-day	--	--	--	1.76E-11	mg/kg-day	--	--	--				
				Vanadium	2.59E-08	mg/m <sup>3</sup>	4.13E-10	mg/kg-day	--	--	--	1.21E-09	mg/kg-day	--	--	--				
				Zinc	3.44E-07	mg/m <sup>3</sup>	5.49E-09	mg/kg-day	--	--	--	1.60E-08	mg/kg-day	--	--	--				
				<b>Exposure Route Total</b>																
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.67E-06	mg/kg-day	--	--	--	4.87E-06	mg/kg-day	1.10E-03	mg/kg-day	4.43E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	5.67E-06	mg/kg-day	--	--	--	1.65E-05	mg/kg-day	1.10E-03	mg/kg-day	1.60E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.87E-06	mg/kg-day	--	--	--	5.46E-06	mg/kg-day	1.70E-03	mg/kg-day	3.21E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	8.51E-05	mg/kg-day	--	--	--	2.48E-04	mg/kg-day	5.70E-02	mg/kg-day	4.35E-03
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.57E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.65E-09	1.33E-07	mg/kg-day	1.14E-03	mg/kg-day	1.17E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	5.84E-07	mg/kg-day	--	--	--	1.70E-06	mg/kg-day	1.70E-03	mg/kg-day	1.00E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.60E-06	mg/kg-day	--	--	--	7.59E-06	mg/kg-day	3.00E-02	mg/kg-day	2.53E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.50E-05	mg/kg-day	4.00E-02	(mg/kg-day)-1	9.99E-07	7.28E-05	mg/kg-day	2.30E-01	mg/kg-day	3.17E-04
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.18E-06	mg/kg-day	--	--	--	3.45E-06	mg/kg-day	5.00E-02	mg/kg-day	6.90E-05
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	1.55E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.27E-11	4.52E-10	mg/kg-day	5.00E-04	mg/kg-day	9.04E-07
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	9.29E-07	mg/kg-day	--	--	--	2.71E-06	mg/kg-day	6.00E-02	mg/kg-day	4.52E-05				
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.29E-08	mg/kg-day	--	--	--	6.67E-08	mg/kg-day	6.00E-02	mg/kg-day	1.11E-06				
				Aldrin	5.63E-09	mg/m <sup>3</sup>	9.00E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.53E-09	2.63E-10	mg/kg-day	3.00E-05	mg/kg-day	8.75E-06				
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	5.81E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.57E-10	1.70E-10	mg/kg-day	5.00E-04	mg/kg-day	3.39E-07				
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.29E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.55E-10	3.76E-10	mg/kg-day	2.00E-04	mg/kg-day	1.88E-06				
				Anthracene	1.45E-05	mg/m <sup>3</sup>	2.31E-07	mg/kg-day	--	--	--	6.75E-07	mg/kg-day	3.00E-01	mg/kg-day	2.25E-06				
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	2.83E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.10E-08	8.25E-08	mg/kg-day	--	--	--				
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	7.23E-09	mg/kg-day	--	--	--	2.11E-08	mg/kg-day	2.00E-01	mg/kg-day	1.05E-07				
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	8.27E-07	mg/kg-day	--	--	--	2.41E-06	mg/kg-day	2.86E-01	mg/kg-day	8.45E-06				
				Chrysene	6.25E-06	mg/m <sup>3</sup>	9.98E-08	mg/kg-day	3.90E-02	(mg/kg-day)-1	3.89E-09	2.91E-07	mg/kg-day	--	--	--				
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	6.69E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.00E-09	1.95E-09	mg/kg-day	2.00E-04	mg/kg-day	9.76E-06				
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	7.17E-07	mg/kg-day	--	--	--	2.09E-06	mg/kg-day	2.00E-03	mg/kg-day	1.05E-03				
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.19E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.90E-08	3.46E-09	mg/kg-day	5.00E-05	mg/kg-day	6.92E-05				
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.29E-09	mg/kg-day	--	--	--	3.76E-09	mg/kg-day	6.00E-03	mg/kg-day	6.26E-07				
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.33E-09	mg/kg-day	--	--	--	3.89E-09	mg/kg-day	6.00E-03	mg/kg-day	6.48E-07				
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.41E-09	mg/kg-day	--	--	--	7.02E-09	mg/kg-day	6.00E-03	mg/kg-day	1.17E-06				
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	2.74E-07	mg/kg-day	--	--	--	7.99E-07	mg/kg-day	4.00E-02	mg/kg-day	2.00E-05				
				Fluorene	1.71E-05	mg/m <sup>3</sup>	2.73E-07	mg/kg-day	--	--	--	7.96E-07	mg/kg-day	4.00E-02	mg/kg-day	1.99E-05				
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.55E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.80E-10	7.43E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06				
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.07E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.49E-10	6.05E-10	mg/kg-day	2.00E-04	mg/kg-day	3.02E-06				
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	5.40E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.21E-08	1.58E-08	mg/kg-day	5.00E-04	mg/kg-day	3.15E-05				
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.38E-09	mg/kg-day	--	--	--	4.02E-09	mg/kg-day	5.00E-03	mg/kg-day	8.05E-07				
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.12E-05	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.34E-06	3.26E-05	mg/kg-day	8.57E-04	mg/kg-day	3.80E-02				
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	3.05E-06	mg/kg-day	--	--	--	8.91E-06	mg/kg-day	3.00E-01	mg/kg-day	2.97E-05				

TABLE H-7.24

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	3.06E-06	mg/kg-day	--	--	--	8.93E-06	mg/kg-day	1.10E-01	mg/kg-day	8.12E-05	
				Pyrene	1.85E-05	mg/m <sup>3</sup>	2.95E-07	mg/kg-day	--	--	--	8.61E-07	mg/kg-day	3.00E-02	mg/kg-day	2.87E-05	
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.49E-07	mg/kg-day	--	--	--	1.31E-06	mg/kg-day	4.00E-02	mg/kg-day	3.27E-05	
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	8.72E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.05E-08	2.54E-08	mg/kg-day	2.00E-04	mg/kg-day	1.27E-04	
				Toluene	3.12E-07	mg/m <sup>3</sup>	4.99E-09	mg/kg-day	--	--	--	1.46E-08	mg/kg-day	1.43E+00	mg/kg-day	1.02E-08	
Exposure Point Total																6.84E-02	
Exposure Medium Total																	6.97E-02
Medium Total																	2.75E-01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.77E-09	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	3.86E-11	1.97E-08	mg/kg-day	1.40E-01	mg/kg-day	1.41E-07	
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.02E-09	mg/kg-day	--	--	--	5.88E-09	mg/kg-day	1.70E-03	mg/kg-day	3.46E-06	
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.32E-08	mg/kg-day	--	--	--	3.86E-08	mg/kg-day	5.70E-02	mg/kg-day	6.76E-07	
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	9.51E-09	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	6.85E-10	2.77E-08	mg/kg-day	1.40E-03	mg/kg-day	1.98E-05	
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.56E-09	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.28E-10	1.04E-08	mg/kg-day	1.14E-03	mg/kg-day	9.12E-06	
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.15E-09	mg/kg-day	--	--	--	3.35E-09	mg/kg-day	1.70E-03	mg/kg-day	1.97E-06	
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.50E-09	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	1.80E-10	1.31E-08	mg/kg-day	2.30E-01	mg/kg-day	5.71E-08	
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.74E-10	mg/kg-day	--	--	--	5.07E-10	mg/kg-day	1.43E+00	mg/kg-day	3.55E-10	
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.55E-11	mg/kg-day	--	--	--	4.51E-11	mg/kg-day	5.00E-02	mg/kg-day	9.02E-10	
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.07E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	7.03E-12	6.03E-11	mg/kg-day	5.00E-04	mg/kg-day	1.21E-07	
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	6.47E-11	mg/kg-day	--	--	--	1.89E-10	mg/kg-day	8.60E-01	mg/kg-day	2.19E-10	
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	6.19E-10	mg/kg-day	--	--	--	1.81E-09	mg/kg-day	6.00E-02	mg/kg-day	3.01E-08	
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.64E-11	mg/kg-day	--	--	--	7.69E-11	mg/kg-day	6.00E-02	mg/kg-day	1.28E-09	
				Aldrin	2.24E-09	mg/m <sup>3</sup>	3.57E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	6.07E-10	1.04E-10	mg/kg-day	3.00E-05	mg/kg-day	3.47E-06	
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.53E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.22E-11	1.32E-11	mg/kg-day	5.00E-04	mg/kg-day	2.64E-08	
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.07E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.28E-11	3.12E-11	mg/kg-day	2.00E-04	mg/kg-day	1.56E-07	
				Anthracene	3.29E-09	mg/m <sup>3</sup>	5.25E-11	mg/kg-day	--	--	--	1.53E-11	mg/kg-day	3.00E-01	mg/kg-day	5.11E-10	
				Benzene	2.61E-07	mg/m <sup>3</sup>	4.17E-09	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	4.17E-10	1.22E-08	mg/kg-day	8.60E-03	mg/kg-day	1.41E-06	
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.77E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.03E-12	2.27E-11	mg/kg-day	--	--	--	
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	4.59E-13	3.43E-10	mg/kg-day	2.00E-02	mg/kg-day	1.72E-08	
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	7.20E-08	mg/kg-day	--	--	--	2.10E-07	mg/kg-day	2.00E-01	mg/kg-day	1.05E-06	
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.17E-09	mg/kg-day	--	--	--	3.41E-09	mg/kg-day	2.86E-01	mg/kg-day	1.20E-08	
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.30E-08	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	6.28E-10	9.64E-08	mg/kg-day	8.57E-02	mg/kg-day	1.12E-06	
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	3.49E-08	mg/kg-day	2.60E-02	mg/kg-day	1.34E-06	
				Chrysene	1.32E-09	mg/m <sup>3</sup>	2.10E-11	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	8.20E-13	6.13E-11	mg/kg-day	--	--	--	
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	8.47E-09	mg/kg-day	--	--	--	2.47E-08	mg/kg-day	1.00E-02	mg/kg-day	2.47E-08	
				Dieldrin	8.82E-10	mg/m <sup>3</sup>	1.57E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.51E-10	4.58E-11	mg/kg-day	5.00E-05	mg/kg-day	9.16E-07	
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.58E-12	mg/kg-day	--	--	--	1.04E-11	mg/kg-day	6.00E-03	mg/kg-day	1.74E-09	
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.88E-15	mg/kg-day	--	--	--	1.72E-14	mg/kg-day	6.00E-03	mg/kg-day	2.86E-12	
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	3.19E-09	mg/kg-day	--	--	--	9.30E-09	mg/kg-day	2.00E-01	mg/kg-day	3.21E-08	
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	8.08E-12	mg/kg-day	--	--	--	2.36E-11	mg/kg-day	4.00E-02	mg/kg-day	5.89E-10	
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.60E-11	mg/kg-day	--	--	--	4.66E-11	mg/kg-day	4.00E-02	mg/kg-day	1.16E-09	
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.99E-14	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.18E-14	5.79E-14	mg/kg-day	3.00E-04	mg/kg-day	1.93E-10	
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.78E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.34E-11	8.11E-11	mg/kg-day	2.00E-04	mg/kg-day	4.06E-07	
				Heptachlor	1.78E-08	mg/m <sup>3</sup>	2.85E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.17E-09	6.32E-10	mg/kg-day	5.00E-04	mg/kg-day	1.06E-06	
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	5.48E-07	mg/kg-day	--	--	--	1.60E-06	mg/kg-day	1.10E-01	mg/kg-day	1.45E-05	
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.11E-08	mg/kg-day	--	--	--	3.24E-08	mg/kg-day	2.90E-02	mg/kg-day	1.12E-06	
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	5.22E-11	mg/kg-day	--	--	--	1.52E-10	mg/kg-day	5.00E-03	mg/kg-day	3.05E-08	
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	8.68E-11	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.04E-11	2.53E-10	mg/kg-day	8.57E-04	mg/kg-day	2.95E-07	
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	4.04E-09	mg/kg-day	--	--	--	1.18E-08	mg/kg-day	8.57E-04	mg/kg-day	1.38E-05	
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.50E-09	mg/kg-day	--	--	--	1.31E-08	mg/kg-day	4.00E-02	mg/kg-day	3.28E-07	
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	4.18E-11	mg/kg-day	--	--	--	1.22E-10	mg/kg-day	3.00E-01	mg/kg-day	4.07E-10	

TABLE H-7.24

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	5.48E-07	mg/kg-day	--	--	--	--	1.60E-06	mg/kg-day	1.10E-01	mg/kg-day	1.45E-05				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	7.37E-12	mg/kg-day	--	--	--	--	2.15E-11	mg/kg-day	3.00E-02	mg/kg-day	7.16E-10				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.28E-08	mg/kg-day	--	--	--	--	3.73E-08	mg/kg-day	4.00E-02	mg/kg-day	9.34E-07				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.45E-08	mg/kg-day	--	--	--	--	4.23E-08	mg/kg-day	4.00E-02	mg/kg-day	1.06E-06				
				Toluene	3.80E-07	mg/m <sup>3</sup>	6.07E-09	mg/kg-day	--	--	--	--	1.77E-08	mg/kg-day	1.43E+00	mg/kg-day	1.24E-08				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.43E-08	mg/kg-day	--	--	--	--	4.18E-08	mg/kg-day	2.00E-02	mg/kg-day	2.09E-06				
				Trichloroethene	8.32E-07	mg/m <sup>3</sup>	1.49E-08	mg/kg-day	7.00E-03	(mg/kg-day)-1	1.04E-10		4.34E-08	mg/kg-day	1.70E-01	mg/kg-day	2.56E-07				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	3.08E-08	mg/kg-day	2.70E-01	(mg/kg-day)-1	8.32E-09		8.99E-08	mg/kg-day	2.86E-02	mg/kg-day	3.15E-06				
				Exposure Route Total																	1.02E-04
				Exposure Point Total																	
Exposure Medium Total																		1.02E-04			
Medium Total																		1.02E-04			
Total of Receptor Risks Across All Media										2.63E-05	Total of Receptor Hazards Across All Media							2.75E-01			

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.25

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.52E-07	mg/kg-day	--	--	--	4.11E-08	mg/kg-day	1.00E-02	mg/kg-day	4.11E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.20E-06	mg/kg-day	--	--	--	1.40E-05	mg/kg-day	1.00E-02	mg/kg-day	1.40E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.17E-07	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	5.00E-02	mg/kg-day	2.74E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	8.11E-06	mg/kg-day	--	--	--	7.12E-05	mg/kg-day	9.00E-02	mg/kg-day	7.91E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	8.45E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	3.04E-11	9.86E-09	mg/kg-day	1.14E-03	mg/kg-day	8.65E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	3.76E-08	mg/kg-day	--	--	--	4.38E-07	mg/kg-day	5.00E-02	mg/kg-day	8.77E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.58E-07	mg/kg-day	--	--	--	3.01E-06	mg/kg-day	3.00E-02	mg/kg-day	1.00E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.60E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	8.62E-09	1.86E-05	mg/kg-day	3.00E-02	mg/kg-day	6.21E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	4.93E-08	mg/kg-day	--	--	--	5.75E-07	mg/kg-day	2.00E-02	mg/kg-day	2.88E-05
				2-Methylphenol	8.10E-02	mg/kg	1.90E-08	mg/kg-day	--	--	--	2.22E-07	mg/kg-day	4.00E-03	mg/kg-day	5.55E-05
				2-Methylnaphthalene	1.07E+00	mg/kg	3.93E-07	mg/kg-day	--	--	--	4.58E-06	mg/kg-day	5.00E-02	mg/kg-day	9.16E-05
				4,4-DDD	1.20E-03	mg/kg	2.82E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	6.76E-11	3.29E-09	mg/kg-day	5.00E-04	mg/kg-day	6.58E-06
				4,4-DDE	8.23E-02	mg/kg	1.93E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.57E-09	2.26E-07	mg/kg-day	5.00E-04	mg/kg-day	4.51E-04
				4,4-DDT	4.45E-02	mg/kg	1.04E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.55E-09	1.22E-07	mg/kg-day	5.00E-04	mg/kg-day	2.44E-04
				4-Methylphenol	2.70E-01	mg/kg	6.34E-08	mg/kg-day	--	--	--	7.40E-07	mg/kg-day	5.00E-03	mg/kg-day	1.48E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.46E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.06E-09	1.70E-06	mg/kg-day	3.00E-03	mg/kg-day	5.66E-04
				4-Nitrophenol	4.20E-01	mg/kg	9.86E-08	mg/kg-day	--	--	--	1.15E-06	mg/kg-day	5.00E-04	mg/kg-day	2.30E-03
				Acenaphthene	4.23E+00	mg/kg	9.94E-07	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	6.00E-02	mg/kg-day	1.93E-04
				Acenaphthylene	1.04E-01	mg/kg	2.45E-08	mg/kg-day	--	--	--	2.85E-07	mg/kg-day	6.00E-02	mg/kg-day	4.76E-06
				Aldrin	1.30E-02	mg/kg	3.05E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.19E-08	3.56E-08	mg/kg-day	3.00E-05	mg/kg-day	1.19E-03
				alpha-BHC	7.30E-04	mg/kg	1.71E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.63E-10	2.00E-09	mg/kg-day	5.00E-04	mg/kg-day	4.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	1.91E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.49E-09	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05
				Aluminum	8.82E+03	mg/kg	2.07E-03	mg/kg-day	--	--	--	2.42E-02	mg/kg-day	1.00E+00	mg/kg-day	2.42E-02
				Anthracene	1.05E+00	mg/kg	2.48E-07	mg/kg-day	--	--	--	2.89E-06	mg/kg-day	3.00E-01	mg/kg-day	9.63E-06
				Antimony	4.08E+00	mg/kg	9.58E-07	mg/kg-day	--	--	--	1.12E-05	mg/kg-day	4.00E-04	mg/kg-day	2.79E-02
				Aroclor-1248	1.20E+00	mg/kg	2.82E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.64E-07	3.29E-06	mg/kg-day	2.00E-05	mg/kg-day	1.84E-01
				Aroclor-1254	4.44E-01	mg/kg	1.04E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.09E-07	1.22E-06	mg/kg-day	2.00E-05	mg/kg-day	6.08E-02
				Aroclor-1260	5.41E-01	mg/kg	1.27E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.54E-07	1.48E-06	mg/kg-day	2.00E-05	mg/kg-day	7.42E-02
				Aroclor-1268	2.78E-02	mg/kg	6.52E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.30E-08	7.61E-08	mg/kg-day	2.00E-05	mg/kg-day	3.80E-03
				Arsenic	6.17E+00	mg/kg	1.45E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.37E-05	1.69E-05	mg/kg-day	3.00E-04	mg/kg-day	5.63E-02
				Barium	6.78E+01	mg/kg	1.59E-05	mg/kg-day	--	--	--	1.86E-04	mg/kg-day	7.00E-02	mg/kg-day	2.65E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	1.18E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.41E-06	1.37E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	3.91E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	4.69E-06	4.56E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	6.43E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.72E-07	7.50E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.79E-07	mg/kg-day	--	--	--	2.09E-06	mg/kg-day	3.00E-02	mg/kg-day	6.97E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	7.66E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.19E-07	8.93E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	5.59E-08	mg/kg-day	--	--	--	6.52E-07	mg/kg-day	2.00E-03	mg/kg-day	3.26E-04
				Beta-BHC	2.20E-03	mg/kg	5.17E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	7.75E-10	6.03E-09	mg/kg-day	2.00E-04	mg/kg-day	3.01E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.84E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	5.52E-09	2.15E-05	mg/kg-day	2.00E-02	mg/kg-day	1.07E-03
				Cadmium	9.47E+00	mg/kg	2.22E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	8.45E-07	2.60E-05	mg/kg-day	5.00E-04	mg/kg-day	5.19E-02
				Carbon disulfide	2.40E-04	mg/kg	5.64E-11	mg/kg-day	--	--	--	6.58E-10	mg/kg-day	1.00E-01	mg/kg-day	6.58E-09
				Chlorobenzene	1.10E-01	mg/kg	2.58E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	2.00E-02	mg/kg-day	1.51E-05
				Chromium	1.11E+02	mg/kg	2.61E-05	mg/kg-day	--	--	--	3.05E-04	mg/kg-day	1.50E+00	mg/kg-day	2.03E-04
				Chrysene	5.68E+00	mg/kg	1.33E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.60E-07	1.56E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.78E-06	mg/kg-day	--	--	--	2.07E-05	mg/kg-day	2.00E-02	mg/kg-day	1.04E-03
				Copper	5.71E+01	mg/kg	1.34E-05	mg/kg-day	--	--	--	1.56E-04	mg/kg-day	4.00E-02	mg/kg-day	3.91E-03
				Delta-BHC	8.40E-03	mg/kg	1.97E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.96E-09	2.30E-08	mg/kg-day	2.00E-04	mg/kg-day	1.15E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	7.46E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.06E-07	8.70E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.05E-06	mg/kg-day	--	--	--	3.56E-05	mg/kg-day	2.00E-03	mg/kg-day	1.78E-02
				Dieldrin	5.51E-02	mg/kg	1.29E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.07E-07	1.51E-07	mg/kg-day	5.00E-05	mg/kg-day	3.02E-03
				Dimethylphthalate	3.80E-02	mg/kg	8.92E-09	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	8.00E-01	mg/kg-day	1.30E-07

TABLE H-7.25

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Recreational User
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations																																																																																																																																																																																																												
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient																																																																																																																																																																																																									
							Value	Units	Value	Units		Value	Units	Value	Units																																																																																																																																																																																																										
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	5.17E-07	mg/kg-day	--	--	--	--	6.03E-06	mg/kg-day	2.00E-01	mg/kg-day	3.01E-05																																																																																																																																																																																																								
				Endosulfan I	2.30E-02	mg/kg	5.40E-09	mg/kg-day	--	--	--	--	6.30E-08	mg/kg-day	6.00E-03	mg/kg-day	1.05E-05																																																																																																																																																																																																								
				Endosulfan II	2.38E-02	mg/kg	5.59E-09	mg/kg-day	--	--	--	--	6.53E-08	mg/kg-day	6.00E-03	mg/kg-day	1.09E-05																																																																																																																																																																																																								
				Endosulfan Sulfate	4.30E-02	mg/kg	1.01E-08	mg/kg-day	--	--	--	--	1.18E-07	mg/kg-day	6.00E-03	mg/kg-day	1.96E-05																																																																																																																																																																																																								
				Endrin aldehyde	4.21E-02	mg/kg	9.88E-09	mg/kg-day	--	--	--	--	1.15E-07	mg/kg-day	3.00E-04	mg/kg-day	3.84E-04																																																																																																																																																																																																								
				Endrin Ketone	1.00E-02	mg/kg	2.35E-09	mg/kg-day	--	--	--	--	2.74E-08	mg/kg-day	3.00E-04	mg/kg-day	9.13E-05																																																																																																																																																																																																								
				Fluoranthene	2.65E+01	mg/kg	6.22E-06	mg/kg-day	--	--	--	--	7.26E-05	mg/kg-day	4.00E-02	mg/kg-day	1.82E-03																																																																																																																																																																																																								
				Fluorene	2.92E+00	mg/kg	6.85E-07	mg/kg-day	--	--	--	--	7.99E-06	mg/kg-day	4.00E-02	mg/kg-day	2.00E-04																																																																																																																																																																																																								
				gamma-BHC (Lindane)	2.60E-03	mg/kg	6.11E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	6.72E-10	7.12E-09	mg/kg-day	3.00E-04	mg/kg-day	2.37E-05																																																																																																																																																																																																									
				gamma-Chlordane	1.31E-02	mg/kg	3.08E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.00E-09	3.59E-08	mg/kg-day	5.00E-04	mg/kg-day	7.18E-05																																																																																																																																																																																																									
				Heptachlor	6.90E-03	mg/kg	1.62E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.64E-09	1.89E-08	mg/kg-day	5.00E-04	mg/kg-day	3.78E-05																																																																																																																																																																																																									
				Heptachlor Epoxide	1.12E-02	mg/kg	2.62E-09	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.44E-08	3.06E-08	mg/kg-day	1.30E-05	mg/kg-day	2.35E-03																																																																																																																																																																																																									
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.05E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.46E-07	2.39E-06	mg/kg-day	--	--	--																																																																																																																																																																																																									
				Iron	4.07E+04	mg/kg	9.56E-03	mg/kg-day	--	--	--	1.12E-01	mg/kg-day	3.00E-01	mg/kg-day	3.72E-01																																																																																																																																																																																																									
				Isophorone	2.00E-01	mg/kg	4.70E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	4.46E-11	5.48E-07	mg/kg-day	2.00E-01	mg/kg-day	2.74E-06																																																																																																																																																																																																									
				Lead	2.80E+03	mg/kg	6.82E-04	mg/kg-day	--	--	--	7.95E-03	mg/kg-day	--	--	--																																																																																																																																																																																																									
				Manganese	3.31E+02	mg/kg	7.77E-05	mg/kg-day	--	--	--	9.07E-04	mg/kg-day	2.40E-02	mg/kg-day	3.78E-02																																																																																																																																																																																																									
				Mercury	3.10E-01	mg/kg	7.27E-08	mg/kg-day	--	--	--	8.48E-07	mg/kg-day	3.00E-04	mg/kg-day	2.83E-03																																																																																																																																																																																																									
				Methoxychlor	1.20E-01	mg/kg	2.82E-08	mg/kg-day	--	--	--	3.29E-07	mg/kg-day	5.00E-03	mg/kg-day	6.58E-05																																																																																																																																																																																																									
				Molybdenum	2.50E+00	mg/kg	5.88E-07	mg/kg-day	--	--	--	6.86E-06	mg/kg-day	5.00E-03	mg/kg-day	1.37E-03																																																																																																																																																																																																									
				Naphthalene	1.30E+01	mg/kg	3.05E-06	mg/kg-day	--	--	--	3.56E-05	mg/kg-day	2.00E-02	mg/kg-day	1.78E-03																																																																																																																																																																																																									
				Nickel	3.91E+01	mg/kg	9.19E-06	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	2.00E-02	mg/kg-day	5.36E-03																																																																																																																																																																																																									
				Phenanthrene	1.39E+01	mg/kg	3.27E-06	mg/kg-day	--	--	--	3.81E-05	mg/kg-day	3.00E-01	mg/kg-day	1.27E-04																																																																																																																																																																																																									
				Phenol	5.80E-01	mg/kg	1.36E-07	mg/kg-day	--	--	--	1.59E-06	mg/kg-day	3.00E-01	mg/kg-day	5.30E-06																																																																																																																																																																																																									
				p-Isopropyltoluene	1.10E-01	mg/kg	2.58E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	1.00E-01	mg/kg-day	3.01E-06																																																																																																																																																																																																									
				Pyrene	2.41E+01	mg/kg	5.67E-06	mg/kg-day	--	--	--	6.62E-05	mg/kg-day	3.00E-02	mg/kg-day	2.21E-03																																																																																																																																																																																																									
				sec-Butylbenzene	7.10E-02	mg/kg	1.67E-08	mg/kg-day	--	--	--	1.95E-07	mg/kg-day	4.00E-02	mg/kg-day	4.86E-06																																																																																																																																																																																																									
				Selenium	2.24E-01	mg/kg	5.27E-08	mg/kg-day	--	--	--	6.15E-07	mg/kg-day	5.00E-03	mg/kg-day	1.23E-04																																																																																																																																																																																																									
				Silver	1.16E+00	mg/kg	2.72E-07	mg/kg-day	--	--	--	3.18E-06	mg/kg-day	5.00E-03	mg/kg-day	6.35E-04																																																																																																																																																																																																									
				Technical Chlordane	5.51E-01	mg/kg	1.29E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.68E-07	1.51E-06	mg/kg-day	5.00E-04	mg/kg-day	3.02E-03																																																																																																																																																																																																									
				Thallium	4.97E-01	mg/kg	1.17E-07	mg/kg-day	--	--	--	1.36E-06	mg/kg-day	8.00E-05	mg/kg-day	1.70E-02																																																																																																																																																																																																									
				Toluene	4.30E-04	mg/kg	1.01E-10	mg/kg-day	--	--	--	1.18E-09	mg/kg-day	8.00E-02	mg/kg-day	1.47E-08																																																																																																																																																																																																									
				Vanadium	3.41E+01	mg/kg	8.02E-06	mg/kg-day	--	--	--	9.36E-05	mg/kg-day	1.00E-03	mg/kg-day	9.36E-02																																																																																																																																																																																																									
				Zinc	4.53E+02	mg/kg	1.06E-04	mg/kg-day	--	--	--	1.24E-03	mg/kg-day	3.00E-01	mg/kg-day	4.14E-03																																																																																																																																																																																																									
				<b>Exposure Route Total</b>							<b>2.46E-05</b>					<b>1.05E+00</b>																																																																																																																																																																																																									
				Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	4.77E-07	mg/kg-day	--	--	--	--	--	5.56E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04																																																																																																																																																																																																						
																				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.62E-07	mg/kg-day	--	--	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04																																																																																																																																																																																							
																																			1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.59E-08	mg/kg-day	--	--	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06																																																																																																																																																																								
																																																		1,2-Dichlorobenzene	2.60E+01	mg/kg	8.26E-07	mg/kg-day	--	--	--	--	--	9.64E-06	mg/kg-day	9.00E-02	mg/kg-day	1.07E-04																																																																																																																																																									
																																																																	1,2-Dichloropropane	3.60E-03	mg/kg	1.14E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.12E-12	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06																																																																																																																																												
																																																																														1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.08E-09	mg/kg-day	--	--	--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.19E-06																																																																																																																													
																																																																																													1,3-Dichlorobenzene	1.10E+00	mg/kg	3.50E-08	mg/kg-day	--	--	--	--	--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05																																																																																																														
																																																																																																												1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--																																																																																															
																																																																																																																											2,4-Dimethylphenol	2.10E-01	mg/kg	6.67E-09	mg/kg-day	--	--	--	--	--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06																																																																																
																																																																																																																																										2-Methylphenol	8.10E-02	mg/kg	2.57E-08	mg/kg-day	--	--	--	--	--	3.00E-07	mg/kg-day	4.00E-03	mg/kg-day	7.51E-05																																																																	
																																																																																																																																																									2-Methylnaphthalene	1.67E+00	mg/kg	5.31E-08	mg/kg-day	--	--	--	--	--	6.20E-07	mg/kg-day	5.00E-02	mg/kg-day	1.24E-05																																																		
																																																																																																																																																																								4,4'-DDD	1.20E-03	mg/kg	3.81E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	9.15E-12	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07																																					
4,4'-DDE	8.23E-02	mg/kg	2.62E-09																																																																																																																																																																																		mg/kg-day	3.40E-01	(mg/kg-day)-1	8.89E-10	3.05E-08	mg/kg-day	5.00E-04	mg/kg-day	6.10E-05																												
																																																																																																																																																																																														4,4'-DDT	4.45E-02	mg/kg	4.24E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.44E-09	4.95E-08	mg/kg-day	5.00E-04	mg/kg-day	9.90E-05															
																																																																																																																																																																																																											4-Methylphenol	2.70E-01	mg/kg	8.58E-08	mg/kg-day	--	--	--	--	--	1.00E-08	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04

TABLE H-7.25

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.33E-07	mg/kg-day	--	--	--	1.56E-08	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	4.23E+00	mg/kg	1.75E-06	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	6.00E-02	mg/kg-day	3.40E-04
				Acenaphthylene	1.04E-01	mg/kg	3.31E-09	mg/kg-day	--	--	--	3.86E-08	mg/kg-day	6.00E-02	mg/kg-day	6.44E-07
				Aldrin	1.30E-02	mg/kg	4.13E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.02E-08	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03
				alpha-BHC	7.30E-04	mg/kg	2.32E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	6.26E-11	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	2.80E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.00E+00	mg/kg-day	3.27E-04
				Anthracene	1.05E+00	mg/kg	4.36E-07	mg/kg-day	--	--	--	5.08E-06	mg/kg-day	3.00E-01	mg/kg-day	1.69E-05
				Antimony	4.08E+00	mg/kg	1.30E-08	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	4.00E-04	mg/kg-day	3.78E-04
				Aroclor-1248	1.20E+00	mg/kg	5.34E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.07E-06	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01
				Aroclor-1254	4.44E-01	mg/kg	1.98E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.95E-07	2.31E-06	mg/kg-day	2.00E-05	mg/kg-day	1.15E-01
				Aroclor-1260	5.41E-01	mg/kg	2.41E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.82E-07	2.81E-06	mg/kg-day	2.00E-05	mg/kg-day	1.41E-01
				Aroclor-1268	2.78E-02	mg/kg	1.24E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.47E-08	1.44E-07	mg/kg-day	2.00E-05	mg/kg-day	7.20E-03
				Arsenic	6.17E+00	mg/kg	5.88E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	5.56E-06	6.86E-06	mg/kg-day	3.00E-04	mg/kg-day	2.29E-02
				Barium	6.78E+01	mg/kg	2.16E-07	mg/kg-day	--	--	--	2.51E-06	mg/kg-day	7.00E-02	mg/kg-day	3.59E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	2.07E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.48E-06	2.41E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	6.86E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	8.26E-06	8.03E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.13E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.36E-06	1.32E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.16E-07	mg/kg-day	--	--	--	3.68E-06	mg/kg-day	3.00E-02	mg/kg-day	1.23E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.35E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.62E-06	1.57E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	7.57E-10	mg/kg-day	--	--	--	8.83E-09	mg/kg-day	2.00E-03	mg/kg-day	4.41E-06
				Beta-BHC	2.20E-03	mg/kg	6.99E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.05E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.49E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	7.47E-10	2.90E-06	mg/kg-day	2.00E-02	mg/kg-day	1.45E-04
				Cadmium	9.47E+00	mg/kg	3.01E-08	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.14E-08	3.51E-07	mg/kg-day	5.00E-04	mg/kg-day	7.02E-04
				Carbon disulfide	2.40E-04	mg/kg	1.91E-10	mg/kg-day	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	3.50E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.11E+02	mg/kg	3.53E-07	mg/kg-day	--	--	--	4.12E-06	mg/kg-day	1.50E+00	mg/kg-day	2.75E-06
				Chrysene	5.68E+00	mg/kg	2.35E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.82E-07	2.74E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.41E-08	mg/kg-day	--	--	--	2.81E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05
				Copper	5.71E+01	mg/kg	1.81E-07	mg/kg-day	--	--	--	2.12E-06	mg/kg-day	4.00E-02	mg/kg-day	5.29E-05
				Delta-BHC	8.40E-03	mg/kg	1.33E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.00E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.31E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.38E-07	1.53E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.13E-07	mg/kg-day	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	5.51E-02	mg/kg	1.75E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.80E-08	2.04E-08	mg/kg-day	5.00E-05	mg/kg-day	4.09E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.21E-09	mg/kg-day	--	--	--	1.41E-08	mg/kg-day	8.00E-01	mg/kg-day	1.76E-08
				di-n-Butylphthalate	2.20E+00	mg/kg	6.99E-08	mg/kg-day	--	--	--	8.16E-07	mg/kg-day	2.00E-01	mg/kg-day	4.08E-06
				Endosulfan I	2.30E-02	mg/kg	3.65E-09	mg/kg-day	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.38E-02	mg/kg	3.78E-09	mg/kg-day	--	--	--	4.42E-08	mg/kg-day	6.00E-03	mg/kg-day	7.36E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.83E-09	mg/kg-day	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	4.21E-02	mg/kg	6.69E-09	mg/kg-day	--	--	--	7.80E-08	mg/kg-day	3.00E-04	mg/kg-day	2.60E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.10E-05	mg/kg-day	--	--	--	1.28E-04	mg/kg-day	4.00E-02	mg/kg-day	3.19E-03
				Fluorene	2.92E+00	mg/kg	1.20E-06	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	4.00E-02	mg/kg-day	3.51E-04
gamma-BHC (Lindane)	2.60E-03	mg/kg	3.31E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.64E-10	3.66E-09	mg/kg-day	3.00E-04	mg/kg-day	1.20E-05				
gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Heptachlor	6.90E-03	mg/kg	2.19E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.99E-10	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-08				
Heptachlor Epoxide	1.12E-02	mg/kg	3.54E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.95E-09	4.14E-09	mg/kg-day	1.30E-05	mg/kg-day	3.18E-04				
Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	3.61E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.33E-07	4.21E-06	mg/kg-day	--	--	--				
Iron	4.07E+04	mg/kg	1.29E-04	mg/kg-day	--	--	--	1.51E-03	mg/kg-day	3.00E-01	mg/kg-day	5.03E-03				
Isothorone	2.00E-01	mg/kg	6.36E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.04E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06				
Lead	2.90E+03	mg/kg	9.22E-06	mg/kg-day	--	--	--	1.08E-04	mg/kg-day	--	--	--				

TABLE H-7.25

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	1.05E-06	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.40E-02	mg/kg-day	5.11E-04			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	--		
				Methoxychlor	1.20E-01	mg/kg	3.81E-09	mg/kg-day	--	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06		
				Molybdenum	2.50E+00	mg/kg	7.96E-09	mg/kg-day	--	--	--	--	9.29E-08	mg/kg-day	5.00E-03	mg/kg-day	1.86E-05		
				Naphthalene	1.30E+01	mg/kg	5.37E-06	mg/kg-day	--	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03		
				Nickel	3.91E+01	mg/kg	1.24E-07	mg/kg-day	--	--	--	--	1.45E-06	mg/kg-day	2.00E-02	mg/kg-day	7.25E-05		
				Phenanthrene	1.39E+01	mg/kg	4.42E-07	mg/kg-day	--	--	--	--	5.16E-06	mg/kg-day	3.00E-01	mg/kg-day	1.72E-05		
				Phenol	5.80E-01	mg/kg	1.84E-07	mg/kg-day	--	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06		
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	--		
				Pyrene	2.41E+01	mg/kg	9.98E-06	mg/kg-day	--	--	--	--	1.16E-04	mg/kg-day	3.00E-02	mg/kg-day	3.88E-03		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	--		
				Selenium	2.24E-01	mg/kg	7.13E-10	mg/kg-day	--	--	--	--	8.32E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06		
				Silver	1.16E+00	mg/kg	3.68E-09	mg/kg-day	--	--	--	--	4.30E-08	mg/kg-day	5.00E-03	mg/kg-day	8.58E-06		
				Technical Chlordane	5.51E-01	mg/kg	7.01E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	9.11E-08	8.17E-07	mg/kg-day	5.00E-04	mg/kg-day	1.63E-03			
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	8.00E-05	mg/kg-day	--	--		
				Toluene	4.30E-04	mg/kg	1.37E-11	mg/kg-day	--	--	--	--	1.59E-10	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09		
				Vanadium	3.41E+01	mg/kg	1.09E-07	mg/kg-day	--	--	--	--	1.27E-06	mg/kg-day	1.00E-03	mg/kg-day	1.27E-03		
				Zinc	4.53E+02	mg/kg	1.44E-06	mg/kg-day	--	--	--	--	1.68E-05	mg/kg-day	3.00E-01	mg/kg-day	5.60E-05		
				Exposure Route Total										2.27E-05					6.29E-01
				Exposure Point Total										4.73E-05					
Exposure Medium Total										4.73E-05						1.68E+00			
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	3.66E-13	mg/kg-day	--	--	--	4.27E-12	mg/kg-day	2.00E-02	mg/kg-day	2.14E-10				
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	1.41E-13	mg/kg-day	--	--	--	1.65E-12	mg/kg-day	--	--	--	--			
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	2.09E-15	mg/kg-day	2.40E-01	(mg/kg-day)-1	5.02E-16	2.44E-14	mg/kg-day	5.00E-04	mg/kg-day	4.88E-11				
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	7.76E-14	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.64E-14	9.05E-13	mg/kg-day	5.00E-04	mg/kg-day	1.81E-09				
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	4.71E-13	mg/kg-day	--	--	--	5.49E-12	mg/kg-day	5.00E-03	mg/kg-day	1.10E-09				
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	1.08E-12	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.27E-14	1.26E-11	mg/kg-day	1.00E-03	mg/kg-day	1.26E-08				
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	7.32E-13	mg/kg-day	--	--	--	8.54E-12	mg/kg-day	5.70E-04	mg/kg-day	1.50E-08				
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.54E-08	mg/kg-day	--	--	--	1.79E-07	mg/kg-day	1.43E-03	mg/kg-day	1.26E-04				
			Antimony	3.09E-09	mg/m <sup>3</sup>	7.11E-12	mg/kg-day	--	--	--	8.30E-11	mg/kg-day	--	--	--				
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	2.09E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.18E-12	2.44E-11	mg/kg-day	2.00E-05	mg/kg-day	1.22E-06				
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	7.74E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.55E-12	9.03E-12	mg/kg-day	2.00E-05	mg/kg-day	4.52E-07				
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	9.44E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.89E-12	1.10E-11	mg/kg-day	2.00E-05	mg/kg-day	5.51E-07				
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	4.84E-14	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.68E-14	5.65E-13	mg/kg-day	2.00E-05	mg/kg-day	2.82E-08				
			Arsenic	4.67E-09	mg/m <sup>3</sup>	1.08E-11	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.29E-10	1.25E-10	mg/kg-day	8.60E-08	mg/kg-day	1.46E-05				
			Barium	5.14E-08	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	--	--	--	1.38E-09	mg/kg-day	1.40E-04	mg/kg-day	9.85E-06				
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	8.73E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	3.40E-12	1.02E-10	mg/kg-day	--	--	--				
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	2.90E-12	mg/kg-day	3.90E+00	(mg/kg-day)-1	1.13E-11	3.39E-11	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	1.33E-12	mg/kg-day	--	--	--	1.55E-11	mg/kg-day	3.00E-02	mg/kg-day	5.18E-10				
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	5.68E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.22E-12	6.63E-11	mg/kg-day	--	--	--				
			Beryllium	1.80E-10	mg/m <sup>3</sup>	4.15E-13	mg/kg-day	8.40E+00	(mg/kg-day)-1	3.49E-12	4.84E-12	mg/kg-day	5.71E-08	mg/kg-day	8.48E-07				
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	3.84E-15	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.75E-15	4.47E-14	mg/kg-day	2.00E-04	mg/kg-day	2.24E-10				
			bis(2-ethylhexyl)phthalate	5.83E-09	mg/m <sup>3</sup>	1.37E-11	mg/kg-day	8.40E-03	(mg/kg-day)-1	1.15E-13	1.59E-10	mg/kg-day	2.00E-02	mg/kg-day	7.97E-09				
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.65E-11	mg/kg-day	1.50E+01	(mg/kg-day)-1	2.48E-10	1.93E-10	mg/kg-day	5.71E-06	mg/kg-day	3.37E-05				
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.94E-10	mg/kg-day	--	--	--	2.26E-09	mg/kg-day	--	--	--				
			Cobalt	5.74E-09	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	9.80E+00	(mg/kg-day)-1	1.29E-10	1.54E-10	mg/kg-day	5.71E-06	mg/kg-day	2.70E-05				
			Copper	4.32E-08	mg/m <sup>3</sup>	9.95E-11	mg/kg-day	--	--	--	1.16E-09	mg/kg-day	--	--	--				
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	5.54E-13	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.27E-12	6.46E-12	mg/kg-day	--	--	--				
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	6.63E-14	mg/kg-day	--	--	--	7.73E-13	mg/kg-day	8.00E-01	mg/kg-day	9.66E-13				
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	3.84E-12	mg/kg-day	--	--	--	4.47E-11	mg/kg-day	1.00E-01	mg/kg-day	4.47E-10				
			Endrin aldehyde	3.18E-11	mg/m <sup>3</sup>	7.34E-14	mg/kg-day	--	--	--	8.56E-13	mg/kg-day	3.00E-04	mg/kg-day	2.85E-09				

TABLE H-7.25

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.74E-14	mg/kg-day	--	--	--	--	2.03E-13	mg/kg-day	3.00E-04	mg/kg-day	6.78E-10				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.94E-14	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.07E-13	2.27E-13	mg/kg-day	1.30E-05	mg/kg-day	1.75E-08					
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	1.52E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	5.94E-13	1.78E-11	mg/kg-day	--	--	--					
				Iron	3.09E-05	mg/m <sup>3</sup>	7.10E-08	mg/kg-day	--	--	--	8.28E-07	mg/kg-day	--	--	--					
				Isophorone	1.52E-10	mg/m <sup>3</sup>	3.49E-13	mg/kg-day	--	--	--	4.07E-12	mg/kg-day	--	--	--					
				Lead	2.20E-06	mg/m <sup>3</sup>	5.06E-09	mg/kg-day	--	--	--	5.90E-08	mg/kg-day	--	--	--					
				Manganese	2.51E-07	mg/m <sup>3</sup>	5.77E-10	mg/kg-day	--	--	--	6.73E-09	mg/kg-day	1.43E-05	mg/kg-day	4.71E-04					
				Mercury	2.34E-10	mg/m <sup>3</sup>	5.40E-13	mg/kg-day	--	--	--	6.30E-12	mg/kg-day	8.60E-05	mg/kg-day	7.32E-08					
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	4.37E-12	mg/kg-day	--	--	--	5.09E-11	mg/kg-day	--	--	--					
				Nickel	2.96E-08	mg/m <sup>3</sup>	6.82E-11	mg/kg-day	9.10E-01	(mg/kg-day)-1	6.21E-11	7.96E-10	mg/kg-day	1.40E-05	mg/kg-day	5.68E-05					
				Phenol	4.39E-10	mg/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	1.18E-11	mg/kg-day	5.71E-02	mg/kg-day	2.06E-10					
				Selenium	1.70E-10	mg/m <sup>3</sup>	3.91E-13	mg/kg-day	--	--	--	4.57E-12	mg/kg-day	5.70E-03	mg/kg-day	8.01E-10					
				Silver	8.78E-10	mg/m <sup>3</sup>	2.02E-12	mg/kg-day	--	--	--	2.36E-11	mg/kg-day	--	--	--					
				Thallium	3.77E-10	mg/m <sup>3</sup>	8.67E-13	mg/kg-day	--	--	--	1.01E-11	mg/kg-day	--	--	--					
				Vanadium	2.59E-08	mg/m <sup>3</sup>	5.95E-11	mg/kg-day	--	--	--	6.95E-10	mg/kg-day	--	--	--					
				Zinc	3.44E-07	mg/m <sup>3</sup>	7.91E-10	mg/kg-day	--	--	--	9.22E-09	mg/kg-day	--	--	--					
				<b>Exposure Route Total</b>										<b>8.00E-10</b>			<b>7.42E-04</b>				
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.40E-07	mg/kg-day	--	--	--	--	2.80E-06	mg/kg-day	1.10E-03	mg/kg-day	2.55E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	8.17E-07	mg/kg-day	--	--	--	9.53E-06	mg/kg-day	1.10E-03	mg/kg-day	8.67E-03	
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.70E-07	mg/kg-day	--	--	--	3.15E-06	mg/kg-day	1.70E-03	mg/kg-day	1.85E-03	
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.23E-05	mg/kg-day	--	--	--	1.43E-04	mg/kg-day	5.70E-02	mg/kg-day	2.51E-03	
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	6.59E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.37E-10	7.68E-08	mg/kg-day	1.14E-03	mg/kg-day	6.74E-05	
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	8.41E-08	mg/kg-day	--	--	--	9.81E-07	mg/kg-day	1.70E-03	mg/kg-day	5.77E-04	
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	3.75E-07	mg/kg-day	--	--	--	4.37E-06	mg/kg-day	3.00E-02	mg/kg-day	1.46E-04	
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	3.60E-06	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.44E-07	4.20E-05	mg/kg-day	2.30E-01	mg/kg-day	1.82E-04	
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.70E-07	mg/kg-day	--	--	--	1.99E-06	mg/kg-day	5.00E-02	mg/kg-day	3.97E-05	
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	2.23E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.59E-12	2.60E-10	mg/kg-day	5.00E-04	mg/kg-day	5.21E-07	
Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.34E-07					mg/kg-day	--	--	--	1.56E-06	mg/kg-day	6.00E-02	mg/kg-day	2.60E-05					
Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	3.28E-09					mg/kg-day	--	--	--	3.84E-08	mg/kg-day	6.00E-02	mg/kg-day	6.40E-07					
Aldrin	5.63E-09	mg/m <sup>3</sup>	1.30E-11					mg/kg-day	1.70E+01	(mg/kg-day)-1	2.20E-10	1.51E-10	mg/kg-day	3.00E-05	mg/kg-day	5.04E-06					
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	8.37E-12					mg/kg-day	2.70E+00	(mg/kg-day)-1	2.26E-11	9.77E-11	mg/kg-day	5.00E-04	mg/kg-day	1.95E-07					
alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.85E-11					mg/kg-day	1.20E+00	(mg/kg-day)-1	2.23E-11	2.16E-10	mg/kg-day	2.00E-04	mg/kg-day	1.08E-06					
Anthracene	1.45E-05	mg/m <sup>3</sup>	3.33E-08					mg/kg-day	--	--	--	3.89E-07	mg/kg-day	3.00E-01	mg/kg-day	1.30E-06					
Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	4.07E-09					mg/kg-day	3.90E-01	(mg/kg-day)-1	1.59E-09	4.75E-08	mg/kg-day	--	--	--					
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.04E-09					mg/kg-day	--	--	--	1.21E-08	mg/kg-day	2.00E-01	mg/kg-day	6.07E-08					
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.19E-07					mg/kg-day	--	--	--	1.39E-06	mg/kg-day	2.86E-01	mg/kg-day	4.87E-06					
Chrysene	6.25E-06	mg/m <sup>3</sup>	1.44E-08					mg/kg-day	3.90E-02	(mg/kg-day)-1	5.61E-10	1.68E-07	mg/kg-day	--	--	--					
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	9.63E-11					mg/kg-day	1.50E+00	(mg/kg-day)-1	1.44E-10	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.62E-06					
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.03E-07					mg/kg-day	--	--	--	1.20E-06	mg/kg-day	2.00E-03	mg/kg-day	6.02E-04					
Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.71E-10					mg/kg-day	1.60E+01	(mg/kg-day)-1	2.73E-09	1.99E-09	mg/kg-day	5.00E-05	mg/kg-day	3.98E-05					
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.85E-10					mg/kg-day	--	--	--	2.16E-09	mg/kg-day	6.00E-03	mg/kg-day	3.61E-07					
Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.92E-10					mg/kg-day	--	--	--	2.24E-09	mg/kg-day	6.00E-03	mg/kg-day	3.73E-07					
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	3.47E-10					mg/kg-day	--	--	--	4.04E-09	mg/kg-day	6.00E-03	mg/kg-day	6.74E-07					
Fluoranthene	1.71E-05	mg/m <sup>3</sup>	3.94E-08					mg/kg-day	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05					
Fluorene	1.71E-05	mg/m <sup>3</sup>	3.93E-08	mg/kg-day	--	--	--	4.58E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05									
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	3.67E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.04E-11	4.28E-10	mg/kg-day	3.00E-04	mg/kg-day	1.43E-06									
gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.98E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.58E-11	3.48E-10	mg/kg-day	2.00E-04	mg/kg-day	1.74E-06									
Heptachlor	3.38E-07	mg/m <sup>3</sup>	7.78E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.19E-09	9.08E-09	mg/kg-day	5.00E-04	mg/kg-day	1.82E-05									
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.99E-10	mg/kg-day	--	--	--	2.32E-09	mg/kg-day	5.00E-03	mg/kg-day	4.64E-07									
Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.61E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.93E-07	1.88E-05	mg/kg-day	8.57E-04	mg/kg-day	2.19E-02									
Phenanthrene	1.91E-04	mg/m <sup>3</sup>	4.40E-07	mg/kg-day	--	--	--	5.13E-06	mg/kg-day	3.00E-01	mg/kg-day	1.71E-05									

TABLE H-7.25

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Recreational User
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.82E-04	mg/m <sup>3</sup>	4.41E-07	mg/kg-day	--	--	--	5.15E-06	mg/kg-day	1.10E-01	mg/kg-day	4.68E-05	
				Pyrene	1.85E-05	mg/m <sup>3</sup>	4.25E-08	mg/kg-day	--	--	--	4.96E-07	mg/kg-day	3.00E-02	mg/kg-day	1.65E-05	
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	6.46E-08	mg/kg-day	--	--	--	7.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.88E-05	
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	1.26E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.51E-09	1.46E-08	mg/kg-day	2.00E-04	mg/kg-day	7.32E-05	
				Toluene	3.12E-07	mg/m <sup>3</sup>	7.19E-10	mg/kg-day	--	--	--	8.38E-09	mg/kg-day	1.43E+00	mg/kg-day	5.87E-09	
Exposure Route Total																3.94E-02	
Exposure Point Total																	4.01E-02
Exposure Medium Total																	4.01E-02
Medium Total																	1.72E+00
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	9.74E-10	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	5.55E-12	1.14E-08	mg/kg-day	1.40E-01	mg/kg-day	8.12E-08	
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.90E-10	mg/kg-day	--	--	--	3.39E-09	mg/kg-day	1.70E-03	mg/kg-day	1.99E-06	
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.90E-09	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.70E-02	mg/kg-day	3.90E-07	
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.37E-09	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	9.86E-11	1.60E-08	mg/kg-day	1.40E-03	mg/kg-day	1.14E-05	
				2,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	5.13E-10	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.85E-11	5.99E-09	mg/kg-day	1.14E-03	mg/kg-day	5.25E-06	
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.65E-10	mg/kg-day	--	--	--	1.93E-09	mg/kg-day	1.70E-03	mg/kg-day	1.14E-06	
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	6.48E-10	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	2.59E-11	7.56E-09	mg/kg-day	2.30E-01	mg/kg-day	3.29E-08	
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	2.51E-11	mg/kg-day	--	--	--	2.82E-10	mg/kg-day	1.43E+00	mg/kg-day	2.05E-10	
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	2.23E-12	mg/kg-day	--	--	--	2.60E-11	mg/kg-day	5.00E-02	mg/kg-day	5.19E-10	
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.98E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.01E-12	3.47E-11	mg/kg-day	5.00E-04	mg/kg-day	6.95E-08	
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	9.31E-12	mg/kg-day	--	--	--	1.09E-10	mg/kg-day	8.60E-01	mg/kg-day	1.26E-10	
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	8.92E-11	mg/kg-day	--	--	--	1.04E-09	mg/kg-day	6.00E-02	mg/kg-day	1.73E-08	
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	3.80E-12	mg/kg-day	--	--	--	4.43E-11	mg/kg-day	6.00E-02	mg/kg-day	7.39E-10	
				Aldrin	2.24E-09	mg/m <sup>3</sup>	5.14E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	8.74E-11	6.00E-11	mg/kg-day	3.00E-05	mg/kg-day	2.00E-06	
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	6.52E-13	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.76E-12	7.60E-12	mg/kg-day	5.00E-04	mg/kg-day	1.52E-08	
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.54E-12	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.85E-12	1.80E-11	mg/kg-day	2.00E-04	mg/kg-day	8.99E-08	
				Anthracene	3.29E-09	mg/m <sup>3</sup>	7.56E-12	mg/kg-day	--	--	--	8.82E-11	mg/kg-day	3.00E-01	mg/kg-day	2.94E-10	
				Benzene	2.61E-07	mg/m <sup>3</sup>	6.01E-10	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	6.01E-11	7.01E-09	mg/kg-day	8.60E-03	mg/kg-day	8.15E-07	
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	4.37E-13	1.31E-11	mg/kg-day	--	--	--	
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.69E-11	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	6.81E-14	1.98E-10	mg/kg-day	2.00E-02	mg/kg-day	9.88E-09	
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	1.21E-07	mg/kg-day	2.00E-01	mg/kg-day	6.05E-07	
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.69E-10	mg/kg-day	--	--	--	1.97E-09	mg/kg-day	2.86E-01	mg/kg-day	6.88E-09	
				Chloroform	2.07E-06	mg/m <sup>3</sup>	4.76E-09	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	9.04E-11	5.55E-08	mg/kg-day	8.57E-02	mg/kg-day	6.48E-07	
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.72E-09	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	2.60E-02	mg/kg-day	7.73E-07	
				Chrysene	1.32E-09	mg/m <sup>3</sup>	3.03E-12	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	1.18E-13	3.53E-11	mg/kg-day	--	--	--	
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.22E-09	mg/kg-day	--	--	--	1.42E-08	mg/kg-day	1.00E-02	mg/kg-day	1.42E-06	
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.26E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.62E-11	2.64E-11	mg/kg-day	5.00E-05	mg/kg-day	5.27E-07	
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	5.15E-13	mg/kg-day	--	--	--	6.01E-12	mg/kg-day	6.00E-03	mg/kg-day	1.00E-09	
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	8.47E-16	mg/kg-day	--	--	--	9.88E-15	mg/kg-day	6.00E-03	mg/kg-day	1.65E-12	
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	4.59E-10	mg/kg-day	--	--	--	5.36E-09	mg/kg-day	2.90E-01	mg/kg-day	1.85E-08	
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.16E-12	mg/kg-day	--	--	--	1.36E-11	mg/kg-day	4.00E-02	mg/kg-day	3.39E-10	
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.30E-12	mg/kg-day	--	--	--	2.68E-11	mg/kg-day	4.00E-02	mg/kg-day	6.71E-10	
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.86E-15	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	3.15E-15	3.34E-14	mg/kg-day	3.00E-04	mg/kg-day	1.11E-10	
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	4.00E-12	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.81E-12	4.67E-11	mg/kg-day	2.00E-04	mg/kg-day	2.34E-07	
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	4.11E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.68E-10	4.79E-10	mg/kg-day	5.00E-04	mg/kg-day	9.59E-07	
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	9.20E-07	mg/kg-day	1.10E-01	mg/kg-day	8.36E-06	
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.60E-09	mg/kg-day	--	--	--	1.86E-08	mg/kg-day	2.90E-02	mg/kg-day	6.43E-07	
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	7.52E-12	mg/kg-day	--	--	--	8.77E-11	mg/kg-day	5.00E-03	mg/kg-day	1.75E-08	
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.25E-11	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.50E-12	1.46E-10	mg/kg-day	8.57E-04	mg/kg-day	1.70E-07	
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	5.82E-10	mg/kg-day	--	--	--	6.79E-09	mg/kg-day	8.57E-04	mg/kg-day	7.93E-06	
n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	6.48E-10	mg/kg-day	--	--	--	7.56E-09	mg/kg-day	4.00E-02	mg/kg-day	1.89E-07					
Phenanthrene	2.62E-09	mg/m <sup>3</sup>	6.02E-12	mg/kg-day	--	--	--	7.03E-11	mg/kg-day	3.00E-01	mg/kg-day	2.34E-10					

TABLE H-7.25

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	9.20E-07	mg/kg-day	1.10E-01	mg/kg-day	8.36E-06			
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.06E-12	mg/kg-day	--	--	--	1.24E-11	mg/kg-day	3.00E-02	mg/kg-day	4.13E-10			
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.84E-09	mg/kg-day	--	--	--	2.15E-08	mg/kg-day	4.00E-02	mg/kg-day	5.38E-07			
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	2.09E-09	mg/kg-day	--	--	--	2.44E-08	mg/kg-day	4.00E-02	mg/kg-day	6.09E-07			
				Toluene	3.80E-07	mg/m <sup>3</sup>	8.74E-10	mg/kg-day	--	--	--	1.02E-08	mg/kg-day	1.43E+00	mg/kg-day	7.14E-09			
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	2.06E-09	mg/kg-day	--	--	--	2.41E-08	mg/kg-day	2.00E-02	mg/kg-day	1.20E-06			
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	2.14E-09	mg/kg-day	7.00E-03	(mg/kg-day)-1	1.50E-11	2.50E-08	mg/kg-day	1.70E-01	mg/kg-day	1.47E-07			
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	4.44E-09	mg/kg-day	2.70E-01	(mg/kg-day)-1	1.20E-09	5.18E-08	mg/kg-day	2.86E-02	mg/kg-day	1.81E-06			
				Exposure Route Total															5.85E-05
				Exposure Point Total															
Exposure Medium Total																5.85E-05			
Medium Total																5.85E-05			
Total of Receptor Risks Across All Media										4.76E-05	Total of Receptor Hazards Across All Media					1.72E+00			

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RID Reference dose
  - RIC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-7.26

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	5.03E-07	mg/kg-day	--	--	--	4.11E-06	mg/kg-day	1.00E-02	mg/kg-day	4.11E-04	
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.71E-06	mg/kg-day	--	--	--	1.40E-05	mg/kg-day	1.00E-02	mg/kg-day	1.40E-03	
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.68E-07	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	5.00E-02	mg/kg-day	2.74E-05	
				1,2-Dichlorobenzene	2.60E+01	mg/kg	8.72E-06	mg/kg-day	--	--	--	7.12E-05	mg/kg-day	9.00E-02	mg/kg-day	7.91E-04	
				1,2-Dichloropropane	3.60E-03	mg/kg	1.21E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.35E-11	9.86E-09	mg/kg-day	1.14E-03	mg/kg-day	8.65E-06	
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.37E-08	mg/kg-day	--	--	--	4.38E-07	mg/kg-day	5.00E-02	mg/kg-day	8.77E-06	
				1,3-Dichlorobenzene	1.10E+00	mg/kg	3.69E-07	mg/kg-day	--	--	--	3.01E-06	mg/kg-day	3.00E-02	mg/kg-day	1.00E-04	
				1,4-Dichlorobenzene	6.80E+00	mg/kg	2.28E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.23E-08	1.86E-05	mg/kg-day	3.00E-02	mg/kg-day	6.21E-04	
				2,4-Dimethylphenol	2.10E-01	mg/kg	7.05E-08	mg/kg-day	--	--	--	5.75E-07	mg/kg-day	2.00E-02	mg/kg-day	2.88E-05	
				2-Methylphenol	8.10E-02	mg/kg	2.72E-08	mg/kg-day	--	--	--	2.22E-07	mg/kg-day	4.00E-03	mg/kg-day	5.55E-05	
				2-Methylnaphthalene	1.67E+00	mg/kg	5.61E-07	mg/kg-day	--	--	--	4.58E-06	mg/kg-day	5.00E-02	mg/kg-day	9.16E-05	
				4,4'-DDD	1.20E-03	mg/kg	4.03E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	9.66E-11	3.29E-09	mg/kg-day	5.00E-04	mg/kg-day	6.58E-06	
				4,4'-DDE	8.23E-02	mg/kg	2.76E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.39E-09	2.26E-07	mg/kg-day	5.00E-04	mg/kg-day	4.51E-04	
				4,4'-DDT	4.45E-02	mg/kg	1.49E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.07E-09	1.22E-07	mg/kg-day	5.00E-04	mg/kg-day	2.44E-04	
				4-Methylphenol	2.70E-01	mg/kg	9.06E-08	mg/kg-day	--	--	--	7.40E-07	mg/kg-day	5.00E-03	mg/kg-day	1.48E-04	
				4-Nitroaniline	6.20E-01	mg/kg	2.08E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.37E-09	1.70E-06	mg/kg-day	3.00E-03	mg/kg-day	5.66E-04	
				4-Nitrophenol	4.20E-01	mg/kg	1.41E-07	mg/kg-day	--	--	--	1.15E-06	mg/kg-day	5.00E-04	mg/kg-day	2.30E-03	
				Acenaphthene	4.23E+00	mg/kg	1.42E-06	mg/kg-day	--	--	--	1.16E-05	mg/kg-day	6.00E-02	mg/kg-day	1.93E-04	
				Acenaphthylene	1.04E-01	mg/kg	3.49E-08	mg/kg-day	--	--	--	2.85E-07	mg/kg-day	6.00E-02	mg/kg-day	4.76E-06	
				Aldrin	1.30E-02	mg/kg	4.36E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.41E-08	3.56E-08	mg/kg-day	3.00E-05	mg/kg-day	1.19E-03	
				alpha-BHC	7.30E-04	mg/kg	2.45E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	6.61E-10	2.00E-09	mg/kg-day	5.00E-04	mg/kg-day	4.00E-06	
				alpha-Chlordane	8.14E-03	mg/kg	2.73E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.55E-09	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05	
				Aluminum	8.82E+03	mg/kg	2.96E-03	mg/kg-day	--	--	--	2.42E-02	mg/kg-day	1.00E+00	mg/kg-day	2.42E-02	
				Anthracene	1.05E+00	mg/kg	3.54E-07	mg/kg-day	--	--	--	2.89E-06	mg/kg-day	3.00E-01	mg/kg-day	9.63E-06	
				Antimony	4.08E+00	mg/kg	1.37E-06	mg/kg-day	--	--	--	1.12E-05	mg/kg-day	4.00E-04	mg/kg-day	2.79E-02	
				Aroclor-1248	1.20E+00	mg/kg	4.03E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.05E-07	3.29E-06	mg/kg-day	2.00E-05	mg/kg-day	1.64E-01	
				Aroclor-1254	4.44E-01	mg/kg	1.49E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.98E-07	1.22E-06	mg/kg-day	2.00E-05	mg/kg-day	6.08E-02	
				Aroclor-1260	5.41E-01	mg/kg	1.82E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.63E-07	1.48E-06	mg/kg-day	2.00E-05	mg/kg-day	7.42E-02	
				Aroclor-1268	2.78E-02	mg/kg	9.31E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.86E-08	7.61E-08	mg/kg-day	2.00E-05	mg/kg-day	3.80E-03	
				Arsenic	6.17E+00	mg/kg	2.07E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.95E-05	1.69E-05	mg/kg-day	3.00E-04	mg/kg-day	5.63E-02	
				Barium	6.78E+01	mg/kg	2.28E-05	mg/kg-day	--	--	--	1.86E-04	mg/kg-day	7.00E-02	mg/kg-day	2.65E-03	
				Benzo(a)anthracene	5.00E+00	mg/kg	1.68E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.01E-06	1.37E-05	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.67E+00	mg/kg	5.59E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	6.70E-06	4.56E-06	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.74E+00	mg/kg	9.19E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.10E-06	7.50E-06	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.56E-07	mg/kg-day	--	--	--	2.09E-06	mg/kg-day	3.00E-02	mg/kg-day	6.97E-05	
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.09E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.31E-06	8.93E-06	mg/kg-day	--	--	--	
				Beryllium	2.38E-01	mg/kg	7.99E-08	mg/kg-day	--	--	--	6.52E-07	mg/kg-day	2.00E-03	mg/kg-day	3.26E-04	
				Beta-BHC	2.20E-03	mg/kg	7.38E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.11E-09	6.03E-09	mg/kg-day	2.00E-04	mg/kg-day	3.01E-05	
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.63E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	7.88E-09	2.15E-05	mg/kg-day	2.00E-02	mg/kg-day	1.07E-03	
				Cadmium	9.47E+00	mg/kg	3.18E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.21E-06	2.60E-05	mg/kg-day	5.00E-04	mg/kg-day	5.19E-02	
				Carbon disulfide	2.40E-04	mg/kg	8.05E-11	mg/kg-day	--	--	--	6.58E-10	mg/kg-day	1.00E-01	mg/kg-day	6.58E-09	
				Chlorobenzene	1.10E-01	mg/kg	3.69E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	2.00E-02	mg/kg-day	1.51E-05	
				Chromium	1.11E+02	mg/kg	3.73E-05	mg/kg-day	--	--	--	3.05E-04	mg/kg-day	1.50E+00	mg/kg-day	2.03E-04	
				Chrysene	5.68E+00	mg/kg	1.91E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.29E-07	1.56E-05	mg/kg-day	--	--	--	
				Cobalt	7.57E+00	mg/kg	2.54E-06	mg/kg-day	--	--	--	2.07E-05	mg/kg-day	2.00E-02	mg/kg-day	1.04E-03	
				Copper	5.71E+01	mg/kg	1.91E-05	mg/kg-day	--	--	--	1.56E-04	mg/kg-day	4.00E-02	mg/kg-day	3.91E-03	
				Delta-BHC	8.40E-03	mg/kg	2.82E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.23E-09	2.30E-08	mg/kg-day	2.00E-04	mg/kg-day	1.15E-04	
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.07E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.37E-07	8.70E-07	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E-01	mg/kg	4.36E-06	mg/kg-day	--	--	--	3.56E-05	mg/kg-day	2.00E-03	mg/kg-day	1.78E-02	
				Dieldrin	5.51E-02	mg/kg	1.85E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.96E-07	1.51E-07	mg/kg-day	5.00E-05	mg/kg-day	3.02E-03	
Dimethylphthalate	3.80E-02	mg/kg	1.27E-08	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	8.00E-01	mg/kg-day	1.30E-07					

TABLE H-7.26

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	7.38E-07	mg/kg-day	--	--	--	6.03E-06	mg/kg-day	2.00E-01	mg/kg-day	3.01E-05				
				Endosulfan I	2.30E-02	mg/kg	7.72E-09	mg/kg-day	--	--	--	6.30E-08	mg/kg-day	6.00E-03	mg/kg-day	1.05E-05				
				Endosulfan II	2.38E-02	mg/kg	7.99E-09	mg/kg-day	--	--	--	6.53E-08	mg/kg-day	6.00E-03	mg/kg-day	1.09E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	1.44E-08	mg/kg-day	--	--	--	1.18E-07	mg/kg-day	6.00E-03	mg/kg-day	1.96E-05				
				Endrin aldehyde	4.21E-02	mg/kg	1.41E-08	mg/kg-day	--	--	--	1.15E-07	mg/kg-day	3.00E-04	mg/kg-day	3.84E-04				
				Endrin Ketone	1.00E-02	mg/kg	3.35E-09	mg/kg-day	--	--	--	2.74E-08	mg/kg-day	3.00E-04	mg/kg-day	9.13E-05				
				Fluoranthene	2.65E+01	mg/kg	8.89E-06	mg/kg-day	--	--	--	7.26E-05	mg/kg-day	4.00E-02	mg/kg-day	1.82E-03				
				Fluorene	2.92E+00	mg/kg	9.78E-07	mg/kg-day	--	--	--	7.99E-06	mg/kg-day	4.00E-02	mg/kg-day	2.00E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	8.72E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	9.59E-10	7.12E-09	mg/kg-day	3.00E-04	mg/kg-day	2.37E-05				
				gamma-Chlordane	1.31E-02	mg/kg	4.40E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.71E-09	3.59E-08	mg/kg-day	5.00E-04	mg/kg-day	7.18E-05				
				Heptachlor	6.90E-03	mg/kg	2.31E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	9.49E-09	1.89E-08	mg/kg-day	5.00E-04	mg/kg-day	3.78E-05				
				Heptachlor Epoxide	1.12E-02	mg/kg	3.74E-09	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.06E-08	3.06E-08	mg/kg-day	1.30E-05	mg/kg-day	2.35E-03				
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.93E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.51E-07	2.39E-06	mg/kg-day	--	--	--				
				Iron	4.07E+04	mg/kg	1.37E-02	mg/kg-day	--	--	--	1.12E-01	mg/kg-day	3.00E-01	mg/kg-day	3.72E-01				
				Isophorone	2.00E-01	mg/kg	6.71E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.37E-11	5.48E-07	mg/kg-day	2.00E-01	mg/kg-day	2.74E-06				
				Lead	2.90E+03	mg/kg	9.74E-04	mg/kg-day	--	--	--	7.95E-03	mg/kg-day	--	--	--				
				Manganese	3.31E+02	mg/kg	1.11E-04	mg/kg-day	--	--	--	9.07E-04	mg/kg-day	2.40E-02	mg/kg-day	3.78E-02				
				Mercury	3.10E-01	mg/kg	1.04E-07	mg/kg-day	--	--	--	8.48E-07	mg/kg-day	3.00E-04	mg/kg-day	2.83E-03				
				Methoxychlor	1.20E-01	mg/kg	4.03E-08	mg/kg-day	--	--	--	3.29E-07	mg/kg-day	5.00E-03	mg/kg-day	6.58E-05				
				Molybdenum	2.50E+00	mg/kg	8.40E-07	mg/kg-day	--	--	--	6.88E-06	mg/kg-day	5.00E-03	mg/kg-day	1.37E-03				
				Naphthalene	1.30E+01	mg/kg	4.36E-06	mg/kg-day	--	--	--	3.56E-05	mg/kg-day	2.00E-02	mg/kg-day	1.78E-03				
				Nickel	3.91E+01	mg/kg	1.31E-05	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	2.00E-02	mg/kg-day	5.36E-03				
				Phenanthrene	1.39E+01	mg/kg	4.67E-06	mg/kg-day	--	--	--	3.81E-05	mg/kg-day	3.00E-01	mg/kg-day	1.27E-04				
				Phenol	5.80E-01	mg/kg	1.95E-07	mg/kg-day	--	--	--	1.59E-06	mg/kg-day	3.00E-01	mg/kg-day	5.30E-06				
				p-Isopropyltoluene	1.10E-01	mg/kg	3.69E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	1.00E-01	mg/kg-day	3.01E-06				
				Pyrene	2.41E+01	mg/kg	8.10E-06	mg/kg-day	--	--	--	6.62E-05	mg/kg-day	3.00E-02	mg/kg-day	2.21E-03				
				sec-Butylbenzene	7.10E-02	mg/kg	2.38E-08	mg/kg-day	--	--	--	1.95E-07	mg/kg-day	4.00E-02	mg/kg-day	4.86E-06				
				Selenium	2.24E-01	mg/kg	7.53E-08	mg/kg-day	--	--	--	6.15E-07	mg/kg-day	5.00E-03	mg/kg-day	1.23E-04				
				Silver	1.16E+00	mg/kg	3.89E-07	mg/kg-day	--	--	--	3.18E-06	mg/kg-day	5.00E-03	mg/kg-day	6.35E-04				
				Technical Chlordane	5.51E-01	mg/kg	1.85E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.40E-07	1.51E-06	mg/kg-day	5.00E-04	mg/kg-day	3.02E-03				
				Thallium	4.97E-01	mg/kg	1.67E-07	mg/kg-day	--	--	--	1.36E-06	mg/kg-day	8.00E-05	mg/kg-day	1.70E-02				
				Toluene	4.30E-04	mg/kg	1.44E-10	mg/kg-day	--	--	--	1.18E-09	mg/kg-day	8.00E-02	mg/kg-day	1.47E-08				
				Vanadium	3.41E+01	mg/kg	1.15E-05	mg/kg-day	--	--	--	9.38E-05	mg/kg-day	1.00E-03	mg/kg-day	9.36E-02				
				Zinc	4.53E+02	mg/kg	1.52E-04	mg/kg-day	--	--	--	1.24E-03	mg/kg-day	3.00E-01	mg/kg-day	4.14E-03				
				Exposure Route Total										3.51E-05					1.05E+00	
				Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.58E-07	mg/kg-day	--	--	--	5.58E-06	mg/kg-day	1.00E-02	mg/kg-day	5.56E-04
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.58E-07	mg/kg-day	--	--	--	1.89E-06	mg/kg-day	1.00E-02	mg/kg-day	1.89E-04
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.53E-08	mg/kg-day	--	--	--	1.85E-07	mg/kg-day	5.00E-02	mg/kg-day	3.71E-06
								1,2-Dichlorobenzene	2.60E+01	mg/kg	1.31E-06	mg/kg-day	--	--	--	9.64E-06	mg/kg-day	9.00E-02	mg/kg-day	1.07E-04
								1,2-Dichloropropane	3.60E-03	mg/kg	1.82E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	6.55E-12	1.33E-09	mg/kg-day	1.14E-03	mg/kg-day	1.17E-06
								1,3,5-Trimethylbenzene	1.60E-01	mg/kg	8.08E-09	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	5.00E-02	mg/kg-day	1.19E-06
1,3-Dichlorobenzene	1.10E+00	mg/kg	5.56E-08					mg/kg-day	--	--	--	4.08E-07	mg/kg-day	3.00E-02	mg/kg-day	1.36E-05				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	1.06E-08					mg/kg-day	--	--	--	7.79E-08	mg/kg-day	2.00E-02	mg/kg-day	3.89E-06				
2-Methylphenol	8.10E-02	mg/kg	4.09E-08					mg/kg-day	--	--	--	3.00E-07	mg/kg-day	4.00E-03	mg/kg-day	7.51E-05				
2-Methylnaphthalene	1.67E+00	mg/kg	8.45E-08					mg/kg-day	--	--	--	6.20E-07	mg/kg-day	5.00E-02	mg/kg-day	1.24E-05				
4,4'-DDD	1.20E-03	mg/kg	6.06E-11					mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-11	4.45E-10	mg/kg-day	5.00E-04	mg/kg-day	8.90E-07				
4,4'-DDE	8.23E-02	mg/kg	4.16E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.41E-09	3.05E-08	mg/kg-day	5.00E-04	mg/kg-day	6.10E-05				
4,4'-DDT	4.45E-02	mg/kg	6.74E-09					mg/kg-day	3.40E-01	(mg/kg-day)-1	2.29E-09	4.95E-08	mg/kg-day	5.00E-04	mg/kg-day	9.90E-05				
4-Methylphenol	2.70E-01	mg/kg	1.36E-07					mg/kg-day	--	--	--	1.00E-06	mg/kg-day	5.00E-03	mg/kg-day	2.00E-04				
4-Nitroaniline	6.20E-01	mg/kg	3.13E-07					mg/kg-day	2.10E-02	(mg/kg-day)-1	6.58E-09	2.30E-06	mg/kg-day	3.00E-03	mg/kg-day	7.66E-04				

TABLE H-7.26

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	2.12E-07	mg/kg-day	--	--	--	--	1.56E-06	mg/kg-day	5.00E-04	mg/kg-day	3.11E-03
				Acenaphthene	4.23E+00	mg/kg	2.78E-06	mg/kg-day	--	--	--	--	2.04E-05	mg/kg-day	6.00E-02	mg/kg-day	3.40E-04
				Acenaphthylene	1.04E-01	mg/kg	5.26E-09	mg/kg-day	--	--	--	--	3.86E-08	mg/kg-day	6.00E-02	mg/kg-day	6.44E-07
				Aldrin	1.30E-02	mg/kg	6.57E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.12E-07	4.82E-08	mg/kg-day	3.00E-05	mg/kg-day	1.61E-03	
				alpha-BHC	7.30E-04	mg/kg	3.69E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.96E-11	2.71E-10	mg/kg-day	5.00E-04	mg/kg-day	5.41E-07	
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	5.00E-04	mg/kg-day	--	
				Aluminum	8.82E+03	mg/kg	4.48E-05	mg/kg-day	--	--	--	--	3.27E-04	mg/kg-day	1.00E+00	mg/kg-day	3.27E-04
				Anthracene	1.05E+00	mg/kg	6.93E-07	mg/kg-day	--	--	--	--	5.08E-06	mg/kg-day	3.00E-01	mg/kg-day	1.69E-05
				Antimony	4.08E+00	mg/kg	2.06E-08	mg/kg-day	--	--	--	--	1.51E-07	mg/kg-day	4.00E-04	mg/kg-day	3.78E-04
				Aroclor-1248	1.20E+00	mg/kg	8.49E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-06	6.23E-06	mg/kg-day	2.00E-05	mg/kg-day	3.11E-01	
				Aroclor-1254	4.44E-01	mg/kg	3.14E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.28E-07	2.31E-06	mg/kg-day	2.00E-05	mg/kg-day	1.15E-01	
				Aroclor-1260	5.41E-01	mg/kg	3.83E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.66E-07	2.81E-06	mg/kg-day	2.00E-05	mg/kg-day	1.41E-01	
				Aroclor-1268	2.78E-02	mg/kg	1.96E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.93E-08	1.44E-07	mg/kg-day	2.00E-05	mg/kg-day	7.20E-03	
				Arsenic	6.17E+00	mg/kg	9.35E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	8.83E-06	6.86E-06	mg/kg-day	3.00E-04	mg/kg-day	2.29E-02	
				Barium	6.78E+01	mg/kg	3.43E-07	mg/kg-day	--	--	--	--	2.51E-06	mg/kg-day	7.00E-02	mg/kg-day	3.59E-05
				Benzo(a)anthracene	5.00E+00	mg/kg	3.29E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.94E-06	2.41E-05	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.67E+00	mg/kg	1.09E-06	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.31E-05	8.03E-06	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.80E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.16E-06	1.32E-05	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	5.01E-07	mg/kg-day	--	--	--	--	3.68E-06	mg/kg-day	3.00E-02	mg/kg-day	1.23E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	2.14E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.57E-06	1.57E-05	mg/kg-day	--	--	--	
				Beryllium	2.38E-01	mg/kg	1.20E-09	mg/kg-day	--	--	--	--	8.83E-09	mg/kg-day	2.00E-03	mg/kg-day	4.41E-06
				Beta-BHC	2.20E-03	mg/kg	1.11E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.67E-10	8.16E-10	mg/kg-day	2.00E-04	mg/kg-day	4.08E-06	
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.96E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.19E-09	2.90E-06	mg/kg-day	2.00E-02	mg/kg-day	1.45E-04	
				Cadmium	9.47E+00	mg/kg	4.79E-08	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.82E-08	3.51E-07	mg/kg-day	5.00E-04	mg/kg-day	7.02E-04	
				Carbon disulfide	2.40E-04	mg/kg	3.03E-10	mg/kg-day	--	--	--	--	2.22E-09	mg/kg-day	1.00E-01	mg/kg-day	2.22E-08
				Chlorobenzene	1.10E-01	mg/kg	5.56E-09	mg/kg-day	--	--	--	--	4.08E-08	mg/kg-day	2.00E-02	mg/kg-day	2.04E-06
				Chromium	1.11E+02	mg/kg	5.62E-07	mg/kg-day	--	--	--	--	4.12E-06	mg/kg-day	1.50E+00	mg/kg-day	2.75E-06
				Chrysene	5.68E+00	mg/kg	3.73E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	4.48E-07	2.74E-05	mg/kg-day	--	--	--	
				Cobalt	7.57E+00	mg/kg	3.83E-08	mg/kg-day	--	--	--	--	2.81E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05
				Copper	5.71E+01	mg/kg	2.88E-07	mg/kg-day	--	--	--	--	2.12E-06	mg/kg-day	4.00E-02	mg/kg-day	5.29E-05
				Delta-BHC	8.40E-03	mg/kg	2.12E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.18E-09	1.56E-08	mg/kg-day	2.00E-04	mg/kg-day	7.79E-05	
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	2.09E-07	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.55E-07	1.53E-06	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	6.57E-07	mg/kg-day	--	--	--	--	4.82E-06	mg/kg-day	2.00E-03	mg/kg-day	2.41E-03
				Dieldrin	5.51E-02	mg/kg	2.79E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.46E-08	2.04E-08	mg/kg-day	5.00E-05	mg/kg-day	4.09E-04	
				Dimethylphthalate	3.80E-02	mg/kg	1.92E-09	mg/kg-day	--	--	--	--	1.41E-08	mg/kg-day	8.00E-01	mg/kg-day	1.76E-08
				di-n-Butylphthalate	2.20E+00	mg/kg	1.11E-07	mg/kg-day	--	--	--	--	8.16E-07	mg/kg-day	2.00E-01	mg/kg-day	4.08E-06
				Endosulfan I	2.30E-02	mg/kg	5.81E-09	mg/kg-day	--	--	--	--	4.26E-08	mg/kg-day	6.00E-03	mg/kg-day	7.11E-06
				Endosulfan II	2.38E-02	mg/kg	6.02E-09	mg/kg-day	--	--	--	--	4.42E-08	mg/kg-day	6.00E-03	mg/kg-day	7.36E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	1.09E-08	mg/kg-day	--	--	--	--	7.97E-08	mg/kg-day	6.00E-03	mg/kg-day	1.33E-05
				Endrin aldehyde	4.21E-02	mg/kg	1.06E-08	mg/kg-day	--	--	--	--	7.80E-08	mg/kg-day	3.00E-04	mg/kg-day	2.60E-04
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	
				Fluoranthene	2.65E+01	mg/kg	1.74E-05	mg/kg-day	--	--	--	--	1.28E-04	mg/kg-day	4.00E-02	mg/kg-day	3.19E-03
				Fluorene	2.92E+00	mg/kg	1.92E-06	mg/kg-day	--	--	--	--	1.41E-05	mg/kg-day	4.00E-02	mg/kg-day	3.51E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	5.25E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	5.78E-10	3.86E-09	mg/kg-day	3.00E-04	mg/kg-day	1.29E-05	
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	5.00E-04	mg/kg-day	--	
				Heptachlor	6.90E-03	mg/kg	3.49E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.43E-09	2.56E-09	mg/kg-day	5.00E-04	mg/kg-day	5.12E-06	
				Heptachlor Epoxide	1.12E-02	mg/kg	5.64E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	3.10E-09	4.14E-09	mg/kg-day	1.30E-05	mg/kg-day	3.18E-04	
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	5.73E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.88E-07	4.21E-06	mg/kg-day	--	--	--	
				Iron	4.07E+04	mg/kg	2.06E-04	mg/kg-day	--	--	--	--	1.51E-03	mg/kg-day	3.00E-01	mg/kg-day	5.03E-03
				Isonphorone	2.00E-01	mg/kg	1.01E-07	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.60E-11	7.42E-07	mg/kg-day	2.00E-01	mg/kg-day	3.71E-06	
Lead	2.90E+03	mg/kg	1.47E-05	mg/kg-day	--	--	--	--	1.08E-04	mg/kg-day	--	--	--				

TABLE H-7.26

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	1.67E-06	mg/kg-day	--	--	--	--	1.23E-05	mg/kg-day	2.40E-02	mg/kg-day	5.11E-04			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	3.00E-04	mg/kg-day	--	--		
				Methoxychlor	1.20E-01	mg/kg	6.06E-09	mg/kg-day	--	--	--	--	4.45E-08	mg/kg-day	5.00E-03	mg/kg-day	8.90E-06	1.86E-05		
				Molybdenum	2.50E+00	mg/kg	1.27E-08	mg/kg-day	--	--	--	--	9.29E-08	mg/kg-day	5.00E-03	mg/kg-day	1.86E-05	1.86E-05		
				Naphthalene	1.30E+01	mg/kg	8.54E-06	mg/kg-day	--	--	--	--	6.27E-05	mg/kg-day	2.00E-02	mg/kg-day	3.13E-03	3.13E-03		
				Nickel	3.91E+01	mg/kg	1.98E-07	mg/kg-day	--	--	--	--	1.45E-06	mg/kg-day	2.00E-02	mg/kg-day	7.25E-05	7.25E-05		
				Phenanthrene	1.39E+01	mg/kg	7.03E-07	mg/kg-day	--	--	--	--	5.16E-06	mg/kg-day	3.00E-01	mg/kg-day	1.72E-05	1.72E-05		
				Phenol	5.80E-01	mg/kg	2.93E-07	mg/kg-day	--	--	--	--	2.15E-06	mg/kg-day	3.00E-01	mg/kg-day	7.17E-06	7.17E-06		
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	--		
				Pyrene	2.41E+01	mg/kg	1.59E-05	mg/kg-day	--	--	--	--	1.16E-04	mg/kg-day	3.00E-02	mg/kg-day	3.88E-03	3.88E-03		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	--		
				Selenium	2.24E-01	mg/kg	1.13E-09	mg/kg-day	--	--	--	--	8.32E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06	1.66E-06		
				Silver	1.16E+00	mg/kg	5.85E-09	mg/kg-day	--	--	--	--	4.30E-08	mg/kg-day	5.00E-03	mg/kg-day	8.59E-06	8.59E-06		
				Technical Chlordane	5.51E-01	mg/kg	1.11E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.45E-07	1.45E-07	8.17E-07	mg/kg-day	5.00E-04	mg/kg-day	1.63E-03	1.63E-03		
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--	--		
				Toluene	4.30E-04	mg/kg	2.17E-11	mg/kg-day	--	--	--	--	1.59E-10	mg/kg-day	8.00E-02	mg/kg-day	1.99E-09	1.99E-09		
				Vanadium	3.41E+01	mg/kg	1.73E-07	mg/kg-day	--	--	--	--	1.27E-06	mg/kg-day	1.00E-03	mg/kg-day	1.27E-03	1.27E-03		
				Zinc	4.53E+02	mg/kg	2.29E-06	mg/kg-day	--	--	--	--	1.68E-05	mg/kg-day	3.00E-01	mg/kg-day	5.60E-05	5.60E-05		
				Exposure Route Total																6.29E-01
				Exposure Point Total																
Exposure Medium Total																	1.68E+00			
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.91E-12	mg/kg-day	--	--	--	--	4.27E-12	mg/kg-day	2.00E-02	mg/kg-day	2.14E-10				
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	--	--	--	--	1.65E-12	mg/kg-day	--	--	--	--			
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.66E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.99E-15	3.99E-15	2.44E-14	mg/kg-day	5.00E-04	mg/kg-day	4.88E-11	4.88E-11			
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	6.16E-13	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.10E-13	2.10E-13	9.05E-13	mg/kg-day	5.00E-04	mg/kg-day	1.81E-09	1.81E-09			
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.74E-12	mg/kg-day	--	--	--	--	5.49E-12	mg/kg-day	5.00E-03	mg/kg-day	1.10E-09	1.10E-09			
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	8.59E-12	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.80E-13	1.80E-13	1.26E-11	mg/kg-day	1.00E-03	mg/kg-day	1.26E-08	1.26E-08			
			4-Nitrophenol	3.16E-10	mg/m <sup>3</sup>	5.82E-12	mg/kg-day	--	--	--	--	8.54E-12	mg/kg-day	5.70E-04	mg/kg-day	1.50E-08	1.50E-08			
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.22E-07	mg/kg-day	--	--	--	--	1.79E-07	mg/kg-day	1.43E-03	mg/kg-day	1.26E-04	1.26E-04			
			Antimony	3.09E-09	mg/m <sup>3</sup>	5.65E-11	mg/kg-day	--	--	--	--	8.30E-11	mg/kg-day	--	--	--	--			
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.66E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.32E-11	3.32E-11	2.44E-11	mg/kg-day	2.00E-05	mg/kg-day	1.22E-06	1.22E-06			
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	6.15E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.23E-11	1.23E-11	9.03E-12	mg/kg-day	2.00E-05	mg/kg-day	4.52E-07	4.52E-07			
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	7.50E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.50E-11	1.50E-11	1.10E-11	mg/kg-day	2.00E-05	mg/kg-day	5.51E-07	5.51E-07			
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.84E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.69E-13	7.69E-13	5.85E-13	mg/kg-day	2.00E-05	mg/kg-day	2.82E-08	2.82E-08			
			Arsenic	4.67E-09	mg/m <sup>3</sup>	8.54E-11	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.02E-09	1.02E-09	1.25E-10	mg/kg-day	8.60E-06	mg/kg-day	1.46E-05	1.46E-05			
			Barium	5.14E-08	mg/m <sup>3</sup>	9.39E-10	mg/kg-day	--	--	--	--	1.38E-09	mg/kg-day	1.40E-04	mg/kg-day	9.85E-06	9.85E-06			
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	6.93E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.70E-11	2.70E-11	1.02E-10	mg/kg-day	--	--	--	--			
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	2.31E-11	mg/kg-day	3.90E+00	(mg/kg-day)-1	9.00E-11	9.00E-11	3.39E-11	mg/kg-day	--	--	--	--			
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	1.06E-11	mg/kg-day	--	--	--	--	1.55E-11	mg/kg-day	3.00E-02	mg/kg-day	5.18E-10	5.18E-10			
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	4.52E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.76E-11	1.76E-11	6.63E-11	mg/kg-day	--	--	--	--			
			Beryllium	1.80E-10	mg/m <sup>3</sup>	3.30E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	2.77E-11	2.77E-11	4.84E-12	mg/kg-day	5.71E-06	mg/kg-day	8.48E-07	8.48E-07			
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	3.05E-14	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.57E-14	4.57E-14	4.47E-14	mg/kg-day	2.00E-04	mg/kg-day	2.24E-10	2.24E-10			
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	1.08E-10	mg/kg-day	8.40E-03	(mg/kg-day)-1	9.11E-13	9.11E-13	1.59E-10	mg/kg-day	2.00E-02	mg/kg-day	7.97E-09	7.97E-09			
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.31E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	1.97E-09	1.97E-09	1.93E-10	mg/kg-day	5.71E-06	mg/kg-day	3.71E-05	3.71E-05			
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.54E-09	mg/kg-day	--	--	--	--	2.26E-09	mg/kg-day	--	--	--	--			
			Cobalt	5.74E-09	mg/m <sup>3</sup>	1.05E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	1.03E-09	1.03E-09	1.54E-10	mg/kg-day	5.71E-06	mg/kg-day	2.70E-05	2.70E-05			
			Copper	4.32E-08	mg/m <sup>3</sup>	7.80E-10	mg/kg-day	--	--	--	--	1.16E-09	mg/kg-day	--	--	--	--			
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	4.40E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.80E-11	1.80E-11	6.46E-12	mg/kg-day	--	--	--	--			
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	5.26E-13	mg/kg-day	--	--	--	--	7.73E-13	mg/kg-day	8.00E-01	mg/kg-day	9.66E-13	9.66E-13			
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	3.05E-11	mg/kg-day	--	--	--	--	4.47E-11	mg/kg-day	1.00E-01	mg/kg-day	4.47E-10	4.47E-10			
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	5.83E-13	mg/kg-day	--	--	--	--	8.56E-13	mg/kg-day	3.00E-04	mg/kg-day	2.85E-09	2.85E-09			

TABLE H-7.26

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations										
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient						
							Value	Units	Value	Units		Value	Units	Value	Units							
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endnn Ketone	7.58E-12	mg/m <sup>3</sup>	1.39E-13	mg/kg-day	--	--	--	--	2.03E-13	mg/kg-day	3.00E-04	mg/kg-day	6.78E-10					
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.55E-13	mg/kg-day	5.50E+00	(mg/kg-day)-1	8.50E-13	2.27E-13	mg/kg-day	1.30E-05	mg/kg-day	1.75E-08						
				Indeno(1,2,3-cd)pyrene	8.61E-10	mg/m <sup>3</sup>	1.21E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	4.72E-12	1.78E-11	mg/kg-day	--	--	--						
				Iron	3.09E-05	mg/m <sup>3</sup>	5.64E-07	mg/kg-day	--	--	--	8.28E-07	mg/kg-day	--	--	--						
				Isophorone	1.52E-10	mg/m <sup>3</sup>	2.77E-12	mg/kg-day	--	--	--	4.07E-12	mg/kg-day	--	--	--						
				Lead	2.20E-06	mg/m <sup>3</sup>	4.02E-08	mg/kg-day	--	--	--	5.90E-08	mg/kg-day	--	--	--						
				Manganese	2.51E-07	mg/m <sup>3</sup>	4.59E-09	mg/kg-day	--	--	--	6.73E-09	mg/kg-day	1.43E-05	mg/kg-day	4.71E-04						
				Mercury	2.34E-10	mg/m <sup>3</sup>	4.29E-12	mg/kg-day	--	--	--	6.30E-12	mg/kg-day	8.60E-05	mg/kg-day	7.32E-08						
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	3.47E-11	mg/kg-day	--	--	--	5.09E-11	mg/kg-day	--	--	--						
				Nickel	2.96E-08	mg/m <sup>3</sup>	5.42E-10	mg/kg-day	9.10E-01	(mg/kg-day)-1	4.93E-10	7.96E-10	mg/kg-day	1.40E-05	mg/kg-day	5.68E-05						
				Phenol	4.39E-10	mg/m <sup>3</sup>	8.03E-12	mg/kg-day	--	--	--	1.18E-11	mg/kg-day	5.71E-02	mg/kg-day	2.06E-10						
				Selenium	1.70E-10	mg/m <sup>3</sup>	3.11E-12	mg/kg-day	--	--	--	4.57E-12	mg/kg-day	5.70E-03	mg/kg-day	8.01E-10						
				Silver	8.78E-10	mg/m <sup>3</sup>	1.61E-11	mg/kg-day	--	--	--	2.36E-11	mg/kg-day	--	--	--						
				Thallium	3.77E-10	mg/m <sup>3</sup>	6.88E-12	mg/kg-day	--	--	--	1.01E-11	mg/kg-day	--	--	--						
				Vanadium	2.59E-08	mg/m <sup>3</sup>	4.73E-10	mg/kg-day	--	--	--	6.95E-10	mg/kg-day	--	--	--						
				Zinc	3.44E-07	mg/m <sup>3</sup>	6.28E-09	mg/kg-day	--	--	--	9.22E-09	mg/kg-day	--	--	--						
				<b>Exposure Route Total</b>																		
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.91E-06	mg/kg-day	--	--	--	--	2.80E-06	mg/kg-day	1.10E-03	mg/kg-day	2.55E-03	
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	6.49E-06	mg/kg-day	--	--	--	--	9.53E-06	mg/kg-day	1.10E-03	mg/kg-day	8.67E-03	
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.14E-06	mg/kg-day	--	--	--	--	3.15E-06	mg/kg-day	1.70E-03	mg/kg-day	1.85E-03	
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	9.73E-05	mg/kg-day	--	--	--	--	1.43E-04	mg/kg-day	5.70E-02	mg/kg-day	2.51E-03					
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	5.23E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.88E-09	7.68E-08	mg/kg-day	1.14E-03	mg/kg-day	6.74E-05						
				1,3,5-Trimethylbenzene	3.85E-05	mg/m <sup>3</sup>	6.68E-07	mg/kg-day	--	--	--	--	9.81E-07	mg/kg-day	1.70E-03	mg/kg-day	5.77E-04					
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.98E-06	mg/kg-day	--	--	--	--	4.37E-06	mg/kg-day	3.00E-02	mg/kg-day	1.46E-04					
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.86E-05	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.14E-06	4.20E-05	mg/kg-day	2.30E-01	mg/kg-day	1.82E-04						
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.35E-06	mg/kg-day	--	--	--	--	1.99E-06	mg/kg-day	5.00E-02	mg/kg-day	3.97E-05					
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	1.77E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.03E-11	2.60E-10	mg/kg-day	5.00E-04	mg/kg-day	5.21E-07						
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.06E-06	mg/kg-day	--	--	--	--	1.56E-06	mg/kg-day	6.00E-02	mg/kg-day	2.60E-05					
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.61E-08	mg/kg-day	--	--	--	--	3.84E-08	mg/kg-day	6.00E-02	mg/kg-day	6.40E-07					
				Aldrin	5.63E-09	mg/m <sup>3</sup>	1.03E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.75E-09	1.51E-10	mg/kg-day	3.00E-05	mg/kg-day	5.04E-06						
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	6.65E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.80E-10	9.77E-11	mg/kg-day	5.00E-04	mg/kg-day	1.95E-07						
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.47E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.77E-10	2.16E-10	mg/kg-day	2.00E-04	mg/kg-day	1.08E-06						
				Anthracene	1.45E-05	mg/m <sup>3</sup>	2.65E-07	mg/kg-day	--	--	--	--	3.89E-07	mg/kg-day	3.00E-01	mg/kg-day	1.30E-06					
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	3.24E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.26E-08	4.75E-08	mg/kg-day	--	--	--						
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	8.27E-09	mg/kg-day	--	--	--	--	1.21E-08	mg/kg-day	2.00E-01	mg/kg-day	6.07E-08					
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	9.47E-07	mg/kg-day	--	--	--	--	1.39E-08	mg/kg-day	2.86E-01	mg/kg-day	4.87E-06					
				Chrysene	6.25E-06	mg/m <sup>3</sup>	1.14E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	4.45E-09	1.68E-07	mg/kg-day	--	--	--						
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	7.65E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.15E-09	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.62E-06						
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	8.20E-07	mg/kg-day	--	--	--	--	1.20E-06	mg/kg-day	2.00E-03	mg/kg-day	6.02E-04					
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.36E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.17E-08	1.99E-09	mg/kg-day	5.00E-05	mg/kg-day	3.98E-05						
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.47E-09	mg/kg-day	--	--	--	--	2.16E-09	mg/kg-day	6.00E-03	mg/kg-day	3.61E-07					
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.53E-09	mg/kg-day	--	--	--	--	2.24E-09	mg/kg-day	6.00E-03	mg/kg-day	3.73E-07					
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.75E-09	mg/kg-day	--	--	--	--	4.04E-09	mg/kg-day	6.00E-03	mg/kg-day	6.74E-07					
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	3.13E-07	mg/kg-day	--	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05					
				Fluorene	1.71E-05	mg/m <sup>3</sup>	3.12E-07	mg/kg-day	--	--	--	--	4.58E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05					
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.91E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.21E-10	4.28E-10	mg/kg-day	3.00E-04	mg/kg-day	1.43E-06						
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.37E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.85E-10	3.48E-10	mg/kg-day	2.00E-04	mg/kg-day	1.74E-06						
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	6.18E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.53E-08	9.08E-09	mg/kg-day	5.00E-04	mg/kg-day	1.82E-05						
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.58E-09	mg/kg-day	--	--	--	--	2.32E-09	mg/kg-day	5.00E-03	mg/kg-day	4.64E-07					
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.28E-05	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.53E-06	1.88E-05	mg/kg-day	8.57E-04	mg/kg-day	2.19E-02						
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	3.49E-06	mg/kg-day	--	--	--	--	5.13E-06	mg/kg-day	3.00E-01	mg/kg-day	1.71E-05					

TABLE H-7.26

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	3.50E-08	mg/kg-day	--	--	--	5.15E-06	mg/kg-day	1.10E-01	mg/kg-day	4.68E-05					
				Pyrene	1.85E-05	mg/m <sup>3</sup>	3.38E-07	mg/kg-day	--	--	--	4.96E-07	mg/kg-day	3.00E-02	mg/kg-day	1.65E-05					
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	5.13E-07	mg/kg-day	--	--	--	7.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.88E-05					
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	9.97E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.20E-08	1.46E-08	mg/kg-day	2.00E-04	mg/kg-day	7.32E-05					
				Toluene	3.12E-07	mg/m <sup>3</sup>	5.71E-09	mg/kg-day	--	--	--	8.38E-09	mg/kg-day	1.43E+00	mg/kg-day	5.87E-09					
				Exposure Route Total																3.94E-02	
				Exposure Point Total																	4.01E-02
				Exposure Medium Total																	4.01E-02
				Medium Total																	1.72E+00
				Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	7.74E-09	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	4.41E-11	1.14E-08	mg/kg-day	1.40E-01	mg/kg-day	8.12E-08	
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	--	--	--	3.39E-09	mg/kg-day	1.70E-03	mg/kg-day	1.99E-06					
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.51E-08	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.70E-02	mg/kg-day	3.90E-07					
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.09E-08	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	7.83E-10	1.60E-08	mg/kg-day	1.40E-03	mg/kg-day	1.14E-05					
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	4.08E-09	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.47E-10	5.99E-09	mg/kg-day	1.14E-03	mg/kg-day	5.25E-06					
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.31E-09	mg/kg-day	--	--	--	1.93E-09	mg/kg-day	1.70E-03	mg/kg-day	1.14E-06					
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	5.15E-09	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	2.06E-10	7.56E-09	mg/kg-day	2.30E-01	mg/kg-day	3.29E-08					
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.99E-10	mg/kg-day	--	--	--	2.92E-10	mg/kg-day	1.43E+00	mg/kg-day	2.05E-10					
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.77E-11	mg/kg-day	--	--	--	2.60E-11	mg/kg-day	5.00E-02	mg/kg-day	5.19E-10					
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.37E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	8.04E-12	3.47E-11	mg/kg-day	5.00E-04	mg/kg-day	6.95E-08					
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	7.40E-11	mg/kg-day	--	--	--	1.09E-10	mg/kg-day	8.60E-01	mg/kg-day	1.26E-10					
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	7.08E-10	mg/kg-day	--	--	--	1.04E-09	mg/kg-day	6.00E-02	mg/kg-day	1.73E-08					
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	3.02E-11	mg/kg-day	--	--	--	4.43E-11	mg/kg-day	6.00E-02	mg/kg-day	7.39E-10					
				Aldrin	2.24E-09	mg/m <sup>3</sup>	4.09E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	6.95E-10	6.00E-11	mg/kg-day	3.00E-05	mg/kg-day	2.00E-06					
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	5.18E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.40E-11	7.60E-12	mg/kg-day	5.00E-04	mg/kg-day	1.52E-08					
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.22E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.47E-11	1.80E-11	mg/kg-day	2.00E-04	mg/kg-day	8.99E-08					
				Anthracene	3.29E-09	mg/m <sup>3</sup>	6.01E-11	mg/kg-day	--	--	--	8.82E-11	mg/kg-day	3.00E-01	mg/kg-day	2.94E-10					
				Benzene	2.81E-07	mg/m <sup>3</sup>	4.77E-09	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	4.77E-10	7.01E-09	mg/kg-day	8.60E-03	mg/kg-day	8.15E-07					
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	8.89E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.47E-12	1.31E-11	mg/kg-day	--	--	--					
				Bromofom	7.36E-09	mg/m <sup>3</sup>	1.35E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	5.25E-13	1.98E-10	mg/kg-day	2.00E-02	mg/kg-day	9.88E-09					
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	8.24E-08	mg/kg-day	--	--	--	1.21E-07	mg/kg-day	2.00E-01	mg/kg-day	6.05E-07					
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.34E-09	mg/kg-day	--	--	--	1.97E-09	mg/kg-day	2.86E-01	mg/kg-day	6.88E-09					
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.78E-08	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	7.18E-10	5.55E-08	mg/kg-day	8.57E-02	mg/kg-day	6.48E-07					
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.37E-08	mg/kg-day	--	--	--	2.01E-08	mg/kg-day	2.60E-02	mg/kg-day	7.73E-07					
				Chrysene	1.32E-09	mg/m <sup>3</sup>	2.41E-11	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	9.38E-13	3.53E-11	mg/kg-day	--	--	--					
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	9.69E-09	mg/kg-day	--	--	--	1.42E-08	mg/kg-day	1.00E-02	mg/kg-day	1.42E-06					
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.80E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.87E-10	2.64E-11	mg/kg-day	5.00E-05	mg/kg-day	5.27E-07					
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	4.09E-12	mg/kg-day	--	--	--	6.01E-12	mg/kg-day	6.00E-03	mg/kg-day	1.00E-09					
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	6.73E-15	mg/kg-day	--	--	--	9.88E-15	mg/kg-day	6.00E-03	mg/kg-day	1.65E-12					
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	3.65E-09	mg/kg-day	--	--	--	5.36E-09	mg/kg-day	2.90E-01	mg/kg-day	1.85E-08					
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	9.24E-12	mg/kg-day	--	--	--	1.36E-11	mg/kg-day	4.00E-02	mg/kg-day	3.39E-10					
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.83E-11	mg/kg-day	--	--	--	2.68E-11	mg/kg-day	4.00E-02	mg/kg-day	6.71E-10					
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.27E-14	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.50E-14	3.34E-14	mg/kg-day	3.00E-04	mg/kg-day	1.11E-10					
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	3.18E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.82E-11	4.67E-11	mg/kg-day	2.00E-04	mg/kg-day	2.34E-07					
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	3.26E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.34E-09	4.79E-10	mg/kg-day	5.00E-04	mg/kg-day	9.59E-07					
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	6.26E-07	mg/kg-day	--	--	--	9.20E-07	mg/kg-day	1.10E-01	mg/kg-day	8.36E-06					
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.27E-08	mg/kg-day	--	--	--	1.86E-08	mg/kg-day	2.90E-02	mg/kg-day	6.43E-07					
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	5.97E-11	mg/kg-day	--	--	--	8.77E-11	mg/kg-day	5.00E-03	mg/kg-day	1.75E-08					
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	9.93E-11	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.19E-11	1.46E-10	mg/kg-day	8.57E-04	mg/kg-day	1.70E-07					
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	4.63E-09	mg/kg-day	--	--	--	6.79E-09	mg/kg-day	8.57E-04	mg/kg-day	7.93E-06					
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	5.15E-09	mg/kg-day	--	--	--	7.56E-09	mg/kg-day	4.00E-02	mg/kg-day	1.89E-07					
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	4.79E-11	mg/kg-day	--	--	--	7.03E-11	mg/kg-day	3.00E-01	mg/kg-day	2.34E-10					

TABLE H-7.26

EPA RAGS PART D TABLE 7a-b, CALCULATION OF RME CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	6.28E-07	mg/kg-day	--	--	--	9.20E-07	mg/kg-day	1.10E-01	mg/kg-day	8.36E-06			
				Pyrene	4.61E-10	mg/m <sup>3</sup>	8.43E-12	mg/kg-day	--	--	--	1.24E-11	mg/kg-day	3.00E-02	mg/kg-day	4.13E-10			
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.46E-08	mg/kg-day	--	--	--	2.15E-08	mg/kg-day	4.00E-02	mg/kg-day	5.38E-07			
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.66E-08	mg/kg-day	--	--	--	2.44E-08	mg/kg-day	4.00E-02	mg/kg-day	6.09E-07			
				Toluene	3.80E-07	mg/m <sup>3</sup>	6.95E-09	mg/kg-day	--	--	--	1.02E-08	mg/kg-day	1.43E+00	mg/kg-day	7.14E-09			
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.64E-08	mg/kg-day	--	--	--	2.41E-08	mg/kg-day	2.00E-02	mg/kg-day	1.20E-06			
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.70E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	1.19E-10	2.50E-08	mg/kg-day	1.70E-01	mg/kg-day	1.47E-07			
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	3.53E-08	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	9.52E-09	5.18E-08	mg/kg-day	2.86E-02	mg/kg-day	1.81E-08			
Exposure Route Total																1.44E-08	5.85E-05		
Exposure Point Total																	1.44E-08	5.85E-05	
Exposure Medium Total																	1.44E-08	5.85E-05	
Medium Total																	1.44E-08	5.85E-05	
Total of Receptor Risks Across All Media																	7.40E-05	Total of Receptor Hazards Across All Media	1.72E+00

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RID Reference dose
  - RIC Reference concentration
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.47E-04	1.67E-04	--	--	3.14E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	4.99E-04	5.69E-05	--	--	5.56E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	9.78E-06	1.12E-06	--	--	1.09E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	2.83E-04	3.22E-05	--	--	3.15E-04
			1,2-Dichloropropane	8.55E-11	9.75E-12	--	--	9.53E-11	Nasal	3.09E-06	3.52E-07	--	--	3.44E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	3.13E-06	3.57E-07	--	--	3.49E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	3.59E-05	4.09E-06	--	--	4.00E-05
			1,4-Dichlorobenzene	5.70E-08	--	--	--	5.70E-08	Organ Weight	2.22E-04	--	--	--	2.22E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.03E-05	1.17E-06	--	--	1.14E-05
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	1.59E-06	1.81E-06	--	--	3.39E-06
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	4.09E-04	4.66E-05	--	--	4.56E-04
			4,4'-DDD	1.01E-10	1.15E-11	--	--	1.12E-10	Liver	2.35E-06	2.68E-07	--	--	2.62E-06
			4,4'-DDE	9.78E-09	1.11E-09	--	--	1.09E-08	Liver	1.61E-04	1.84E-05	--	--	1.79E-04
			4,4'-DDT	5.29E-09	1.81E-09	--	--	7.09E-09	Liver	8.71E-05	2.98E-05	--	--	1.17E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	5.28E-05	6.02E-05	--	--	1.13E-04
			4-Nitroaniline	4.55E-09	5.19E-09	--	--	9.74E-09	--	2.02E-04	--	--	--	4.33E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	8.22E-04	9.37E-04	--	--	1.76E-03
			Acenaphthene	--	--	--	--	--	Liver	6.91E-05	1.02E-04	--	--	1.71E-04
			Acenaphthylene	--	--	--	--	--	Liver	1.70E-06	1.94E-07	--	--	1.89E-06
			Aldrin	7.72E-08	8.80E-08	--	--	1.65E-07	Liver	4.24E-04	4.83E-04	--	--	9.07E-04
			alpha-BHC	1.61E-09	1.83E-10	--	--	1.79E-09	Liver/Kidney	1.43E-06	1.63E-07	--	--	1.59E-06
			alpha-Chlordane	9.96E-10	--	--	--	9.96E-10	Liver	1.59E-05	--	--	--	1.59E-05
			Aluminum	--	--	--	--	--	CNS	8.63E-03	9.84E-05	--	--	8.73E-03
			Anthracene	--	--	--	--	--	No observed effect	3.44E-06	5.10E-06	--	--	8.54E-06
			Antimony	--	--	--	--	--	Whole body/Blood	9.98E-03	1.14E-04	--	--	1.01E-02
			Aroclor-1248	8.39E-07	1.34E-06	--	--	2.18E-06	Immune System/ Eye/Finger and Toe Nails	5.87E-02	9.37E-02	--	--	1.52E-01
			Aroclor-1254	3.10E-07	4.95E-07	--	--	8.06E-07	Immune System/ Eye/Finger and Toe Nails	2.17E-02	3.47E-02	--	--	5.64E-02
			Aroclor-1260	3.78E-07	6.04E-07	--	--	9.82E-07	Immune System/ Eye/Finger and Toe Nails	2.65E-02	4.23E-02	--	--	6.88E-02
			Aroclor-1268	1.94E-08	3.10E-08	--	--	5.04E-08	Immune System/ Eye/Finger and Toe Nails	1.36E-03	2.17E-03	--	--	3.53E-03
			Arsenic	3.23E-06	1.11E-06	--	--	4.34E-06	Skin	2.01E-02	6.88E-03	--	--	2.70E-02
			Barium	--	--	--	--	--	Kidney	9.48E-04	1.08E-05	--	--	9.59E-04
			Benzo(a)anthracene	1.28E-06	1.89E-06	--	--	3.17E-06	--	--	--	--	--	--
			Benzo(a)pyrene	4.25E-06	6.30E-06	--	--	1.05E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	6.99E-07	1.04E-06	--	--	1.73E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	2.49E-05	3.69E-05	--	--	6.18E-05
			Benzo(k)fluoranthene	8.32E-08	1.23E-07	--	--	2.06E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.17E-04	1.33E-06	--	--	1.18E-04
			Beta-BHC	1.38E-09	1.58E-10	--	--	1.54E-09	Kidney/Liver	1.08E-05	1.23E-06	--	--	1.20E-05
			bis(2-ethylhexyl)phthalate	3.83E-08	4.37E-09	--	--	4.27E-08	Liver	3.83E-04	4.37E-05	--	--	4.27E-04
			Cadmium	--	--	--	--	--	Kidney	1.85E-02	2.11E-04	--	--	1.88E-02
			Carbon disulfide	--	--	--	--	--	Developmental	2.35E-09	6.69E-09	--	--	9.04E-09
			Chlorobenzene	--	--	--	--	--	Liver	5.38E-06	6.14E-07	--	--	6.00E-06

TABLE H-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	7.25E-05	8.27E-07	--	--	7.34E-05		
			Chrysene	1.45E-08	2.15E-08	--	--	3.60E-08	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	3.71E-04	4.22E-06	--	--	--	3.75E-04	
			Copper	--	--	--	--	--	GI Tract	1.51E-03	1.72E-05	--	--	--	1.53E-03	
			Delta-BHC	5.28E-09	3.01E-09	--	--	8.30E-09	Liver/Kidney	4.11E-05	2.34E-05	--	--	--	6.45E-05	
			Dibenzo(a,h)anthracene	8.10E-07	1.20E-06	--	--	2.01E-06	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	6.36E-03	7.25E-04	--	--	--	7.09E-03	
			Dieldrin	3.08E-07	3.51E-08	--	--	3.43E-07	Liver	1.08E-03	1.23E-04	--	--	--	1.20E-03	
			Dimethylphthalate	--	--	--	--	--	--	--	3.72E-09	4.24E-10	--	--	--	4.14E-09
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	2.15E-05	2.45E-06	--	--	--	2.40E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	3.75E-06	2.14E-06	--	--	--	5.89E-06	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	3.88E-06	2.21E-06	--	--	--	6.10E-06	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	7.01E-06	4.00E-06	--	--	--	1.10E-05	
			Endrin aldehyde	--	--	--	--	--	Liver	1.37E-04	7.82E-05	--	--	--	2.15E-04	
			Endrin Ketone	--	--	--	--	--	Liver	3.28E-05	--	--	--	--	3.28E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	6.48E-04	9.61E-04	--	--	--	1.61E-03	
			Fluorene	--	--	--	--	--	Blood	7.13E-05	1.06E-04	--	--	--	1.77E-04	
			gamma-BHC (Lindane)	1.18E-09	5.39E-10	--	--	1.72E-09	Liver/Kidney	8.48E-06	3.87E-06	--	--	--	1.23E-05	
			gamma-Chlordane	1.60E-09	--	--	--	1.60E-09	Liver	2.58E-05	--	--	--	--	2.58E-05	
			Heptachlor	1.09E-08	1.24E-09	--	--	1.21E-08	Liver	1.35E-05	1.54E-06	--	--	--	1.50E-05	
			Heptachlor Epoxide	3.55E-08	4.04E-09	--	--	3.95E-08	Liver	8.40E-04	9.57E-05	--	--	--	9.35E-04	
			Indeno(1,2,3-cd)pyrene	2.23E-07	3.30E-07	--	--	5.53E-07	--	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	1.33E-01	1.51E-03	--	--	--	1.34E-01	
			Isophorone	6.64E-11	7.57E-11	--	--	1.42E-10	No observed effect	9.78E-07	1.12E-06	--	--	--	2.09E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	1.35E-02	1.54E-04	--	--	--	1.37E-02	
			Mercury	--	--	--	--	--	Immune System	1.01E-03	--	--	--	--	1.01E-03	
			Methoxychlor	--	--	--	--	--	Developmental	2.35E-05	2.68E-06	--	--	--	2.62E-05	
			Molybdenum	--	--	--	--	--	Blood	4.90E-04	5.59E-06	--	--	--	4.96E-04	
			Naphthalene	--	--	--	--	--	Whole Body	6.36E-04	9.43E-04	--	--	--	1.58E-03	
			Nickel	--	--	--	--	--	Whole Body	1.91E-03	2.18E-05	--	--	--	1.94E-03	
			Phenanthrene	--	--	--	--	--	No Observed Effect	4.54E-05	5.18E-06	--	--	--	5.06E-05	
			Phenol	--	--	--	--	--	Whole Body	1.89E-06	2.16E-06	--	--	--	4.05E-06	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.08E-06	--	--	--	--	1.08E-06	
			Pyrene	--	--	--	--	--	Kidney	7.88E-04	1.17E-03	--	--	--	1.95E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.74E-06	--	--	--	--	1.74E-06	
			Selenium	--	--	--	--	--	Whole Body	4.39E-05	5.01E-07	--	--	--	4.44E-05	
			Silver	--	--	--	--	--	Skin	2.27E-04	2.59E-06	--	--	--	2.29E-04	
			Technical Chlordane	6.74E-08	3.07E-08	--	--	9.81E-08	Liver	1.08E-03	4.92E-04	--	--	--	1.57E-03	
			Thallium	--	--	--	--	--	Blood	7.37E-03	--	--	--	--	7.37E-03	
			Toluene	--	--	--	--	--	Liver/Kidney	5.28E-09	6.00E-10	--	--	--	5.86E-09	
Vanadium	--	--	--	--	--	Kidney	3.34E-02	3.81E-04	--	--	--	3.38E-02				

TABLE H-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	1.48E-03	1.69E-05	--	--	1.50E-03
		Chemical Total		1.28E-05	1.46E-05	0.00E+00	0.00E+00	2.74E-05		3.77E-01	1.89E-01	0.00E+00	0.00E+00	5.66E-01
	Exposure Point Total						2.74E-05							5.66E-01
	Exposure Medium Total						2.74E-05							5.66E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.30E-02	--	1.30E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.42E-02	--	4.42E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.36E-03	--	9.36E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.28E-02	--	1.28E-02
			1,2-Dichloropropane	--	--	9.52E-09	--	9.52E-09	Nasal	--	--	3.44E-04	--	3.44E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.92E-03	--	2.92E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	7.44E-04	--	7.44E-04
			1,4-Dichlorobenzene	--	--	1.68E-06	--	1.68E-06	Liver	--	--	9.31E-04	--	9.31E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	1.09E-09	--	1.09E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.03E-04	--	2.03E-04
			4,4'-DDD	--	--	1.07E-14	--	1.07E-14	Liver	--	--	2.49E-10	--	2.49E-10
			4,4'-DDE	--	--	1.61E-10	--	1.61E-10	Liver	--	--	2.66E-06	--	2.66E-06
			4,4'-DDT	--	--	5.61E-13	--	5.61E-13	Liver	--	--	9.23E-09	--	9.23E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	5.60E-09	--	5.60E-09
			4-Nitroaniline	--	--	4.83E-13	--	4.83E-13	--	--	--	6.43E-08	--	6.43E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	7.65E-08	--	7.65E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.33E-04	--	1.33E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.27E-06	--	3.27E-06
			Aldrin	--	--	4.68E-09	--	4.68E-09	Liver	--	--	2.57E-05	--	2.57E-05
			alpha-BHC	--	--	1.12E-09	--	1.12E-09	Liver/Kidney	--	--	9.97E-07	--	9.97E-07
			alpha-Chlordane	--	--	1.38E-10	--	1.38E-10	Liver	--	--	5.52E-06	--	5.52E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	6.40E-04	--	6.40E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	6.61E-06	--	6.61E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	8.90E-11	--	8.90E-11	Immune System/Eye/Finger and Toe Nails	--	--	6.23E-06	--	6.23E-06
			Aroclor-1254	--	--	3.29E-11	--	3.29E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.30E-06	--	2.30E-06
			Aroclor-1260	--	--	4.01E-11	--	4.01E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.81E-06	--	2.81E-06
			Aroclor-1268	--	--	2.06E-12	--	2.06E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.44E-07	--	1.44E-07
			Arsenic	--	--	3.43E-09	--	3.43E-09	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	5.03E-05	--	5.03E-05
			Benzo(a)anthracene	--	--	1.35E-10	--	1.35E-10	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	4.51E-10	--	4.51E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	6.32E-08	--	6.32E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	2.64E-09	--	2.64E-09
			Benzo(k)fluoranthene	--	--	8.82E-12	--	8.82E-12	--	--	--	--	--	--
			Beryllium	--	--	7.41E-11	--	7.41E-11	Immune System/Lung	--	--	4.32E-06	--	4.32E-06
			Beta-BHC	--	--	1.51E-13	--	1.51E-13	Liver/Kidney	--	--	1.14E-09	--	1.14E-09

TABLE H-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	4.06E-12	--	4.06E-12	Liver	--	--	4.06E-08	--	4.06E-08
			Cadmium	--	--	2.21E-09	--	2.21E-09	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.10E-07	--	3.10E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	4.17E-04	--	4.17E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	2.23E-09	--	2.23E-09	--	--	--	--	--	--
			Cobalt	--	--	2.75E-09	--	2.75E-09	Respiratory System	--	--	1.38E-04	--	1.38E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	3.80E-09	--	3.80E-09	Liver/Kidney	--	--	2.87E-05	--	2.87E-05
			Dibenzo(a,h)anthracene	--	--	8.59E-11	--	8.59E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	3.07E-03	--	3.07E-03
			Dieldrin	--	--	5.81E-08	--	5.81E-08	Liver	--	--	2.03E-04	--	2.03E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	3.94E-13	--	3.94E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	2.28E-09	--	2.28E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.84E-06	--	1.84E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.90E-06	--	1.90E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	3.44E-06	--	3.44E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.46E-08	--	1.46E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	3.46E-09	--	3.46E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	5.87E-05	--	5.87E-05
			Fluorene	--	--	--	--	--	Blood	--	--	5.85E-05	--	5.85E-05
			gamma-BHC (Lindane)	--	--	1.01E-09	--	1.01E-09	Liver/Kidney	--	--	7.28E-06	--	7.28E-06
			gamma-Chlordane	--	--	2.22E-10	--	2.22E-10	Liver	--	--	8.88E-06	--	8.88E-06
			Heptachlor	--	--	7.52E-08	--	7.52E-08	Liver	--	--	9.26E-05	--	9.26E-05
			Heptachlor Epoxide	--	--	3.76E-12	--	3.76E-12	Liver	--	--	8.90E-08	--	8.90E-08
			Indeno(1,2,3-cd)pyrene	--	--	2.36E-11	--	2.36E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	7.04E-15	--	7.04E-15	No observed effect	--	--	1.04E-10	--	1.04E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	2.40E-03	--	2.40E-03
			Mercury	--	--	--	--	--	CNS	--	--	3.74E-07	--	3.74E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.37E-06	--	2.37E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.12E-01	--	1.12E-01
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	8.73E-05	--	8.73E-05
			Phenol	--	--	--	--	--	Body Weight	--	--	2.01E-10	--	2.01E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.39E-04	--	2.39E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	8.43E-05	--	8.43E-05
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	9.62E-05	--	9.62E-05
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL, (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	9.34E-12	--	9.34E-12	Liver	--	--	3.74E-04	--	3.74E-04	
			Thallium	--	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	--	CNS	--	--	2.99E-08	--	2.99E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	1.91E-06	0.00E+00	1.91E-06		0.00E+00	0.00E+00	2.05E-01	0.00E+00	2.05E-01	
		Exposure Point Total					1.91E-06						2.05E-01		
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	4.97E-01	--	4.97E-01
			1,2,4-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	1.69E+00	--	1.69E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.06E-01	--	1.06E-01
			1,2-Dichlorobenzene	--	--	--	--	--	--	Body Weight	--	--	1.66E-01	--	1.66E-01
			1,2-Dichloropropane	--	--	3.18E-08	--	3.18E-08	--	Nasal	--	--	1.15E-03	--	1.15E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.40E-02	--	3.40E-02
			1,3-Dichlorobenzene	--	--	--	--	--	--	Kidney/Liver	--	--	1.34E-02	--	1.34E-02
			1,4-Dichlorobenzene	--	--	1.95E-05	--	1.95E-05	--	Liver	--	--	1.08E-02	--	1.08E-02
			2-Methylnaphthalene	--	--	--	--	--	--	CNS/Body Weight	--	--	5.38E-03	--	5.38E-03
			4,4'-DDE	--	--	4.03E-11	--	4.03E-11	--	Liver	--	--	6.64E-07	--	6.64E-07
			Acenaphthene	--	--	--	--	--	--	Liver	--	--	1.55E-03	--	1.55E-03
			Acenaphthylene	--	--	--	--	--	--	Liver	--	--	4.00E-05	--	4.00E-05
			Aldrin	--	--	5.34E-09	--	5.34E-09	--	Liver	--	--	2.93E-05	--	2.93E-05
			alpha-BHC	--	--	1.33E-08	--	1.33E-08	--	Liver/Kidney	--	--	1.18E-05	--	1.18E-05
			alpha-Chlordane	--	--	3.71E-10	--	3.71E-10	--	Liver	--	--	1.48E-05	--	1.48E-05
			Anthracene	--	--	--	--	--	--	No Observed Effect	--	--	8.16E-05	--	8.16E-05
			Benzo(b)fluoranthene	--	--	4.50E-08	--	4.50E-08	--	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	--	CNS	--	--	4.37E-07	--	4.37E-07
			Chlorobenzene	--	--	--	--	--	--	Liver	--	--	2.36E-03	--	2.36E-03
			Chrysene	--	--	2.54E-09	--	2.54E-09	--	--	--	--	--	--	--
Delta-BHC	--		--	6.69E-08	--	6.69E-08	--	Liver/Kidney	--	--	5.05E-04	--	5.05E-04		
Dibenzofuran	--	--	--	--	--	--	Kidney	--	--	6.48E-04	--	6.48E-04			
Dieldrin	--	--	1.64E-07	--	1.64E-07	--	Liver	--	--	5.74E-04	--	5.74E-04			
Endosulfan I	--	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.97E-05	--	1.97E-05			
Endosulfan II	--	--	--	--	--	--	Body Weight/Kidney	--	--	2.00E-05	--	2.00E-05			
Endosulfan Sulfate	--	--	--	--	--	--	Body weight/Kidney/CNS	--	--	3.68E-05	--	3.68E-05			
fluoranthene	--	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.71E-06	--	6.71E-06			
Fluorene	--	--	--	--	--	--	Blood	--	--	3.67E-04	--	3.67E-04			
gamma-BHC (Lindane)	--	--	1.45E-08	--	1.45E-08	--	Liver/Kidney	--	--	1.04E-04	--	1.04E-04			
gamma-Chlordane	--	--	6.75E-12	--	6.75E-12	--	Liver	--	--	2.70E-07	--	2.70E-07			
Heptachlor	--	--	9.65E-09	--	9.65E-09	--	Liver	--	--	1.19E-05	--	1.19E-05			
Methoxychlor	--	--	--	--	--	--	Developmental	--	--	3.25E-06	--	3.25E-06			
Methylene Chloride	--	--	5.00E-10	--	5.00E-10	--	Liver	--	--	1.02E-06	--	1.02E-06			
Naphthalene	--	--	--	--	--	--	Respiratory System	--	--	4.08E+00	--	4.08E+00			
Phenanthrene	--	--	--	--	--	--	No Observed Effect	--	--	1.05E-03	--	1.05E-03			

TABLE H-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.64E-04	--	3.64E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.26E-05	--	7.26E-05
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.17E-04	--	3.17E-04
			Technical Chlordane	--	--	2.87E-11	--	2.87E-11	Liver	--	--	1.15E-03	--	1.15E-03
			Toluene	--	--	--	--	--	CNS	--	--	1.10E-07	--	1.10E-07
			Chemical Total	0.00E+00	0.00E+00	1.98E-05	0.00E+00	1.98E-05		0.00E+00	0.00E+00	6.61E+00	6.61E+00	
			Exposure Point Total					1.98E-05					6.61E+00	
			Exposure Medium Total					2.17E-05					6.81E+00	
			Medium Total					4.91E-05					7.38E+00	
Groundwater	Outdoor Air	Inhalation (Outdoor Air)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	4.14E-07	--	4.14E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.01E-05	--	1.01E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.99E-06	--	1.99E-06
			1,2-Dichloroethane	--	--	2.65E-09	--	2.65E-09	Liver/Kidney/CNS	--	--	5.82E-05	--	5.82E-05
			1,2-Dichloropropane	--	--	7.42E-10	--	7.42E-10	Nasal	--	--	2.68E-05	--	2.68E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.75E-06	--	5.75E-06
			1,4-Dichlorobenzene	--	--	3.03E-10	--	3.03E-10	Liver	--	--	1.68E-07	--	1.68E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.04E-09	--	1.04E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.65E-09	--	2.65E-09
			4,4'-DDE	--	--	2.15E-11	--	2.15E-11	Liver	--	--	3.54E-07	--	3.54E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	6.44E-10	--	6.44E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	8.85E-08	--	8.85E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.77E-09	--	3.77E-09
			Aldrin	--	--	1.86E-09	--	1.86E-09	Liver	--	--	1.02E-05	--	1.02E-05
			alpha-BHC	--	--	8.73E-11	--	8.73E-11	Liver/Kidney	--	--	7.76E-08	--	7.76E-08
			alpha-Chlordane	--	--	1.15E-11	--	1.15E-11	Liver	--	--	4.59E-07	--	4.59E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.50E-09	--	1.50E-09
			Benzene	--	--	3.49E-10	--	3.49E-10	Blood	--	--	4.16E-06	--	4.16E-06
			Benzo(b)fluoranthene	--	--	1.74E-11	--	1.74E-11	--	--	--	--	--	--
			Bromoform	--	--	1.39E-12	--	1.39E-12	Liver	--	--	5.04E-08	--	5.04E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.09E-06	--	3.09E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	5.90E-07	--	5.90E-07
			Chloroform	--	--	8.14E-09	--	8.14E-09	Liver/Kidney/Respiratory	--	--	2.02E-05	--	2.02E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	3.95E-06	--	3.95E-06
			Chrysene	--	--	4.70E-13	--	4.70E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	7.26E-06	--	7.26E-06
			Dieldrin	--	--	7.69E-10	--	7.69E-10	Liver	--	--	2.69E-06	--	2.69E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.11E-09	--	5.11E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.40E-12	--	8.40E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	9.42E-08	--	9.42E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.73E-09	--	1.73E-09
Fluorene	--	--	--	--	--	Blood	--	--	3.42E-09	--	3.42E-09			
gamma-BHC (Lindane)	--	--	7.90E-14	--	7.90E-14	Liver/Kidney	--	--	5.67E-10	--	5.67E-10			

TABLE H-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Outdoor Air) (continued)	gamma-Chlordane	--	--	2.98E-11	--	2.98E-11	Liver	--	--	1.19E-06	--	1.19E-06
			Heptachlor	--	--	3.97E-09	--	3.97E-09	Liver	--	--	4.89E-06	--	4.89E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	4.27E-05	--	4.27E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	3.28E-06	--	3.28E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.95E-08	--	8.95E-08
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	8.68E-07	--	8.68E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	4.04E-05	--	4.04E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	9.65E-07	--	9.65E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.20E-09	--	1.20E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.27E-05	--	4.27E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	2.11E-09	--	2.11E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.74E-06	--	2.74E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	3.11E-06	--	3.11E-06
			Toluene	--	--	--	--	--	CNS	--	--	3.64E-08	--	3.64E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	6.14E-06	--	6.14E-06
			Trichloroethene	--	--	1.82E-08	--	1.82E-08	CNS/Liver/Endocrine	--	--	1.28E-05	--	1.28E-05
			Vinyl chloride	--	--	2.92E-09	--	2.92E-09	Liver	--	--	9.25E-06	--	9.25E-06
			Chemical Total	0.00E+00	0.00E+00	4.01E-08	0.00E+00	4.01E-08		0.00E+00	0.00E+00	3.28E-04	0.00E+00	3.28E-04
			Exposure Point Total					4.01E-08						3.28E-04
			Exposure Medium Total					4.01E-08						3.28E-04
Groundwater Vapor Intrusion	Indoor Air (Inhalation)	Indoor Air (Inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	5.85E-05	--	5.85E-05
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.15E-04	--	2.15E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	4.14E-05	--	4.14E-05
			1,2-Dichloroethane	--	--	5.81E-08	--	5.81E-08	Liver/Kidney/CNS	--	--	1.28E-03	--	1.28E-03
			1,2-Dichloropropane	--	--	1.74E-08	--	1.74E-08	Nasal	--	--	6.28E-04	--	6.28E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.23E-04	--	1.23E-04
			1,4-Dichlorobenzene	--	--	6.45E-09	--	6.45E-09	Liver	--	--	3.57E-06	--	3.57E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.44E-08	--	2.44E-08
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.86E-08	--	4.86E-08
			4,4'-DDE	--	--	8.21E-13	--	8.21E-13	Liver	--	--	1.35E-08	--	1.35E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.47E-08	--	1.47E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.84E-06	--	1.84E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.81E-08	--	7.81E-08
			Aldrin	--	--	8.72E-11	--	8.72E-11	Liver	--	--	4.79E-07	--	4.79E-07
			alpha-BHC	--	--	4.28E-12	--	4.28E-12	Liver/Kidney	--	--	3.80E-09	--	3.80E-09
			alpha-Chlordane	--	--	1.43E-12	--	1.43E-12	Liver	--	--	5.74E-08	--	5.74E-08
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.10E-08	--	3.10E-08
			Benzene	--	--	8.13E-09	--	8.13E-09	Blood	--	--	9.69E-05	--	9.69E-05
			Benzo(b)fluoranthene	--	--	3.06E-10	--	3.06E-10	--	--	--	--	--	--
			Bromoform	--	--	3.94E-11	--	3.94E-11	Liver	--	--	1.43E-06	--	1.43E-06
Carbon disulfide	--	--	--	--	--	CNS	--	--	7.30E-05	--	7.30E-05			
Chlorobenzene	--	--	--	--	--	Liver	--	--	1.33E-05	--	1.33E-05			

TABLE H-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (Inhalation) (continued)	Chloroform	-	-	1.87E-07	-	1.87E-07	Liver/Kidney/Respiratory	-	-	4.64E-04	-	4.64E-04			
			Chloromethane	-	-	-	-	-	CNS	-	-	9.78E-05	-	9.78E-05			
			Chrysene	-	-	8.53E-12	-	8.53E-12	Blood	-	-	-	-	-			
			cis-1,2-Dichloroethene	-	-	-	-	-	Liver	-	-	1.80E-04	-	1.80E-04			
			Dieldrin	-	-	1.27E-11	-	1.27E-11	Liver	-	-	4.43E-08	-	4.43E-08			
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	4.78E-10	-	4.78E-10			
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	1.60E-10	-	1.60E-10			
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	2.07E-06	-	2.07E-06			
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	2.93E-08	-	2.93E-08			
			Fluorene	-	-	-	-	-	Blood	-	-	7.45E-08	-	7.45E-08			
			gamma-BHC (Lindane)	-	-	1.19E-12	-	1.19E-12	Liver/Kidney	-	-	8.56E-09	-	8.56E-09			
			gamma-Chlordane	-	-	6.94E-13	-	6.94E-13	Liver	-	-	2.78E-08	-	2.78E-08			
			Heptachlor	-	-	6.54E-11	-	6.54E-11	Liver	-	-	8.05E-08	-	8.05E-08			
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	8.56E-04	-	8.56E-04			
			m,p-Xylene	-	-	-	-	-	CNS	-	-	7.27E-05	-	7.27E-05			
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.48E-09	-	1.48E-09			
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	1.80E-05	-	1.80E-05			
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	8.64E-04	-	8.64E-04			
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	2.09E-05	-	2.09E-05			
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	2.53E-08	-	2.53E-08			
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	8.56E-04	-	8.56E-04			
			Pyrene	-	-	-	-	-	Kidney	-	-	3.37E-08	-	3.37E-08			
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	7.45E-07	-	7.45E-07			
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	7.43E-05	-	7.43E-05			
			Toluene	-	-	-	-	-	CNS	-	-	8.00E-08	-	8.00E-08			
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.58E-04	-	1.58E-04			
			Trichloroethene	-	-	4.27E-07	-	4.27E-07	CNS/Liver/Endocrine	-	-	2.99E-04	-	2.99E-04			
			Vinyl chloride	-	-	7.55E-08	-	7.55E-08	Liver	-	-	2.39E-04	-	2.39E-04			
						Chemical Total	0.00E+00	0.00E+00	7.80E-07	0.00E+00	7.80E-07		0.00E+00	0.00E+00	6.74E-03	0.00E+00	6.74E-03
						Exposure Point Total					7.80E-07						6.74E-03
			Exposure Medium Total					7.80E-07						6.74E-03			
Medium Total								8.20E-07						7.06E-03			
Receptor Total								5.00E-05						7.38E+00			

**TABLE H-8.1**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.80E-01
Total Organ 2 (Kidney) HI Across All Media =	2.33E+00
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	1.85E-01
Total Organ 5 (Endocrine) HI Across All Media =	3.12E-04
Total Organ 6 (Blood) HI Across All Media =	1.77E-01
Total Organ 7 (Adrenal) HI Across All Media =	8.70E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.73E-03
Total Organ 9 (Skin) HI Across All Media =	2.72E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	1.64E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	2.81E-01
Total Organ 12 (Body Weight) HI Across All Media =	1.85E-01
Total Organ 13 (Developmental) HI Across All Media =	8.44E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	4.34E+00
Total Organ 15 (Whole Body) HI Across All Media =	1.38E-02
Total Organ 16 (Immune System) HI Across All Media =	2.82E-01
Total Organ 17 (Organ Weight) HI Across All Media =	2.99E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.81E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	2.15E-03

TABLE H-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.47E-04	1.67E-04	--	--	3.14E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	4.99E-04	5.69E-05	--	--	5.56E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	9.78E-06	1.12E-06	--	--	1.09E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	2.83E-04	3.22E-05	--	--	3.15E-04
			1,2-Dichloropropane	8.55E-11	9.75E-12	--	--	9.53E-11	Nasal	3.09E-06	3.52E-07	--	--	3.44E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	3.13E-06	3.57E-07	--	--	3.49E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	3.59E-05	4.09E-06	--	--	4.00E-05
			1,4-Dichlorobenzene	5.70E-08	--	--	--	5.70E-08	Organ Weight	2.22E-04	--	--	--	2.22E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.03E-05	1.17E-06	--	--	1.14E-05
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	1.59E-06	1.81E-06	--	--	3.39E-06
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	3.55E-04	4.04E-05	--	--	3.95E-04
			4,4'-DDD	1.01E-10	1.15E-11	--	--	1.12E-10	Liver	2.35E-06	2.68E-07	--	--	2.62E-06
			4,4'-DDE	8.91E-09	1.02E-09	--	--	9.93E-09	Liver	1.47E-04	1.67E-05	--	--	1.64E-04
			4,4'-DDT	4.99E-09	1.71E-09	--	--	6.70E-09	Liver	8.22E-05	2.81E-05	--	--	1.10E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	5.28E-05	6.02E-05	--	--	1.13E-04
			4-Nitroaniline	4.55E-09	5.19E-09	--	--	9.74E-09	--	2.02E-04	2.31E-04	--	--	4.33E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	8.22E-04	9.37E-04	--	--	1.76E-03
			Acenaphthene	--	--	--	--	--	Liver	5.66E-05	8.39E-05	--	--	1.41E-04
			Acenaphthylene	--	--	--	--	--	Liver	1.46E-06	1.67E-07	--	--	1.63E-06
			Aldrin	7.72E-08	8.80E-08	--	--	1.65E-07	Liver	4.24E-04	4.83E-04	--	--	9.07E-04
			alpha-BHC	1.61E-09	1.83E-10	--	--	1.79E-09	Liver/Kidney	1.43E-06	1.63E-07	--	--	1.59E-06
			alpha-Chlordane	8.54E-10	--	--	--	8.54E-10	Liver	1.37E-05	--	--	--	1.37E-05
			Aluminum	--	--	--	--	--	CNS	8.86E-03	1.01E-04	--	--	8.96E-03
			Anthracene	--	--	--	--	--	No observed effect	2.98E-06	4.41E-06	--	--	7.39E-06
			Antimony	--	--	--	--	--	Whole body/Blood	6.66E-03	7.60E-05	--	--	6.74E-03
			Aroclor-1248	8.39E-07	1.34E-06	--	--	2.18E-06	Immune System/ Eye/Finger and Toe Nails	5.87E-02	9.37E-02	--	--	1.52E-01
			Aroclor-1254	3.06E-07	4.88E-07	--	--	7.94E-07	Immune System/ Eye/Finger and Toe Nails	2.14E-02	3.42E-02	--	--	5.56E-02
			Aroclor-1260	3.41E-07	5.45E-07	--	--	8.86E-07	Immune System/ Eye/Finger and Toe Nails	2.39E-02	3.81E-02	--	--	6.20E-02
			Aroclor-1268	1.90E-08	3.03E-08	--	--	4.93E-08	Immune System/ Eye/Finger and Toe Nails	1.33E-03	2.12E-03	--	--	3.45E-03
			Arsenic	5.00E-06	1.71E-06	--	--	6.71E-06	Skin	3.11E-02	1.06E-02	--	--	4.17E-02
			Barium	--	--	--	--	--	Kidney	9.71E-04	1.11E-05	--	--	9.82E-04
			Benzo(a)anthracene	1.07E-06	1.59E-06	--	--	2.67E-06	--	--	--	--	--	--
			Benzo(a)pyrene	3.59E-06	5.32E-06	--	--	8.90E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	6.05E-07	8.97E-07	--	--	1.50E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	2.11E-05	3.13E-05	--	--	5.24E-05
			Benzo(k)fluoranthene	7.21E-08	1.07E-07	--	--	1.79E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.11E-04	1.27E-06	--	--	1.13E-04
			Beta-BHC	1.38E-09	1.58E-10	--	--	1.54E-09	Kidney/Liver	1.08E-05	1.23E-06	--	--	1.20E-05
			bis(2-ethylhexyl)phthalate	2.59E-08	2.95E-09	--	--	2.89E-08	Liver	2.59E-04	2.95E-05	--	--	2.89E-04
			Cadmium	--	--	--	--	--	Kidney	1.69E-02	1.93E-04	--	--	1.71E-02
			Carbon disulfide	--	--	--	--	--	Developmental	2.35E-09	6.69E-09	--	--	9.04E-09
			Chlorobenzene	--	--	--	--	--	Liver	5.38E-06	6.14E-07	--	--	6.00E-06

TABLE H-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	6.52E-05	7.43E-07	--	--	6.60E-05		
			Chrysene	1.22E-08	1.81E-08	--	--	3.04E-08	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	3.64E-04	4.15E-06	--	--	--	3.68E-04	
			Copper	--	--	--	--	--	GI Tract	1.59E-03	1.81E-05	--	--	--	1.61E-03	
			Delta-BHC	5.28E-09	3.01E-09	--	--	8.30E-09	Liver/Kidney	4.11E-05	2.34E-05	--	--	--	6.45E-05	
			Dibenzo(a,h)anthracene	7.03E-07	1.04E-06	--	--	1.75E-06	--	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	6.36E-03	7.25E-04	--	--	--	7.09E-03	
			Dieldrin	2.74E-07	3.12E-08	--	--	3.05E-07	Liver	9.57E-04	1.09E-04	--	--	--	1.07E-03	
			Dimethylphthalate	--	--	--	--	--	--	--	3.72E-09	4.24E-10	--	--	--	4.14E-09
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	2.25E-05	2.57E-06	--	--	--	2.51E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	3.75E-06	2.14E-06	--	--	--	5.89E-06	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	3.81E-06	2.17E-06	--	--	--	5.98E-06	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	7.01E-06	4.00E-06	--	--	--	1.10E-05	
			Endrin aldehyde	--	--	--	--	--	Liver	2.05E-04	1.17E-04	--	--	--	3.23E-04	
			Endrin Ketone	--	--	--	--	--	Liver	3.26E-05	--	--	--	--	3.26E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	5.44E-04	8.07E-04	--	--	--	1.35E-03	
			Fluorene	--	--	--	--	--	Blood	6.18E-05	9.16E-05	--	--	--	1.53E-04	
			gamma-BHC (Lindane)	1.18E-09	5.39E-10	--	--	1.72E-09	Liver/Kidney	8.48E-06	3.87E-06	--	--	--	1.23E-05	
			gamma-Chlordane	1.55E-09	--	--	--	1.55E-09	Liver	2.49E-05	--	--	--	--	2.49E-05	
			Heptachlor	1.09E-08	1.24E-09	--	--	1.21E-08	Liver	1.35E-05	1.54E-06	--	--	--	1.50E-05	
			Heptachlor Epoxide	3.13E-08	3.57E-09	--	--	3.49E-08	Liver	7.42E-04	8.46E-05	--	--	--	8.27E-04	
			Indeno(1,2,3-cd)pyrene	1.27E-07	1.88E-07	--	--	3.15E-07	--	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	1.20E-01	1.37E-03	--	--	--	1.21E-01	
			Isophorone	6.64E-11	7.57E-11	--	--	1.42E-10	No observed effect	9.78E-07	1.12E-06	--	--	--	2.09E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	1.24E-02	1.41E-04	--	--	--	1.25E-02	
			Mercury	--	--	--	--	--	Immune System	8.65E-04	--	--	--	--	8.65E-04	
			Methoxychlor	--	--	--	--	--	Developmental	2.35E-05	2.68E-06	--	--	--	2.62E-05	
			Methylene chloride	6.29E-12	7.17E-13	--	--	7.01E-12	Liver	3.91E-08	4.46E-09	--	--	--	4.36E-08	
			Molybdenum	--	--	--	--	--	Blood	4.27E-04	4.86E-06	--	--	--	4.31E-04	
			Naphthalene	--	--	--	--	--	Whole Body	6.36E-04	9.43E-04	--	--	--	1.58E-03	
			Nickel	--	--	--	--	--	Whole Body	1.91E-03	2.17E-05	--	--	--	1.93E-03	
			Phenanthrene	--	--	--	--	--	No Observed Effect	3.81E-05	4.34E-06	--	--	--	4.24E-05	
			Phenol	--	--	--	--	--	Whole Body	1.89E-06	2.16E-06	--	--	--	4.05E-06	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.08E-06	--	--	--	--	1.08E-06	
			Pyrene	--	--	--	--	--	Kidney	6.64E-04	9.83E-04	--	--	--	1.65E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.74E-06	--	--	--	--	1.74E-06	
			Selenium	--	--	--	--	--	Whole Body	5.55E-05	6.33E-07	--	--	--	5.61E-05	
			Silver	--	--	--	--	--	Skin	1.92E-04	2.19E-06	--	--	--	1.94E-04	
			Technical Chlordane	6.61E-08	3.02E-08	--	--	9.63E-08	Liver	1.06E-03	4.83E-04	--	--	--	1.54E-03	
Thallium	--	--	--	--	--	Blood	7.15E-03	--	--	--	--	7.15E-03				
Toluene	--	--	--	--	--	Liver/Kidney	5.26E-09	6.00E-10	--	--	--	5.86E-09				

TABLE H-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	3.30E-02	3.76E-04	--	--	3.33E-02
			Zinc	--	--	--	--	--	Blood	1.08E-03	1.23E-05	--	--	1.09E-03
			Chemical Total	1.33E-05	1.34E-05	0.00E+00	0.00E+00	2.67E-05		3.64E-01	1.88E-01	0.00E+00	0.00E+00	5.52E-01
			Exposure Point Total					2.67E-05						5.52E-01
	Exposure Medium Total							2.67E-05						5.52E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.30E-02	--	1.30E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.42E-02	--	4.42E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.36E-03	--	9.36E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.28E-02	--	1.28E-02
			1,2-Dichloropropane	--	--	9.52E-09	--	9.52E-09	Nasal	--	--	3.44E-04	--	3.44E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.92E-03	--	2.92E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	7.44E-04	--	7.44E-04
			1,4-Dichlorobenzene	--	--	1.68E-06	--	1.68E-06	Liver	--	--	9.31E-04	--	9.31E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	1.09E-09	--	1.09E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.76E-04	--	1.76E-04
			4,4'-DDD	--	--	1.07E-14	--	1.07E-14	Liver	--	--	2.49E-10	--	2.49E-10
			4,4'-DDE	--	--	1.47E-10	--	1.47E-10	Liver	--	--	2.42E-06	--	2.42E-06
			4,4'-DDT	--	--	5.29E-13	--	5.29E-13	Liver	--	--	8.72E-09	--	8.72E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	5.60E-09	--	5.60E-09
			4-Nitroaniline	--	--	4.83E-13	--	4.83E-13	--	--	--	6.43E-08	--	6.43E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	7.65E-08	--	7.65E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.09E-04	--	1.09E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.81E-06	--	2.81E-06
			Aldrin	--	--	4.68E-09	--	4.68E-09	Liver	--	--	2.57E-05	--	2.57E-05
			alpha-BHC	--	--	1.12E-09	--	1.12E-09	Liver/Kidney	--	--	9.97E-07	--	9.97E-07
			alpha-Chlordane	--	--	1.18E-10	--	1.18E-10	Liver	--	--	4.73E-06	--	4.73E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	6.57E-04	--	6.57E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.72E-06	--	5.72E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	8.90E-11	--	8.90E-11	Immune System/Eye/Finger and Toe Nails	--	--	6.23E-06	--	6.23E-06
			Aroclor-1254	--	--	3.24E-11	--	3.24E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.27E-06	--	2.27E-06
			Aroclor-1260	--	--	3.62E-11	--	3.62E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.53E-06	--	2.53E-06
			Aroclor-1268	--	--	2.01E-12	--	2.01E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.41E-07	--	1.41E-07
			Arsenic	--	--	5.30E-09	--	5.30E-09	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	5.15E-05	--	5.15E-05
			Benzo(a)anthracene	--	--	1.14E-10	--	1.14E-10	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	3.80E-10	--	3.80E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	5.48E-08	--	5.48E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	2.24E-09	--	2.24E-09
			Benzo(k)fluoranthene	--	--	7.64E-12	--	7.64E-12	--	--	--	--	--	--
			Beryllium	--	--	7.09E-11	--	7.09E-11	Immune System/Lung	--	--	4.14E-06	--	4.14E-06

TABLE H-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	1.51E-13	--	1.51E-13	Liver/Kidney	--	--	1.14E-09	--	1.14E-09
			bis(2-ethylhexyl)phthalate	--	--	2.75E-12	--	2.75E-12	Liver	--	--	2.75E-08	--	2.75E-08
			Cadmium	--	--	2.02E-09	--	2.02E-09	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.10E-07	--	3.10E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	4.17E-04	--	4.17E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.88E-09	--	1.88E-09	--	--	--	--	--	--
			Cobalt	--	--	2.70E-09	--	2.70E-09	Respiratory System	--	--	1.35E-04	--	1.35E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	3.80E-09	--	3.80E-09	Liver/Kidney	--	--	2.87E-05	--	2.87E-05
			Dibenzo(a,h)anthracene	--	--	7.46E-11	--	7.46E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	3.07E-03	--	3.07E-03
			Dieldrin	--	--	5.15E-08	--	5.15E-08	Liver	--	--	1.80E-04	--	1.80E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	3.94E-13	--	3.94E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	2.39E-09	--	2.39E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.84E-06	--	1.84E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.87E-06	--	1.87E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	3.44E-06	--	3.44E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.18E-08	--	2.18E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	3.46E-09	--	3.46E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	4.93E-05	--	4.93E-05
			Fluorene	--	--	--	--	--	Blood	--	--	5.07E-05	--	5.07E-05
			gamma-BHC (Lindane)	--	--	1.01E-09	--	1.01E-09	Liver/Kidney	--	--	7.28E-06	--	7.28E-06
			gamma-Chlordane	--	--	2.15E-10	--	2.15E-10	Liver	--	--	8.61E-06	--	8.61E-06
			Heptachlor	--	--	7.52E-08	--	7.52E-08	Liver	--	--	9.26E-05	--	9.26E-05
			Heptachlor Epoxide	--	--	3.32E-12	--	3.32E-12	Liver	--	--	7.87E-08	--	7.87E-08
			Indeno(1,2,3-cd)pyrene	--	--	1.35E-11	--	1.35E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	7.04E-15	--	7.04E-15	No observed effect	--	--	1.04E-10	--	1.04E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	2.21E-03	--	2.21E-03
			Mercury	--	--	--	--	--	CNS	--	--	3.20E-07	--	3.20E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.37E-06	--	2.37E-06
Methylene chloride	--	--	--	--	--	Liver	--	--	--	--	--			
Molybdenum	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.12E-01	--	1.12E-01			
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	7.32E-05	--	7.32E-05			
Phenol	--	--	--	--	--	Body Weight	--	--	2.01E-10	--	2.01E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.39E-04	--	2.39E-04			
Pyrene	--	--	--	--	--	Kidney	--	--	7.10E-05	--	7.10E-05			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	9.62E-05	--	9.62E-05			

TABLE H-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	--	--	--	--	--	--
			Silver	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	9.17E-12	--	9.17E-12	Liver	--	--	3.67E-04	--	3.67E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	2.99E-08	--	2.99E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	1.90E-06	0.00E+00	1.90E-06		0.00E+00	0.00E+00	2.04E-01	0.00E+00	2.04E-01
		Exposure Point Total						1.90E-06				2.04E-01		2.04E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.97E-01	--	4.97E-01
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.69E+00	--	1.69E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.06E-01	--	1.06E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.66E-01	--	1.66E-01
			1,2-Dichloropropane	--	--	3.18E-08	--	3.18E-08	Nasal	--	--	1.15E-03	--	1.15E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.40E-02	--	3.40E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.34E-02	--	1.34E-02
			1,4-Dichlorobenzene	--	--	1.95E-05	--	1.95E-05	Liver	--	--	1.08E-02	--	1.08E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.38E-03	--	5.38E-03
			4,4'-DDE	--	--	4.03E-11	--	4.03E-11	Liver	--	--	6.64E-07	--	6.64E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.55E-03	--	1.55E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.00E-05	--	4.00E-05
			Aldrin	--	--	5.34E-09	--	5.34E-09	Liver	--	--	2.93E-05	--	2.93E-05
			alpha-BHC	--	--	1.33E-08	--	1.33E-08	Liver/Kidney	--	--	1.18E-05	--	1.18E-05
			alpha-Chlordane	--	--	3.71E-10	--	3.71E-10	Liver	--	--	1.48E-05	--	1.48E-05
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.16E-05	--	8.16E-05
			Benzo(b)fluoranthene	--	--	4.50E-08	--	4.50E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.37E-07	--	4.37E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.36E-03	--	2.36E-03
			Chrysene	--	--	2.54E-09	--	2.54E-09	--	--	--	--	--	--
			Delta-BHC	--	--	6.69E-08	--	6.69E-08	Liver/Kidney	--	--	5.05E-04	--	5.05E-04
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.48E-04	--	6.48E-04
			Dieldrin	--	--	1.64E-07	--	1.64E-07	Liver	--	--	5.74E-04	--	5.74E-04
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.97E-05	--	1.97E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.00E-05	--	2.00E-05
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	3.68E-05	--	3.68E-05
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.71E-06	--	6.71E-06
			Fluorene	--	--	--	--	--	Blood	--	--	3.67E-04	--	3.67E-04
			gamma-BHC (Lindane)	--	--	1.45E-08	--	1.45E-08	Liver/Kidney	--	--	1.04E-04	--	1.04E-04
			gamma-Chlordane	--	--	6.75E-12	--	6.75E-12	Liver	--	--	2.70E-07	--	2.70E-07
			Heptachlor	--	--	9.65E-09	--	9.65E-09	Liver	--	--	1.19E-05	--	1.19E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.25E-06	--	3.25E-06
			Methylene Chloride	--	--	5.00E-10	--	5.00E-10	Liver	--	--	1.02E-06	--	1.02E-06

TABLE H-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.08E+00	--	4.08E+00
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.05E-03	--	1.05E-03
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.64E-04	--	3.64E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.26E-05	--	7.26E-05
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.17E-04	--	3.17E-04
			Technical Chlordane	--	--	2.87E-11	--	2.87E-11	Liver	--	--	1.15E-03	--	1.15E-03
			Toluene	--	--	--	--	--	CNS	--	--	1.10E-07	--	1.10E-07
			Chemical Total	0.00E+00	0.00E+00	1.98E-05	0.00E+00	1.98E-05		0.00E+00	0.00E+00	6.61E+00	0.00E+00	6.61E+00
			Exposure Point Total					1.98E-05						6.61E+00
			Exposure Medium Total					2.17E-05						6.81E+00
Medium Total					4.84E-05						7.36E+00			
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	4.14E-07	--	4.14E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.01E-05	--	1.01E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.99E-06	--	1.99E-06
			1,2-Dichloroethane	--	--	2.65E-09	--	2.65E-09	Liver/Kidney/CNS	--	--	5.82E-05	--	5.82E-05
			1,2-Dichloropropane	--	--	7.42E-10	--	7.42E-10	Nasal	--	--	2.68E-05	--	2.68E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.75E-06	--	5.75E-06
			1,4-Dichlorobenzene	--	--	3.03E-10	--	3.03E-10	Liver	--	--	1.68E-07	--	1.68E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.04E-09	--	1.04E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.65E-09	--	2.65E-09
			4,4'-DDE	--	--	2.15E-11	--	2.15E-11	Liver	--	--	3.54E-07	--	3.54E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	6.44E-10	--	6.44E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	8.85E-08	--	8.85E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.77E-09	--	3.77E-09
			Aldrin	--	--	1.86E-09	--	1.86E-09	Liver	--	--	1.02E-05	--	1.02E-05
			alpha-BHC	--	--	8.73E-11	--	8.73E-11	Liver/Kidney	--	--	7.76E-08	--	7.76E-08
			alpha-Chlordane	--	--	1.15E-11	--	1.15E-11	Liver	--	--	4.59E-07	--	4.59E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.50E-09	--	1.50E-09
			Benzene	--	--	3.49E-10	--	3.49E-10	Blood	--	--	4.16E-06	--	4.16E-06
			Benzo(b)fluoranthene	--	--	1.74E-11	--	1.74E-11	--	--	--	--	--	--
			Bromoform	--	--	1.39E-12	--	1.39E-12	Liver	--	--	5.04E-08	--	5.04E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.09E-06	--	3.09E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	5.90E-07	--	5.90E-07
			Chloroform	--	--	8.14E-09	--	8.14E-09	Liver/Kidney/Respiratory	--	--	2.02E-05	--	2.02E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	3.95E-06	--	3.95E-06
			Chrysene	--	--	4.70E-13	--	4.70E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	7.26E-06	--	7.26E-06
			Dieckrin	--	--	7.69E-10	--	7.69E-10	Liver	--	--	2.69E-06	--	2.69E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.11E-09	--	5.11E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.40E-12	--	8.40E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	9.42E-08	--	9.42E-08
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.73E-09	--	1.73E-09			

**TABLE H-8.2**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	3.42E-09	--	3.42E-09
			gamma-BHC (Lindane)	--	--	7.90E-14	--	7.90E-14	Liver/Kidney	--	--	5.67E-10	--	5.67E-10
			gamma-Chlordane	--	--	2.98E-11	--	2.98E-11	Liver	--	--	1.19E-06	--	1.19E-06
			Heptachlor	--	--	3.97E-09	--	3.97E-09	Liver	--	--	4.89E-06	--	4.89E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	4.27E-05	--	4.27E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	3.28E-06	--	3.28E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.95E-08	--	8.95E-08
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	8.68E-07	--	8.68E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	4.04E-05	--	4.04E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	9.65E-07	--	9.65E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.20E-09	--	1.20E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.27E-05	--	4.27E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	2.11E-09	--	2.11E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.74E-06	--	2.74E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	3.11E-06	--	3.11E-06
			Toluene	--	--	--	--	--	CNS	--	--	3.64E-08	--	3.64E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	6.14E-06	--	6.14E-06
			Trichloroethene	--	--	1.82E-08	--	1.82E-08	CNS/Liver/Endocrine	--	--	1.28E-05	--	1.28E-05
			Vinyl chloride	--	--	2.92E-09	--	2.92E-09	Liver	--	--	9.25E-06	--	9.25E-06
						Chemical Total	0.00E+00	0.00E+00	4.01E-08	0.00E+00	4.01E-08		0.00E+00	0.00E+00
Exposure Point Total														
Exposure Medium Total														
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)		1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	5.85E-05	--	5.85E-05
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.15E-04	--	2.15E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	4.14E-05	--	4.14E-05
			1,2-Dichloroethane	--	--	5.81E-08	--	5.81E-08	Liver/Kidney/CNS	--	--	1.28E-03	--	1.28E-03
			1,2-Dichloropropane	--	--	1.74E-08	--	1.74E-08	Nasal	--	--	6.28E-04	--	6.28E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.23E-04	--	1.23E-04
			1,4-Dichlorobenzene	--	--	6.45E-09	--	6.45E-09	Liver	--	--	3.57E-06	--	3.57E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.44E-08	--	2.44E-08
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.86E-08	--	4.86E-08
			4,4'-DDE	--	--	8.21E-13	--	8.21E-13	Liver	--	--	1.35E-08	--	1.35E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.47E-08	--	1.47E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.84E-06	--	1.84E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.81E-08	--	7.81E-08
			Aldrin	--	--	8.72E-11	--	8.72E-11	Liver	--	--	4.79E-07	--	4.79E-07
			alpha-BHC	--	--	4.28E-12	--	4.28E-12	Liver/Kidney	--	--	3.80E-09	--	3.80E-09
			alpha-Chlordane	--	--	1.43E-12	--	1.43E-12	Liver	--	--	5.74E-08	--	5.74E-08
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.10E-08	--	3.10E-08
			Benzene	--	--	8.13E-09	--	8.13E-09	Blood	--	--	9.69E-05	--	9.69E-05
			Benzo(b)fluoranthene	--	--	3.06E-10	--	3.06E-10	--	--	--	--	--	--
			Bromoform	--	--	3.94E-11	--	3.94E-11	Liver	--	--	1.43E-06	--	1.43E-06

**TABLE H-8.2**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	--	--	--	--	--	CNS	--	--	7.30E-05	--	7.30E-05
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.33E-05	--	1.33E-05
			Chloroform	--	--	1.87E-07	--	1.87E-07	Liver/Kidney/Respiratory	--	--	4.64E-04	--	4.64E-04
			Chloromethane	--	--	--	--	--	CNS	--	--	9.79E-05	--	9.79E-05
			Chrysene	--	--	8.53E-12	--	8.53E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.80E-04	--	1.80E-04
			Dieldrin	--	--	1.27E-11	--	1.27E-11	Liver	--	--	4.43E-08	--	4.43E-08
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.78E-10	--	4.78E-10
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.60E-10	--	1.60E-10
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	2.07E-06	--	2.07E-06
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.93E-08	--	2.93E-08
			Fluorene	--	--	--	--	--	Blood	--	--	7.45E-08	--	7.45E-08
			gamma-BHC (Lindane)	--	--	1.19E-12	--	1.19E-12	Liver/Kidney	--	--	8.56E-09	--	8.56E-09
			gamma-Chlordane	--	--	6.94E-13	--	6.94E-13	Liver	--	--	2.78E-08	--	2.78E-08
			Heptachlor	--	--	6.54E-11	--	6.54E-11	Liver	--	--	8.05E-08	--	8.05E-08
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.56E-04	--	8.56E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	7.27E-05	--	7.27E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.48E-09	--	1.48E-09
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.80E-05	--	1.80E-05
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.64E-04	--	8.64E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.09E-05	--	2.09E-05
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.53E-08	--	2.53E-08
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.56E-04	--	8.56E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	3.37E-08	--	3.37E-08
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	7.45E-07	--	7.45E-07
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	7.43E-05	--	7.43E-05
Toluene	--	--	--	--	--	CNS	--	--	8.00E-08	--	8.00E-08			
trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.58E-04	--	1.58E-04			
Trichloroethene	--	--	4.27E-07	--	4.27E-07	CNS/Liver/Endocrine	--	--	2.99E-04	--	2.99E-04			
Vinyl chloride	--	--	7.55E-08	--	7.55E-08	Liver	--	--	2.39E-04	--	2.39E-04			
			Chemical Total	0.00E+00	0.00E+00	7.80E-07	0.00E+00	7.80E-07		0.00E+00	0.00E+00	6.74E-03	0.00E+00	6.74E-03
		Exposure Point Total												6.74E-03
	Exposure Medium Total							7.80E-07						6.74E-03
Medium Total								7.80E-07						6.74E-03
Receptor Total								4.92E-05						7.37E+00

TABLE H-8.2

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- COPC Chemicals of Potential Concern
- CNS Central nervous system
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- GI Gastrointestinal
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- RME Reasonable maximum exposure
- VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.66E-01
Total Organ 2 (Kidney) HI Across All Media =	2.33E+00
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	1.84E-01
Total Organ 5 (Endocrine) HI Across All Media =	3.12E-04
Total Organ 6 (Blood) HI Across All Media =	1.73E-01
Total Organ 7 (Adrenal) HI Across All Media =	8.70E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.70E-03
Total Organ 9 (Skin) HI Across All Media =	4.19E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	1.72E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	2.73E-01
Total Organ 12 (Body Weight) HI Across All Media =	1.85E-01
Total Organ 13 (Developmental) HI Across All Media =	8.56E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	4.34E+00
Total Organ 15 (Whole Body) HI Across All Media =	1.05E-02
Total Organ 16 (Immune System) HI Across All Media =	2.74E-01
Total Organ 17 (Organ Weight) HI Across All Media =	2.99E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.73E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	2.15E-03

TABLE H-8.3  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	4.84E-04	6.69E-04	--	--	1.15E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.65E-03	2.28E-04	--	--	1.87E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	3.23E-05	4.46E-06	--	--	3.68E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	9.33E-04	1.29E-04	--	--	1.06E-03
			1,2-Dichloropropane	1.13E-11	1.56E-12	--	--	1.29E-11	Nasal	1.02E-05	1.41E-06	--	--	1.16E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.03E-05	1.43E-06	--	--	1.18E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.18E-04	1.64E-05	--	--	1.35E-04
			1,4-Dichlorobenzene	7.53E-09	--	--	--	7.53E-09	Organ Weight	7.32E-04	--	--	--	7.32E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	3.39E-05	4.68E-06	--	--	3.86E-05
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	5.23E-06	7.23E-06	--	--	1.25E-05
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	1.35E-03	1.86E-04	--	--	1.54E-03
			4,4'-DDD	1.33E-11	1.84E-12	--	--	1.51E-11	Liver	7.75E-06	1.07E-06	--	--	8.82E-06
			4,4'-DDE	1.29E-09	1.78E-10	--	--	1.47E-09	Liver	5.32E-04	7.35E-05	--	--	6.05E-04
			4,4'-DDT	6.98E-10	2.89E-10	--	--	9.87E-10	Liver	2.87E-04	1.19E-04	--	--	4.06E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.74E-04	2.41E-04	--	--	4.15E-04
			4-Nitroaniline	6.01E-10	8.30E-10	--	--	1.43E-09	--	6.67E-04	9.22E-04	--	--	1.59E-03
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.71E-03	3.75E-03	--	--	6.46E-03
			Acenaphthene	--	--	--	--	--	Liver	2.28E-04	4.09E-04	--	--	6.37E-04
			Acenaphthylene	--	--	--	--	--	Liver	5.61E-06	7.75E-07	--	--	6.38E-06
			Aldrin	1.02E-08	1.41E-08	--	--	2.43E-08	Liver	1.40E-03	1.93E-03	--	--	3.33E-03
			alpha-BHC	2.12E-10	2.93E-11	--	--	2.41E-10	Liver/Kidney	4.71E-06	6.51E-07	--	--	5.37E-06
			alpha-Chlordane	1.31E-10	--	--	--	1.31E-10	Liver	5.26E-05	--	--	--	5.26E-05
			Aluminum	--	--	--	--	--	CNS	2.85E-02	3.94E-04	--	--	2.89E-02
			Anthracene	--	--	--	--	--	No observed effect	1.14E-05	2.04E-05	--	--	3.17E-05
			Antimony	--	--	--	--	--	Whole body/Blood	3.29E-02	4.55E-04	--	--	3.34E-02
			Aroclor-1248	1.11E-07	2.14E-07	--	--	3.25E-07	Immune System/ Eye/Finger and Toe Nails	1.94E-01	3.75E-01	--	--	5.69E-01
			Aroclor-1254	4.10E-08	7.93E-08	--	--	1.20E-07	Immune System/ Eye/Finger and Toe Nails	7.17E-02	1.39E-01	--	--	2.10E-01
			Aroclor-1260	4.99E-08	9.66E-08	--	--	1.47E-07	Immune System/ Eye/Finger and Toe Nails	8.74E-02	1.69E-01	--	--	2.56E-01
			Aroclor-1268	2.56E-09	4.95E-09	--	--	7.52E-09	Immune System/ Eye/Finger and Toe Nails	4.48E-03	8.67E-03	--	--	1.32E-02
			Arsenic	4.27E-07	1.77E-07	--	--	6.04E-07	Skin	6.64E-02	2.75E-02	--	--	9.39E-02
			Barium	--	--	--	--	--	Kidney	3.13E-03	4.32E-05	--	--	3.17E-03
			Benzo(a)anthracene	1.69E-07	3.03E-07	--	--	4.71E-07	--	--	--	--	--	--
			Benzo(a)pyrene	5.61E-07	1.01E-06	--	--	1.57E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	9.22E-08	1.66E-07	--	--	2.58E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	8.22E-05	1.48E-04	--	--	2.30E-04
			Benzo(k)fluoranthene	1.10E-08	1.97E-08	--	--	3.07E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	3.84E-04	5.31E-06	--	--	3.90E-04
			Beta-BHC	1.83E-10	2.52E-11	--	--	2.08E-10	Kidney/Liver	3.55E-05	4.91E-06	--	--	4.04E-05
			bis(2-ethylhexyl)phthalate	5.06E-09	6.99E-10	--	--	5.76E-09	Liver	1.26E-03	1.75E-04	--	--	1.44E-03
			Cadmium	--	--	--	--	--	Kidney	6.12E-02	8.45E-04	--	--	6.20E-02
			Carbon disulfide	--	--	--	--	--	Developmental	7.75E-09	2.68E-08	--	--	3.45E-08
			Chlorobenzene	--	--	--	--	--	Liver	1.78E-05	2.45E-06	--	--	2.02E-05

TABLE H-8.3  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	2.39E-04	3.31E-06	--	--	2.43E-04		
			Chrysene	1.91E-09	3.44E-09	--	--	5.35E-09	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.22E-03	1.69E-05	--	--	--	1.24E-03	
			Copper	--	--	--	--	--	GI Tract	4.98E-03	6.88E-05	--	--	--	5.05E-03	
			Delta-BHC	6.97E-10	4.82E-10	--	--	1.18E-09	Liver/Kidney	1.36E-04	9.37E-05	--	--	--	2.29E-04	
			Dibenzo(a,h)anthracene	1.07E-07	1.92E-07	--	--	2.99E-07	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	2.10E-02	2.90E-03	--	--	--	2.39E-02	
			Diehdin	4.07E-08	5.62E-09	--	--	4.63E-08	Liver	3.56E-03	4.92E-04	--	--	--	4.05E-03	
			Dimethylphthalate	--	--	--	--	--	--	--	1.23E-08	1.70E-09	--	--	--	1.40E-08
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	7.10E-05	9.82E-06	--	--	--	8.09E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.24E-05	8.55E-06	--	--	--	2.09E-05	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.28E-05	8.86E-06	--	--	--	2.17E-05	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	2.31E-05	1.60E-05	--	--	--	3.91E-05	
			Endrin aldehyde	--	--	--	--	--	Liver	4.53E-04	3.13E-04	--	--	--	7.66E-04	
			Endrin Ketone	--	--	--	--	--	Liver	1.08E-04	--	--	--	--	1.08E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	2.14E-03	3.84E-03	--	--	--	5.98E-03	
			Fluorene	--	--	--	--	--	Blood	2.35E-04	4.23E-04	--	--	--	6.58E-04	
			gamma-BHC (Lindane)	1.56E-10	8.62E-11	--	--	2.42E-10	Liver/Kidney	2.80E-05	1.55E-05	--	--	--	4.35E-05	
			gamma-Chlordane	2.12E-10	--	--	--	2.12E-10	Liver	8.46E-05	--	--	--	--	8.46E-05	
			Heptachlor	1.43E-09	1.98E-10	--	--	1.63E-09	Liver	4.46E-05	6.16E-06	--	--	--	5.07E-05	
			Heptachlor Epoxide	4.68E-09	6.47E-10	--	--	5.33E-09	Liver	2.77E-03	3.83E-04	--	--	--	3.15E-03	
			Indeno(1,2,3-cd)pyrene	2.94E-08	5.28E-08	--	--	8.22E-08	--	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	4.38E-01	6.06E-03	--	--	--	4.44E-01	
			Isophorone	8.76E-12	1.21E-11	--	--	2.09E-11	No observed effect	3.23E-06	4.46E-06	--	--	--	7.69E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	4.45E-02	6.15E-04	--	--	--	4.52E-02	
			Mercury	--	--	--	--	--	Immune System	3.33E-03	--	--	--	--	3.33E-03	
			Methoxychlor	--	--	--	--	--	Developmental	7.75E-05	1.07E-05	--	--	--	8.82E-05	
			Molybdenum	--	--	--	--	--	Blood	1.62E-03	2.23E-05	--	--	--	1.64E-03	
			Naphthalene	--	--	--	--	--	Whole Body	2.10E-03	3.77E-03	--	--	--	5.87E-03	
			Nickel	--	--	--	--	--	Whole Body	6.32E-03	8.73E-05	--	--	--	6.40E-03	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.50E-04	2.07E-05	--	--	--	1.71E-04	
			Phenol	--	--	--	--	--	Whole Body	6.24E-06	8.63E-06	--	--	--	1.49E-05	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.55E-06	--	--	--	--	3.55E-06	
			Pyrene	--	--	--	--	--	Kidney	2.60E-03	4.67E-03	--	--	--	7.27E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	5.73E-06	--	--	--	--	5.73E-06	
			Selenium	--	--	--	--	--	Whole Body	1.45E-04	2.00E-06	--	--	--	1.47E-04	
			Silver	--	--	--	--	--	Skin	7.48E-04	1.03E-05	--	--	--	7.59E-04	
			Technical Chlordane	8.90E-09	4.92E-09	--	--	1.38E-08	Liver	3.56E-03	1.97E-03	--	--	--	5.53E-03	
			Thallium	--	--	--	--	--	Blood	2.43E-02	--	--	--	--	2.43E-02	
			Toluene	--	--	--	--	--	Liver/Kidney	1.74E-08	2.40E-09	--	--	--	1.98E-08	
Vanadium	--	--	--	--	--	Kidney	1.10E-01	1.52E-03	--	--	--	1.12E-01				

**TABLE H-8.3**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	4.88E-03	6.74E-05	--	--	4.95E-03
		Chemical Total	1.68E-06	2.34E-06	0.00E+00	0.00E+00	4.03E-06	1.24E+00	7.57E-01	0.00E+00	0.00E+00	2.00E+00		
	Exposure Point Total						4.03E-06						2.00E+00	
	Exposure Medium Total						4.03E-06						2.00E+00	
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.86E-02	--	--	1.86E-02
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.32E-02	--	--	6.32E-02
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.34E-02	--	--	1.34E-02
		1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.83E-02	--	--	1.83E-02
		1,2-Dichloropropane	--	--	5.44E-10	--	5.44E-10	Nasal	--	--	4.91E-04	--	--	4.91E-04
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.17E-03	--	--	4.17E-03
		1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.06E-03	--	--	1.06E-03
		1,4-Dichlorobenzene	--	--	9.61E-08	--	9.61E-08	Liver	--	--	1.33E-03	--	--	1.33E-03
		2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.05E-06	--	--	2.05E-06
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.90E-04	--	--	2.90E-04
		4,4'-DDD	--	--	8.05E-13	--	8.05E-13	Liver	--	--	4.70E-07	--	--	4.70E-07
		4,4'-DDE	--	--	9.22E-12	--	9.22E-12	Liver	--	--	3.80E-06	--	--	3.80E-06
		4,4'-DDT	--	--	4.23E-11	--	4.23E-11	Liver	--	--	1.74E-05	--	--	1.74E-05
		4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.06E-05	--	--	1.06E-05
		4-Nitroaniline	--	--	3.64E-11	--	3.64E-11	--	--	--	1.21E-04	--	--	1.21E-04
		4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.44E-04	--	--	1.44E-04
		Acenaphthene	--	--	--	--	--	Liver	--	--	1.90E-04	--	--	1.90E-04
		Acenaphthylene	--	--	--	--	--	Liver	--	--	4.66E-06	--	--	4.66E-06
		Aldrin	--	--	2.68E-10	--	2.68E-10	Liver	--	--	3.67E-05	--	--	3.67E-05
		alpha-BHC	--	--	6.41E-11	--	6.41E-11	Liver/Kidney	--	--	1.42E-06	--	--	1.42E-06
		alpha-Chlordane	--	--	7.89E-12	--	7.89E-12	Liver	--	--	7.89E-06	--	--	7.89E-06
		Aluminum	--	--	--	--	--	Respiratory System	--	--	1.21E+00	--	--	1.21E+00
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.45E-06	--	--	9.45E-06
		Antimony	--	--	--	--	--	--	--	--	--	--	--	--
		Aroclor-1248	--	--	6.71E-09	--	6.71E-09	Immune System/Eye/Finger and Toe Nails	--	--	1.17E-02	--	--	1.17E-02
		Aroclor-1254	--	--	2.48E-09	--	2.48E-09	Immune System/Eye/Finger and Toe nails	--	--	4.35E-03	--	--	4.35E-03
		Aroclor-1260	--	--	3.03E-09	--	3.03E-09	Immune System/Eye/Finger and Toe Nails	--	--	5.30E-03	--	--	5.30E-03
		Aroclor-1268	--	--	1.55E-10	--	1.55E-10	Immune System/Eye/Finger and Toe Nails	--	--	2.72E-04	--	--	2.72E-04
		Arsenic	--	--	2.59E-07	--	2.59E-07	--	--	--	--	--	--	--
		Barium	--	--	--	--	--	Developmental	--	--	9.48E-02	--	--	9.48E-02
		Benzo(a)anthracene	--	--	1.02E-08	--	1.02E-08	--	--	--	--	--	--	--
		Benzo(a)pyrene	--	--	3.40E-08	--	3.40E-08	--	--	--	--	--	--	--
		Benzo(b)fluoranthene	--	--	3.61E-09	--	3.61E-09	--	--	--	--	--	--	--
		Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	4.98E-06	--	--	4.98E-06
		Benzo(k)fluoranthene	--	--	6.65E-10	--	6.65E-10	--	--	--	--	--	--	--
		Beryllium	--	--	5.59E-09	--	5.59E-09	Immune System/Lung	--	--	8.16E-03	--	--	8.16E-03
		Beta-BHC	--	--	1.14E-11	--	1.14E-11	Liver/Kidney	--	--	2.15E-06	--	--	2.15E-06

TABLE H-8.3

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	3.07E-10	--	3.07E-10	Liver	--	--	7.66E-05	--	7.66E-05
			Cadmium	--	--	1.67E-07	--	1.67E-07	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.43E-07	--	4.43E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	5.96E-04	--	5.96E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.27E-10	--	1.27E-10	--	--	--	--	--	--
			Cobalt	--	--	2.07E-07	--	2.07E-07	Respiratory System	--	--	2.60E-01	--	2.60E-01
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	2.17E-10	--	2.17E-10	Liver/Kidney	--	--	4.10E-05	--	4.10E-05
			Dibenzo(a,h)anthracene	--	--	6.48E-09	--	6.48E-09	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	4.39E-03	--	4.39E-03
			Dieckrin	--	--	3.32E-09	--	3.32E-09	Liver	--	--	2.90E-04	--	2.90E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	7.44E-10	--	7.44E-10
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.31E-06	--	4.31E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.63E-06	--	2.63E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.72E-06	--	2.72E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	4.91E-06	--	4.91E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.74E-05	--	2.74E-05
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.52E-06	--	6.52E-06
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.39E-05	--	8.39E-05
			Fluorene	--	--	--	--	--	Blood	--	--	8.35E-05	--	8.35E-05
			gamma-BHC (Lindane)	--	--	5.79E-11	--	5.79E-11	Liver/Kidney	--	--	1.04E-05	--	1.04E-05
			gamma-Chlordane	--	--	1.27E-11	--	1.27E-11	Liver	--	--	1.27E-05	--	1.27E-05
			Heptachlor	--	--	4.30E-09	--	4.30E-09	Liver	--	--	1.32E-04	--	1.32E-04
			Heptachlor Epoxide	--	--	2.84E-10	--	2.84E-10	Liver	--	--	1.68E-04	--	1.68E-04
			Indeno(1,2,3-cd)pyrene	--	--	1.78E-09	--	1.78E-09	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	5.31E-13	--	5.31E-13	No observed effect	--	--	1.96E-07	--	1.96E-07
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.54E+00	--	4.54E+00
			Mercury	--	--	--	--	--	CNS	--	--	7.04E-04	--	7.04E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.38E-06	--	3.38E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.60E-01	--	1.60E-01
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.25E-04	--	1.25E-04
			Phenol	--	--	--	--	--	Body Weight	--	--	3.78E-07	--	3.78E-07
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.41E-04	--	3.41E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	1.20E-04	--	1.20E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.37E-04	--	1.37E-04
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.3  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	5.34E-13	--	5.34E-13	Liver	--	--	5.34E-04	--	5.34E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	4.28E-08	--	4.28E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	8.13E-07	0.00E+00	8.13E-07		0.00E+00	0.00E+00	6.42E+00	0.00E+00	6.42E+00
			Exposure Point Total					8.13E-07						6.42E+00
			Exposure Medium Total					8.13E-07						6.42E+00
Medium Total								4.84E-06						8.42E+00
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	5.92E-07	--	5.92E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.44E-05	--	1.44E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.84E-06	--	2.84E-06
			1,2-Dichloroethane	--	--	1.51E-10	--	1.51E-10	Liver/Kidney/CNS	--	--	8.32E-05	--	8.32E-05
			1,2-Dichloropropane	--	--	4.24E-11	--	4.24E-11	Nasal	--	--	3.83E-05	--	3.83E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.21E-06	--	8.21E-06
			1,4-Dichlorobenzene	--	--	1.73E-11	--	1.73E-11	Liver	--	--	2.40E-07	--	2.40E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.49E-09	--	1.49E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.79E-09	--	3.79E-09
			4,4'-DDE	--	--	1.23E-12	--	1.23E-12	Liver	--	--	5.06E-07	--	5.06E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.20E-10	--	9.20E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.26E-07	--	1.26E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.38E-09	--	5.38E-09
			Aldrin	--	--	1.06E-10	--	1.06E-10	Liver	--	--	1.46E-05	--	1.46E-05
			alpha-BHC	--	--	4.99E-12	--	4.99E-12	Liver/Kidney	--	--	1.11E-07	--	1.11E-07
			alpha-Chlordane	--	--	6.56E-13	--	6.56E-13	Liver	--	--	6.56E-07	--	6.56E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.14E-09	--	2.14E-09
			Benzene	--	--	1.99E-11	--	1.99E-11	Blood	--	--	5.94E-06	--	5.94E-06
			Benzo(b)fluoranthene	--	--	9.93E-13	--	9.93E-13	--	--	--	--	--	--
			Bromoform	--	--	7.92E-14	--	7.92E-14	Liver	--	--	7.20E-08	--	7.20E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.41E-06	--	4.41E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	8.43E-07	--	8.43E-07
			Chloroform	--	--	4.65E-10	--	4.65E-10	Liver/Kidney/Respiratory	--	--	2.89E-05	--	2.89E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	5.64E-06	--	5.64E-06
			Chrysene	--	--	2.69E-14	--	2.69E-14	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.04E-05	--	1.04E-05
			Dieldrin	--	--	4.39E-11	--	4.39E-11	Liver	--	--	3.84E-06	--	3.84E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.30E-09	--	7.30E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.20E-11	--	1.20E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.35E-07	--	1.35E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.47E-09	--	2.47E-09
			Fluorene	--	--	--	--	--	Blood	--	--	4.89E-09	--	4.89E-09
gamma-BHC (Lindane)	--	--	4.52E-15	--	4.52E-15	Liver/Kidney	--	--	8.10E-10	--	8.10E-10			

**TABLE H-8.3**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	1.70E-12	-	1.70E-12	Liver	-	-	1.70E-06	-	1.70E-06			
			Heptachlor	-	-	2.27E-10	-	2.27E-10	Liver	-	-	6.99E-06	-	6.99E-06			
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	6.09E-05	-	6.09E-05			
			m,p-Xylene	-	-	-	-	-	CNS	-	-	4.68E-06	-	4.68E-06			
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.28E-07	-	1.28E-07			
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	1.24E-06	-	1.24E-06			
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	5.78E-05	-	5.78E-05			
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	1.38E-06	-	1.38E-06			
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	1.71E-09	-	1.71E-09			
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	6.09E-05	-	6.09E-05			
			Pyrene	-	-	-	-	-	Kidney	-	-	3.01E-09	-	3.01E-09			
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	3.92E-06	-	3.92E-06			
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	4.44E-06	-	4.44E-06			
			Toluene	-	-	-	-	-	CNS	-	-	5.20E-08	-	5.20E-08			
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	8.77E-06	-	8.77E-06			
			Trichloroethene	-	-	1.04E-09	-	1.04E-09	CNS/Liver/Endocrine	-	-	1.82E-05	-	1.82E-05			
			Vinyl chloride	-	-	1.67E-10	-	1.67E-10	Liver	-	-	1.32E-05	-	1.32E-05			
						Chemical Total	0.00E+00	0.00E+00	2.29E-09	0.00E+00	2.29E-09		0.00E+00	0.00E+00	4.68E-04	0.00E+00	4.68E-04
						Exposure Point Total					2.29E-09						4.68E-04
						Exposure Medium Total					2.29E-09						4.68E-04
Medium Total								2.29E-09						4.68E-04			
Receptor Total								4.84E-06						8.42E+00			

**TABLE H-8.3**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.83E-01
Total Organ 2 (Kidney) HI Across All Media =	3.10E-01
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	4.63E+00
Total Organ 5 (Endocrine) HI Across All Media =	1.82E-05
Total Organ 6 (Blood) HI Across All Media =	9.66E-02
Total Organ 7 (Adrenal) HI Across All Media =	3.03E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.65E-03
Total Organ 9 (Skin) HI Across All Media =	9.46E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	5.44E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	1.07E+00
Total Organ 12 (Body Weight) HI Across All Media =	1.87E-02
Total Organ 13 (Developmental) HI Across All Media =	9.49E-02
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.65E+00
Total Organ 15 (Whole Body) HI Across All Media =	4.64E-02
Total Organ 16 (Immune System) HI Across All Media =	1.08E+00
Total Organ 17 (Organ Weight) HI Across All Media =	7.36E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	1.07E+00
Total Organ 19 (Nasal Tissue) HI Across All Media =	5.41E-04

TABLE H-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	-	-	-	-	-	Adrenal	4.84E-04	6.69E-04	-	-	1.15E-03
			1,2,4-Trichlorobenzene	-	-	-	-	-	Adrenal	1.65E-03	2.28E-04	-	-	1.87E-03
			1,2,4-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	3.23E-05	4.46E-06	-	-	3.68E-05
			1,2-Dichlorobenzene	-	-	-	-	-	No Observed Effect	9.33E-04	1.29E-04	-	-	1.06E-03
			1,2-Dichloropropane	1.13E-11	1.56E-12	-	-	1.29E-11	Nasal	1.02E-05	1.41E-06	-	-	1.16E-05
			1,3,5-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	1.03E-05	1.43E-06	-	-	1.18E-05
			1,3-Dichlorobenzene	-	-	-	-	-	Kidney/Liver	1.18E-04	1.64E-05	-	-	1.35E-04
			1,4-Dichlorobenzene	7.53E-09	-	-	-	7.53E-09	Organ Weight	7.32E-04	-	-	-	7.32E-04
			2,4-Dimethylphenol	-	-	-	-	-	Blood/Whole Body	3.39E-05	4.68E-06	-	-	3.86E-05
			2-Methylphenol	-	-	-	-	-	CNS/Body Weight	5.23E-06	7.23E-06	-	-	1.25E-05
			2-Methylnaphthalene	-	-	-	-	-	Respiratory System	1.17E-03	1.62E-04	-	-	1.33E-03
			4,4'-DDD	1.33E-11	1.84E-12	-	-	1.51E-11	Liver	7.75E-06	1.07E-06	-	-	8.82E-06
			4,4'-DDE	1.18E-09	1.63E-10	-	-	1.34E-09	Liver	4.84E-04	6.69E-05	-	-	5.51E-04
			4,4'-DDT	6.59E-10	2.73E-10	-	-	9.32E-10	Liver	2.71E-04	1.12E-04	-	-	3.84E-04
			4-Methylphenol	-	-	-	-	-	Whole Body/CNS/Respiratory	1.74E-04	2.41E-04	-	-	4.15E-04
			4-Nitroaniline	6.01E-10	8.30E-10	-	-	1.43E-09	-	6.67E-04	9.22E-04	-	-	1.59E-03
			4-Nitrophenol	-	-	-	-	-	Kidney/Liver/Blood	2.71E-03	3.75E-03	-	-	6.46E-03
			Acenaphthene	-	-	-	-	-	Liver	1.87E-04	3.36E-04	-	-	5.22E-04
			Acenaphthylene	-	-	-	-	-	Liver	4.82E-06	6.66E-07	-	-	5.49E-06
			Aldrin	1.02E-08	1.41E-08	-	-	2.43E-08	Liver	1.40E-03	1.93E-03	-	-	3.33E-03
			alpha-BHC	2.12E-10	2.93E-11	-	-	2.41E-10	Liver/Kidney	4.71E-06	6.51E-07	-	-	5.37E-06
			alpha-Chlordane	1.13E-10	-	-	-	1.13E-10	Liver	4.51E-05	-	-	-	4.51E-05
			Aluminum	-	-	-	-	-	CNS	2.92E-02	4.04E-04	-	-	2.96E-02
			Anthracene	-	-	-	-	-	No observed effect	9.83E-06	1.77E-05	-	-	2.75E-05
			Antimony	-	-	-	-	-	Whole body/Blood	2.20E-02	3.04E-04	-	-	2.23E-02
			Aroclor-1248	1.11E-07	2.14E-07	-	-	3.25E-07	Immune System/ Eye/Finger and Toe Nails	1.94E-01	3.75E-01	-	-	5.69E-01
			Aroclor-1254	4.04E-08	7.81E-08	-	-	1.18E-07	Immune System/ Eye/Finger and Toe Nails	7.07E-02	1.37E-01	-	-	2.07E-01
			Aroclor-1260	4.50E-08	8.71E-08	-	-	1.32E-07	Immune System/ Eye/Finger and Toe Nails	7.88E-02	1.52E-01	-	-	2.31E-01
			Aroclor-1268	2.51E-09	4.85E-09	-	-	7.36E-09	Immune System/ Eye/Finger and Toe Nails	4.39E-03	8.49E-03	-	-	1.29E-02
			Arsenic	6.60E-07	2.73E-07	-	-	9.33E-07	Skin	1.03E-01	4.25E-02	-	-	1.45E-01
			Barium	-	-	-	-	-	Kidney	3.20E-03	4.43E-05	-	-	3.25E-03
			Benzo(a)anthracene	1.42E-07	2.55E-07	-	-	3.97E-07	-	-	-	-	-	-
			Benzo(a)pyrene	4.73E-07	8.50E-07	-	-	1.32E-06	-	-	-	-	-	-
			Benzo(b)fluoranthene	7.99E-08	1.44E-07	-	-	2.23E-07	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	Kidney	6.97E-05	1.25E-04	-	-	1.95E-04
			Benzo(k)fluoranthene	9.51E-09	1.71E-08	-	-	2.66E-08	-	-	-	-	-	-
			Beryllium	-	-	-	-	-	GI Tract	3.68E-04	5.08E-06	-	-	3.73E-04
			Beta-BHC	1.83E-10	2.52E-11	-	-	2.08E-10	Kidney/Liver	3.55E-05	4.91E-06	-	-	4.04E-05
			bis(2-ethylhexyl)phthalate	3.42E-09	4.73E-10	-	-	3.89E-09	Liver	8.55E-04	1.18E-04	-	-	9.73E-04
			Cadmium	-	-	-	-	-	Kidney	5.58E-02	7.72E-04	-	-	5.66E-02
			Carbon disulfide	-	-	-	-	-	Developmental	7.75E-09	2.68E-08	-	-	3.45E-08
			Chlorobenzene	-	-	-	-	-	Liver	1.78E-05	2.45E-06	-	-	2.02E-05

TABLE H-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	2.15E-04	2.97E-06	--	--	2.18E-04	
			Chrysene	1.61E-09	2.90E-09	--	--	4.52E-09	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	1.20E-03	1.66E-05	--	--	1.22E-03	
			Copper	--	--	--	--	--	GI Tract	5.24E-03	7.24E-05	--	--	5.31E-03	
			Delta-BHC	6.97E-10	4.82E-10	--	--	1.18E-09	Liver/Kidney	1.36E-04	9.37E-05	--	--	2.29E-04	
			Dibenzo(a,h)anthracene	9.28E-08	1.67E-07	--	--	2.60E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	2.10E-02	2.80E-03	--	--	2.39E-02	
			Dieldrin	3.61E-08	4.99E-09	--	--	4.11E-08	Liver	3.16E-03	4.37E-04	--	--	3.60E-03	
			Dimethylphthalate	--	--	--	--	--	--	--	1.23E-08	1.70E-09	--	--	1.40E-08
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	7.43E-05	1.03E-05	--	--	8.45E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.24E-05	8.55E-06	--	--	2.09E-05	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.28E-05	8.69E-06	--	--	2.13E-05	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	2.31E-05	1.60E-05	--	--	3.91E-05	
			Endrin aldehyde	--	--	--	--	--	Liver	6.78E-04	4.68E-04	--	--	1.15E-03	
			Endrin Ketone	--	--	--	--	--	Liver	1.08E-04	--	--	--	1.08E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	1.80E-03	3.23E-03	--	--	5.02E-03	
			Fluorene	--	--	--	--	--	Blood	2.04E-04	3.67E-04	--	--	5.71E-04	
			gamma-BHC (Lindane)	1.56E-10	8.62E-11	--	--	2.42E-10	Liver/Kidney	2.80E-05	1.55E-05	--	--	4.35E-05	
			gamma-Chlordane	2.05E-10	--	--	--	2.05E-10	Liver	8.20E-05	--	--	--	8.20E-05	
			Heptachlor	1.43E-09	1.98E-10	--	--	1.63E-09	Liver	4.46E-05	6.16E-06	--	--	5.07E-05	
			Heptachlor Epoxide	4.14E-09	5.72E-10	--	--	4.71E-09	Liver	2.45E-03	3.38E-04	--	--	2.79E-03	
			Indeno(1,2,3-cd)pyrene	1.67E-08	3.01E-08	--	--	4.68E-08	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	3.96E-01	5.47E-03	--	--	4.01E-01	
			Isophorone	8.76E-12	1.21E-11	--	--	2.09E-11	No observed effect	3.23E-06	4.46E-06	--	--	7.69E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	4.09E-02	5.66E-04	--	--	4.15E-02	
			Mercury	--	--	--	--	--	Immune System	2.86E-03	--	--	--	2.86E-03	
			Methoxychlor	--	--	--	--	--	Developmental	7.75E-05	1.07E-05	--	--	8.82E-05	
			Methylene chloride	8.30E-13	1.15E-13	--	--	9.45E-13	Liver	1.29E-07	1.78E-08	--	--	1.47E-07	
			Molybdenum	--	--	--	--	--	Blood	1.41E-03	1.94E-05	--	--	1.43E-03	
			Naphthalene	--	--	--	--	--	Whole Body	2.10E-03	3.77E-03	--	--	5.87E-03	
			Nickel	--	--	--	--	--	Whole Body	6.29E-03	8.69E-05	--	--	6.37E-03	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.28E-04	1.74E-05	--	--	1.43E-04	
			Phenol	--	--	--	--	--	Whole Body	6.24E-06	8.63E-06	--	--	1.49E-05	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.55E-06	--	--	--	3.55E-06	
			Pyrene	--	--	--	--	--	Kidney	2.19E-03	3.93E-03	--	--	6.12E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	5.73E-06	--	--	--	5.73E-06	
			Selenium	--	--	--	--	--	Whole Body	1.83E-04	2.53E-06	--	--	1.86E-04	
			Silver	--	--	--	--	--	Skin	6.33E-04	8.75E-06	--	--	6.42E-04	
			Technical Chlordane	8.73E-09	4.83E-09	--	--	1.36E-08	Liver	3.49E-03	1.93E-03	--	--	5.42E-03	
Thallium	--	--	--	--	--	Blood	2.36E-02	--	--	--	2.36E-02				
Toluene	--	--	--	--	--	Liver/Kidney	1.74E-08	2.40E-09	--	--	1.98E-08				

**TABLE H-8.4**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	1.09E-01	1.50E-03	--	--	1.10E-01
			Zinc	--	--	--	--	--	Blood	3.57E-03	4.93E-05	--	--	3.62E-03
			Chemical Total	1.75E-06	2.15E-06	0.00E+00	0.00E+00	3.90E-06		1.20E+00	7.51E-01	0.00E+00	0.00E+00	1.95E+00
			Exposure Point Total					3.90E-06						1.95E+00
			Exposure Medium Total					3.90E-06						1.95E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.86E-02	--	1.86E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.32E-02	--	6.32E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.34E-02	--	1.34E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.83E-02	--	1.83E-02
			1,2-Dichloropropane	--	--	5.44E-10	--	5.44E-10	Nasal	--	--	4.91E-04	--	4.91E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.17E-03	--	4.17E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.06E-03	--	1.06E-03
			1,4-Dichlorobenzene	--	--	9.61E-08	--	9.61E-08	Liver	--	--	1.33E-03	--	1.33E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.05E-06	--	2.05E-06
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.51E-04	--	2.51E-04
			4,4'-DDD	--	--	8.05E-13	--	8.05E-13	Liver	--	--	4.70E-07	--	4.70E-07
			4,4'-DDE	--	--	8.40E-12	--	8.40E-12	Liver	--	--	3.46E-06	--	3.46E-06
			4,4'-DDT	--	--	3.99E-11	--	3.99E-11	Liver	--	--	1.64E-05	--	1.64E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.06E-05	--	1.06E-05
			4-Nitroaniline	--	--	3.64E-11	--	3.64E-11	--	--	--	1.21E-04	--	1.21E-04
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.44E-04	--	1.44E-04
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.55E-04	--	1.55E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.01E-06	--	4.01E-06
			Aldrin	--	--	2.68E-10	--	2.68E-10	Liver	--	--	3.67E-05	--	3.67E-05
			alpha-BHC	--	--	6.41E-11	--	6.41E-11	Liver/Kidney	--	--	1.42E-06	--	1.42E-06
			alpha-Chlordane	--	--	6.76E-12	--	6.76E-12	Liver	--	--	6.76E-06	--	6.76E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	1.24E+00	--	1.24E+00
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.18E-06	--	8.18E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	6.71E-09	--	6.71E-09	Immune System/Eye/Finger and Toe Nails	--	--	1.17E-02	--	1.17E-02
			Aroclor-1254	--	--	2.45E-09	--	2.45E-09	Immune System/Eye/Finger and Toe nails	--	--	4.28E-03	--	4.28E-03
			Aroclor-1260	--	--	2.73E-09	--	2.73E-09	Immune System/Eye/Finger and Toe Nails	--	--	4.78E-03	--	4.78E-03
			Aroclor-1268	--	--	1.52E-10	--	1.52E-10	Immune System/Eye/Finger and Toe Nails	--	--	2.66E-04	--	2.66E-04
			Arsenic	--	--	4.00E-07	--	4.00E-07	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	9.71E-02	--	9.71E-02
			Benzo(a)anthracene	--	--	8.60E-09	--	8.60E-09	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	2.87E-08	--	2.87E-08	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	3.13E-09	--	3.13E-09	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	4.23E-06	--	4.23E-06
			Benzo(k)fluoranthene	--	--	5.76E-10	--	5.76E-10	--	--	--	--	--	--
			Beryllium	--	--	5.35E-09	--	5.35E-09	Immune System/Lung	--	--	7.80E-03	--	7.80E-03

TABLE H-8.4

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	1.14E-11	--	1.14E-11	Liver/Kidney	--	--	2.15E-06	--	2.15E-06
			bis(2-ethylhexyl)phthalate	--	--	2.07E-10	--	2.07E-10	Liver	--	--	5.18E-05	--	5.18E-05
			Cadmium	--	--	1.52E-07	--	1.52E-07	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.43E-07	--	4.43E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	5.96E-04	--	5.96E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.08E-10	--	1.08E-10	--	--	--	--	--	--
			Cobalt	--	--	2.04E-07	--	2.04E-07	Respiratory System	--	--	2.55E-01	--	2.55E-01
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	2.17E-10	--	2.17E-10	Liver/Kidney	--	--	4.10E-05	--	4.10E-05
			Dibenzo(a,h)anthracene	--	--	5.63E-09	--	5.63E-09	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	4.39E-03	--	4.39E-03
			Dieldrin	--	--	2.94E-09	--	2.94E-09	Liver	--	--	2.58E-04	--	2.58E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	7.44E-10	--	7.44E-10
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.50E-06	--	4.50E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.63E-06	--	2.63E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.67E-06	--	2.67E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	4.91E-06	--	4.91E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	4.11E-05	--	4.11E-05
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.52E-06	--	6.52E-06
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.04E-05	--	7.04E-05
			Fluorene	--	--	--	--	--	Blood	--	--	7.24E-05	--	7.24E-05
			gamma-BHC (Lindane)	--	--	5.79E-11	--	5.79E-11	Liver/Kidney	--	--	1.04E-05	--	1.04E-05
			gamma-Chlordane	--	--	1.23E-11	--	1.23E-11	Liver	--	--	1.23E-05	--	1.23E-05
			Heptachlor	--	--	4.30E-09	--	4.30E-09	Liver	--	--	1.32E-04	--	1.32E-04
			Heptachlor Epoxide	--	--	2.51E-10	--	2.51E-10	Liver	--	--	1.48E-04	--	1.48E-04
			Indeno(1,2,3-cd)pyrene	--	--	1.01E-09	--	1.01E-09	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	5.31E-13	--	5.31E-13	No observed effect	--	--	1.96E-07	--	1.96E-07
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.17E+00	--	4.17E+00
			Mercury	--	--	--	--	--	CNS	--	--	6.04E-04	--	6.04E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.38E-06	--	3.38E-06
			Methylene chloride	--	--	--	--	--	Liver	--	--	--	--	--
Molybdenum	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.60E-01	--	1.60E-01			
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.05E-04	--	1.05E-04			
Phenol	--	--	--	--	--	Body Weight	--	--	3.78E-07	--	3.78E-07			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.41E-04	--	3.41E-04			
Pyrene	--	--	--	--	--	Kidney	--	--	1.01E-04	--	1.01E-04			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.37E-04	--	1.37E-04			

TABLE H-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	--	--	--	--	--	--	--	
			Silver	--	--	--	--	--	--	--	--	--	--	--	--	
			Technical Chlordane	--	--	5.24E-13	--	5.24E-13	Liver	--	--	5.24E-04	--	5.24E-04	--	
			Thallium	--	--	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	4.28E-08	--	4.28E-08	--	
			Vanadium	--	--	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	9.26E-07	0.00E+00	9.26E-07		0.00E+00	0.00E+00	6.08E+00	0.00E+00	6.08E+00		
			Exposure Point Total					9.26E-07						6.08E+00		
			Exposure Medium Total					9.26E-07						6.08E+00		
			Medium Total					4.83E-06						8.03E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	5.92E-07	--	5.92E-07		
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.44E-05	--	1.44E-05		
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.84E-06	--	2.84E-06		
			1,2-Dichloroethane	--	--	1.51E-10	--	1.51E-10	Liver/Kidney/CNS	--	--	8.32E-05	--	8.32E-05		
			1,2-Dichloropropane	--	--	4.24E-11	--	4.24E-11	Nasal	--	--	3.83E-05	--	3.83E-05		
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.21E-06	--	8.21E-06		
			1,4-Dichlorobenzene	--	--	1.73E-11	--	1.73E-11	Liver	--	--	2.40E-07	--	2.40E-07		
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.49E-09	--	1.49E-09		
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.79E-09	--	3.79E-09		
			4,4'-DDE	--	--	1.23E-12	--	1.23E-12	Liver	--	--	5.06E-07	--	5.06E-07		
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.20E-10	--	9.20E-10		
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.26E-07	--	1.26E-07		
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.38E-09	--	5.38E-09		
			Aldrin	--	--	1.06E-10	--	1.06E-10	Liver	--	--	1.46E-05	--	1.46E-05		
			alpha-BHC	--	--	4.99E-12	--	4.99E-12	Liver/Kidney	--	--	1.11E-07	--	1.11E-07		
			alpha-Chlordane	--	--	6.56E-13	--	6.56E-13	Liver	--	--	6.56E-07	--	6.56E-07		
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.14E-09	--	2.14E-09		
			Benzene	--	--	1.99E-11	--	1.99E-11	Blood	--	--	5.94E-06	--	5.94E-06		
			Benzo(b)fluoranthene	--	--	9.93E-13	--	9.93E-13	--	--	--	--	--	--		
			Bromoform	--	--	7.92E-14	--	7.92E-14	Liver	--	--	7.20E-08	--	7.20E-08		
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.41E-06	--	4.41E-06		
			Chlorobenzene	--	--	--	--	--	Liver	--	--	8.43E-07	--	8.43E-07		
			Chloroform	--	--	4.65E-10	--	4.65E-10	Liver/Kidney/Respiratory	--	--	2.89E-05	--	2.89E-05		
			Chloromethane	--	--	--	--	--	CNS	--	--	5.84E-06	--	5.84E-06		
			Chrysene	--	--	2.69E-14	--	2.69E-14	--	--	--	--	--	--		
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.04E-05	--	1.04E-05		
			Dieldrin	--	--	4.38E-11	--	4.38E-11	Liver	--	--	3.84E-06	--	3.84E-06		
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.30E-09	--	7.30E-09		
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.20E-11	--	1.20E-11		
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.35E-07	--	1.35E-07		
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.47E-09	--	2.47E-09		

TABLE H-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	4.89E-09	--	4.89E-09
			gamma-BHC (Lindane)	--	--	4.52E-15	--	4.52E-15	Liver/Kidney	--	--	8.10E-10	--	8.10E-10
			gamma-Chlordane	--	--	1.70E-12	--	1.70E-12	Liver	--	--	1.70E-06	--	1.70E-06
			Heptachlor	--	--	2.27E-10	--	2.27E-10	Liver	--	--	6.99E-06	--	6.99E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	6.09E-05	--	6.09E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	4.68E-08	--	4.68E-08
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.28E-07	--	1.28E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.24E-06	--	1.24E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	5.78E-05	--	5.78E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.38E-06	--	1.38E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.71E-09	--	1.71E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	6.09E-05	--	6.09E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	3.01E-09	--	3.01E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.92E-06	--	3.92E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	4.44E-06	--	4.44E-06
			Toluene	--	--	--	--	--	CNS	--	--	5.20E-08	--	5.20E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	8.77E-06	--	8.77E-06
			Trichloroethene	--	--	1.04E-09	--	1.04E-09	CNS/Liver/Endocrine	--	--	1.82E-05	--	1.82E-05
			Vinyl chloride	--	--	1.67E-10	--	1.67E-10	Liver	--	--	1.32E-05	--	1.32E-05
						Chemical Total	0.00E+00	0.00E+00	2.29E-09	0.00E+00	2.29E-09		0.00E+00	0.00E+00
			Exposure Point Total					2.29E-09						4.68E-04
			Exposure Medium Total					2.29E-09						4.68E-04
			Medium Total					2.29E-09						4.68E-04
			Receptor Total					4.83E-06						8.03E+00

TABLE H-8.4

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.37E-01
Total Organ 2 (Kidney) HI Across All Media =	3.01E-01
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	4.26E+00
Total Organ 5 (Endocrine) HI Across All Media =	1.82E-05
Total Organ 6 (Blood) HI Across All Media =	8.21E-02
Total Organ 7 (Adrenal) HI Across All Media =	3.03E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.57E-03
Total Organ 9 (Skin) HI Across All Media =	1.46E-01
Total Organ 10 (Gastrointestinal System) HI Across All Media =	5.69E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	1.04E+00
Total Organ 12 (Body Weight) HI Across All Media =	1.86E-02
Total Organ 13 (Developmental) HI Across All Media =	9.72E-02
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.68E+00
Total Organ 15 (Whole Body) HI Across All Media =	3.53E-02
Total Organ 16 (Immune System) HI Across All Media =	1.05E+00
Total Organ 17 (Organ Weight) HI Across All Media =	7.36E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	1.04E+00
Total Organ 19 (Nasal Tissue) HI Across All Media =	5.41E-04

TABLE H-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	2.05E-04	8.20E-05	--	--	2.87E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	6.99E-04	2.79E-05	--	--	7.27E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.37E-05	5.47E-07	--	--	1.42E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	3.96E-04	1.58E-05	--	--	4.12E-04
			1,2-Dichloropropane	1.15E-10	4.59E-12	--	--	1.20E-10	Nasal	4.33E-06	1.73E-07	--	--	4.50E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.38E-06	1.75E-07	--	--	4.56E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	5.02E-05	2.00E-06	--	--	5.22E-05
			1,4-Dichlorobenzene	7.66E-08	--	--	--	7.66E-08	Organ Weight	3.11E-04	--	--	--	3.11E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.44E-05	5.74E-07	--	1.58E-03	1.60E-03
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	2.22E-06	8.85E-07	--	5.82E-04	5.85E-04
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	5.73E-04	2.28E-05	--	--	5.95E-04
			4,4'-DDD	1.35E-10	5.40E-12	--	2.54E-11	1.66E-10	Liver	3.29E-06	1.31E-07	--	6.17E-07	4.04E-06
			4,4'-DDE	1.31E-08	5.24E-10	--	1.79E-09	1.55E-08	Liver	2.26E-04	9.00E-06	--	3.07E-05	2.65E-04
			4,4'-DDT	7.10E-09	8.50E-10	--	4.16E-09	1.21E-08	Liver	1.22E-04	1.46E-05	--	7.14E-05	2.08E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	7.40E-05	2.95E-05	--	1.99E-02	2.00E-02
			4-Nitroaniline	6.12E-09	2.44E-09	--	1.13E-06	1.14E-06	--	2.83E-04	1.13E-04	--	5.22E-02	5.26E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	1.15E-03	4.59E-04	--	3.18E-01	3.20E-01
			Acenaphthene	--	--	--	--	--	Liver	9.67E-05	5.01E-05	--	--	1.47E-04
			Acenaphthylene	--	--	--	--	--	Liver	2.38E-06	9.49E-08	--	--	2.47E-06
			Aldrin	1.04E-07	4.14E-08	--	3.19E-08	1.77E-07	Liver	5.94E-04	2.37E-04	--	1.82E-04	1.01E-03
			alpha-BHC	2.16E-09	8.62E-11	--	1.43E-07	1.45E-07	Liver/Kidney	2.00E-06	7.98E-08	--	1.33E-04	1.35E-04
			alpha-Chlordane	1.34E-09	--	--	9.02E-10	2.24E-09	Liver	2.23E-05	--	--	1.50E-05	3.73E-05
			Aluminum	--	--	--	--	--	CNS	1.21E-02	4.82E-05	--	1.11E-03	1.32E-02
			Anthracene	--	--	--	--	--	No observed effect	4.82E-06	2.50E-06	--	--	7.32E-06
			Antimony	--	--	--	--	--	Whole body/Blood	1.40E-02	5.57E-05	--	5.92E-02	7.32E-02
			Aroclor-1248	1.13E-06	6.30E-07	--	2.12E-07	1.97E-06	Immune System/ Eye/Finger and Toe Nails	8.22E-02	4.59E-02	--	1.55E-02	1.44E-01
			Aroclor-1254	4.17E-07	2.33E-07	--	1.05E-06	1.70E-06	Immune System/ Eye/Finger and Toe Nails	3.04E-02	1.70E-02	--	7.66E-02	1.24E-01
			Aroclor-1260	5.09E-07	2.84E-07	--	4.58E-08	8.38E-07	Immune System/ Eye/Finger and Toe Nails	3.71E-02	2.07E-02	--	3.34E-03	6.11E-02
			Aroclor-1268	2.61E-08	1.46E-08	--	6.57E-08	1.06E-07	Immune System/ Eye/Finger and Toe Nails	1.90E-03	1.06E-03	--	4.79E-03	7.75E-03
			Arsenic	4.34E-06	5.20E-07	--	3.68E-06	8.55E-06	Skin	2.82E-02	3.37E-03	--	2.39E-02	5.54E-02
			Barium	--	--	--	--	--	Kidney	1.33E-03	5.30E-06	--	2.81E-03	4.15E-03
			Benzo(a)anthracene	1.72E-06	8.90E-07	--	6.22E-08	2.67E-06	--	--	--	--	--	--
			Benzo(a)pyrene	5.71E-06	2.96E-06	--	1.17E-07	8.79E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	9.39E-07	4.87E-07	--	1.93E-07	1.62E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	3.49E-05	1.81E-05	--	5.47E-06	5.84E-05
			Benzo(k)fluoranthene	1.12E-07	5.80E-08	--	2.30E-08	1.93E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.63E-04	6.51E-07	--	3.46E-05	1.98E-04
			Beta-BHC	1.86E-09	7.42E-11	--	1.23E-07	1.25E-07	Kidney/Liver	1.51E-05	6.01E-07	--	9.99E-04	1.01E-03
			bis(2-ethylhexyl)phthalate	5.15E-08	2.05E-09	--	2.52E-06	2.57E-06	Liver	5.36E-04	2.14E-05	--	2.62E-02	2.68E-02
			Cadmium	--	--	--	--	--	Kidney	2.60E-02	1.04E-04	--	5.50E-01	5.76E-01
			Carbon disulfide	--	--	--	--	--	Developmental	3.29E-09	3.28E-09	--	--	6.57E-09
			Chlorobenzene	--	--	--	--	--	Liver	7.53E-06	3.01E-07	--	--	7.83E-06

TABLE H-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	1.02E-04	4.05E-07	--	6.46E-05	1.67E-04	
			Chrysene	1.95E-08	1.01E-08	--	4.96E-09	3.45E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	5.19E-04	2.07E-06	--	5.13E-04	1.03E-03	
			Copper	--	--	--	--	--	GI Tract	2.11E-03	8.43E-06	--	7.46E-02	7.67E-02	
			Delta-BHC	7.10E-09	1.42E-09	--	3.84E-09	1.24E-08	Liver/Kidney	5.75E-05	1.15E-05	--	3.11E-05	1.00E-04	
			Dibenzo(a,h)anthracene	1.09E-06	5.65E-07	--	1.38E-07	1.79E-06	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	8.90E-03	3.55E-04	--	--	9.26E-03	
			Dieldrin	4.14E-07	1.65E-08	--	3.10E-05	3.15E-05	Liver	1.51E-03	6.03E-05	--	1.13E-01	1.15E-01	
			Dimethylphthalate	--	--	--	--	--	--	--	5.21E-09	2.08E-10	--	1.09E-06	1.10E-06
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	3.01E-05	1.20E-06	--	8.87E-06	4.02E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	5.25E-06	1.05E-06	--	3.32E-04	3.39E-04	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	5.44E-06	1.08E-06	--	3.30E-04	3.36E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	9.82E-06	1.96E-06	--	5.81E-04	5.93E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.92E-04	3.83E-05	--	4.50E-05	2.75E-04	
			Endrin Ketone	--	--	--	--	--	Liver	4.57E-05	--	--	1.07E-05	5.64E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	9.08E-04	4.71E-04	--	3.47E-04	1.73E-03	
			Fluorene	--	--	--	--	--	Blood	9.99E-05	5.18E-05	--	--	1.52E-04	
			gamma-BHC (Lindane)	1.59E-09	2.53E-10	--	3.70E-07	3.72E-07	Liver/Kidney	1.19E-05	1.89E-06	--	2.77E-03	2.78E-03	
			gamma-Chlordane	2.15E-09	--	--	1.45E-09	3.61E-09	Liver	3.59E-05	--	--	2.42E-05	6.01E-05	
			Heptachlor	1.46E-08	5.82E-10	--	7.31E-09	2.25E-08	Liver	1.89E-05	7.54E-07	--	9.48E-06	2.91E-05	
			Heptachlor Epoxide	4.77E-08	1.90E-09	--	7.77E-06	7.82E-06	Liver	1.18E-03	4.69E-05	--	1.92E-01	1.93E-01	
			Indeno(1,2,3-cd)pyrene	2.99E-07	1.55E-07	--	4.61E-08	5.01E-07	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	1.86E-01	7.42E-04	--	2.61E-02	2.13E-01	
			Isophorone	8.92E-11	3.56E-11	--	--	1.25E-10	No observed effect	1.37E-06	5.47E-07	--	--	1.92E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	1.89E-02	7.54E-05	--	1.33E-01	1.52E-01	
			Mercury	--	--	--	--	--	Immune System	1.41E-03	--	--	3.99E-02	4.14E-02	
			Methoxychlor	--	--	--	--	--	Developmental	3.29E-05	1.31E-06	--	4.02E-06	3.82E-05	
			Molybdenum	--	--	--	--	--	Blood	6.86E-04	2.74E-06	--	5.82E-03	6.51E-03	
			Naphthalene	--	--	--	--	--	Whole Body	8.90E-04	4.62E-04	--	--	1.35E-03	
			Nickel	--	--	--	--	--	Whole Body	2.68E-03	1.07E-05	--	2.27E-02	2.54E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	6.36E-05	2.54E-06	--	--	6.61E-05	
			Phenol	--	--	--	--	--	Whole Body	2.65E-06	1.06E-06	--	1.85E-03	1.85E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.51E-06	--	--	--	1.51E-06	
			Pyrene	--	--	--	--	--	Kidney	1.10E-03	5.72E-04	--	--	1.67E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	2.43E-06	--	--	--	2.43E-06	
			Selenium	--	--	--	--	--	Whole Body	6.15E-05	2.45E-07	--	2.17E-04	2.79E-04	
			Silver	--	--	--	--	--	Skin	3.18E-04	1.27E-06	--	4.49E-03	4.80E-03	
			Technical Chlordane	9.06E-08	1.45E-08	--	--	1.05E-07	Liver	1.51E-03	2.41E-04	--	--	1.75E-03	
			Thallium	--	--	--	--	--	Blood	1.03E-02	--	--	5.83E-04	1.09E-02	
			Toluene	--	--	--	--	--	Liver/Kidney	7.36E-09	2.94E-10	--	--	7.66E-09	
Vanadium	--	--	--	--	--	Kidney	4.68E-02	1.87E-04	--	1.98E-02	6.68E-02				

**TABLE H-8.5**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	2.07E-03	8.26E-06	--	2.63E-01	2.65E-01
		Exposure Point Total	Chemical Total	1.71E-05	6.89E-06	0.00E+00	4.88E-05	7.28E-05		5.27E-01	9.27E-02	0.00E+00	2.06E+00	2.68E+00
	Exposure Medium Total					7.28E-05								2.68E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.59E-02	--	2.59E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	8.81E-02	--	8.81E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.87E-02	--	1.87E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.55E-02	--	2.55E-02
			1,2-Dichloropropane	--	--	1.82E-08	--	1.82E-08	Nasal	--	--	6.85E-04	--	6.85E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.82E-03	--	5.82E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.48E-03	--	1.48E-03
			1,4-Dichlorobenzene	--	--	3.22E-06	--	3.22E-06	Liver	--	--	1.85E-03	--	1.85E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.17E-09	--	2.17E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.04E-04	--	4.04E-04
			4,4'-DDD	--	--	2.04E-14	--	2.04E-14	Liver	--	--	4.96E-10	--	4.96E-10
			4,4'-DDE	--	--	3.09E-10	--	3.09E-10	Liver	--	--	5.29E-06	--	5.29E-06
			4,4'-DDT	--	--	1.07E-12	--	1.07E-12	Liver	--	--	1.84E-08	--	1.84E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.12E-08	--	1.12E-08
			4-Nitroaniline	--	--	9.23E-13	--	9.23E-13	--	--	--	1.28E-07	--	1.28E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.52E-07	--	1.52E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.64E-04	--	2.64E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	6.50E-06	--	6.50E-06
			Aldrin	--	--	8.96E-09	--	8.96E-09	Liver	--	--	5.12E-05	--	5.12E-05
			alpha-BHC	--	--	2.14E-09	--	2.14E-09	Liver/Kidney	--	--	1.99E-06	--	1.99E-06
			alpha-Chlordane	--	--	2.64E-10	--	2.64E-10	Liver	--	--	1.10E-05	--	1.10E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	1.28E-03	--	1.28E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.32E-05	--	1.32E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	1.70E-10	--	1.70E-10	Immune System/Eye/Finger and Toe Nails	--	--	1.24E-05	--	1.24E-05
			Aroclor-1254	--	--	6.30E-11	--	6.30E-11	Immune System/Eye/Finger and Toe nails	--	--	4.59E-06	--	4.59E-06
			Aroclor-1260	--	--	7.67E-11	--	7.67E-11	Immune System/Eye/Finger and Toe Nails	--	--	5.60E-06	--	5.60E-06
			Aroclor-1268	--	--	3.93E-12	--	3.93E-12	Immune System/Eye/Finger and Toe Nails	--	--	2.87E-07	--	2.87E-07
			Arsenic	--	--	6.56E-09	--	6.56E-09	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	1.00E-04	--	1.00E-04
			Benzo(a)anthracene	--	--	2.59E-10	--	2.59E-10	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	8.62E-10	--	8.62E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.21E-07	--	1.21E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	5.26E-09	--	5.26E-09
			Benzo(k)fluoranthene	--	--	1.69E-11	--	1.69E-11	--	--	--	--	--	--
			Beryllium	--	--	1.42E-10	--	1.42E-10	Immune System/Lung	--	--	8.61E-06	--	8.61E-06
			Beta-BHC	--	--	2.89E-13	--	2.89E-13	Liver/Kidney	--	--	2.27E-09	--	2.27E-09

TABLE H-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	7.77E-12	--	7.77E-12	Liver	--	--	8.10E-08	--	8.10E-08
			Cadmium	--	--	4.23E-09	--	4.23E-09	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.17E-07	--	6.17E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	8.31E-04	--	8.31E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	4.27E-09	--	4.27E-09	--	--	--	--	--	--
			Cobalt	--	--	5.26E-09	--	5.26E-09	Respiratory System	--	--	2.74E-04	--	2.74E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	7.26E-09	--	7.26E-09	Liver/Kidney	--	--	5.71E-05	--	5.71E-05
			Dibenzo(a,h)anthracene	--	--	1.64E-10	--	1.64E-10	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.12E-03	--	6.12E-03
			Dieldrin	--	--	1.11E-07	--	1.11E-07	Liver	--	--	4.05E-04	--	4.05E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	7.86E-13	--	7.86E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.55E-09	--	4.55E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.66E-06	--	3.66E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.79E-06	--	3.79E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	6.85E-06	--	6.85E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.90E-08	--	2.90E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.89E-09	--	6.89E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.17E-04	--	1.17E-04
			Fluorene	--	--	--	--	--	Blood	--	--	1.16E-04	--	1.16E-04
			gamma-BHC (Lindane)	--	--	1.94E-09	--	1.94E-09	Liver/Kidney	--	--	1.45E-05	--	1.45E-05
			gamma-Chlordane	--	--	4.25E-10	--	4.25E-10	Liver	--	--	1.77E-05	--	1.77E-05
			Heptachlor	--	--	1.44E-07	--	1.44E-07	Liver	--	--	1.84E-04	--	1.84E-04
			Heptachlor Epoxide	--	--	7.19E-12	--	7.19E-12	Liver	--	--	1.77E-07	--	1.77E-07
			Indeno(1,2,3-cd)pyrene	--	--	4.52E-11	--	4.52E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	1.35E-14	--	1.35E-14	No observed effect	--	--	2.07E-10	--	2.07E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.79E-03	--	4.79E-03
			Mercury	--	--	--	--	--	CNS	--	--	7.44E-07	--	7.44E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.71E-06	--	4.71E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.23E-01	--	2.23E-01			
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.74E-04	--	1.74E-04			
Phenol	--	--	--	--	--	Body Weight	--	--	4.00E-10	--	4.00E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.75E-04	--	4.75E-04			
Pyrene	--	--	--	--	--	Kidney	--	--	1.68E-04	--	1.68E-04			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.92E-04	--	1.92E-04			
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	1.79E-11	--	1.79E-11	--	--	7.44E-04	--	7.44E-04
			Thallium	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	--	CNS	--	--	5.96E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	3.65E-06	0.00E+00	3.65E-06			0.00E+00	0.00E+00	4.07E-01
		Exposure Point Total						3.65E-06					4.07E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--		Kidney	--	--	2.19E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--		Kidney	--	--	7.43E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--		CNS/Blood/Respiratory System	--	--	4.67E-01
			1,2-Dichlorobenzene	--	--	--	--	--		Body Weight	--	--	7.31E-01
			1,2-Dichloropropane	--	--	1.34E-07	--	1.34E-07		Nasal	--	--	5.06E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--		CNS/Blood/Respiratory System	--	--	1.50E-01
			1,3-Dichlorobenzene	--	--	--	--	--		Kidney/Liver	--	--	5.88E-02
			1,4-Dichlorobenzene	--	--	8.22E-05	--	8.22E-05		Liver	--	--	4.74E-02
			2-Methylnaphthalene	--	--	--	--	--		CNS/Body Weight	--	--	2.65E-02
			4,4'-DDE	--	--	1.93E-10	--	1.93E-10		Liver	--	--	3.31E-06
			Acenaphthene	--	--	--	--	--		Liver	--	--	7.70E-03
			Acenaphthylene	--	--	--	--	--		Liver	--	--	1.99E-04
			Aldrin	--	--	2.56E-08	--	2.56E-08		Liver	--	--	1.46E-04
			alpha-BHC	--	--	6.34E-08	--	6.34E-08		Liver/Kidney	--	--	5.87E-05
			alpha-Chlordane	--	--	1.78E-09	--	1.78E-09		Liver	--	--	7.40E-05
			Anthracene	--	--	--	--	--		No Observed Effect	--	--	4.05E-04
			Benzo(b)fluoranthene	--	--	2.15E-07	--	2.15E-07		--	--	--	--
			Carbon Disulfide	--	--	--	--	--		CNS	--	--	1.92E-06
			Chlorobenzene	--	--	--	--	--		Liver	--	--	1.04E-02
			Chrysene	--	--	1.21E-08	--	1.21E-08		--	--	--	--
			Delta-BHC	--	--	3.19E-07	--	3.19E-07		Liver/Kidney	--	--	2.51E-03
			Dibenzofuran	--	--	--	--	--		Kidney	--	--	3.23E-03
			Diieldrin	--	--	7.85E-07	--	7.85E-07		Liver	--	--	2.86E-03
			Endosulfan I	--	--	--	--	--		Body Weight/Kidney/CNS	--	--	9.81E-05
			Endosulfan II	--	--	--	--	--		Body Weight/Kidney	--	--	9.98E-05
			Endosulfan Sulfate	--	--	--	--	--		Body weight/Kidney/CNS	--	--	1.83E-04
			fluoranthene	--	--	--	--	--		Kidney/Liver/Blood	--	--	3.35E-05
			Fluorene	--	--	--	--	--		Blood	--	--	1.83E-03
			gamma-BHC (Lindane)	--	--	6.92E-08	--	6.92E-08		Liver/Kidney	--	--	5.18E-04
			gamma-Chlordane	--	--	3.23E-11	--	3.23E-11		Liver	--	--	1.35E-06
			Heptachlor	--	--	4.62E-08	--	4.62E-08		Liver	--	--	5.93E-05
			Methoxychlor	--	--	--	--	--		Developmental	--	--	1.62E-05
			Methylene Chloride	--	--	2.11E-09	--	2.11E-09		Liver	--	--	4.49E-06
			Naphthalene	--	--	--	--	--		Respiratory System	--	--	2.00E+01
			Phenanthrene	--	--	--	--	--		No Observed Effect	--	--	5.19E-03

**TABLE H-8.5**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--						1.60E-03	
			Pyrene	--	--	--	--	--						3.62E-04	
			sec-Butylbenzene	--	--	--	--	--						1.56E-03	
			Technical Chlordane	--	--	1.38E-10	--	1.38E-10							5.74E-03
			Toluene	--	--	--	--	--	--						4.82E-07
			Chemical Total	0.00E+00	0.00E+00	8.39E-05	0.00E+00	8.39E-05					0.00E+00	0.00E+00	3.12E+01
			Exposure Point Total					8.39E-05							3.12E+01
			Exposure Medium Total					8.75E-05							3.16E+01
			Medium Total					1.60E-04							3.43E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--		No observed effect	--	--	8.25E-07	--	8.25E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--		CNS/Blood/Respiratory System	--	--	2.01E-05	--	2.01E-05
			1,2-Dichlorobenzene	--	--	--	--	--		Body Weight	--	--	3.96E-06	--	3.96E-06
			1,2-Dichloroethane	--	--	5.07E-09	--	5.07E-09		Liver/Kidney/CNS	--	--	1.16E-04	--	1.16E-04
			1,2-Dichloropropane	--	--	1.42E-09	--	1.42E-09		Nasal	--	--	5.34E-05	--	5.34E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--		CNS/Blood/Respiratory System	--	--	1.14E-05	--	1.14E-05
			1,4-Dichlorobenzene	--	--	5.80E-10	--	5.80E-10		Liver	--	--	3.34E-07	--	3.34E-07
			2-Hexanone	--	--	--	--	--		Developmental	--	--	2.08E-09	--	2.08E-09
			2-Methylnaphthalene	--	--	--	--	--		CNS/Body Weight	--	--	5.28E-09	--	5.28E-09
			4,4'-DDE	--	--	4.12E-11	--	4.12E-11		Liver	--	--	7.06E-07	--	7.06E-07
			4-Methyl-2-pentanone	--	--	--	--	--		Developmental	--	--	1.28E-09	--	1.28E-09
			Acenaphthene	--	--	--	--	--		Liver	--	--	1.76E-07	--	1.76E-07
			Acenaphthylene	--	--	--	--	--		Liver	--	--	7.51E-09	--	7.51E-09
			Aldrin	--	--	3.56E-09	--	3.56E-09		Liver	--	--	2.03E-05	--	2.03E-05
			alpha-BHC	--	--	1.67E-10	--	1.67E-10		Liver/Kidney	--	--	1.55E-07	--	1.55E-07
			alpha-Chlordane	--	--	2.19E-11	--	2.19E-11		Liver	--	--	9.14E-07	--	9.14E-07
			Anthracene	--	--	--	--	--		No Observed Effect	--	--	2.99E-09	--	2.99E-09
			Benzene	--	--	6.66E-10	--	6.66E-10		Blood	--	--	8.28E-06	--	8.28E-06
			Benzo(b)fluoranthene	--	--	3.32E-11	--	3.32E-11		--	--	--	--	--	--
			Bromoform	--	--	2.65E-12	--	2.65E-12		Liver	--	--	1.00E-07	--	1.00E-07
			Carbon disulfide	--	--	--	--	--		CNS	--	--	6.15E-06	--	6.15E-06
			Chlorobenzene	--	--	--	--	--		Liver	--	--	1.18E-06	--	1.18E-06
			Chloroform	--	--	1.56E-08	--	1.56E-08		Liver/Kidney/Respiratory	--	--	4.03E-05	--	4.03E-05
			Chloromethane	--	--	--	--	--		CNS	--	--	7.86E-06	--	7.86E-06
			Chrysene	--	--	8.99E-13	--	8.99E-13		--	--	--	--	--	--
			cis-1,2-Dichloroethane	--	--	--	--	--		Blood	--	--	1.45E-05	--	1.45E-05
			Dieldrin	--	--	1.47E-09	--	1.47E-09		Liver	--	--	5.36E-06	--	5.36E-06
			Endosulfan I	--	--	--	--	--		Body Weight/Kidney/CNS	--	--	1.02E-08	--	1.02E-08
			Endosulfan II	--	--	--	--	--		Body Weight/Kidney	--	--	1.67E-11	--	1.67E-11
			Ethylbenzene	--	--	--	--	--		Developmental	--	--	1.88E-07	--	1.88E-07
			Fluoranthene	--	--	--	--	--		Kidney/Liver/Blood	--	--	3.45E-09	--	3.45E-09
			Fluorene	--	--	--	--	--		Blood	--	--	6.82E-09	--	6.82E-09
			gamma-BHC (Lindane)	--	--	1.51E-13	--	1.51E-13		Liver/Kidney	--	--	1.13E-09	--	1.13E-09

TABLE H-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	5.70E-11	--	5.70E-11	Liver	--	--	2.37E-06	--	2.37E-06
			Heptachlor	--	--	7.60E-09	--	7.60E-09	Liver	--	--	9.74E-06	--	9.74E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.50E-05	--	8.50E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	6.53E-06	--	6.53E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.78E-07	--	1.78E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.73E-06	--	1.73E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.06E-05	--	8.06E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.92E-06	--	1.92E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.38E-09	--	2.38E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.50E-05	--	8.50E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	4.19E-09	--	4.19E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	5.47E-06	--	5.47E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	6.19E-06	--	6.19E-06
			Toluene	--	--	--	--	--	CNS	--	--	7.26E-08	--	7.26E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.22E-05	--	1.22E-05
			Trichloroethene	--	--	3.49E-08	--	3.49E-08	CNS/Liver/Endocrine	--	--	2.54E-05	--	2.54E-05
			Vinyl chloride	--	--	5.59E-09	--	5.59E-09	Liver	--	--	1.84E-05	--	1.84E-05
			Chemical Total	0.00E+00	0.00E+00	7.67E-08	0.00E+00	7.67E-08		0.00E+00	0.00E+00	6.53E-04	0.00E+00	6.53E-04
			Exposure Point Total					7.67E-08						6.53E-04
			Exposure Medium Total					7.67E-08						6.53E-04
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)		1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.45E-04	--	1.45E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.20E-04	--	5.20E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.05E-04	--	1.05E-04
			1,2-Dichloroethane	--	--	1.52E-07	--	1.52E-07	Liver/Kidney/CNS	--	--	3.47E-03	--	3.47E-03
			1,2-Dichloropropane	--	--	4.20E-08	--	4.20E-08	Nasal	--	--	1.58E-03	--	1.58E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.98E-04	--	2.98E-04
			1,4-Dichlorobenzene	--	--	1.55E-08	--	1.55E-08	Liver	--	--	8.95E-06	--	8.95E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.07E-07	--	1.07E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.48E-07	--	1.48E-07
			4,4'-DDE	--	--	3.71E-12	--	3.71E-12	Liver	--	--	6.36E-08	--	6.36E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	5.28E-08	--	5.28E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.51E-06	--	7.51E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.20E-07	--	3.20E-07
			Aldrin	--	--	3.88E-10	--	3.88E-10	Liver	--	--	2.22E-06	--	2.22E-06
			alpha-BHC	--	--	2.14E-11	--	2.14E-11	Liver/Kidney	--	--	1.98E-08	--	1.98E-08
			alpha-Chlordane	--	--	7.21E-12	--	7.21E-12	Liver	--	--	3.01E-07	--	3.01E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.27E-07	--	1.27E-07
Benzene	--	--	1.96E-08	--	1.96E-08	Blood	--	--	2.43E-04	--	2.43E-04			
Benzo(b)fluoranthene	--	--	1.40E-09	--	1.40E-09	--	--	--	--	--	--			
Bromoform	--	--	1.42E-10	--	1.42E-10	Liver	--	--	5.39E-06	--	5.39E-06			
Carbon disulfide	--	--	--	--	--	CNS	--	--	1.84E-04	--	1.84E-04			
Chlorobenzene	--	--	--	--	--	Liver	--	--	3.30E-05	--	3.30E-05			

**TABLE H-8.5**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	--	--	4.62E-07	--	4.62E-07	Liver/Kidney/Respiratory	--	--	1.19E-03	--	1.19E-03	
			Chloromethane	--	--	--	--	--	CNS	--	--	2.55E-04	--	2.55E-04	
			Chrysene	--	--	3.93E-11	--	3.93E-11	--	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	9.38E-04	--	9.38E-04	
			Dieldrin	--	--	5.63E-11	--	5.63E-11	Liver	--	--	2.05E-07	--	2.05E-07	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.21E-09	--	2.21E-09	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	7.37E-10	--	7.37E-10	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	5.07E-06	--	5.07E-06	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.40E-07	--	1.40E-07	
			Fluorene	--	--	--	--	--	Blood	--	--	3.55E-07	--	3.55E-07	
			gamma-BHC (Lindane)	--	--	5.97E-12	--	5.97E-12	Liver/Kidney	--	--	4.46E-08	--	4.46E-08	
			gamma-Chlordane	--	--	3.49E-12	--	3.49E-12	Liver	--	--	1.45E-07	--	1.45E-07	
			Heptachlor	--	--	2.05E-10	--	2.05E-10	Liver	--	--	2.63E-07	--	2.63E-07	
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	4.46E-03	--	4.46E-03	
			m,p-Xylene	--	--	--	--	--	CNS	--	--	3.79E-04	--	3.79E-04	
			Methoxychlor	--	--	--	--	--	Developmental	--	--	7.73E-09	--	7.73E-09	
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	9.38E-05	--	9.38E-05	
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	4.51E-03	--	4.51E-03	
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.09E-04	--	1.09E-04	
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.32E-07	--	1.32E-07	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.46E-03	--	4.46E-03	
			Pyrene	--	--	--	--	--	Kidney	--	--	1.75E-07	--	1.75E-07	
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.88E-06	--	3.88E-06	
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	3.88E-04	--	3.88E-04	
			Toluene	--	--	--	--	--	CNS	--	--	4.16E-07	--	4.16E-07	
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	8.23E-04	--	8.23E-04	
			Trichloroethene	--	--	2.14E-06	--	2.14E-06	CNS/Liver/Endocrine	--	--	1.56E-03	--	1.56E-03	
Vinyl chloride	--	--	3.76E-07	--	3.76E-07	Liver	--	--	1.24E-03	--	1.24E-03				
			Chemical Total	0.00E+00	0.00E+00	3.20E-06	0.00E+00	3.20E-06		0.00E+00	0.00E+00	2.70E-02	0.00E+00	2.70E-02	
			Exposure Point Total					3.20E-06						2.70E-02	
			Exposure Medium Total					3.20E-06						2.70E-02	
Medium Total								3.28E-06						2.77E-02	
Receptor Total								Receptor Risk Total					Receptor HI Total	3.43E+01	

**TABLE H-8.5**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.03E+00
Total Organ 2 (Kidney) HI Across All Media =	1.08E+01
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	8.67E-01
Total Organ 5 (Endocrine) HI Across All Media =	1.58E-03
Total Organ 6 (Blood) HI Across All Media =	1.33E+00
Total Organ 7 (Adrenal) HI Across All Media =	1.01E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	6.59E-03
Total Organ 9 (Skin) HI Across All Media =	6.02E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	7.69E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	3.37E-01
Total Organ 12 (Body Weight) HI Across All Media =	7.86E-01
Total Organ 13 (Developmental) HI Across All Media =	1.65E-04
Total Organ 14 (Respiratory/Lung) HI Across All Media =	2.09E+01
Total Organ 15 (Whole Body) HI Across All Media =	1.24E-01
Total Organ 16 (Immune System) HI Across All Media =	3.78E-01
Total Organ 17 (Organ Weight) HI Across All Media =	7.05E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	3.37E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	7.38E-03

TABLE H-8.6  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	2.05E-04	8.20E-05	--	--	2.87E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	6.99E-04	2.79E-05	--	--	7.27E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.37E-05	5.47E-07	--	--	1.42E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	3.96E-04	1.58E-05	--	--	4.12E-04
			1,2-Dichloropropane	1.15E-10	4.59E-12	--	--	1.20E-10	Nasal	4.33E-06	1.73E-07	--	--	4.50E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.38E-06	1.75E-07	--	--	4.56E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	5.02E-05	2.00E-06	--	--	5.22E-05
			1,4-Dichlorobenzene	7.66E-08	--	--	--	7.66E-08	Organ Weight	3.11E-04	--	--	--	3.11E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.44E-05	5.74E-07	--	1.58E-03	1.60E-03
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	2.22E-06	8.85E-07	--	5.82E-04	5.85E-04
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	4.96E-04	1.98E-05	--	--	5.16E-04
			4,4'-DDD	1.35E-10	5.40E-12	--	2.54E-11	1.66E-10	Liver	3.29E-06	1.31E-07	--	6.17E-07	4.04E-06
			4,4'-DDE	1.20E-08	4.78E-10	--	1.63E-09	1.41E-08	Liver	2.05E-04	8.20E-06	--	2.79E-05	2.42E-04
			4,4'-DDT	6.71E-09	8.03E-10	--	3.93E-09	1.14E-08	Liver	1.15E-04	1.38E-05	--	6.74E-05	1.96E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	7.40E-05	2.95E-05	--	1.99E-02	2.00E-02
			4-Nitroaniline	6.12E-09	2.44E-09	--	1.13E-06	1.14E-06	--	2.83E-04	1.13E-04	--	5.22E-02	5.26E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	1.15E-03	4.59E-04	--	3.18E-01	3.20E-01
			Acenaphthene	--	--	--	--	--	Liver	7.93E-05	4.11E-05	--	--	1.20E-04
			Acenaphthylene	--	--	--	--	--	Liver	2.05E-06	8.16E-08	--	--	2.13E-06
			Aldrin	1.04E-07	4.14E-08	--	3.19E-08	1.77E-07	Liver	5.94E-04	2.37E-04	--	1.82E-04	1.01E-03
			alpha-BHC	2.16E-09	8.62E-11	--	1.43E-07	1.45E-07	Liver/Kidney	2.00E-06	7.98E-08	--	1.33E-04	1.35E-04
			alpha-Chlordane	1.15E-09	--	--	7.74E-10	1.92E-09	Liver	1.91E-05	--	--	1.29E-05	3.20E-05
			Aluminum	--	--	--	--	--	CNS	1.24E-02	4.95E-05	--	1.14E-03	1.36E-02
			Anthracene	--	--	--	--	--	No observed effect	4.17E-06	2.16E-06	--	--	6.33E-06
			Antimony	--	--	--	--	--	Whole body/Blood	9.33E-03	3.72E-05	--	3.95E-02	4.89E-02
			Aroclor-1248	1.13E-06	6.30E-07	--	2.12E-07	1.97E-06	Immune System/ Eye/Finger and Toe Nails	8.22E-02	4.59E-02	--	1.55E-02	1.44E-01
			Aroclor-1254	4.11E-07	2.30E-07	--	1.04E-06	1.68E-06	Immune System/ Eye/Finger and Toe Nails	3.00E-02	1.67E-02	--	7.55E-02	1.22E-01
			Aroclor-1260	4.59E-07	2.56E-07	--	4.13E-08	7.56E-07	Immune System/ Eye/Finger and Toe Nails	3.34E-02	1.87E-02	--	3.01E-03	5.51E-02
			Aroclor-1268	2.55E-08	1.43E-08	--	6.43E-08	1.04E-07	Immune System/ Eye/Finger and Toe Nails	1.86E-03	1.04E-03	--	4.69E-03	7.59E-03
			Arsenic	6.72E-06	8.04E-07	--	5.69E-06	1.32E-05	Skin	4.35E-02	5.21E-03	--	3.69E-02	8.56E-02
			Barium	--	--	--	--	--	Kidney	1.36E-03	5.42E-06	--	2.86E-03	4.24E-03
			Benzo(a)anthracene	1.44E-06	7.49E-07	--	5.24E-08	2.25E-06	--	--	--	--	--	--
			Benzo(a)pyrene	4.82E-06	2.50E-06	--	9.92E-08	7.42E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	8.14E-07	4.22E-07	--	1.67E-07	1.40E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	2.96E-05	1.53E-05	--	4.64E-06	4.96E-05
			Benzo(k)fluoranthene	9.69E-08	5.02E-08	--	1.99E-08	1.67E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.56E-04	6.23E-07	--	3.31E-05	1.90E-04
			Beta-BHC	1.86E-09	7.42E-11	--	1.23E-07	1.25E-07	Kidney/Liver	1.51E-05	6.01E-07	--	9.99E-04	1.01E-03
			bis(2-ethylhexyl)phthalate	3.48E-08	1.39E-09	--	1.70E-06	1.74E-06	Liver	3.63E-04	1.45E-05	--	1.77E-02	1.81E-02
			Cadmium	--	--	--	--	--	Kidney	2.37E-02	9.45E-05	--	5.02E-01	5.26E-01
			Carbon disulfide	--	--	--	--	--	Developmental	3.29E-09	3.28E-09	--	--	6.57E-09
			Chlorobenzene	--	--	--	--	--	Liver	7.53E-06	3.01E-07	--	--	7.83E-06

TABLE H-8.6  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	9.13E-05	3.64E-07	--	5.80E-05	1.50E-04	
			Chrysene	1.64E-08	8.53E-09	--	4.18E-09	2.92E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	5.10E-04	2.03E-06	--	5.04E-04	1.02E-03	
			Copper	--	--	--	--	--	GI Tract	2.22E-03	8.87E-06	--	7.86E-02	8.08E-02	
			Delta-BHC	7.10E-09	1.42E-09	--	3.84E-09	1.24E-08	Liver/Kidney	5.75E-05	1.15E-05	--	3.11E-05	1.00E-04	
			Dibenzo(a,h)anthracene	9.45E-07	4.90E-07	--	1.20E-07	1.56E-06	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	8.90E-03	3.55E-04	--	--	9.26E-03	
			Dieldrin	3.68E-07	1.47E-08	--	2.75E-05	2.79E-05	Liver	1.34E-03	5.35E-05	--	1.00E-01	1.02E-01	
			Dimethylphthalate	--	--	--	--	--	--	--	5.21E-09	2.08E-10	--	1.09E-06	1.10E-06
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	3.15E-05	1.26E-06	--	9.27E-06	4.20E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	5.25E-06	1.05E-06	--	3.32E-04	3.39E-04	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	5.33E-06	1.06E-06	--	3.24E-04	3.30E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	9.82E-06	1.96E-06	--	5.81E-04	5.93E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	2.88E-04	5.74E-05	--	6.74E-05	4.12E-04	
			Endrin ketone	--	--	--	--	--	Liver	4.57E-05	--	--	1.07E-05	5.64E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	7.62E-04	3.95E-04	--	2.91E-04	1.45E-03	
			Fluorene	--	--	--	--	--	Blood	8.66E-05	4.49E-05	--	--	1.31E-04	
			gamma-BHC (Lindane)	1.59E-09	2.53E-10	--	3.70E-07	3.72E-07	Liver/Kidney	1.19E-05	1.89E-06	--	2.77E-03	2.78E-03	
			gamma-Chlordane	2.09E-09	--	--	1.41E-09	3.50E-09	Liver	3.48E-05	--	--	2.35E-05	5.83E-05	
			Heptachlor	1.46E-08	5.82E-10	--	7.31E-09	2.25E-08	Liver	1.89E-05	7.54E-07	--	9.48E-06	2.91E-05	
			Heptachlor Epoxide	4.21E-08	1.68E-09	--	6.87E-06	6.91E-06	Liver	1.04E-03	4.14E-05	--	1.69E-01	1.70E-01	
			Indeno(1,2,3-cd)pyrene	1.70E-07	8.84E-08	--	2.62E-08	2.85E-07	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	1.68E-01	6.70E-04	--	2.36E-02	1.92E-01	
			Isophorone	8.92E-11	3.56E-11	--	--	1.25E-10	No observed effect	1.37E-06	5.47E-07	--	--	1.92E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	1.74E-02	6.93E-05	--	1.23E-01	1.40E-01	
			Mercury	--	--	--	--	--	Immune System	1.21E-03	--	--	3.42E-02	3.54E-02	
			Methoxychlor	--	--	--	--	--	Developmental	3.29E-05	1.31E-06	--	4.02E-06	3.82E-05	
			Methylene chloride	8.45E-12	3.37E-13	--	--	8.79E-12	Liver	5.48E-08	2.19E-09	--	--	5.70E-08	
			Molybdenum	--	--	--	--	--	Blood	5.97E-04	2.38E-06	--	5.06E-03	5.66E-03	
			Naphthalene	--	--	--	--	--	Whole Body	8.90E-04	4.62E-04	--	--	1.35E-03	
			Nickel	--	--	--	--	--	Whole Body	2.67E-03	1.06E-05	--	2.26E-02	2.53E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	5.33E-05	2.13E-06	--	--	5.55E-05	
			Phenol	--	--	--	--	--	Whole Body	2.65E-06	1.06E-06	--	1.85E-03	1.85E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.51E-06	--	--	--	1.51E-06	
			Pyrene	--	--	--	--	--	Kidney	9.29E-04	4.82E-04	--	--	1.41E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	2.43E-06	--	--	--	2.43E-06	
			Selenium	--	--	--	--	--	Whole Body	7.77E-05	3.10E-07	--	2.74E-04	3.52E-04	
			Silver	--	--	--	--	--	Skin	2.68E-04	1.07E-06	--	3.79E-03	4.06E-03	
			Technical Chlordane	8.89E-08	1.42E-08	--	--	1.03E-07	Liver	1.48E-03	2.36E-04	--	--	1.72E-03	
Thallium	--	--	--	--	--	Blood	1.00E-02	--	--	5.66E-04	1.06E-02				
Toluene	--	--	--	--	--	Liver/Kidney	7.36E-09	2.94E-10	--	--	7.66E-09				

**TABLE H-8.6**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	4.61E-02	1.84E-04	--	1.96E-02	6.59E-02
			Zinc	--	--	--	--	--	Blood	1.51E-03	6.04E-06	--	1.93E-01	1.94E-01
			Chemical Total	1.78E-05	6.32E-06	0.00E+00	4.54E-05	6.96E-05		5.10E-01	9.20E-02	0.00E+00	1.87E+00	2.47E+00
		Exposure Point Total					6.96E-05						2.47E+00	
	Exposure Medium Total						6.96E-05						2.47E+00	
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.59E-02	--	2.59E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	8.81E-02	--	8.81E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.87E-02	--	1.87E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.55E-02	--	2.55E-02
			1,2-Dichloropropane	--	--	1.82E-08	--	1.82E-08	Nasal	--	--	6.85E-04	--	6.85E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.82E-03	--	5.82E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.48E-03	--	1.48E-03
			1,4-Dichlorobenzene	--	--	3.22E-06	--	3.22E-06	Liver	--	--	1.85E-03	--	1.85E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.17E-09	--	2.17E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-04	--	3.50E-04
			4,4'-DDD	--	--	2.04E-14	--	2.04E-14	Liver	--	--	4.96E-10	--	4.96E-10
			4,4'-DDE	--	--	2.81E-10	--	2.81E-10	Liver	--	--	4.82E-06	--	4.82E-06
			4,4'-DDT	--	--	1.01E-12	--	1.01E-12	Liver	--	--	1.74E-08	--	1.74E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.12E-08	--	1.12E-08
			4-Nitroaniline	--	--	9.23E-13	--	9.23E-13	--	--	--	1.28E-07	--	1.28E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.52E-07	--	1.52E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.17E-04	--	2.17E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.59E-06	--	5.59E-06
			Aldrin	--	--	8.96E-09	--	8.96E-09	Liver	--	--	5.12E-05	--	5.12E-05
			alpha-BHC	--	--	2.14E-09	--	2.14E-09	Liver/Kidney	--	--	1.99E-06	--	1.99E-06
			alpha-Chlordane	--	--	2.26E-10	--	2.26E-10	Liver	--	--	9.43E-06	--	9.43E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	1.31E-03	--	1.31E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.14E-05	--	1.14E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	1.70E-10	--	1.70E-10	Immune System/Eye/Finger and Toe Nails	--	--	1.24E-05	--	1.24E-05
			Aroclor-1254	--	--	6.20E-11	--	6.20E-11	Immune System/Eye/Finger and Toe Nails	--	--	4.52E-06	--	4.52E-06
			Aroclor-1260	--	--	6.92E-11	--	6.92E-11	Immune System/Eye/Finger and Toe Nails	--	--	5.05E-06	--	5.05E-06
			Aroclor-1268	--	--	3.85E-12	--	3.85E-12	Immune System/Eye/Finger and Toe Nails	--	--	2.81E-07	--	2.81E-07
			Arsenic	--	--	1.01E-08	--	1.01E-08	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	1.03E-04	--	1.03E-04
			Benzo(a)anthracene	--	--	2.18E-10	--	2.18E-10	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	7.27E-10	--	7.27E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.05E-07	--	1.05E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	4.46E-09	--	4.46E-09
			Benzo(k)fluoranthene	--	--	1.46E-11	--	1.46E-11	--	--	--	--	--	--
			Beryllium	--	--	1.36E-10	--	1.36E-10	Immune System/Lung	--	--	8.24E-06	--	8.24E-06

TABLE H-8.6  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	2.89E-13	--	2.89E-13	Liver/Kidney	--	--	2.27E-09	--	2.27E-09
			bis(2-ethylhexyl)phthalate	--	--	5.25E-12	--	5.25E-12	Liver	--	--	5.47E-08	--	5.47E-08
			Cadmium	--	--	3.86E-09	--	3.86E-09	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.17E-07	--	6.17E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	8.31E-04	--	8.31E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	3.60E-09	--	3.60E-09	--	--	--	--	--	--
			Cobalt	--	--	5.17E-09	--	5.17E-09	Respiratory System	--	--	2.69E-04	--	2.69E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	7.26E-09	--	7.26E-09	Liver/Kidney	--	--	5.71E-05	--	5.71E-05
			Dibenzo(a,h)anthracene	--	--	1.43E-10	--	1.43E-10	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.12E-03	--	6.12E-03
			Diendrin	--	--	9.85E-08	--	9.85E-08	Liver	--	--	3.59E-04	--	3.59E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	7.86E-13	--	7.86E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.75E-09	--	4.75E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.66E-06	--	3.66E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.72E-06	--	3.72E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	6.85E-06	--	6.85E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	4.34E-08	--	4.34E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.89E-09	--	6.89E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	9.81E-05	--	9.81E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.01E-04	--	1.01E-04
			gamma-BHC (Lindane)	--	--	1.94E-09	--	1.94E-09	Liver/Kidney	--	--	1.45E-05	--	1.45E-05
			gamma-Chlordane	--	--	4.12E-10	--	4.12E-10	Liver	--	--	1.72E-05	--	1.72E-05
			Heptachlor	--	--	1.44E-07	--	1.44E-07	Liver	--	--	1.84E-04	--	1.84E-04
			Heptachlor Epoxide	--	--	6.36E-12	--	6.36E-12	Liver	--	--	1.57E-07	--	1.57E-07
			Indeno(1,2,3-cd)pyrene	--	--	2.57E-11	--	2.57E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	1.35E-14	--	1.35E-14	No observed effect	--	--	2.07E-10	--	2.07E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.40E-03	--	4.40E-03
			Mercury	--	--	--	--	--	CNS	--	--	6.38E-07	--	6.38E-07
Methoxychlor	--	--	--	--	--	Developmental	--	--	4.71E-06	--	4.71E-06			
Methylene chloride	--	--	--	--	--	Liver	--	--	--	--	--			
Molybdenum	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.23E-01	--	2.23E-01			
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.46E-04	--	1.46E-04			
Phenol	--	--	--	--	--	Body Weight	--	--	4.00E-10	--	4.00E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.75E-04	--	4.75E-04			
Pyrene	--	--	--	--	--	Kidney	--	--	1.42E-04	--	1.42E-04			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.92E-04	--	1.92E-04			

TABLE H-8.6  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	--	--	--	--	--	--
			Silver	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	1.75E-11	--	1.75E-11	Liver	--	--	7.30E-04	--	7.30E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	5.96E-08	--	5.96E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			<b>Chemical Total</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>3.63E-06</b>	<b>0.00E+00</b>	<b>3.63E-06</b>		<b>0.00E+00</b>	<b>0.00E+00</b>	<b>4.07E-01</b>	<b>0.00E+00</b>	<b>4.07E-01</b>
		<b>Exposure Point Total</b>						<b>3.63E-06</b>				<b>4.07E-01</b>		<b>4.07E-01</b>
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.19E+00	--	2.19E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	7.43E+00	--	7.43E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.67E-01	--	4.67E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	7.31E-01	--	7.31E-01
			1,2-Dichloropropane	--	--	1.34E-07	--	1.34E-07	Nasal	--	--	5.06E-03	--	5.06E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.50E-01	--	1.50E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	5.88E-02	--	5.88E-02
			1,4-Dichlorobenzene	--	--	8.22E-05	--	8.22E-05	Liver	--	--	4.74E-02	--	4.74E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.65E-02	--	2.65E-02
			4,4'-DDE	--	--	1.93E-10	--	1.93E-10	Liver	--	--	3.31E-06	--	3.31E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.70E-03	--	7.70E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.99E-04	--	1.99E-04
			Aldrin	--	--	2.56E-08	--	2.56E-08	Liver	--	--	1.46E-04	--	1.46E-04
			alpha-BHC	--	--	6.34E-08	--	6.34E-08	Liver/Kidney	--	--	5.87E-05	--	5.87E-05
			alpha-Chlordane	--	--	1.78E-09	--	1.78E-09	Liver	--	--	7.40E-05	--	7.40E-05
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	4.05E-04	--	4.05E-04
			Benzo(b)fluoranthene	--	--	2.15E-07	--	2.15E-07	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	1.92E-06	--	1.92E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.04E-02	--	1.04E-02
			Chrysene	--	--	1.21E-08	--	1.21E-08	--	--	--	--	--	--
			Delta-BHC	--	--	3.19E-07	--	3.19E-07	Liver/Kidney	--	--	2.51E-03	--	2.51E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	3.23E-03	--	3.23E-03
			Dieldrin	--	--	7.85E-07	--	7.85E-07	Liver	--	--	2.86E-03	--	2.86E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	9.81E-05	--	9.81E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	9.98E-05	--	9.98E-05
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.83E-04	--	1.83E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.35E-05	--	3.35E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.83E-03	--	1.83E-03
			gamma-BHC (Lindane)	--	--	6.92E-08	--	6.92E-08	Liver/Kidney	--	--	5.18E-04	--	5.18E-04
			gamma-Chlordane	--	--	3.23E-11	--	3.23E-11	Liver	--	--	1.35E-06	--	1.35E-06
			Heptachlor	--	--	4.62E-08	--	4.62E-08	Liver	--	--	5.93E-05	--	5.93E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.62E-05	--	1.62E-05
			Methylene Chloride	--	--	2.11E-09	--	2.11E-09	Liver	--	--	4.49E-06	--	4.49E-06

TABLE H-8.6  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.00E+01	--	2.00E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.19E-03	--	5.19E-03
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.60E-03	--	1.60E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	3.62E-04	--	3.62E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.56E-03	--	1.56E-03
			Technical Chlordane	--	--	1.38E-10	--	1.38E-10	Liver	--	--	5.74E-03	--	5.74E-03
			Toluene	--	--	--	--	--	CNS	--	--	4.82E-07	--	4.82E-07
			Chemical Total	0.00E+00	0.00E+00	8.39E-05	0.00E+00	8.39E-05		0.00E+00	0.00E+00	3.12E+01	0.00E+00	3.12E+01
			Exposure Point Total					8.39E-05						3.12E+01
			Exposure Medium Total					8.75E-05						3.16E+01
Medium Total								1.57E-04						3.41E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	8.25E-07	--	8.25E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.01E-05	--	2.01E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	3.96E-06	--	3.96E-06
			1,2-Dichloroethane	--	--	5.07E-09	--	5.07E-09	Liver/Kidney/CNS	--	--	1.16E-04	--	1.16E-04
			1,2-Dichloropropane	--	--	1.42E-09	--	1.42E-09	Nasal	--	--	5.34E-05	--	5.34E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.14E-05	--	1.14E-05
			1,4-Dichlorobenzene	--	--	5.80E-10	--	5.80E-10	Liver	--	--	3.34E-07	--	3.34E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.08E-09	--	2.08E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.28E-09	--	5.28E-09
			4,4'-DDE	--	--	4.12E-11	--	4.12E-11	Liver	--	--	7.06E-07	--	7.06E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.28E-09	--	1.28E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.76E-07	--	1.76E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.51E-09	--	7.51E-09
			Aldrin	--	--	3.56E-09	--	3.56E-09	Liver	--	--	2.03E-05	--	2.03E-05
			alpha-BHC	--	--	1.67E-10	--	1.67E-10	Liver/Kidney	--	--	1.55E-07	--	1.55E-07
			alpha-Chlordane	--	--	2.19E-11	--	2.19E-11	Liver	--	--	9.14E-07	--	9.14E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.99E-09	--	2.99E-09
			Benzene	--	--	6.66E-10	--	6.66E-10	Blood	--	--	8.28E-06	--	8.28E-06
			Benzo(b)fluoranthene	--	--	3.32E-11	--	3.32E-11	--	--	--	--	--	--
			Bromoform	--	--	2.65E-12	--	2.65E-12	Liver	--	--	1.00E-07	--	1.00E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.15E-06	--	6.15E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.18E-06	--	1.18E-06
			Chloroform	--	--	1.56E-08	--	1.56E-08	Liver/Kidney/Respiratory	--	--	4.03E-05	--	4.03E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	7.86E-06	--	7.86E-06
			Chrysene	--	--	8.99E-13	--	8.99E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.45E-05	--	1.45E-05
			Dieldrin	--	--	1.47E-09	--	1.47E-09	Liver	--	--	5.36E-06	--	5.36E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.02E-08	--	1.02E-08
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.67E-11	--	1.67E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.88E-07	--	1.88E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.45E-09	--	3.45E-09

TABLE H-8.6  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	6.82E-09	--	6.82E-09
			gamma-BHC (Lindane)	--	--	1.51E-13	--	1.51E-13	Liver/Kidney	--	--	1.13E-09	--	1.13E-09
			gamma-Chlordane	--	--	5.70E-11	--	5.70E-11	Liver	--	--	2.37E-06	--	2.37E-06
			Heptachlor	--	--	7.60E-09	--	7.60E-09	Liver	--	--	9.74E-06	--	9.74E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.50E-05	--	8.50E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	6.53E-06	--	6.53E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.78E-07	--	1.78E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.73E-06	--	1.73E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.06E-05	--	8.06E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.92E-06	--	1.92E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.38E-09	--	2.38E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.50E-05	--	8.50E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	4.19E-09	--	4.19E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	5.47E-06	--	5.47E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	6.19E-06	--	6.19E-06
			Toluene	--	--	--	--	--	CNS	--	--	7.26E-08	--	7.26E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.22E-05	--	1.22E-05
			Trichloroethene	--	--	3.49E-08	--	3.49E-08	CNS/Liver/Endocrine	--	--	2.54E-05	--	2.54E-05
			Vinyl chloride	--	--	5.59E-09	--	5.59E-09	Liver	--	--	1.84E-05	--	1.84E-05
						Chemical Total	0.00E+00	0.00E+00	7.67E-08	0.00E+00	7.67E-08		0.00E+00	0.00E+00
			Exposure Point Total					7.67E-08						6.53E-04
			Exposure Medium Total					7.67E-08						6.53E-04
Groundwater Vapor Intrusion	Indoor Air (Inhalation)	Indoor Air (Inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.45E-04	--	1.45E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.20E-04	--	5.20E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.05E-04	--	1.05E-04
			1,2-Dichloroethane	--	--	1.52E-07	--	1.52E-07	Liver/Kidney/CNS	--	--	3.47E-03	--	3.47E-03
			1,2-Dichloropropane	--	--	4.20E-08	--	4.20E-08	Nasal	--	--	1.58E-03	--	1.58E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.98E-04	--	2.98E-04
			1,4-Dichlorobenzene	--	--	1.55E-08	--	1.55E-08	Liver	--	--	8.95E-06	--	8.95E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.07E-07	--	1.07E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.48E-07	--	1.48E-07
			4,4'-DDE	--	--	3.71E-12	--	3.71E-12	Liver	--	--	6.36E-08	--	6.36E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	5.28E-08	--	5.28E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.51E-06	--	7.51E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.20E-07	--	3.20E-07
			Aldrin	--	--	3.88E-10	--	3.88E-10	Liver	--	--	2.22E-06	--	2.22E-06
			alpha-BHC	--	--	2.14E-11	--	2.14E-11	Liver/Kidney	--	--	1.98E-08	--	1.98E-08
			alpha-Chlordane	--	--	7.21E-12	--	7.21E-12	Liver	--	--	3.01E-07	--	3.01E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.27E-07	--	1.27E-07
			Benzene	--	--	1.96E-08	--	1.96E-08	Blood	--	--	2.43E-04	--	2.43E-04
			Benzo(b)fluoranthene	--	--	1.40E-09	--	1.40E-09	--	--	--	--	--	--
			Bromoform	--	--	1.42E-10	--	1.42E-10	Liver	--	--	5.39E-06	--	5.39E-06

TABLE H-8.6  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	-	-	-	-	-	CNS	-	-	1.84E-04	-	1.84E-04
			Chlorobenzene	-	-	-	-	-	Liver	-	-	3.30E-05	-	3.30E-05
			Chloroform	-	-	4.62E-07	-	4.62E-07	Liver/Kidney/Respiratory	-	-	1.19E-03	-	1.19E-03
			Chloromethane	-	-	-	-	-	CNS	-	-	2.55E-04	-	2.55E-04
			Chrysene	-	-	3.93E-11	-	3.93E-11	-	-	-	-	-	-
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	9.38E-04	-	9.38E-04
			Dieldrin	-	-	5.63E-11	-	5.63E-11	Liver	-	-	2.05E-07	-	2.05E-07
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	2.21E-09	-	2.21E-09
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	7.37E-10	-	7.37E-10
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	5.07E-06	-	5.07E-06
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	1.40E-07	-	1.40E-07
			Fluorene	-	-	-	-	-	Blood	-	-	3.55E-07	-	3.55E-07
			gamma-BHC (Lindane)	-	-	5.97E-12	-	5.97E-12	Liver/Kidney	-	-	4.46E-08	-	4.46E-08
			gamma-Chlordane	-	-	3.49E-12	-	3.49E-12	Liver	-	-	1.45E-07	-	1.45E-07
			Heptachlor	-	-	2.05E-10	-	2.05E-10	Liver	-	-	2.63E-07	-	2.63E-07
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	4.46E-03	-	4.46E-03
			m,p-Xylene	-	-	-	-	-	CNS	-	-	3.79E-04	-	3.79E-04
			Methoxychlor	-	-	-	-	-	Developmental	-	-	7.73E-09	-	7.73E-09
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	9.38E-05	-	9.38E-05
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	4.51E-03	-	4.51E-03
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	1.09E-04	-	1.09E-04
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	1.32E-07	-	1.32E-07
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	4.46E-03	-	4.46E-03
			Pyrene	-	-	-	-	-	Kidney	-	-	1.75E-07	-	1.75E-07
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	3.88E-06	-	3.88E-06
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	3.88E-04	-	3.88E-04
			Toluene	-	-	-	-	-	CNS	-	-	4.16E-07	-	4.16E-07
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	8.23E-04	-	8.23E-04
			Trichloroethene	-	-	2.14E-06	-	2.14E-06	CNS/Liver/Endocrine	-	-	1.56E-03	-	1.56E-03
			Vinyl chloride	-	-	3.76E-07	-	3.76E-07	Liver	-	-	1.24E-03	-	1.24E-03
			Chemical Total	0.00E+00	0.00E+00	3.20E-06	0.00E+00	3.20E-06		0.00E+00	0.00E+00	2.70E-02	2.70E-02	
		Exposure Point Total						3.20E-06					2.70E-02	
	Exposure Medium Total							3.20E-06					2.70E-02	
Medium Total								3.28E-06					2.77E-02	
Receptor Total							Receptor Risk Total	1.60E-04				Receptor HI Total	3.41E+01	

**TABLE H-8.6**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	9.62E-01
Total Organ 2 (Kidney) HI Across All Media =	1.08E+01
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	8.55E-01
Total Organ 5 (Endocrine) HI Across All Media =	1.58E-03
Total Organ 6 (Blood) HI Across All Media =	1.23E+00
Total Organ 7 (Adrenal) HI Across All Media =	1.01E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	6.53E-03
Total Organ 9 (Skin) HI Across All Media =	8.97E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	8.10E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	3.29E-01
Total Organ 12 (Body Weight) HI Across All Media =	7.86E-01
Total Organ 13 (Developmental) HI Across All Media =	1.67E-04
Total Organ 14 (Respiratory/Lung) HI Across All Media =	2.09E+01
Total Organ 15 (Whole Body) HI Across All Media =	9.94E-02
Total Organ 16 (Immune System) HI Across All Media =	3.64E-01
Total Organ 17 (Organ Weight) HI Across All Media =	7.05E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	3.29E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	7.38E-03

TABLE H-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.92E-03	5.56E-04	--	--	2.47E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	6.52E-03	1.89E-04	--	--	6.71E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.28E-04	3.71E-06	--	--	1.32E-04
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	3.69E-03	1.07E-04	--	--	3.80E-03
			1,2-Dichloropropane	2.68E-10	7.78E-12	--	--	2.76E-10	Nasal	4.04E-05	1.17E-06	--	--	4.15E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.09E-05	1.19E-06	--	--	4.21E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	4.69E-04	1.36E-05	--	--	4.82E-04
			1,4-Dichlorobenzene	1.79E-07	--	--	--	1.79E-07	Organ Weight	2.90E-03	--	--	--	2.90E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.34E-04	3.89E-06	--	1.58E-03	1.72E-03
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	2.07E-05	6.01E-06	--	5.82E-04	6.08E-04
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	5.34E-03	1.55E-04	--	--	5.50E-03
			4,4'-DDD	3.16E-10	9.15E-12	--	6.35E-12	3.31E-10	Liver	3.07E-05	8.90E-07	--	6.17E-07	3.22E-05
			4,4'-DDE	3.07E-08	8.89E-10	--	4.47E-10	3.20E-08	Liver	2.10E-03	6.10E-05	--	3.07E-05	2.20E-03
			4,4'-DDT	1.66E-08	1.44E-09	--	1.04E-09	1.91E-08	Liver	1.14E-03	9.90E-05	--	7.14E-05	1.31E-03
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	6.90E-04	2.00E-04	--	1.99E-02	2.08E-02
			4-Nitroaniline	1.43E-08	4.14E-09	--	2.82E-07	3.00E-07	--	2.64E-03	7.66E-04	--	5.22E-02	5.56E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	1.07E-02	3.11E-03	--	3.18E-01	3.32E-01
			Acenaphthene	--	--	--	--	--	Liver	9.02E-04	3.40E-04	--	--	1.24E-03
			Acenaphthylene	--	--	--	--	--	Liver	2.22E-05	6.44E-07	--	--	2.28E-05
			Aldrin	2.42E-07	7.02E-08	--	7.97E-09	3.20E-07	Liver	5.54E-03	1.61E-03	--	1.82E-04	7.33E-03
			alpha-BHC	5.04E-09	1.46E-10	--	3.58E-08	4.10E-08	Liver/Kidney	1.87E-05	5.41E-07	--	1.33E-04	1.52E-04
			alpha-Chlordane	3.12E-09	--	--	2.26E-10	3.35E-09	Liver	2.08E-04	--	--	1.50E-05	2.23E-04
			Aluminum	--	--	--	--	--	CNS	1.13E-01	3.27E-04	--	1.11E-03	1.14E-01
			Anthracene	--	--	--	--	--	No observed effect	4.50E-05	1.69E-05	--	--	6.19E-05
			Antimony	--	--	--	--	--	Whole body/Blood	1.30E-01	3.78E-04	--	5.92E-02	1.90E-01
			Aroclor-1248	2.63E-06	1.07E-06	--	5.30E-08	3.75E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00
			Aroclor-1254	9.73E-07	3.95E-07	--	2.63E-07	1.63E-06	Immune System/ Eye/Finger and Toe Nails	2.84E-01	1.15E-01	--	7.66E-02	4.76E-01
			Aroclor-1260	1.19E-06	4.82E-07	--	1.14E-08	1.68E-06	Immune System/ Eye/Finger and Toe Nails	3.46E-01	1.41E-01	--	3.34E-03	4.90E-01
			Aroclor-1268	6.08E-08	2.47E-08	--	1.64E-08	1.02E-07	Immune System/ Eye/Finger and Toe Nails	1.77E-02	7.20E-03	--	4.79E-03	2.97E-02
			Arsenic	1.01E-05	8.82E-07	--	9.21E-07	1.19E-05	Skin	2.63E-01	2.29E-02	--	2.39E-02	3.10E-01
			Barium	--	--	--	--	--	Kidney	1.24E-02	3.59E-05	--	2.81E-03	1.52E-02
			Benzo(a)anthracene	4.00E-06	1.51E-06	--	1.55E-08	5.53E-06	--	--	--	--	--	--
			Benzo(a)pyrene	1.33E-05	5.02E-06	--	2.94E-08	1.84E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	2.19E-06	8.26E-07	--	4.83E-08	3.06E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	3.25E-04	1.23E-04	--	5.47E-06	4.54E-04
			Benzo(k)fluoranthene	2.61E-07	9.83E-08	--	5.75E-09	3.65E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.52E-03	4.41E-06	--	3.46E-05	1.56E-03
			Beta-BHC	4.34E-09	1.26E-10	--	3.08E-08	3.53E-08	Kidney/Liver	1.41E-04	4.08E-06	--	9.99E-04	1.14E-03
			bis(2-ethylhexyl)phthalate	1.20E-07	3.48E-09	--	6.29E-07	7.53E-07	Liver	5.01E-03	1.45E-04	--	2.62E-02	3.14E-02
			Cadmium	--	--	--	--	--	Kidney	2.42E-01	7.02E-04	--	5.50E-01	7.93E-01
			Carbon disulfide	--	--	--	--	--	Developmental	3.07E-08	2.22E-08	--	--	5.29E-08
			Chlorobenzene	--	--	--	--	--	Liver	7.03E-05	2.04E-06	--	--	7.24E-05

TABLE H-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	9.48E-04	2.75E-06	--	6.46E-05	1.02E-03	
			Chrysene	4.55E-08	1.71E-08	--	1.24E-09	6.38E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	4.84E-03	1.40E-05	--	5.13E-04	5.37E-03	
			Copper	--	--	--	--	--	GI Tract	1.97E-02	5.72E-05	--	7.46E-02	9.44E-02	
			Delta-BHC	1.66E-08	2.40E-09	--	9.59E-10	1.99E-08	Liver/Kidney	5.37E-04	7.79E-05	--	3.11E-05	6.46E-04	
			Dibenzo(a,h)anthracene	2.54E-06	9.58E-07	--	3.46E-08	3.53E-06	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	8.31E-02	2.41E-03	--	--	8.55E-02	
			Dieldrin	9.67E-07	2.80E-08	--	7.76E-06	8.75E-06	Liver	1.41E-02	4.09E-04	--	1.13E-01	1.28E-01	
			Dimethylphthalate	--	--	--	--	--	--	4.86E-08	1.41E-09	--	1.09E-06	1.14E-06	
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	2.81E-04	8.16E-06	--	8.87E-06	2.98E-04	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	4.90E-05	7.11E-06	--	3.32E-04	3.89E-04	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	5.08E-05	7.36E-06	--	3.30E-04	3.88E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	9.16E-05	1.33E-05	--	5.81E-04	6.86E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.79E-03	2.60E-04	--	4.50E-05	2.10E-03	
			Endrin Ketone	--	--	--	--	--	Liver	4.26E-04	--	--	1.07E-05	4.37E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	8.47E-03	3.19E-03	--	3.47E-04	1.20E-02	
			Fluorene	--	--	--	--	--	Blood	9.32E-04	3.51E-04	--	--	1.28E-03	
			gamma-BHC (Lindane)	3.70E-09	4.30E-10	--	9.26E-08	9.67E-08	Liver/Kidney	1.11E-04	1.29E-05	--	2.77E-03	2.89E-03	
			gamma-Chlordane	5.03E-09	--	--	3.63E-10	5.39E-09	Liver	3.35E-04	--	--	2.42E-05	3.59E-04	
			Heptachlor	3.40E-08	9.87E-10	--	1.83E-09	3.68E-08	Liver	1.76E-04	5.12E-06	--	9.48E-06	1.91E-04	
			Heptachlor Epoxide	1.11E-07	3.23E-09	--	1.94E-06	2.06E-06	Liver	1.10E-02	3.18E-04	--	1.92E-01	2.03E-01	
			Indeno(1,2,3-cd)pyrene	6.98E-07	2.63E-07	--	1.15E-08	9.73E-07	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	1.74E+00	5.03E-03	--	2.61E-02	1.77E+00	
			Isophorone	2.08E-10	6.04E-11	--	--	2.69E-10	No observed effect	1.28E-05	3.71E-06	--	--	1.65E-05	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	1.76E-01	5.11E-04	--	1.33E-01	3.10E-01	
			Mercury	--	--	--	--	--	Immune System	1.32E-02	--	--	3.99E-02	5.31E-02	
			Methoxychlor	--	--	--	--	--	Developmental	3.07E-04	8.90E-06	--	4.02E-06	3.20E-04	
			Molybdenum	--	--	--	--	--	Blood	6.40E-03	1.86E-05	--	5.82E-03	1.22E-02	
			Naphthalene	--	--	--	--	--	Whole Body	8.31E-03	3.13E-03	--	--	1.14E-02	
			Nickel	--	--	--	--	--	Whole Body	2.50E-02	7.25E-05	--	2.27E-02	4.78E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	5.93E-04	1.72E-05	--	--	6.10E-04	
			Phenol	--	--	--	--	--	Whole Body	2.47E-05	7.17E-06	--	1.85E-03	1.88E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.41E-05	--	--	--	1.41E-05	
			Pyrene	--	--	--	--	--	Kidney	1.03E-02	3.88E-03	--	--	1.42E-02	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	2.27E-05	--	--	--	2.27E-05	
			Selenium	--	--	--	--	--	Whole Body	5.74E-04	1.66E-06	--	2.17E-04	7.93E-04	
			Silver	--	--	--	--	--	Skin	2.96E-03	8.59E-06	--	4.49E-03	7.46E-03	
			Technical Chlordane	2.11E-07	2.45E-08	--	--	2.36E-07	Liver	1.41E-02	1.63E-03	--	--	1.57E-02	
			Thallium	--	--	--	--	--	Blood	9.63E-02	--	--	5.83E-04	9.69E-02	
			Toluene	--	--	--	--	--	Liver/Kidney	6.87E-08	1.99E-09	--	--	7.07E-08	
Vanadium	--	--	--	--	--	Kidney	4.37E-01	1.27E-03	--	1.98E-02	4.58E-01				

TABLE H-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	1.93E-02	5.60E-05	--	2.63E-01	2.83E-01
		Exposure Point Total	Chemical Total	4.00E-05	1.17E-05	0.00E+00	1.22E-05	6.39E-05		4.92E+00	6.29E-01	0.00E+00	2.06E+00	7.61E+00
Exposure Medium Total				6.39E-05					7.61E+00					
Air (continued)	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	6.12E-02	--	6.12E-02
		1,2,4-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	2.08E-01	--	2.08E-01
		1,2,4-Trimethylbenzene	--	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.41E-02	--	4.41E-02
		1,2-Dichlorobenzene	--	--	--	--	--	--	Body Weight	--	--	6.02E-02	--	6.02E-02
		1,2-Dichloropropane	--	--	1.07E-08	--	1.07E-08	--	Nasal	--	--	1.62E-03	--	1.62E-03
		1,3,5-Trimethylbenzene	--	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.37E-02	--	1.37E-02
		1,3-Dichlorobenzene	--	--	--	--	--	--	Kidney/Liver	--	--	3.50E-03	--	3.50E-03
		1,4-Dichlorobenzene	--	--	1.90E-06	--	1.90E-06	--	Liver	--	--	4.38E-03	--	4.38E-03
		2,4-Dimethylphenol	--	--	--	--	--	--	Blood/Whole Body	--	--	5.13E-09	--	5.13E-09
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
		2-Methylnaphthalene	--	--	--	--	--	--	CNS/Body Weight	--	--	9.53E-04	--	9.53E-04
		4,4'-DDD	--	--	1.21E-14	--	1.21E-14	--	Liver	--	--	1.17E-09	--	1.17E-09
		4,4'-DDE	--	--	1.82E-10	--	1.82E-10	--	Liver	--	--	1.25E-05	--	1.25E-05
		4,4'-DDT	--	--	6.33E-13	--	6.33E-13	--	Liver	--	--	4.34E-08	--	4.34E-08
		4-Methylphenol	--	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.64E-08	--	2.64E-08
		4-Nitroaniline	--	--	5.45E-13	--	5.45E-13	--	--	--	--	3.03E-07	--	3.03E-07
		4-Nitrophenol	--	--	--	--	--	--	Blood/Kidney/Liver	--	--	3.60E-07	--	3.60E-07
		Acenaphthene	--	--	--	--	--	--	Liver	--	--	6.24E-04	--	6.24E-04
		Acenaphthylene	--	--	--	--	--	--	Liver	--	--	1.54E-05	--	1.54E-05
		Aldrin	--	--	5.29E-09	--	5.29E-09	--	Liver	--	--	1.21E-04	--	1.21E-04
		alpha-BHC	--	--	1.27E-09	--	1.27E-09	--	Liver/Kidney	--	--	4.69E-06	--	4.69E-06
		alpha-Chlordane	--	--	1.56E-10	--	1.56E-10	--	Liver	--	--	2.60E-05	--	2.60E-05
		Aluminum	--	--	--	--	--	--	Respiratory System	--	--	3.01E-03	--	3.01E-03
		Anthracene	--	--	--	--	--	--	No Observed Effect	--	--	3.11E-05	--	3.11E-05
		Antimony	--	--	--	--	--	--	--	--	--	--	--	--
		Aroclor-1248	--	--	1.00E-10	--	1.00E-10	--	Immune System/Eye/Finger and Toe Nails	--	--	2.93E-05	--	2.93E-05
		Aroclor-1254	--	--	3.72E-11	--	3.72E-11	--	Immune System/Eye/Finger and Toe nails	--	--	1.08E-05	--	1.08E-05
		Aroclor-1260	--	--	4.53E-11	--	4.53E-11	--	Immune System/Eye/Finger and Toe Nails	--	--	1.32E-05	--	1.32E-05
		Aroclor-1268	--	--	2.32E-12	--	2.32E-12	--	Immune System/Eye/Finger and Toe Nails	--	--	6.78E-07	--	6.78E-07
		Arsenic	--	--	3.87E-09	--	3.87E-09	--	--	--	--	--	--	--
		Barium	--	--	--	--	--	--	Developmental	--	--	2.36E-04	--	2.36E-04
		Benzo(a)anthracene	--	--	1.53E-10	--	1.53E-10	--	--	--	--	--	--	--
		Benzo(a)pyrene	--	--	5.09E-10	--	5.09E-10	--	--	--	--	--	--	--
		Benzo(b)fluoranthene	--	--	7.14E-08	--	7.14E-08	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	--	--	--	Kidney	--	--	1.24E-08	--	1.24E-08		
Benzo(k)fluoranthene	--	--	9.96E-12	--	9.96E-12	--	--	--	--	--	--	--		
Beryllium	--	--	8.37E-11	--	8.37E-11	--	Immune System/Lung	--	--	2.03E-05	--	2.03E-05		
Beta-BHC	--	--	1.71E-13	--	1.71E-13	--	Liver/Kidney	--	--	5.37E-09	--	5.37E-09		

TABLE H-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	4.59E-12	--	4.59E-12	Liver	--	--	1.91E-07	--	1.91E-07
			Cadmium	--	--	2.50E-09	--	2.50E-09	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.96E-03	--	1.96E-03
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	2.52E-09	--	2.52E-09	--	--	--	--	--	--
			Cobalt	--	--	3.11E-09	--	3.11E-09	Respiratory System	--	--	6.48E-04	--	6.48E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	4.29E-09	--	4.29E-09	Liver/Kidney	--	--	1.35E-04	--	1.35E-04
			Dibenzo(a,h)anthracene	--	--	9.70E-11	--	9.70E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.45E-02	--	1.45E-02
			Dieldrin	--	--	6.56E-08	--	6.56E-08	Liver	--	--	9.56E-04	--	9.56E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	1.86E-12	--	1.86E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.07E-08	--	1.07E-08
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	8.65E-06	--	8.65E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.96E-06	--	8.96E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.62E-05	--	1.62E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	6.85E-08	--	6.85E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.63E-08	--	1.63E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.76E-04	--	2.76E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.75E-04	--	2.75E-04
			gamma-BHC (Lindane)	--	--	1.14E-09	--	1.14E-09	Liver/Kidney	--	--	3.42E-05	--	3.42E-05
			gamma-Chlordane	--	--	2.51E-10	--	2.51E-10	Liver	--	--	4.18E-05	--	4.18E-05
			Heptachlor	--	--	8.49E-08	--	8.49E-08	Liver	--	--	4.36E-04	--	4.36E-04
			Heptachlor Epoxide	--	--	4.25E-12	--	4.25E-12	Liver	--	--	4.19E-07	--	4.19E-07
			Indeno(1,2,3-cd)pyrene	--	--	2.67E-11	--	2.67E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	7.95E-15	--	7.95E-15	No observed effect	--	--	4.88E-10	--	4.88E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.13E-02	--	1.13E-02
			Mercury	--	--	--	--	--	CNS	--	--	1.76E-06	--	1.76E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.11E-05	--	1.11E-05
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	5.26E-01	--	5.26E-01
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.10E-04	--	4.10E-04
			Phenol	--	--	--	--	--	Body Weight	--	--	9.44E-10	--	9.44E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.12E-03	--	1.12E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	3.97E-04	--	3.97E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	4.52E-04	--	4.52E-04
			Selenium	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	1.05E-11	--	1.05E-11	Liver	--	--	1.76E-03	--	1.76E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.41E-07	--	1.41E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.16E-06	0.00E+00	2.16E-06		0.00E+00	0.00E+00	9.62E-01	0.00E+00	9.62E-01
			Exposure Point Total					2.16E-06						9.62E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.10E+00	--	1.10E+00
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.73E+00	--	1.73E+00
			1,2-Dichloropropane	--	--	7.94E-08	--	7.94E-08	Nasal	--	--	1.19E-02	--	1.19E-02
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.53E-01	--	3.53E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.39E-01	--	1.39E-01
			1,4-Dichlorobenzene	--	--	4.85E-05	--	4.85E-05	Liver	--	--	1.12E-01	--	1.12E-01
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.25E-02	--	6.25E-02
			4,4'-DDE	--	--	1.14E-10	--	1.14E-10	Liver	--	--	7.82E-06	--	7.82E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.82E-02	--	1.82E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.70E-04	--	4.70E-04
			Aldrin	--	--	1.51E-08	--	1.51E-08	Liver	--	--	3.46E-04	--	3.46E-04
			alpha-BHC	--	--	3.75E-08	--	3.75E-08	Liver/Kidney	--	--	1.39E-04	--	1.39E-04
			alpha-Chlordane	--	--	1.05E-09	--	1.05E-09	Liver	--	--	1.75E-04	--	1.75E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.57E-04	--	9.57E-04
			Benzo(b)fluoranthene	--	--	1.27E-07	--	1.27E-07	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.54E-06	--	4.54E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.45E-02	--	2.45E-02
			Chrysene	--	--	7.16E-09	--	7.16E-09	--	--	--	--	--	--
			Delta-BHC	--	--	1.88E-07	--	1.88E-07	Liver/Kidney	--	--	5.92E-03	--	5.92E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	7.63E-03	--	7.63E-03
			Dieldrin	--	--	4.64E-07	--	4.64E-07	Liver	--	--	6.76E-03	--	6.76E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.32E-04	--	2.32E-04
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.36E-04	--	2.36E-04
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	4.33E-04	--	4.33E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.90E-05	--	7.90E-05
			Fluorene	--	--	--	--	--	Blood	--	--	4.32E-03	--	4.32E-03
			gamma-BHC (Lindane)	--	--	4.09E-08	--	4.09E-08	Liver/Kidney	--	--	1.22E-03	--	1.22E-03
			gamma-Chlordane	--	--	1.91E-11	--	1.91E-11	Liver	--	--	3.18E-06	--	3.18E-06
			Heptachlor	--	--	2.73E-08	--	2.73E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.82E-05	--	3.82E-05
			Methylene Chloride	--	--	1.25E-09	--	1.25E-09	Liver	--	--	1.06E-05	--	1.06E-05
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.73E+01	--	4.73E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.23E-02	--	1.23E-02

TABLE H-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.78E-03	--	3.78E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	8.54E-04	--	8.54E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.69E-03	--	3.69E-03
			Technical Chlordane	--	--	8.13E-11	--	8.13E-11	Liver	--	--	1.35E-02	--	1.35E-02
			Toluene	--	--	--	--	--	CNS	--	--	1.14E-06	--	1.14E-06
			Chemical Total	0.00E+00	0.00E+00	4.95E-05	0.00E+00	4.95E-05		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01
			Exposure Point Total					4.95E-05						7.36E+01
			Exposure Medium Total					5.17E-05						7.46E+01
Medium Total								1.16E-04						8.22E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.95E-06	--	1.95E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.74E-05	--	4.74E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	9.35E-06	--	9.35E-06
			1,2-Dichloroethane	--	--	2.99E-09	--	2.99E-09	Liver/Kidney/CNS	--	--	2.74E-04	--	2.74E-04
			1,2-Dichloropropane	--	--	8.38E-10	--	8.38E-10	Nasal	--	--	1.26E-04	--	1.26E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.70E-05	--	2.70E-05
			1,4-Dichlorobenzene	--	--	3.42E-10	--	3.42E-10	Liver	--	--	7.89E-07	--	7.89E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	4.91E-09	--	4.91E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.25E-08	--	1.25E-08
			4,4'-DDE	--	--	2.43E-11	--	2.43E-11	Liver	--	--	1.67E-06	--	1.67E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.03E-09	--	3.03E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.16E-07	--	4.16E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.77E-08	--	1.77E-08
			Aldrin	--	--	2.10E-09	--	2.10E-09	Liver	--	--	4.80E-05	--	4.80E-05
			alpha-BHC	--	--	9.85E-11	--	9.85E-11	Liver/Kidney	--	--	3.65E-07	--	3.65E-07
			alpha-Chlordane	--	--	1.30E-11	--	1.30E-11	Liver	--	--	2.16E-06	--	2.16E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.06E-09	--	7.06E-09
			Benzene	--	--	3.93E-10	--	3.93E-10	Blood	--	--	1.96E-05	--	1.96E-05
			Benzo(b)fluoranthene	--	--	1.96E-11	--	1.96E-11	--	--	--	--	--	--
			Bromoform	--	--	1.57E-12	--	1.57E-12	Liver	--	--	2.37E-07	--	2.37E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.45E-05	--	1.45E-05
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.78E-08	--	2.78E-08
			Chloroform	--	--	9.19E-09	--	9.19E-09	Liver/Kidney/Respiratory	--	--	9.52E-05	--	9.52E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.86E-05	--	1.86E-05
			Chrysene	--	--	5.31E-13	--	5.31E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.41E-05	--	3.41E-05
			Dieldrin	--	--	8.68E-10	--	8.68E-10	Liver	--	--	1.27E-05	--	1.27E-05
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.40E-08	--	2.40E-08
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.95E-11	--	3.95E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	4.43E-07	--	4.43E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.14E-09	--	8.14E-09
Fluorene	--	--	--	--	--	Blood	--	--	1.61E-08	--	1.61E-08			
gamma-BHC (Lindane)	--	--	8.92E-14	--	8.92E-14	Liver/Kidney	--	--	2.67E-09	--	2.67E-09			

TABLE H-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	3.36E-11	--	3.36E-11	Liver	--	--	5.61E-06	--	5.61E-06
			Heptachlor	--	--	4.49E-09	--	4.49E-09	Liver	--	--	2.30E-05	--	2.30E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.54E-05	--	1.54E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.21E-07	--	4.21E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.08E-06	--	4.08E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.90E-04	--	1.90E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.54E-06	--	4.54E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.62E-09	--	5.62E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	9.90E-09	--	9.90E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.29E-05	--	1.29E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.46E-05	--	1.46E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.71E-07	--	1.71E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.89E-05	--	2.89E-05
			Trichloroethene	--	--	2.06E-08	--	2.06E-08	CNS/Liver/Endocrine	--	--	6.01E-05	--	6.01E-05
			Vinyl chloride	--	--	3.30E-09	--	3.30E-09	Liver	--	--	4.35E-05	--	4.35E-05
			Chemical Total	0.00E+00	0.00E+00	4.53E-08	0.00E+00	4.53E-08		0.00E+00	0.00E+00	1.54E-03	0.00E+00	1.54E-03
			Exposure Point Total					4.53E-08						1.54E-03
			Exposure Medium Total					4.53E-08						1.54E-03
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	3.43E-04	--	3.43E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.23E-03	--	1.23E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.49E-04	--	2.49E-04
			1,2-Dichloroethane	--	--	8.96E-08	--	8.96E-08	Liver/Kidney/CNS	--	--	8.20E-03	--	8.20E-03
			1,2-Dichloropropane	--	--	2.48E-08	--	2.48E-08	Nasal	--	--	3.73E-03	--	3.73E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.03E-04	--	7.03E-04
			1,4-Dichlorobenzene	--	--	9.17E-09	--	9.17E-09	Liver	--	--	2.11E-05	--	2.11E-05
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.53E-07	--	2.53E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-07	--	3.50E-07
			4,4'-DDE	--	--	2.19E-12	--	2.19E-12	Liver	--	--	1.50E-07	--	1.50E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.25E-07	--	1.25E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.77E-05	--	1.77E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.55E-07	--	7.55E-07
			Aldrin	--	--	2.29E-10	--	2.29E-10	Liver	--	--	5.24E-06	--	5.24E-06
			alpha-BHC	--	--	1.26E-11	--	1.26E-11	Liver/Kidney	--	--	4.68E-08	--	4.68E-08
			alpha-Chlordane	--	--	4.26E-12	--	4.26E-12	Liver	--	--	7.10E-07	--	7.10E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.00E-07	--	3.00E-07
			Benzene	--	--	1.16E-08	--	1.16E-08	Blood	--	--	5.74E-04	--	5.74E-04
			Benzo(b)fluoranthene	--	--	8.25E-10	--	8.25E-10	--	--	--	--	--	--
			Bromoform	--	--	8.41E-11	--	8.41E-11	Liver	--	--	1.27E-05	--	1.27E-05
Carbon disulfide	--	--	--	--	--	CNS	--	--	4.36E-04	--	4.36E-04			
Chlorobenzene	--	--	--	--	--	Liver	--	--	7.78E-05	--	7.78E-05			

TABLE H-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	--	--	2.72E-07	--	2.72E-07	Liver/Kidney/Respiratory	--	--	2.82E-03	--	2.82E-03			
			Chloromethane	--	--	--	--	--	CNS	--	--	6.02E-04	--	6.02E-04			
			Chrysene	--	--	2.32E-11	--	2.32E-11	--	--	--	--	--	--	--		
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.21E-03	--	2.21E-03			
			Dieldrin	--	--	3.33E-11	--	3.33E-11	Liver	--	--	4.85E-07	--	4.85E-07			
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.21E-09	--	5.21E-09			
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.74E-09	--	1.74E-09			
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.20E-05	--	1.20E-05			
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.29E-07	--	3.29E-07			
			Fluorene	--	--	--	--	--	Blood	--	--	8.39E-07	--	8.39E-07			
			gamma-BHC (Lindane)	--	--	3.52E-12	--	3.52E-12	Liver/Kidney	--	--	1.05E-07	--	1.05E-07			
			gamma-Chlordane	--	--	2.06E-12	--	2.06E-12	Liver	--	--	3.44E-07	--	3.44E-07			
			Heptachlor	--	--	1.21E-10	--	1.21E-10	Liver	--	--	6.20E-07	--	6.20E-07			
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.05E-02	--	1.05E-02			
			m,p-Xylene	--	--	--	--	--	CNS	--	--	8.95E-04	--	8.95E-04			
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.83E-08	--	1.83E-08			
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.22E-04	--	2.22E-04			
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.07E-02	--	1.07E-02			
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.58E-04	--	2.58E-04			
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.12E-07	--	3.12E-07			
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.05E-02	--	1.05E-02			
			Pyrene	--	--	--	--	--	Kidney	--	--	4.13E-07	--	4.13E-07			
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	9.16E-06	--	9.16E-06			
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	9.17E-04	--	9.17E-04			
			Toluene	--	--	--	--	--	CNS	--	--	9.82E-07	--	9.82E-07			
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.94E-03	--	1.94E-03			
			Trichloroethene	--	--	1.26E-06	--	1.26E-06	CNS/Liver/Endocrine	--	--	3.68E-03	--	3.68E-03			
			Vinyl chloride	--	--	2.22E-07	--	2.22E-07	Liver	--	--	2.93E-03	--	2.93E-03			
						Chemical Total	0.00E+00	0.00E+00	1.89E-06	0.00E+00	1.89E-06		0.00E+00	0.00E+00	6.38E-02	0.00E+00	6.38E-02
						Exposure Point Total					1.89E-06						6.38E-02
			Exposure Medium Total					1.89E-06						6.38E-02			
Medium Total								1.94E-06						6.54E-02			
Receptor Total								Receptor Risk Total						Receptor HI Total	8.22E+01		

TABLE H-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	2.86E+00
Total Organ 2 (Kidney) HI Across All Media =	2.49E+01
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	2.05E+00
Total Organ 5 (Endocrine) HI Across All Media =	3.74E-03
Total Organ 6 (Blood) HI Across All Media =	2.46E+00
Total Organ 7 (Adrenal) HI Across All Media =	9.18E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.95E-02
Total Organ 9 (Skin) HI Across All Media =	3.17E-01
Total Organ 10 (Gastrointestinal System) HI Across All Media =	9.60E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	2.09E+00
Total Organ 12 (Body Weight) HI Across All Media =	1.85E+00
Total Organ 13 (Developmental) HI Across All Media =	6.19E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	4.94E+01
Total Organ 15 (Whole Body) HI Across All Media =	2.75E-01
Total Organ 16 (Immune System) HI Across All Media =	2.14E+00
Total Organ 17 (Organ Weight) HI Across All Media =	3.83E-03
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.09E+00
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.75E-02

**TABLE H-8.8**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	-	-	-	-	-	Adrenal	1.92E-03	5.56E-04	-	-	2.47E-03
			1,2,4-Trichlorobenzene	-	-	-	-	-	Adrenal	6.52E-03	1.89E-04	-	-	6.71E-03
			1,2,4-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	1.28E-04	3.71E-06	-	-	1.32E-04
			1,2-Dichlorobenzene	-	-	-	-	-	No Observed Effect	3.69E-03	1.07E-04	-	-	3.80E-03
			1,2-Dichloropropane	2.68E-10	7.78E-12	-	-	2.76E-10	Nasal	4.04E-05	1.17E-06	-	-	4.15E-05
			1,3,5-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	4.09E-05	1.19E-06	-	-	4.21E-05
			1,3-Dichlorobenzene	-	-	-	-	-	Kidney/Liver	4.69E-04	1.36E-05	-	-	4.82E-04
			1,4-Dichlorobenzene	1.79E-07	-	-	-	1.79E-07	Organ Weight	2.90E-03	-	-	-	2.90E-03
			2,4-Dimethylphenol	-	-	-	-	-	Blood/Whole Body	1.34E-04	3.89E-06	-	1.58E-03	1.72E-03
			2-Methylphenol	-	-	-	-	-	CNS/Body Weight	2.07E-05	6.01E-06	-	5.82E-04	6.08E-04
			2-Methylnaphthalene	-	-	-	-	-	Respiratory System	4.63E-03	1.34E-04	-	-	4.77E-03
			4,4'-DDD	3.16E-10	9.15E-12	-	6.35E-12	3.31E-10	Liver	3.07E-05	8.99E-07	-	6.17E-07	3.22E-05
			4,4'-DDE	2.79E-08	8.10E-10	-	4.07E-10	2.92E-08	Liver	1.92E-03	5.56E-05	-	2.79E-05	2.00E-03
			4,4'-DDT	1.56E-08	1.36E-09	-	9.82E-10	1.80E-08	Liver	1.07E-03	9.34E-05	-	6.74E-05	1.23E-03
			4-Methylphenol	-	-	-	-	-	Whole Body/CNS/Respiratory	6.90E-04	2.00E-04	-	1.99E-02	2.08E-02
			4-Nitroaniline	1.43E-08	4.14E-09	-	2.82E-07	3.00E-07	-	2.64E-03	7.66E-04	-	5.22E-02	5.56E-02
			4-Nitrophenol	-	-	-	-	-	Kidney/Liver/Blood	1.07E-02	3.11E-03	-	3.18E-01	3.32E-01
			Acenaphthene	-	-	-	-	-	Liver	7.40E-04	2.79E-04	-	-	1.02E-03
			Acenaphthylene	-	-	-	-	-	Liver	1.91E-05	5.54E-07	-	-	1.96E-05
			Aldrin	2.42E-07	7.02E-08	-	7.97E-09	3.20E-07	Liver	5.54E-03	1.61E-03	-	1.82E-04	7.33E-03
			alpha-BHC	5.04E-09	1.46E-10	-	3.58E-08	4.10E-08	Liver/Kidney	1.87E-05	5.41E-07	-	1.33E-04	1.52E-04
			alpha-Chlordane	2.68E-09	-	-	1.93E-10	2.87E-09	Liver	1.79E-04	-	-	1.29E-05	1.91E-04
			Aluminum	-	-	-	-	-	CNS	1.16E-01	3.36E-04	-	1.14E-03	1.17E-01
			Anthracene	-	-	-	-	-	No observed effect	3.89E-05	1.47E-05	-	-	5.36E-05
			Antimony	-	-	-	-	-	Whole body/Blood	8.71E-02	2.52E-04	-	3.95E-02	1.27E-01
			Aroclor-1248	2.63E-06	1.07E-06	-	5.30E-08	3.75E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	-	1.55E-02	1.09E+00
			Aroclor-1254	9.59E-07	3.89E-07	-	2.59E-07	1.61E-06	Immune System/ Eye/Finger and Toe Nails	2.80E-01	1.14E-01	-	7.55E-02	4.69E-01
			Aroclor-1260	1.07E-06	4.34E-07	-	1.03E-08	1.51E-06	Immune System/ Eye/Finger and Toe Nails	3.12E-01	1.27E-01	-	3.01E-03	4.42E-01
			Aroclor-1268	5.96E-08	2.42E-08	-	1.61E-08	9.98E-08	Immune System/ Eye/Finger and Toe Nails	1.74E-02	7.05E-03	-	4.69E-03	2.91E-02
			Arsenic	1.57E-05	1.36E-06	-	1.42E-06	1.85E-05	Skin	4.06E-01	3.53E-02	-	3.69E-02	4.79E-01
			Barium	-	-	-	-	-	Kidney	1.27E-02	3.68E-05	-	2.88E-03	1.56E-02
			Benzo(a)anthracene	3.37E-06	1.27E-06	-	1.31E-08	4.65E-06	-	-	-	-	-	-
			Benzo(a)pyrene	1.12E-05	4.24E-06	-	2.48E-08	1.55E-05	-	-	-	-	-	-
			Benzo(b)fluoranthene	1.90E-06	7.16E-07	-	4.18E-08	2.66E-06	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	Kidney	2.76E-04	1.04E-04	-	4.64E-06	3.85E-04
			Benzo(k)fluoranthene	2.26E-07	8.52E-08	-	4.98E-09	3.16E-07	-	-	-	-	-	-
			Beryllium	-	-	-	-	-	GI Tract	1.46E-03	4.22E-06	-	3.31E-05	1.49E-03
			Beta-BHC	4.34E-09	1.26E-10	-	3.08E-08	3.53E-08	Kidney/Liver	1.41E-04	4.08E-06	-	9.98E-04	1.14E-03
			bis(2-ethylhexyl)phthalate	8.12E-08	2.36E-09	-	4.25E-07	5.09E-07	Liver	3.39E-03	9.82E-05	-	1.77E-02	2.12E-02
			Cadmium	-	-	-	-	-	Kidney	2.21E-01	6.41E-04	-	5.02E-01	7.24E-01
			Carbon disulfide	-	-	-	-	-	Developmental	3.07E-08	2.22E-08	-	-	5.29E-08
			Chlorobenzene	-	-	-	-	-	Liver	7.03E-05	2.04E-06	-	-	7.24E-05

TABLE H-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	8.52E-04	2.47E-06	--	5.80E-05	9.13E-04	
			Chrysene	3.84E-08	1.45E-08	--	1.05E-09	5.39E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	4.76E-03	1.38E-05	--	5.04E-04	5.28E-03	
			Copper	--	--	--	--	--	GI Tract	2.08E-02	6.02E-05	--	7.86E-02	9.94E-02	
			Delta-BHC	1.66E-08	2.40E-09	--	9.59E-10	1.99E-08	Liver/Kidney	5.37E-04	7.79E-05	--	3.11E-05	6.46E-04	
			Dibenzo(a,h)anthracene	2.21E-06	8.31E-07	--	3.00E-08	3.07E-06	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	8.31E-02	2.41E-03	--	--	8.55E-02	
			Diieldrin	8.58E-07	2.49E-08	--	6.88E-06	7.76E-06	Liver	1.25E-02	3.63E-04	--	1.00E-01	1.13E-01	
			Dimethylphthalate	--	--	--	--	--	--	4.86E-08	1.41E-09	--	1.09E-06	1.14E-06	
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	2.94E-04	8.53E-06	--	9.27E-06	3.12E-04	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	4.90E-05	7.11E-06	--	3.32E-04	3.89E-04	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	4.98E-05	7.22E-06	--	3.24E-04	3.81E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	9.16E-05	1.33E-05	--	5.81E-04	6.86E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	2.68E-03	3.89E-04	--	6.74E-05	3.14E-03	
			Endrin Ketone	--	--	--	--	--	Liver	4.26E-04	--	--	1.07E-05	4.37E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	7.11E-03	2.68E-03	--	2.91E-04	1.01E-02	
			Fluorene	--	--	--	--	--	Blood	8.08E-04	3.05E-04	--	--	1.11E-03	
			gamma-BHC (Lindane)	3.70E-09	4.30E-10	--	9.26E-08	9.67E-08	Liver/Kidney	1.11E-04	1.29E-05	--	2.77E-03	2.89E-03	
			gamma-Chlordane	4.87E-09	--	--	3.52E-10	5.22E-09	Liver	3.25E-04	--	--	2.35E-05	3.48E-04	
			Heptachlor	3.40E-08	9.87E-10	--	1.83E-09	3.68E-08	Liver	1.76E-04	5.12E-06	--	9.48E-06	1.91E-04	
			Heptachlor Epoxide	9.83E-08	2.85E-09	--	1.72E-06	1.82E-06	Liver	9.69E-03	2.81E-04	--	1.69E-01	1.79E-01	
			Indeno(1,2,3-cd)pyrene	3.98E-07	1.50E-07	--	6.56E-09	5.54E-07	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	1.57E+00	4.54E-03	--	2.36E-02	1.59E+00	
			Isophorone	2.08E-10	6.04E-11	--	--	2.69E-10	No observed effect	1.28E-05	3.71E-06	--	--	1.65E-05	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	1.62E-01	4.70E-04	--	1.23E-01	2.85E-01	
			Mercury	--	--	--	--	--	Immune System	1.13E-02	--	--	3.42E-02	4.55E-02	
			Methoxychlor	--	--	--	--	--	Developmental	3.07E-04	8.90E-06	--	4.02E-06	3.20E-04	
			Methylene chloride	1.97E-11	5.72E-13	--	--	2.03E-11	Liver	5.11E-07	1.48E-08	--	--	5.26E-07	
			Molybdenum	--	--	--	--	--	Blood	5.57E-03	1.62E-05	--	5.06E-03	1.07E-02	
			Naphthalene	--	--	--	--	--	Whole Body	8.31E-03	3.13E-03	--	--	1.14E-02	
			Nickel	--	--	--	--	--	Whole Body	2.49E-02	7.22E-05	--	2.26E-02	4.76E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	4.98E-04	1.44E-05	--	--	5.12E-04	
			Phenol	--	--	--	--	--	Whole Body	2.47E-05	7.17E-06	--	1.85E-03	1.88E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.41E-05	--	--	--	1.41E-05	
			Pyrene	--	--	--	--	--	Kidney	8.67E-03	3.27E-03	--	--	1.19E-02	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	2.27E-05	--	--	--	2.27E-05	
			Selenium	--	--	--	--	--	Whole Body	7.25E-04	2.10E-06	--	2.74E-04	1.00E-03	
			Silver	--	--	--	--	--	Skin	2.51E-03	7.27E-06	--	3.79E-03	6.31E-03	
			Technical Chlordane	2.07E-07	2.41E-08	--	--	2.31E-07	Liver	1.38E-02	1.60E-03	--	--	1.54E-02	
			Thallium	--	--	--	--	--	Blood	9.35E-02	--	--	5.66E-04	9.41E-02	
			Toluene	--	--	--	--	--	Liver/Kidney	6.87E-08	1.99E-09	--	--	7.07E-08	

**TABLE H-8.8**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	4.31E-01	1.25E-03	--	1.96E-02	4.51E-01
			Zinc	--	--	--	--	--	Blood	1.41E-02	4.10E-05	--	1.93E-01	2.07E-01
			Chemical Total	4.16E-05	1.07E-05	0.00E+00	1.14E-05	6.37E-05		4.76E+00	6.24E-01	0.00E+00	1.87E+00	7.25E+00
			Exposure Point Total					6.37E-05						7.25E+00
			Exposure Medium Total					6.37E-05						7.25E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.12E-02	--	6.12E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.08E-01	--	2.08E-01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.41E-02	--	4.41E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	6.02E-02	--	6.02E-02
			1,2-Dichloropropane	--	--	1.07E-08	--	1.07E-08	Nasal	--	--	1.62E-03	--	1.62E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.37E-02	--	1.37E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	3.50E-03	--	3.50E-03
			1,4-Dichlorobenzene	--	--	1.90E-06	--	1.90E-06	Liver	--	--	4.38E-03	--	4.38E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	5.13E-09	--	5.13E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	8.27E-04	--	8.27E-04
			4,4'-DDD	--	--	1.21E-14	--	1.21E-14	Liver	--	--	1.17E-09	--	1.17E-09
			4,4'-DDE	--	--	1.66E-10	--	1.66E-10	Liver	--	--	1.14E-05	--	1.14E-05
			4,4'-DDT	--	--	5.97E-13	--	5.97E-13	Liver	--	--	4.10E-08	--	4.10E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.64E-08	--	2.64E-08
			4-Nitroaniline	--	--	5.45E-13	--	5.45E-13	--	--	--	3.03E-07	--	3.03E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	3.60E-07	--	3.60E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.12E-04	--	5.12E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.32E-05	--	1.32E-05
			Aldrin	--	--	5.29E-09	--	5.29E-09	Liver	--	--	1.21E-04	--	1.21E-04
			alpha-BHC	--	--	1.27E-09	--	1.27E-09	Liver/Kidney	--	--	4.69E-06	--	4.69E-06
			alpha-Chlordane	--	--	1.34E-10	--	1.34E-10	Liver	--	--	2.23E-05	--	2.23E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	3.09E-03	--	3.09E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.69E-05	--	2.69E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	1.00E-10	--	1.00E-10	Immune System/Eye/Finger and Toe Nails	--	--	2.93E-05	--	2.93E-05
			Aroclor-1254	--	--	3.66E-11	--	3.66E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.07E-05	--	1.07E-05
			Aroclor-1260	--	--	4.09E-11	--	4.09E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.19E-05	--	1.19E-05
			Aroclor-1268	--	--	2.27E-12	--	2.27E-12	Immune System/Eye/Finger and Toe Nails	--	--	6.63E-07	--	6.63E-07
			Arsenic	--	--	5.98E-09	--	5.98E-09	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	2.42E-04	--	2.42E-04
			Benzo(a)anthracene	--	--	1.29E-10	--	1.29E-10	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	4.29E-10	--	4.29E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	6.19E-08	--	6.19E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.05E-08	--	1.05E-08
			Benzo(k)fluoranthene	--	--	8.63E-12	--	8.63E-12	--	--	--	--	--	--
			Beryllium	--	--	8.01E-11	--	8.01E-11	Immune System/Lung	--	--	1.95E-05	--	1.95E-05

TABLE H-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	1.71E-13	--	1.71E-13	Liver/Kidney	--	--	5.37E-09	--	5.37E-09
			bis(2-ethylhexyl)phthalate	--	--	3.10E-12	--	3.10E-12	Liver	--	--	1.29E-07	--	1.29E-07
			Cadmium	--	--	2.28E-09	--	2.28E-09	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.96E-03	--	1.96E-03
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	2.13E-09	--	2.13E-09	--	--	--	--	--	--
			Cobalt	--	--	3.05E-09	--	3.05E-09	Respiratory System	--	--	6.36E-04	--	6.36E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	4.29E-09	--	4.29E-09	Liver/Kidney	--	--	1.35E-04	--	1.35E-04
			Dibenzo(a,h)anthracene	--	--	8.42E-11	--	8.42E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.45E-02	--	1.45E-02
			Dioksin	--	--	5.82E-08	--	5.82E-08	Liver	--	--	8.48E-04	--	8.48E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	1.86E-12	--	1.86E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.12E-08	--	1.12E-08
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	8.65E-06	--	8.65E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.79E-06	--	8.79E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.62E-05	--	1.62E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.03E-07	--	1.03E-07
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.63E-08	--	1.63E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.32E-04	--	2.32E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.38E-04	--	2.38E-04
			gamma-BHC (Lindane)	--	--	1.14E-09	--	1.14E-09	Liver/Kidney	--	--	3.42E-05	--	3.42E-05
			gamma-Chlordane	--	--	2.43E-10	--	2.43E-10	Liver	--	--	4.05E-05	--	4.05E-05
			Heptachlor	--	--	8.49E-08	--	8.49E-08	Liver	--	--	4.36E-04	--	4.36E-04
			Heptachlor Epoxide	--	--	3.75E-12	--	3.75E-12	Liver	--	--	3.70E-07	--	3.70E-07
			Indeno(1,2,3-cd)pyrene	--	--	1.52E-11	--	1.52E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	7.95E-15	--	7.95E-15	No observed effect	--	--	4.88E-10	--	4.88E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.04E-02	--	1.04E-02
			Mercury	--	--	--	--	--	CNS	--	--	1.51E-06	--	1.51E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.11E-05	--	1.11E-05
			Methylene chloride	--	--	--	--	--	Liver	--	--	--	--	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	5.26E-01	--	5.26E-01
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.44E-04	--	3.44E-04
			Phenol	--	--	--	--	--	Body Weight	--	--	9.44E-10	--	9.44E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.12E-03	--	1.12E-03
Pyrene	--	--	--	--	--	Kidney	--	--	3.34E-04	--	3.34E-04			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	4.52E-04	--	4.52E-04			

**TABLE H-8.8**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	--	--	--	--	--	--
			Silver	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	1.03E-11	--	1.03E-11	Liver	--	--	1.72E-03	--	1.72E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.41E-07	--	1.41E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.14E-06	0.00E+00	2.14E-06		0.00E+00	0.00E+00	9.61E-01	0.00E+00	9.61E-01
		Exposure Point Total						2.14E-06						9.61E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.10E+00	--	1.10E+00
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.73E+00	--	1.73E+00
			1,2-Dichloropropane	--	--	7.94E-08	--	7.94E-08	Nasal	--	--	1.19E-02	--	1.19E-02
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.53E-01	--	3.53E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.39E-01	--	1.39E-01
			1,4-Dichlorobenzene	--	--	4.85E-05	--	4.85E-05	Liver	--	--	1.12E-01	--	1.12E-01
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.25E-02	--	6.25E-02
			4,4'-DDE	--	--	1.14E-10	--	1.14E-10	Liver	--	--	7.82E-06	--	7.82E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.82E-02	--	1.82E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.70E-04	--	4.70E-04
			Aldrin	--	--	1.51E-08	--	1.51E-08	Liver	--	--	3.46E-04	--	3.46E-04
			alpha-BHC	--	--	3.75E-08	--	3.75E-08	Liver/Kidney	--	--	1.39E-04	--	1.39E-04
			alpha-Chlordane	--	--	1.05E-09	--	1.05E-09	Liver	--	--	1.75E-04	--	1.75E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.57E-04	--	9.57E-04
			Benzo(b)fluoranthene	--	--	1.27E-07	--	1.27E-07	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.54E-06	--	4.54E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.45E-02	--	2.45E-02
			Chrysene	--	--	7.16E-09	--	7.16E-09	--	--	--	--	--	--
			Delta-BHC	--	--	1.88E-07	--	1.88E-07	Liver/Kidney	--	--	5.92E-03	--	5.92E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	7.63E-03	--	7.63E-03
			Dieldrin	--	--	4.64E-07	--	4.64E-07	Liver	--	--	6.76E-03	--	6.76E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.32E-04	--	2.32E-04
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.36E-04	--	2.36E-04
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	4.33E-04	--	4.33E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.90E-05	--	7.90E-05
			Fluorene	--	--	--	--	--	Blood	--	--	4.32E-03	--	4.32E-03
			gamma-BHC (Lindane)	--	--	4.09E-08	--	4.09E-08	Liver/Kidney	--	--	1.22E-03	--	1.22E-03
			gamma-Chlordane	--	--	1.91E-11	--	1.91E-11	Liver	--	--	3.18E-06	--	3.18E-06
			Heptachlor	--	--	2.73E-08	--	2.73E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.82E-05	--	3.82E-05
			Methylene Chloride	--	--	1.25E-09	--	1.25E-09	Liver	--	--	1.06E-05	--	1.06E-05

TABLE H-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.73E+01	--	4.73E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.23E-02	--	1.23E-02
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.78E-03	--	3.78E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	8.54E-04	--	8.54E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.69E-03	--	3.69E-03
			Technical Chlordane	--	--	8.13E-11	--	8.13E-11	Liver	--	--	1.35E-02	--	1.35E-02
			Toluene	--	--	--	--	CNS	--	--	1.14E-06	--	1.14E-06	
			Chemical Total	0.00E+00	0.00E+00	4.95E-05	0.00E+00	4.95E-05		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01
		Exposure Point Total						4.95E-05						7.36E+01
	Exposure Medium Total							5.17E-05						7.46E+01
Medium Total								1.15E-04						8.18E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.95E-06	--	1.95E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.74E-05	--	4.74E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	9.35E-06	--	9.35E-06
			1,2-Dichloroethane	--	--	2.99E-09	--	2.99E-09	Liver/Kidney/CNS	--	--	2.74E-04	--	2.74E-04
			1,2-Dichloropropane	--	--	8.38E-10	--	8.38E-10	Nasal	--	--	1.26E-04	--	1.26E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.70E-05	--	2.70E-05
			1,4-Dichlorobenzene	--	--	3.42E-10	--	3.42E-10	Liver	--	--	7.89E-07	--	7.89E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	4.91E-09	--	4.91E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.25E-08	--	1.25E-08
			4,4'-DDE	--	--	2.43E-11	--	2.43E-11	Liver	--	--	1.67E-06	--	1.67E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.03E-09	--	3.03E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.16E-07	--	4.16E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.77E-08	--	1.77E-08
			Aldrin	--	--	2.10E-09	--	2.10E-09	Liver	--	--	4.80E-05	--	4.80E-05
			alpha-BHC	--	--	9.85E-11	--	9.85E-11	Liver/Kidney	--	--	3.65E-07	--	3.65E-07
			alpha-Chlordane	--	--	1.30E-11	--	1.30E-11	Liver	--	--	2.16E-06	--	2.16E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.06E-09	--	7.06E-09
			Benzene	--	--	3.93E-10	--	3.93E-10	Blood	--	--	1.96E-05	--	1.96E-05
			Benzo(b)fluoranthene	--	--	1.96E-11	--	1.96E-11	--	--	--	--	--	--
			Bromoform	--	--	1.57E-12	--	1.57E-12	Liver	--	--	2.37E-07	--	2.37E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.45E-05	--	1.45E-05
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.78E-06	--	2.78E-06
			Chloroform	--	--	9.19E-09	--	9.19E-09	Liver/Kidney/Respiratory	--	--	9.52E-05	--	9.52E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.86E-05	--	1.86E-05
			Chrysene	--	--	5.31E-13	--	5.31E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.41E-05	--	3.41E-05
			Diehdin	--	--	8.68E-10	--	8.68E-10	Liver	--	--	1.27E-05	--	1.27E-05
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.40E-08	--	2.40E-08
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.95E-11	--	3.95E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	4.43E-07	--	4.43E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.14E-09	--	8.14E-09			

**TABLE H-8.8**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	1.61E-08	--	1.61E-08
			gamma-BHC (Lindane)	--	--	8.92E-14	--	8.92E-14	Liver/Kidney	--	--	2.67E-09	--	2.67E-09
			gamma-Chlordane	--	--	3.36E-11	--	3.36E-11	Liver	--	--	5.61E-06	--	5.61E-06
			Heptachlor	--	--	4.49E-09	--	4.49E-09	Liver	--	--	2.30E-05	--	2.30E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.54E-05	--	1.54E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.21E-07	--	4.21E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.08E-06	--	4.08E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.90E-04	--	1.90E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.54E-06	--	4.54E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.62E-09	--	5.62E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	9.90E-09	--	9.90E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.29E-05	--	1.29E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.46E-05	--	1.46E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.71E-07	--	1.71E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.89E-05	--	2.89E-05
			Trichloroethene	--	--	2.06E-08	--	2.06E-08	CNS/Liver/Endocrine	--	--	6.01E-05	--	6.01E-05
			Vinyl chloride	--	--	3.30E-09	--	3.30E-09	Liver	--	--	4.35E-05	--	4.35E-05
						Chemical Total	0.00E+00	0.00E+00	4.53E-08	0.00E+00	4.53E-08		0.00E+00	0.00E+00
			Exposure Point Total					4.53E-08						1.54E-03
			Exposure Medium Total					4.53E-08						1.54E-03
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	3.43E-04	--	3.43E-04	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.23E-03	--	1.23E-03	
		1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.49E-04	--	2.49E-04	
		1,2-Dichloroethane	--	--	8.96E-08	--	8.96E-08	Liver/Kidney/CNS	--	--	8.20E-03	--	8.20E-03	
		1,2-Dichloropropane	--	--	2.48E-08	--	2.48E-08	Nasal	--	--	3.73E-03	--	3.73E-03	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.03E-04	--	7.03E-04	
		1,4-Dichlorobenzene	--	--	9.17E-09	--	9.17E-09	Liver	--	--	2.11E-05	--	2.11E-05	
		2-Hexanone	--	--	--	--	--	Developmental	--	--	2.53E-07	--	2.53E-07	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-07	--	3.50E-07	
		4,4'-DDE	--	--	2.19E-12	--	2.19E-12	Liver	--	--	1.50E-07	--	1.50E-07	
		4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.25E-07	--	1.25E-07	
		Acenaphthene	--	--	--	--	--	Liver	--	--	1.77E-05	--	1.77E-05	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	7.55E-07	--	7.55E-07	
		Aldrin	--	--	2.29E-10	--	2.29E-10	Liver	--	--	5.24E-06	--	5.24E-06	
		alpha-BHC	--	--	1.26E-11	--	1.26E-11	Liver/Kidney	--	--	4.68E-08	--	4.68E-08	
		alpha-Chlordane	--	--	4.26E-12	--	4.26E-12	Liver	--	--	7.10E-07	--	7.10E-07	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.00E-07	--	3.00E-07	
		Benzene	--	--	1.16E-08	--	1.16E-08	Blood	--	--	5.74E-04	--	5.74E-04	
		Benzo(b)fluoranthene	--	--	8.25E-10	--	8.25E-10	--	--	--	--	--	--	
		Bromoform	--	--	8.41E-11	--	8.41E-11	Liver	--	--	1.27E-05	--	1.27E-05	

TABLE H-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	-	-	-	-	-	CNS	-	-	4.36E-04	-	4.36E-04
			Chlorobenzene	-	-	-	-	-	Liver	-	-	7.78E-05	-	7.78E-05
			Chloroform	-	-	2.72E-07	-	2.72E-07	Liver/Kidney/Respiratory	-	-	2.82E-03	-	2.82E-03
			Chloromethane	-	-	-	-	-	CNS	-	-	6.02E-04	-	6.02E-04
			Chrysene	-	-	2.32E-11	-	2.32E-11	-	-	-	-	-	-
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	2.21E-03	-	2.21E-03
			Dieldrin	-	-	3.33E-11	-	3.33E-11	Liver	-	-	4.85E-07	-	4.85E-07
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	5.21E-09	-	5.21E-09
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	1.74E-09	-	1.74E-09
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	1.20E-05	-	1.20E-05
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	3.29E-07	-	3.29E-07
			Fluorene	-	-	-	-	-	Blood	-	-	8.39E-07	-	8.39E-07
			gamma-BHC (Lindane)	-	-	3.52E-12	-	3.52E-12	Liver/Kidney	-	-	1.05E-07	-	1.05E-07
			gamma-Chlordane	-	-	2.06E-12	-	2.06E-12	Liver	-	-	3.44E-07	-	3.44E-07
			Heptachlor	-	-	1.21E-10	-	1.21E-10	Liver	-	-	6.20E-07	-	6.20E-07
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	1.05E-02	-	1.05E-02
			m,p-Xylene	-	-	-	-	-	CNS	-	-	8.95E-04	-	8.95E-04
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.83E-08	-	1.83E-08
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	2.22E-04	-	2.22E-04
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	1.07E-02	-	1.07E-02
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	2.58E-04	-	2.58E-04
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	3.12E-07	-	3.12E-07
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	1.05E-02	-	1.05E-02
			Pyrene	-	-	-	-	-	Kidney	-	-	4.13E-07	-	4.13E-07
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	9.16E-06	-	9.16E-06
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	9.17E-04	-	9.17E-04
			Toluene	-	-	-	-	-	CNS	-	-	9.82E-07	-	9.82E-07
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.94E-03	-	1.94E-03
			Trichloroethene	-	-	1.26E-06	-	1.26E-06	CNS/Liver/Endocrine	-	-	3.68E-03	-	3.68E-03
			Vinyl chloride	-	-	2.22E-07	-	2.22E-07	Liver	-	-	2.93E-03	-	2.93E-03
			Chemical Total	0.00E+00	0.00E+00	1.89E-06	0.00E+00	1.89E-06		0.00E+00	0.00E+00	6.38E-02	6.38E-02	
			Exposure Point Total					1.89E-06					6.38E-02	
			Exposure Medium Total					1.89E-06					6.38E-02	
			Medium Total					1.94E-06					6.54E-02	
			Receptor Total					1.17E-04					8.19E+01	

**TABLE H-8.8**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

--	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	2.64E+00
Total Organ 2 (Kidney) HI Across All Media =	2.48E+01
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	2.03E+00
Total Organ 5 (Endocrine) HI Across All Media =	3.74E-03
Total Organ 6 (Blood) HI Across All Media =	2.32E+00
Total Organ 7 (Adrenal) HI Across All Media =	9.18E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.92E-02
Total Organ 9 (Skin) HI Across All Media =	4.85E-01
Total Organ 10 (Gastrointestinal System) HI Across All Media =	1.01E-01
Total Organ 11 (Vision/Eye) HI Across All Media =	2.03E+00
Total Organ 12 (Body Weight) HI Across All Media =	1.85E+00
Total Organ 13 (Developmental) HI Across All Media =	6.25E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	4.94E+01
Total Organ 15 (Whole Body) HI Across All Media =	2.12E-01
Total Organ 16 (Immune System) HI Across All Media =	2.08E+00
Total Organ 17 (Organ Weight) HI Across All Media =	3.83E-03
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.03E+00
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.75E-02

**TABLE H-8.9**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.92E-03	5.56E-04	--	--	2.47E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	6.52E-03	1.89E-04	--	--	6.71E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.28E-04	3.71E-06	--	--	1.32E-04
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	3.69E-03	1.07E-04	--	--	3.80E-03
			1,2-Dichloropropane	3.83E-10	1.24E-11	--	--	3.96E-10	Nasal	4.04E-05	1.17E-06	--	--	4.15E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.09E-05	1.19E-06	--	--	4.21E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	4.69E-04	1.36E-05	--	--	4.82E-04
			1,4-Dichlorobenzene	2.55E-07	--	--	--	2.55E-07	Organ Weight	2.90E-03	--	--	--	2.90E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.34E-04	3.89E-06	--	1.58E-03	1.72E-03
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	2.07E-05	6.01E-06	--	5.82E-04	6.08E-04
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	5.34E-03	1.55E-04	--	--	5.50E-03
			4,4'-DDD	4.51E-10	1.45E-11	--	3.17E-11	4.97E-10	Liver	3.07E-05	8.90E-07	--	6.17E-07	3.22E-05
			4,4'-DDE	4.38E-08	1.41E-09	--	2.23E-09	4.75E-08	Liver	2.10E-03	6.10E-05	--	3.07E-05	2.20E-03
			4,4'-DDT	2.37E-08	2.29E-09	--	5.20E-09	3.12E-08	Liver	1.14E-03	9.90E-05	--	7.14E-05	1.31E-03
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	6.90E-04	2.00E-04	--	1.99E-02	2.08E-02
			4-Nitroaniline	2.04E-08	6.58E-09	--	1.41E-06	1.44E-06	--	2.64E-03	7.66E-04	--	5.22E-02	5.56E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	1.07E-02	3.11E-03	--	3.18E-01	3.32E-01
			Acenaphthene	--	--	--	--	--	Liver	9.02E-04	3.40E-04	--	--	1.24E-03
			Acenaphthylene	--	--	--	--	--	Liver	2.22E-05	6.44E-07	--	--	2.28E-05
			Aldrin	3.46E-07	1.12E-07	--	3.98E-08	4.97E-07	Liver	5.54E-03	1.61E-03	--	1.82E-04	7.33E-03
			alpha-BHC	7.20E-09	2.32E-10	--	1.79E-07	1.85E-07	Liver/Kidney	1.87E-05	5.41E-07	--	1.33E-04	1.52E-04
			alpha-Chlordane	4.46E-09	--	--	1.13E-09	5.59E-09	Liver	2.08E-04	--	--	1.50E-05	2.23E-04
			Aluminum	--	--	--	--	--	CNS	1.13E-01	3.27E-04	--	1.11E-03	1.14E-01
			Anthracene	--	--	--	--	--	No observed effect	4.50E-05	1.69E-05	--	--	6.19E-05
			Antimony	--	--	--	--	--	Whole body/Blood	1.30E-01	3.78E-04	--	5.92E-02	1.90E-01
			Aroclor-1248	3.76E-06	1.70E-06	--	2.65E-07	5.72E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00
			Aroclor-1254	1.39E-06	6.28E-07	--	1.31E-06	3.33E-06	Immune System/ Eye/Finger and Toe Nails	2.84E-01	1.15E-01	--	7.66E-02	4.76E-01
			Aroclor-1260	1.70E-06	7.66E-07	--	5.72E-08	2.52E-06	Immune System/ Eye/Finger and Toe Nails	3.46E-01	1.41E-01	--	3.34E-03	4.90E-01
			Aroclor-1268	8.69E-08	3.93E-08	--	8.21E-08	2.08E-07	Immune System/ Eye/Finger and Toe Nails	1.77E-02	7.20E-03	--	4.79E-03	2.97E-02
			Arsenic	1.45E-05	1.40E-06	--	4.60E-06	2.05E-05	Skin	2.63E-01	2.29E-02	--	2.39E-02	3.10E-01
			Barium	--	--	--	--	--	Kidney	1.24E-02	3.59E-05	--	2.81E-03	1.52E-02
			Benzo(a)anthracene	5.72E-06	2.40E-06	--	7.77E-08	8.20E-06	--	--	--	--	--	--
			Benzo(a)pyrene	1.90E-05	7.98E-06	--	1.47E-07	2.72E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	3.13E-06	1.31E-06	--	2.41E-07	4.68E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	3.25E-04	1.23E-04	--	5.47E-06	4.54E-04
			Benzo(k)fluoranthene	3.73E-07	1.56E-07	--	2.87E-08	5.58E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.52E-03	4.41E-06	--	3.46E-05	1.56E-03
			Beta-BHC	6.20E-09	2.00E-10	--	1.54E-07	1.60E-07	Kidney/Liver	1.41E-04	4.08E-06	--	9.99E-04	1.14E-03
			bis(2-ethylhexyl)phthalate	1.72E-07	5.54E-09	--	3.14E-06	3.32E-06	Liver	5.01E-03	1.45E-04	--	2.62E-02	3.14E-02
			Cadmium	--	--	--	--	--	Kidney	2.42E-01	7.02E-04	--	5.50E-01	7.93E-01
			Carbon disulfide	--	--	--	--	--	Developmental	3.07E-08	2.22E-08	--	--	5.29E-08
			Chlorobenzene	--	--	--	--	--	Liver	7.03E-05	2.04E-06	--	--	7.24E-05

TABLE H-8.9  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Futura
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	9.48E-04	2.75E-06	--	6.46E-05	1.02E-03	
			Chrysene	6.49E-08	2.72E-08	--	6.20E-09	9.84E-08	Blood	4.84E-03	1.40E-05	--	5.13E-04	5.37E-03	
			Cobalt	--	--	--	--	--	GI Tract	1.97E-02	5.72E-05	--	7.46E-02	9.44E-02	
			Copper	--	--	--	--	--	Liver/Kidney	5.37E-04	7.79E-05	--	3.11E-05	6.46E-04	
			Delta-BHC	2.37E-08	3.82E-09	--	4.80E-09	3.23E-08	--	--	--	--	--	--	--
			Dibenzo(a,h)anthracene	3.63E-06	1.52E-06	--	1.73E-07	5.32E-06	Kidney	8.31E-02	2.41E-03	--	--	8.55E-02	
			Dibenzofuran	--	--	--	--	--	Liver	1.41E-02	4.09E-04	--	1.13E-01	1.28E-01	
			Dieldrin	1.38E-06	4.46E-08	--	3.88E-05	4.02E-05	--	4.86E-08	1.41E-09	--	1.09E-06	1.14E-06	
			Dimethylphthalate	--	--	--	--	--	Whole Body	2.81E-04	8.16E-06	--	8.87E-06	2.98E-04	
			di-n-Butylphthalate	--	--	--	--	--	Body Weight/Kidney/CNS	4.90E-05	7.11E-06	--	3.32E-04	3.89E-04	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney	5.08E-05	7.36E-06	--	3.30E-04	3.88E-04	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney/CNS	9.16E-05	1.33E-05	--	5.81E-04	6.86E-04	
			Endosulfan Sulfate	--	--	--	--	--	Liver	1.79E-03	2.60E-04	--	4.50E-05	2.10E-03	
			Endrin aldehyde	--	--	--	--	--	Liver	4.26E-04	--	--	1.07E-05	4.37E-04	
			Endrin Ketone	--	--	--	--	--	Kidney/Liver/Blood	8.47E-03	3.19E-03	--	3.47E-04	1.20E-02	
			Fluoranthene	--	--	--	--	--	Blood	9.32E-04	3.51E-04	--	--	1.28E-03	
			Fluorene	--	--	--	--	--	Liver/Kidney	1.11E-04	1.29E-05	--	2.77E-03	2.89E-03	
			gamma-BHC (Lindane)	5.29E-09	6.83E-10	--	4.63E-07	4.69E-07	Liver	3.35E-04	--	--	2.42E-05	3.59E-04	
			gamma-Chlordane	7.18E-09	--	--	1.82E-09	8.99E-09	Liver	1.76E-04	5.12E-06	--	9.48E-06	1.91E-04	
			Heptachlor	4.86E-08	1.57E-09	--	9.14E-09	5.93E-08	Liver	1.10E-02	3.18E-04	--	1.92E-01	2.03E-01	
			Heptachlor Epoxide	1.59E-07	5.13E-09	--	9.72E-06	9.88E-06	--	--	--	--	--	--	
			Indeno(1,2,3-cd)pyrene	9.98E-07	4.19E-07	--	5.76E-08	1.47E-06	Liver	1.74E+00	5.03E-03	--	2.61E-02	1.77E+00	
			Iron	--	--	--	--	--	No observed effect	1.28E-05	3.71E-06	--	--	1.65E-05	
			Isophorone	2.97E-10	9.60E-11	--	--	3.93E-10	--	--	--	--	--	--	
			Lead	--	--	--	--	--	CNS	1.76E-01	5.11E-04	--	1.33E-01	3.10E-01	
			Manganese	--	--	--	--	--	Immune System	1.32E-02	--	--	3.99E-02	5.31E-02	
			Mercury	--	--	--	--	--	Developmental	3.07E-04	8.90E-06	--	4.02E-06	3.20E-04	
			Methoxychlor	--	--	--	--	--	Blood	6.40E-03	1.86E-05	--	5.82E-03	1.22E-02	
			Molybdenum	--	--	--	--	--	Whole Body	8.31E-03	3.13E-03	--	--	1.14E-02	
			Naphthalene	--	--	--	--	--	Whole Body	2.50E-02	7.25E-05	--	2.27E-02	4.78E-02	
			Nickel	--	--	--	--	--	No Observed Effect	5.93E-04	1.72E-05	--	--	6.10E-04	
			Phenanthrene	--	--	--	--	--	Whole Body	2.47E-05	7.17E-06	--	1.85E-03	1.88E-03	
			Phenol	--	--	--	--	--	Kidney	1.41E-05	--	--	--	1.41E-05	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.03E-02	3.88E-03	--	--	1.42E-02	
			Pyrene	--	--	--	--	--	Liver/Kidney	2.27E-05	--	--	--	2.27E-05	
			sec-Butylbenzene	--	--	--	--	--	Whole Body	5.74E-04	1.66E-06	--	2.17E-04	7.93E-04	
			Selenium	--	--	--	--	--	Skin	2.96E-03	8.59E-06	--	4.49E-03	7.46E-03	
			Silver	--	--	--	--	--	Liver	1.41E-02	1.63E-03	--	--	1.57E-02	
			Technical Chlordane	3.02E-07	3.90E-08	--	--	3.41E-07	Blood	9.63E-02	--	--	5.83E-04	9.69E-02	
			Thallium	--	--	--	--	--	Liver/Kidney	6.87E-08	1.99E-09	--	--	7.07E-08	
			Toluene	--	--	--	--	--	Kidney	4.37E-01	1.27E-03	--	1.98E-02	4.58E-01	
Vanadium	--	--	--	--	--	--	--	--	--	--	--				

TABLE H-8.9  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	1.93E-02	5.60E-05	--	2.63E-01	2.83E-01
		Exposure Point Total	Chemical Total	5.72E-05	1.86E-05	0.00E+00	6.10E-05	1.37E-04		4.92E+00	6.29E-01	0.00E+00	2.06E+00	7.61E+00
Exposure Medium Total							1.37E-04							7.61E+00
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.12E-02	--	6.12E-02	
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.08E-01	--	2.08E-01	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.41E-02	--	4.41E-02	
		1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	6.02E-02	--	6.02E-02	
		1,2-Dichloropropane	--	--	2.90E-08	--	2.90E-08	Nasal	--	--	1.62E-03	--	1.62E-03	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.37E-02	--	1.37E-02	
		1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	3.50E-03	--	3.50E-03	
		1,4-Dichlorobenzene	--	--	5.12E-06	--	5.12E-06	Liver	--	--	4.38E-03	--	4.38E-03	
		2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	5.13E-09	--	5.13E-09	
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.53E-04	--	9.53E-04	
		4,4'-DDD	--	--	3.25E-14	--	3.25E-14	Liver	--	--	1.17E-09	--	1.17E-09	
		4,4'-DDE	--	--	4.91E-10	--	4.91E-10	Liver	--	--	1.25E-05	--	1.25E-05	
		4,4'-DDT	--	--	1.71E-12	--	1.71E-12	Liver	--	--	4.34E-08	--	4.34E-08	
		4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.64E-08	--	2.64E-08	
		4-Nitroaniline	--	--	1.47E-12	--	1.47E-12	--	--	--	3.03E-07	--	3.03E-07	
		4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	3.60E-07	--	3.60E-07	
		Acenaphthene	--	--	--	--	--	Liver	--	--	6.24E-04	--	6.24E-04	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	1.54E-05	--	1.54E-05	
		Aldrin	--	--	1.42E-08	--	1.42E-08	Liver	--	--	1.21E-04	--	1.21E-04	
		alpha-BHC	--	--	3.41E-09	--	3.41E-09	Liver/Kidney	--	--	4.69E-06	--	4.69E-06	
		alpha-Chlordane	--	--	4.20E-10	--	4.20E-10	Liver	--	--	2.60E-05	--	2.60E-05	
		Aluminum	--	--	--	--	--	Respiratory System	--	--	3.01E-03	--	3.01E-03	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.11E-05	--	3.11E-05	
		Antimony	--	--	--	--	--	--	--	--	--	--	--	
		Aroclor-1248	--	--	2.71E-10	--	2.71E-10	Immune System/Eye/Finger and Toe Nails	--	--	2.93E-05	--	2.93E-05	
		Aroclor-1254	--	--	1.00E-10	--	1.00E-10	Immune System/Eye/Finger and Toe nails	--	--	1.08E-05	--	1.08E-05	
		Aroclor-1260	--	--	1.22E-10	--	1.22E-10	Immune System/Eye/Finger and Toe Nails	--	--	1.32E-05	--	1.32E-05	
		Aroclor-1268	--	--	6.26E-12	--	6.26E-12	Immune System/Eye/Finger and Toe Nails	--	--	6.78E-07	--	6.78E-07	
		Arsenic	--	--	1.04E-08	--	1.04E-08	--	--	--	--	--	--	
		Barium	--	--	--	--	--	Developmental	--	--	2.36E-04	--	2.36E-04	
		Benzo(a)anthracene	--	--	4.12E-10	--	4.12E-10	--	--	--	--	--	--	
		Benzo(a)pyrene	--	--	1.37E-09	--	1.37E-09	--	--	--	--	--	--	
Benzo(b)fluoranthene	--	--	1.92E-07	--	1.92E-07	--	--	--	--	--	--			
Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.24E-08	--	1.24E-08			
Benzo(k)fluoranthene	--	--	2.68E-11	--	2.68E-11	--	--	--	--	--	--			
Beryllium	--	--	2.25E-10	--	2.25E-10	Immune System/Lung	--	--	2.03E-05	--	2.03E-05			
Beta-BHC	--	--	4.60E-13	--	4.60E-13	Liver/Kidney	--	--	5.37E-09	--	5.37E-09			

TABLE H-8.9  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.24E-11	--	1.24E-11	Liver	--	--	1.91E-07	--	1.91E-07
			Cadmium	--	--	6.73E-09	--	6.73E-09	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.96E-03	--	1.96E-03
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	6.79E-09	--	6.79E-09	--	--	--	--	--	--
			Cobalt	--	--	8.37E-09	--	8.37E-09	Respiratory System	--	--	6.48E-04	--	6.48E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.16E-08	--	1.16E-08	Liver/Kidney	--	--	1.35E-04	--	1.35E-04
			Dibenzo(a,h)anthracene	--	--	2.61E-10	--	2.61E-10	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.45E-02	--	1.45E-02
			Dieldrin	--	--	1.77E-07	--	1.77E-07	Liver	--	--	9.56E-04	--	9.56E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	1.86E-12	--	1.86E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.07E-08	--	1.07E-08
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	8.65E-06	--	8.65E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.96E-06	--	8.96E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.62E-05	--	1.62E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	6.85E-08	--	6.85E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.63E-08	--	1.63E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.76E-04	--	2.76E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.75E-04	--	2.75E-04
			gamma-BHC (Lindane)	--	--	3.08E-09	--	3.08E-09	Liver/Kidney	--	--	3.42E-05	--	3.42E-05
			gamma-Chlordane	--	--	6.75E-10	--	6.75E-10	Liver	--	--	4.18E-05	--	4.18E-05
			Heptachlor	--	--	2.29E-07	--	2.29E-07	Liver	--	--	4.36E-04	--	4.36E-04
			Heptachlor Epoxide	--	--	1.14E-11	--	1.14E-11	Liver	--	--	4.19E-07	--	4.19E-07
			Indeno(1,2,3-cd)pyrene	--	--	7.18E-11	--	7.18E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			isophorone	--	--	2.14E-14	--	2.14E-14	No observed effect	--	--	4.88E-10	--	4.88E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.13E-02	--	1.13E-02
			Mercury	--	--	--	--	--	CNS	--	--	1.76E-06	--	1.76E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.11E-05	--	1.11E-05
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	5.26E-01	--	5.26E-01
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.10E-04	--	4.10E-04
			Phenol	--	--	--	--	--	Body Weight	--	--	9.44E-10	--	9.44E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.12E-03	--	1.12E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	3.97E-04	--	3.97E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	4.52E-04	--	4.52E-04
			Selenium	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.9  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	2.84E-11	--	2.84E-11	Liver	--	--	1.76E-03	--	1.76E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.41E-07	--	1.41E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	5.81E-06	0.00E+00	5.81E-06		0.00E+00	0.00E+00	9.62E-01	0.00E+00	9.62E-01
		Exposure Point Total						5.81E-06						9.62E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.10E+00	--	1.10E+00
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.73E+00	--	1.73E+00
			1,2-Dichloropropane	--	--	2.14E-07	--	2.14E-07	Nasal	--	--	1.19E-02	--	1.19E-02
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.53E-01	--	3.53E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.39E-01	--	1.39E-01
			1,4-Dichlorobenzene	--	--	1.31E-04	--	1.31E-04	Liver	--	--	1.12E-01	--	1.12E-01
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.25E-02	--	6.25E-02
			4,4'-DDE	--	--	3.07E-10	--	3.07E-10	Liver	--	--	7.82E-06	--	7.82E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.82E-02	--	1.82E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.70E-04	--	4.70E-04
			Aldrin	--	--	4.07E-08	--	4.07E-08	Liver	--	--	3.46E-04	--	3.46E-04
			alpha-BHC	--	--	1.01E-07	--	1.01E-07	Liver/Kidney	--	--	1.39E-04	--	1.39E-04
			alpha-Chlordane	--	--	2.83E-09	--	2.83E-09	Liver	--	--	1.75E-04	--	1.75E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.57E-04	--	9.57E-04
			Benzo(b)fluoranthene	--	--	3.42E-07	--	3.42E-07	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.54E-06	--	4.54E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.45E-02	--	2.45E-02
			Chrysene	--	--	1.93E-08	--	1.93E-08	--	--	--	--	--	--
			Delta-BHC	--	--	5.08E-07	--	5.08E-07	Liver/Kidney	--	--	5.92E-03	--	5.92E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	7.63E-03	--	7.63E-03
			Dieldrin	--	--	1.25E-06	--	1.25E-06	Liver	--	--	6.76E-03	--	6.76E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.32E-04	--	2.32E-04
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.36E-04	--	2.36E-04
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	4.33E-04	--	4.33E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.90E-05	--	7.90E-05
			Fluorene	--	--	--	--	--	Blood	--	--	4.32E-03	--	4.32E-03
			gamma-BHC (Lindane)	--	--	1.10E-07	--	1.10E-07	Liver/Kidney	--	--	1.22E-03	--	1.22E-03
			gamma-Chlordane	--	--	5.14E-11	--	5.14E-11	Liver	--	--	3.18E-06	--	3.18E-06
			Heptachlor	--	--	7.35E-08	--	7.35E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.82E-05	--	3.82E-05
			Methylene Chloride	--	--	3.36E-09	--	3.36E-09	Liver	--	--	1.06E-05	--	1.06E-05
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.73E+01	--	4.73E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.23E-02	--	1.23E-02

TABLE H-8.9  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--							
			Pyrene	--	--	--	--	--							
			sec-Butylbenzene	--	--	--	--	--							
			Technical Chlordane	--	--	2.19E-10	--	2.19E-10							
			Toluene	--	--	--	--	--							
			Chemical Total	0.00E+00	0.00E+00	1.33E-04	0.00E+00	1.33E-04				0.00E+00	0.00E+00	7.36E+01	
			Exposure Point Total					1.33E-04						7.36E+01	
			Exposure Medium Total					1.39E-04						7.46E+01	
			Medium Total					2.76E-04						8.22E+01	
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--		No observed effect	--	--	1.95E-06	--	1.95E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--		CNS/Blood/Respiratory System	--	--	4.74E-05	--	4.74E-05
			1,2-Dichlorobenzene	--	--	--	--	--		Body Weight	--	--	9.35E-06	--	9.35E-06
			1,2-Dichloroethane	--	--	8.06E-09	--	8.06E-09		Liver/Kidney/CNS	--	--	2.74E-04	--	2.74E-04
			1,2-Dichloropropane	--	--	2.26E-09	--	2.26E-09		Nasal	--	--	1.26E-04	--	1.26E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--		CNS/Blood/Respiratory System	--	--	2.70E-05	--	2.70E-05
			1,4-Dichlorobenzene	--	--	9.22E-10	--	9.22E-10		Liver	--	--	7.89E-07	--	7.89E-07
			2-Hexanone	--	--	--	--	--		Developmental	--	--	4.91E-09	--	4.91E-09
			2-Methylnaphthalene	--	--	--	--	--		CNS/Body Weight	--	--	1.25E-08	--	1.25E-08
			4,4'-DDE	--	--	6.55E-11	--	6.55E-11		Liver	--	--	1.67E-06	--	1.67E-06
			4-Methyl-2-pentanone	--	--	--	--	--		Developmental	--	--	3.03E-09	--	3.03E-09
			Acenaphthene	--	--	--	--	--		Liver	--	--	4.16E-07	--	4.16E-07
			Acenaphthylene	--	--	--	--	--		Liver	--	--	1.77E-08	--	1.77E-08
			Aldrin	--	--	5.65E-09	--	5.65E-09		Liver	--	--	4.80E-05	--	4.80E-05
			alpha-BHC	--	--	2.65E-10	--	2.65E-10		Liver/Kidney	--	--	3.65E-07	--	3.65E-07
			alpha-Chlordane	--	--	3.49E-11	--	3.49E-11		Liver	--	--	2.16E-06	--	2.16E-06
			Anthracene	--	--	--	--	--		No Observed Effect	--	--	7.06E-09	--	7.06E-09
			Benzene	--	--	1.06E-09	--	1.06E-09		Blood	--	--	1.96E-05	--	1.96E-05
			Benzo(b)fluoranthene	--	--	5.28E-11	--	5.28E-11		--	--	--	--	--	--
			Bromoform	--	--	4.22E-12	--	4.22E-12		Liver	--	--	2.37E-07	--	2.37E-07
			Carbon disulfide	--	--	--	--	--		CNS	--	--	1.45E-05	--	1.45E-05
			Chlorobenzene	--	--	--	--	--		Liver	--	--	2.78E-06	--	2.78E-06
			Chloroform	--	--	2.48E-08	--	2.48E-08		Liver/Kidney/Respiratory	--	--	9.52E-05	--	9.52E-05
			Chloromethane	--	--	--	--	--		CNS	--	--	1.86E-05	--	1.86E-05
			Chrysene	--	--	1.43E-12	--	1.43E-12		--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--		Blood	--	--	3.41E-05	--	3.41E-05
			Dieldrin	--	--	2.34E-09	--	2.34E-09		Liver	--	--	1.27E-05	--	1.27E-05
			Endosulfan I	--	--	--	--	--		Body Weight/Kidney/CNS	--	--	2.40E-08	--	2.40E-08
			Endosulfan II	--	--	--	--	--		Body Weight/Kidney	--	--	3.95E-11	--	3.95E-11
			Ethylbenzene	--	--	--	--	--		Developmental	--	--	4.43E-07	--	4.43E-07
			Fluoranthene	--	--	--	--	--		Kidney/Liver/Blood	--	--	8.14E-09	--	8.14E-09
			Fluorene	--	--	--	--	--		Blood	--	--	1.61E-08	--	1.61E-08
			gamma-BHC (Lindane)	--	--	2.40E-13	--	2.40E-13		Liver/Kidney	--	--	2.67E-09	--	2.67E-09

TABLE H-8.9  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	9.06E-11	--	9.06E-11	Liver	--	--	5.61E-06	--	5.61E-06
			Heptachlor	--	--	1.21E-08	--	1.21E-08	Liver	--	--	2.30E-05	--	2.30E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.54E-05	--	1.54E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.21E-07	--	4.21E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.08E-06	--	4.08E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.90E-04	--	1.90E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.54E-06	--	4.54E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.62E-09	--	5.62E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	9.90E-09	--	9.90E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.29E-05	--	1.29E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.46E-05	--	1.46E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.71E-07	--	1.71E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.89E-05	--	2.89E-05
			Trichloroethene	--	--	5.55E-08	--	5.55E-08	CNS/Liver/Endocrine	--	--	6.01E-05	--	6.01E-05
			Vinyl chloride	--	--	8.89E-09	--	8.89E-09	Liver	--	--	4.35E-05	--	4.35E-05
			Chemical Total	0.00E+00	0.00E+00	1.22E-07	0.00E+00	1.22E-07		0.00E+00	0.00E+00	1.54E-03	0.00E+00	1.54E-03
			Exposure Point Total					1.22E-07						1.54E-03
			Exposure Medium Total					1.22E-07						1.54E-03
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	3.43E-04	--	3.43E-04	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.23E-03	--	1.23E-03	
		1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.49E-04	--	2.49E-04	
		1,2-Dichloroethane	--	--	2.41E-07	--	2.41E-07	Liver/Kidney/CNS	--	--	8.20E-03	--	8.20E-03	
		1,2-Dichloropropane	--	--	6.68E-08	--	6.68E-08	Nasal	--	--	3.73E-03	--	3.73E-03	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.03E-04	--	7.03E-04	
		1,4-Dichlorobenzene	--	--	2.47E-08	--	2.47E-08	Liver	--	--	2.11E-05	--	2.11E-05	
		2-Hexanone	--	--	--	--	--	Developmental	--	--	2.53E-07	--	2.53E-07	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-07	--	3.50E-07	
		4,4'-DDE	--	--	5.89E-12	--	5.89E-12	Liver	--	--	1.50E-07	--	1.50E-07	
		4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.25E-07	--	1.25E-07	
		Acenaphthene	--	--	--	--	--	Liver	--	--	1.77E-05	--	1.77E-05	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	7.55E-07	--	7.55E-07	
		Aldrin	--	--	6.17E-10	--	6.17E-10	Liver	--	--	5.24E-06	--	5.24E-06	
		alpha-BHC	--	--	3.41E-11	--	3.41E-11	Liver/Kidney	--	--	4.68E-08	--	4.68E-08	
		alpha-Chlordane	--	--	1.15E-11	--	1.15E-11	Liver	--	--	7.10E-07	--	7.10E-07	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.00E-07	--	3.00E-07	
		Benzene	--	--	3.11E-08	--	3.11E-08	Blood	--	--	5.74E-04	--	5.74E-04	
		Benzo(b)fluoranthene	--	--	2.22E-09	--	2.22E-09	--	--	--	--	--	--	
		Bromoform	--	--	2.26E-10	--	2.26E-10	Liver	--	--	1.27E-05	--	1.27E-05	
Carbon disulfide	--	--	--	--	--	CNS	--	--	4.36E-04	--	4.36E-04			
Chlorobenzene	--	--	--	--	--	Liver	--	--	7.78E-05	--	7.78E-05			

TABLE H-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	-	-	7.34E-07	-	7.34E-07	Liver/Kidney/Respiratory	-	-	2.82E-03	-	2.82E-03	
			Chloromethane	-	-	-	-	-	CNS	-	-	6.02E-04	-	6.02E-04	
			Chrysene	-	-	6.25E-11	-	6.25E-11	-	-	-	-	-	-	-
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	2.21E-03	-	2.21E-03	
			Dieldrin	-	-	8.96E-11	-	8.96E-11	Liver	-	-	4.85E-07	-	4.85E-07	
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	5.21E-09	-	5.21E-09	
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	1.74E-09	-	1.74E-09	
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	1.20E-05	-	1.20E-05	
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	3.29E-07	-	3.29E-07	
			Fluorene	-	-	-	-	-	Blood	-	-	8.39E-07	-	8.39E-07	
			gamma-BHC (Lindane)	-	-	9.49E-12	-	9.49E-12	Liver/Kidney	-	-	1.05E-07	-	1.05E-07	
			gamma-Chlordane	-	-	5.55E-12	-	5.55E-12	Liver	-	-	3.44E-07	-	3.44E-07	
			Heptachlor	-	-	3.26E-10	-	3.26E-10	Liver	-	-	6.20E-07	-	6.20E-07	
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	1.05E-02	-	1.05E-02	
			m,p-Xylene	-	-	-	-	-	CNS	-	-	8.95E-04	-	8.95E-04	
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.83E-08	-	1.83E-08	
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	2.22E-04	-	2.22E-04	
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	1.07E-02	-	1.07E-02	
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	2.58E-04	-	2.58E-04	
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	3.12E-07	-	3.12E-07	
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	1.05E-02	-	1.05E-02	
			Pyrene	-	-	-	-	-	Kidney	-	-	4.13E-07	-	4.13E-07	
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	9.16E-06	-	9.16E-06	
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	9.17E-04	-	9.17E-04	
			Toluene	-	-	-	-	-	CNS	-	-	9.82E-07	-	9.82E-07	
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.94E-03	-	1.94E-03	
Trichloroethene	-	-	3.40E-06	-	3.40E-06	CNS/Liver/Endocrine	-	-	3.68E-03	-	3.68E-03				
Vinyl chloride	-	-	5.98E-07	-	5.98E-07	Liver	-	-	2.93E-03	-	2.93E-03				
			Chemical Total	0.00E+00	0.00E+00	5.10E-06	0.00E+00	5.10E-06		0.00E+00	0.00E+00	6.38E-02	0.00E+00	6.38E-02	
			Exposure Point Total					5.10E-06						6.38E-02	
			Exposure Medium Total					5.10E-06						6.38E-02	
Medium Total								5.22E-06						6.54E-02	
Receptor Total							Receptor Risk Total	2.81E-04				Receptor HI Total		8.22E+01	

**TABLE H-8.9**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

- Not applicable or not available
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard Index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- RME Reasonable maximum exposure
- VOC Volatile organic compound

**TABLE H-8.10**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.92E-03	5.56E-04	--	--	2.47E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	6.52E-03	1.89E-04	--	--	6.71E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.28E-04	3.71E-06	--	--	1.32E-04
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	3.69E-03	1.07E-04	--	--	3.80E-03
			1,2-Dichloropropane	3.83E-10	1.24E-11	--	--	3.96E-10	Nasal	4.04E-05	1.17E-06	--	--	4.15E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.09E-05	1.19E-06	--	--	4.21E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	4.69E-04	1.36E-05	--	--	4.82E-04
			1,4-Dichlorobenzene	2.55E-07	--	--	--	2.55E-07	Organ Weight	2.90E-03	--	--	--	2.90E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.34E-04	3.89E-06	--	1.58E-03	1.72E-03
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	2.07E-05	6.01E-06	--	5.82E-04	6.08E-04
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	4.63E-03	1.34E-04	--	--	4.77E-03
			4,4'-DDD	4.51E-10	1.45E-11	--	3.17E-11	4.97E-10	Liver	3.07E-05	8.90E-07	--	6.17E-07	3.22E-05
			4,4'-DDE	3.99E-08	1.29E-09	--	2.03E-09	4.32E-08	Liver	1.92E-03	5.56E-05	--	2.79E-05	2.00E-03
			4,4'-DDT	2.24E-08	2.16E-09	--	4.91E-09	2.94E-08	Liver	1.07E-03	9.34E-05	--	6.74E-05	1.23E-03
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	6.90E-04	2.00E-04	--	1.99E-02	2.08E-02
			4-Nitroaniline	2.04E-08	6.58E-09	--	1.41E-06	1.44E-06	--	2.64E-03	7.66E-04	--	5.22E-02	5.56E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	1.07E-02	3.11E-03	--	3.18E-01	3.32E-01
			Acenaphthene	--	--	--	--	--	Liver	7.40E-04	2.79E-04	--	--	1.02E-03
			Acenaphthylene	--	--	--	--	--	Liver	1.91E-05	5.54E-07	--	--	1.96E-05
			Aldrin	3.46E-07	1.12E-07	--	3.98E-08	4.97E-07	Liver	5.54E-03	1.61E-03	--	1.82E-04	7.33E-03
			alpha-BHC	7.20E-09	2.32E-10	--	1.79E-07	1.86E-07	Liver/Kidney	1.87E-05	5.41E-07	--	1.33E-04	1.52E-04
			alpha-Chlordane	3.83E-09	--	--	9.67E-10	4.79E-09	Liver	1.79E-04	--	--	1.29E-05	1.91E-04
			Aluminum	--	--	--	--	--	CNS	1.16E-01	3.36E-04	--	1.14E-03	1.17E-01
			Anthracene	--	--	--	--	--	No observed effect	3.89E-05	1.47E-05	--	--	5.36E-05
			Antimony	--	--	--	--	--	Whole body/Blood	8.71E-02	2.52E-04	--	3.95E-02	1.27E-01
			Aroclor-1248	3.76E-06	1.70E-06	--	2.65E-07	5.72E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00
			Aroclor-1254	1.37E-06	6.19E-07	--	1.29E-06	3.28E-06	Immune System/ Eye/Finger and Toe Nails	2.80E-01	1.14E-01	--	7.55E-02	4.69E-01
			Aroclor-1260	1.53E-06	6.91E-07	--	5.16E-08	2.27E-06	Immune System/ Eye/Finger and Toe Nails	3.12E-01	1.27E-01	--	3.01E-03	4.42E-01
			Aroclor-1268	8.51E-08	3.85E-08	--	8.04E-08	2.04E-07	Immune System/ Eye/Finger and Toe Nails	1.74E-02	7.05E-03	--	4.69E-03	2.81E-02
			Arsenic	2.24E-05	2.17E-06	--	7.12E-06	3.17E-05	Skin	4.06E-01	3.53E-02	--	3.69E-02	4.79E-01
			Barium	--	--	--	--	--	Kidney	1.27E-02	3.68E-05	--	2.88E-03	1.56E-02
			Benzo(a)anthracene	4.81E-06	2.02E-06	--	6.54E-08	6.90E-06	--	--	--	--	--	--
			Benzo(a)pyrene	1.61E-05	6.74E-06	--	1.24E-07	2.29E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	2.71E-06	1.14E-06	--	2.09E-07	4.06E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	2.76E-04	1.04E-04	--	4.64E-06	3.85E-04
			Benzo(k)fluoranthene	3.23E-07	1.35E-07	--	2.49E-08	4.83E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.46E-03	4.22E-06	--	3.31E-05	1.49E-03
			Beta-BHC	6.20E-09	2.00E-10	--	1.54E-07	1.60E-07	Kidney/Liver	1.41E-04	4.08E-06	--	9.99E-04	1.14E-03
			bis(2-ethylhexyl)phthalate	1.16E-07	3.75E-09	--	2.13E-06	2.25E-06	Liver	3.39E-03	9.82E-05	--	1.77E-02	2.12E-02
			Cadmium	--	--	--	--	--	Kidney	2.21E-01	6.41E-04	--	5.02E-01	7.24E-01
			Carbon disulfide	--	--	--	--	--	Developmental	3.07E-08	2.22E-08	--	--	5.29E-08
			Chlorobenzene	--	--	--	--	--	Liver	7.03E-05	2.04E-06	--	--	7.24E-05

TABLE H-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	-	-	-	-	-	No observed effect	8.52E-04	2.47E-06	-	5.80E-05	9.13E-04	
			Chrysene	5.48E-08	2.30E-08	-	5.23E-09	8.30E-08	-	-	-	-	-	-	-
			Cobalt	-	-	-	-	-	Blood	4.76E-03	1.38E-05	-	5.04E-04	5.28E-03	
			Copper	-	-	-	-	-	GI Tract	2.08E-02	6.02E-05	-	7.86E-02	9.94E-02	
			Delta-BHC	2.37E-08	3.82E-09	-	4.80E-09	3.23E-08	Liver/Kidney	5.37E-04	7.79E-05	-	3.11E-05	6.46E-04	
			Dibenzo(a,h)anthracene	3.15E-06	1.32E-06	-	1.50E-07	4.62E-06	-	-	-	-	-	-	-
			Dibenzofuran	-	-	-	-	-	Kidney	8.31E-02	2.41E-03	-	-	8.55E-02	
			Dieldrin	1.23E-06	3.95E-08	-	3.44E-05	3.57E-05	Liver	1.25E-02	3.63E-04	-	1.00E-01	1.13E-01	
			Dimethylphthalate	-	-	-	-	-	-	-	4.86E-08	1.41E-09	-	1.09E-06	1.14E-06
			di-n-Butylphthalate	-	-	-	-	-	Whole Body	2.94E-04	8.53E-06	-	9.27E-06	3.12E-04	
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	4.90E-05	7.11E-06	-	3.32E-04	3.89E-04	
			Endosulfan II	-	-	-	-	-	Body weight/Kidney	4.98E-05	7.22E-06	-	3.24E-04	3.81E-04	
			Endosulfan Sulfate	-	-	-	-	-	Body weight/Kidney/CNS	9.16E-05	1.33E-05	-	5.81E-04	6.86E-04	
			Endrin aldehyde	-	-	-	-	-	Liver	2.68E-03	3.89E-04	-	6.74E-05	3.14E-03	
			Endrin Ketone	-	-	-	-	-	Liver	4.26E-04	-	-	1.07E-05	4.37E-04	
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	7.11E-03	2.68E-03	-	2.91E-04	1.01E-02	
			Fluorene	-	-	-	-	-	Blood	8.08E-04	3.05E-04	-	-	1.11E-03	
			gamma-BHC (Lindane)	5.29E-09	6.83E-10	-	4.63E-07	4.69E-07	Liver/Kidney	1.11E-04	1.29E-05	-	2.77E-03	2.89E-03	
			gamma-Chlordane	6.96E-09	-	-	1.76E-09	8.72E-09	Liver	3.25E-04	-	-	2.35E-05	3.48E-04	
			Heptachlor	4.86E-08	1.57E-09	-	9.14E-09	5.93E-08	Liver	1.76E-04	5.12E-06	-	9.48E-06	1.91E-04	
			Heptachlor Epoxide	1.40E-07	4.53E-09	-	8.59E-06	8.73E-06	Liver	9.69E-03	2.81E-04	-	1.69E-01	1.79E-01	
			Indeno(1,2,3-cd)pyrene	5.68E-07	2.38E-07	-	3.28E-08	8.39E-07	-	-	-	-	-	-	-
			Iron	-	-	-	-	-	Liver	1.57E+00	4.54E-03	-	2.36E-02	1.59E+00	
			Isophorone	2.97E-10	9.60E-11	-	-	3.93E-10	No observed effect	1.28E-05	3.71E-06	-	-	1.65E-05	
			Lead	-	-	-	-	-	-	-	-	-	-	-	-
			Manganese	-	-	-	-	-	CNS	1.62E-01	4.70E-04	-	1.23E-01	2.85E-01	
			Mercury	-	-	-	-	-	Immune System	1.13E-02	-	-	3.42E-02	4.55E-02	
			Methoxychlor	-	-	-	-	-	Developmental	3.07E-04	8.90E-06	-	4.02E-06	3.20E-04	
			Methylene chloride	2.82E-11	9.09E-13	-	-	2.91E-11	Liver	5.11E-07	1.48E-08	-	-	5.26E-07	
			Molybdenum	-	-	-	-	-	Blood	5.57E-03	1.62E-05	-	5.06E-03	1.07E-02	
			Naphthalene	-	-	-	-	-	Whole Body	8.31E-03	3.13E-03	-	-	1.14E-02	
			Nickel	-	-	-	-	-	Whole Body	2.49E-02	7.22E-05	-	2.26E-02	4.76E-02	
			Phenanthrene	-	-	-	-	-	No Observed Effect	4.98E-04	1.44E-05	-	-	5.12E-04	
			Phenol	-	-	-	-	-	Whole Body	2.47E-05	7.17E-06	-	1.85E-03	1.88E-03	
			p-Isopropyltoluene	-	-	-	-	-	Kidney	1.41E-05	-	-	-	1.41E-05	
			Pyrene	-	-	-	-	-	Kidney	8.67E-03	3.27E-03	-	-	1.19E-02	
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	2.27E-05	-	-	-	2.27E-05	
			Selenium	-	-	-	-	-	Whole Body	7.25E-04	2.10E-06	-	2.74E-04	1.00E-03	
			Silver	-	-	-	-	-	Skin	2.51E-03	7.27E-06	-	3.79E-03	6.31E-03	
			Technical Chlordane	2.96E-07	3.82E-08	-	-	3.35E-07	Liver	1.38E-02	1.60E-03	-	-	1.54E-02	
Thallium	-	-	-	-	-	Blood	9.35E-02	-	-	5.66E-04	9.41E-02				
Toluene	-	-	-	-	-	Liver/Kidney	6.87E-08	1.99E-09	-	-	7.07E-08				

**TABLE H-8.10**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	4.31E-01	1.25E-03	--	1.96E-02	4.51E-01
			Zinc	--	--	--	--	--	Blood	1.41E-02	4.10E-05	--	1.93E-01	2.07E-01
			Chemical Total	5.94E-05	1.70E-05	0.00E+00	5.68E-05	1.33E-04		4.76E+00	6.24E-01	0.00E+00	1.87E+00	7.25E+00
			Exposure Point Total					1.33E-04						7.25E+00
			Exposure Medium Total					1.33E-04						7.25E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.12E-02	--	6.12E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.08E-01	--	2.08E-01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.41E-02	--	4.41E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	6.02E-02	--	6.02E-02
			1,2-Dichloropropane	--	--	2.90E-08	--	2.90E-08	Nasal	--	--	1.62E-03	--	1.62E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.37E-02	--	1.37E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	3.50E-03	--	3.50E-03
			1,4-Dichlorobenzene	--	--	5.12E-06	--	5.12E-06	Liver	--	--	4.38E-03	--	4.38E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	5.13E-09	--	5.13E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	8.27E-04	--	8.27E-04
			4,4'-DDD	--	--	3.25E-14	--	3.25E-14	Liver	--	--	1.17E-09	--	1.17E-09
			4,4'-DDE	--	--	4.47E-10	--	4.47E-10	Liver	--	--	1.14E-05	--	1.14E-05
			4,4'-DDT	--	--	1.61E-12	--	1.61E-12	Liver	--	--	4.10E-08	--	4.10E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.64E-08	--	2.64E-08
			4-Nitroaniline	--	--	1.47E-12	--	1.47E-12	--	--	--	3.03E-07	--	3.03E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	3.60E-07	--	3.60E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.12E-04	--	5.12E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.32E-05	--	1.32E-05
			Aldrin	--	--	1.42E-08	--	1.42E-08	Liver	--	--	1.21E-04	--	1.21E-04
			alpha-BHC	--	--	3.41E-09	--	3.41E-09	Liver/Kidney	--	--	4.69E-06	--	4.69E-06
			alpha-Chlordane	--	--	3.60E-10	--	3.60E-10	Liver	--	--	2.23E-05	--	2.23E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	3.09E-03	--	3.09E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.69E-05	--	2.69E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	2.71E-10	--	2.71E-10	Immune System/Eye/Finger and Toe Nails	--	--	2.93E-05	--	2.93E-05
			Aroclor-1254	--	--	9.87E-11	--	9.87E-11	Immune System/Eye/Finger and Toe nails	--	--	1.07E-05	--	1.07E-05
			Aroclor-1260	--	--	1.10E-10	--	1.10E-10	Immune System/Eye/Finger and Toe Nails	--	--	1.19E-05	--	1.19E-05
			Aroclor-1268	--	--	6.13E-12	--	6.13E-12	Immune System/Eye/Finger and Toe Nails	--	--	6.63E-07	--	6.63E-07
			Arsenic	--	--	1.61E-08	--	1.61E-08	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	2.42E-04	--	2.42E-04
			Benzo(a)anthracene	--	--	3.47E-10	--	3.47E-10	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	1.16E-09	--	1.16E-09	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.67E-07	--	1.67E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.05E-08	--	1.05E-08
			Benzo(k)fluoranthene	--	--	2.32E-11	--	2.32E-11	--	--	--	--	--	--
			Beryllium	--	--	2.16E-10	--	2.16E-10	Immune System/Lung	--	--	1.95E-05	--	1.95E-05

TABLE H-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	4.60E-13	--	4.60E-13	Liver/Kidney	--	--	5.37E-09	--	5.37E-09
			bis(2-ethylhexyl)phthalate	--	--	8.36E-12	--	8.36E-12	Liver	--	--	1.29E-07	--	1.29E-07
			Cadmium	--	--	6.14E-09	--	6.14E-09	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.48E-06	--	1.48E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.98E-03	--	1.98E-03
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	5.73E-09	--	5.73E-09	--	--	--	--	--	--
			Cobalt	--	--	8.22E-09	--	8.22E-09	Respiratory System	--	--	6.36E-04	--	6.36E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.16E-08	--	1.16E-08	Liver/Kidney	--	--	1.35E-04	--	1.35E-04
			Dibenzo(a,h)anthracene	--	--	2.27E-10	--	2.27E-10	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.45E-02	--	1.45E-02
			Dieldrin	--	--	1.57E-07	--	1.57E-07	Liver	--	--	8.48E-04	--	8.48E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	1.86E-12	--	1.86E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.12E-08	--	1.12E-08
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	8.65E-06	--	8.65E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.79E-06	--	8.79E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.62E-05	--	1.62E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.03E-07	--	1.03E-07
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.63E-08	--	1.63E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.32E-04	--	2.32E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.38E-04	--	2.38E-04
			gamma-BHC (Lindane)	--	--	3.08E-09	--	3.08E-09	Liver/Kidney	--	--	3.42E-05	--	3.42E-05
			gamma-Chlordane	--	--	6.55E-10	--	6.55E-10	Liver	--	--	4.05E-05	--	4.05E-05
			Heptachlor	--	--	2.29E-07	--	2.29E-07	Liver	--	--	4.36E-04	--	4.36E-04
			Heptachlor Epoxide	--	--	1.01E-11	--	1.01E-11	Liver	--	--	3.70E-07	--	3.70E-07
			Indeno(1,2,3-cd)pyrene	--	--	4.09E-11	--	4.09E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	2.14E-14	--	2.14E-14	No observed effect	--	--	4.88E-10	--	4.88E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.04E-02	--	1.04E-02
			Mercury	--	--	--	--	--	CNS	--	--	1.51E-06	--	1.51E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.11E-05	--	1.11E-05
Methylene chloride	--	--	--	--	--	Liver	--	--	--	--	--			
Molybdenum	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	--	--	--	--	--	Respiratory System	--	--	5.26E-01	--	5.26E-01			
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.44E-04	--	3.44E-04			
Phenol	--	--	--	--	--	Body Weight	--	--	9.44E-10	--	9.44E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.12E-03	--	1.12E-03			
Pyrene	--	--	--	--	--	Kidney	--	--	3.34E-04	--	3.34E-04			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	4.52E-04	--	4.52E-04			

TABLE H-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	--	--	--	--	--	--	--
			Silver	--	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	2.79E-11	--	2.79E-11	Liver	--	--	1.72E-03	--	1.72E-03	
			Thalium	--	--	--	--	--	--	--	--	--	--	--	
			Toluene	--	--	--	--	--	CNS	--	--	1.41E-07	--	1.41E-07	
			Vanadium	--	--	--	--	--	--	--	--	--	--	--	
			Zinc	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	5.77E-06	0.00E+00	5.77E-06		0.00E+00	0.00E+00	9.61E-01	0.00E+00	9.61E-01	
		Exposure Point Total						5.77E-06						9.61E-01	
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00	
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01	
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.10E+00	--	1.10E+00	
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.73E+00	--	1.73E+00	
			1,2-Dichloropropane	--	--	2.14E-07	--	2.14E-07	Nasal	--	--	1.19E-02	--	1.19E-02	
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.53E-01	--	3.53E-01	
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.39E-01	--	1.39E-01	
			1,4-Dichlorobenzene	--	--	1.31E-04	--	1.31E-04	Liver	--	--	1.12E-01	--	1.12E-01	
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.25E-02	--	6.25E-02	
			4,4'-DDE	--	--	3.07E-10	--	3.07E-10	Liver	--	--	7.82E-06	--	7.82E-06	
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.82E-02	--	1.82E-02	
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.70E-04	--	4.70E-04	
			Aldrin	--	--	4.07E-08	--	4.07E-08	Liver	--	--	3.46E-04	--	3.46E-04	
			alpha-BHC	--	--	1.01E-07	--	1.01E-07	Liver/Kidney	--	--	1.39E-04	--	1.39E-04	
			alpha-Chlordane	--	--	2.83E-09	--	2.83E-09	Liver	--	--	1.75E-04	--	1.75E-04	
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.57E-04	--	9.57E-04	
			Benzo(b)fluoranthene	--	--	3.42E-07	--	3.42E-07	--	--	--	--	--	--	
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.54E-06	--	4.54E-06	
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.45E-02	--	2.45E-02	
			Chrysene	--	--	1.93E-08	--	1.93E-08	--	--	--	--	--	--	
			Delta-BHC	--	--	5.08E-07	--	5.08E-07	Liver/Kidney	--	--	5.92E-03	--	5.92E-03	
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	7.63E-03	--	7.63E-03	
			Dieldrin	--	--	1.25E-06	--	1.25E-06	Liver	--	--	6.76E-03	--	6.76E-03	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.32E-04	--	2.32E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.36E-04	--	2.36E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	4.33E-04	--	4.33E-04	
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.90E-05	--	7.90E-05	
			Fluorene	--	--	--	--	--	Blood	--	--	4.32E-03	--	4.32E-03	
			gamma-BHC (Lindane)	--	--	1.10E-07	--	1.10E-07	Liver/Kidney	--	--	1.22E-03	--	1.22E-03	
			gamma-Chlordane	--	--	5.14E-11	--	5.14E-11	Liver	--	--	3.18E-06	--	3.18E-06	
			Heptachlor	--	--	7.35E-08	--	7.35E-08	Liver	--	--	1.40E-04	--	1.40E-04	
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.82E-05	--	3.82E-05	
			Methylene Chloride	--	--	3.36E-09	--	3.36E-09	Liver	--	--	1.06E-05	--	1.06E-05	

TABLE H-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.73E+01	--	4.73E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.23E-02	--	1.23E-02
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.78E-03	--	3.78E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	8.54E-04	--	8.54E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.69E-03	--	3.69E-03
			Technical Chlordane	--	--	2.10E-10	--	2.10E-10	Liver	--	--	1.35E-02	--	1.35E-02
			Toluene	--	--	--	--	--	CNS	--	--	1.14E-06	--	1.14E-06
		Chemical Total	0.00E+00	0.00E+00	1.33E-04	0.00E+00	1.33E-04		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01	
		Exposure Point Total					1.33E-04						7.36E+01	
		Exposure Medium Total					1.39E-04						7.46E+01	
Medium Total							2.72E-04						8.18E+01	
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.95E-06	--	1.95E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.74E-05	--	4.74E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	9.35E-06	--	9.35E-06
			1,2-Dichloroethane	--	--	8.06E-09	--	8.06E-09	Liver/Kidney/CNS	--	--	2.74E-04	--	2.74E-04
			1,2-Dichloropropane	--	--	2.26E-09	--	2.26E-09	Nasal	--	--	1.26E-04	--	1.26E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.70E-05	--	2.70E-05
			1,4-Dichlorobenzene	--	--	9.22E-10	--	9.22E-10	Liver	--	--	7.89E-07	--	7.89E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	4.91E-09	--	4.91E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.25E-08	--	1.25E-08
			4,4'-DDE	--	--	6.55E-11	--	6.55E-11	Liver	--	--	1.67E-06	--	1.67E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.03E-09	--	3.03E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.16E-07	--	4.16E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.77E-08	--	1.77E-08
			Aldrin	--	--	5.65E-09	--	5.65E-09	Liver	--	--	4.80E-05	--	4.80E-05
			alpha-BHC	--	--	2.65E-10	--	2.65E-10	Liver/Kidney	--	--	3.65E-07	--	3.65E-07
			alpha-Chlordane	--	--	3.49E-11	--	3.49E-11	Liver	--	--	2.16E-06	--	2.16E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.06E-09	--	7.06E-09
			Benzene	--	--	1.06E-09	--	1.06E-09	Blood	--	--	1.96E-05	--	1.96E-05
			Benzo(b)fluoranthene	--	--	5.28E-11	--	5.28E-11	--	--	--	--	--	--
			Bromoform	--	--	4.22E-12	--	4.22E-12	Liver	--	--	2.37E-07	--	2.37E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.45E-05	--	1.45E-05
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.78E-06	--	2.78E-06
			Chloroform	--	--	2.48E-08	--	2.48E-08	Liver/Kidney/Respiratory	--	--	9.52E-05	--	9.52E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.86E-05	--	1.86E-05
			Chrysene	--	--	1.43E-12	--	1.43E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.41E-05	--	3.41E-05
			Dieldrin	--	--	2.34E-09	--	2.34E-09	Liver	--	--	1.27E-05	--	1.27E-05
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.40E-08	--	2.40E-08
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.95E-11	--	3.95E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	4.43E-07	--	4.43E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.14E-09	--	8.14E-09

TABLE H-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued) .  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	1.61E-08	--	1.61E-08
			gamma-BHC (Lindane)	--	--	2.40E-13	--	2.40E-13	Liver/Kidney	--	--	2.67E-09	--	2.67E-09
			gamma-Chlordane	--	--	9.06E-11	--	9.06E-11	Liver	--	--	5.61E-06	--	5.61E-06
			Heptachlor	--	--	1.21E-08	--	1.21E-08	Liver	--	--	2.30E-05	--	2.30E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.54E-05	--	1.54E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.21E-07	--	4.21E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.08E-06	--	4.08E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.90E-04	--	1.90E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.54E-06	--	4.54E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.62E-09	--	5.62E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	9.90E-09	--	9.90E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.29E-05	--	1.29E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.46E-05	--	1.46E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.71E-07	--	1.71E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.89E-05	--	2.89E-05
			Trichloroethene	--	--	5.55E-08	--	5.55E-08	CNS/Liver/Endocrine	--	--	6.01E-05	--	6.01E-05
			Vinyl chloride	--	--	8.89E-09	--	8.89E-09	Liver	--	--	4.35E-05	--	4.35E-05
						Chemical Total	0.00E+00	0.00E+00	1.22E-07	0.00E+00	1.22E-07		0.00E+00	0.00E+00
			Exposure Point Total											1.54E-03
			Exposure Medium Total					1.22E-07						1.54E-03
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	3.43E-04	--	3.43E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.23E-03	--	1.23E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.49E-04	--	2.49E-04
			1,2-Dichloroethane	--	--	2.41E-07	--	2.41E-07	Liver/Kidney/CNS	--	--	8.20E-03	--	8.20E-03
			1,2-Dichloropropane	--	--	6.68E-08	--	6.68E-08	Nasal	--	--	3.73E-03	--	3.73E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.03E-04	--	7.03E-04
			1,4-Dichlorobenzene	--	--	2.47E-08	--	2.47E-08	Liver	--	--	2.11E-05	--	2.11E-05
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.53E-07	--	2.53E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-07	--	3.50E-07
			4,4'-DDE	--	--	5.89E-12	--	5.89E-12	Liver	--	--	1.50E-07	--	1.50E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.25E-07	--	1.25E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.77E-05	--	1.77E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.55E-07	--	7.55E-07
			Aldrin	--	--	6.17E-10	--	6.17E-10	Liver	--	--	5.24E-06	--	5.24E-06
			alpha-BHC	--	--	3.41E-11	--	3.41E-11	Liver/Kidney	--	--	4.68E-08	--	4.68E-08
			alpha-Chlordane	--	--	1.15E-11	--	1.15E-11	Liver	--	--	7.10E-07	--	7.10E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.00E-07	--	3.00E-07
			Benzene	--	--	3.11E-08	--	3.11E-08	Blood	--	--	5.74E-04	--	5.74E-04
			Benzo(b)fluoranthene	--	--	2.22E-09	--	2.22E-09	--	--	--	--	--	--
			Bromoform	--	--	2.26E-10	--	2.26E-10	Liver	--	--	1.27E-05	--	1.27E-05

TABLE H-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	-	-	-	-	-	CNS	-	-	4.36E-04	-	4.36E-04
			Chlorobenzene	-	-	-	-	-	Liver	-	-	7.78E-05	-	7.78E-05
			Chloroform	-	-	7.34E-07	-	7.34E-07	Liver/Kidney/Respiratory	-	-	2.82E-03	-	2.82E-03
			Chloromethane	-	-	-	-	-	CNS	-	-	6.02E-04	-	6.02E-04
			Chrysene	-	-	6.25E-11	-	6.25E-11	-	-	-	-	-	-
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	2.21E-03	-	2.21E-03
			Dieldrin	-	-	8.96E-11	-	8.96E-11	Liver	-	-	4.85E-07	-	4.85E-07
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	5.21E-09	-	5.21E-09
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	1.74E-09	-	1.74E-09
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	1.20E-05	-	1.20E-05
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	3.29E-07	-	3.29E-07
			Fluorene	-	-	-	-	-	Blood	-	-	8.39E-07	-	8.39E-07
			gamma-BHC (Lindane)	-	-	9.49E-12	-	9.49E-12	Liver/Kidney	-	-	1.05E-07	-	1.05E-07
			gamma-Chlordane	-	-	5.55E-12	-	5.55E-12	Liver	-	-	3.44E-07	-	3.44E-07
			Heptachlor	-	-	3.26E-10	-	3.26E-10	Liver	-	-	6.20E-07	-	6.20E-07
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	1.05E-02	-	1.05E-02
			m,p-Xylene	-	-	-	-	-	CNS	-	-	8.95E-04	-	8.95E-04
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.83E-08	-	1.83E-08
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	2.22E-04	-	2.22E-04
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	1.07E-02	-	1.07E-02
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	2.58E-04	-	2.58E-04
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	3.12E-07	-	3.12E-07
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	1.05E-02	-	1.05E-02
			Pyrene	-	-	-	-	-	Kidney	-	-	4.13E-07	-	4.13E-07
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	9.16E-06	-	9.16E-06
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	9.17E-04	-	9.17E-04
			Toluene	-	-	-	-	-	CNS	-	-	9.82E-07	-	9.82E-07
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.94E-03	-	1.94E-03
			Trichloroethene	-	-	3.40E-06	-	3.40E-06	CNS/Liver/Endocrine	-	-	3.68E-03	-	3.68E-03
			Vinyl chloride	-	-	5.98E-07	-	5.98E-07	Liver	-	-	2.93E-03	-	2.93E-03
						Chemical Total	0.00E+00	0.00E+00	5.10E-06	0.00E+00	5.10E-06		0.00E+00	0.00E+00
			Exposure Point Total											
			Exposure Medium Total					5.10E-06						6.38E-02
			Medium Total					5.22E-06						6.54E-02
			Receptor Total					2.78E-04						8.19E+01

**TABLE H-8.10**

**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

- Not applicable or not available
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- RME Reasonable maximum exposure
- VOC Volatile organic compound

**TABLE H-8.11**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	4.40E-05	8.20E-05	--	--	1.26E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.50E-04	2.79E-05	--	--	1.78E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.94E-06	5.47E-07	--	--	3.48E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	8.48E-05	1.58E-05	--	--	1.01E-04
			1,2-Dichloropropane	2.46E-11	4.59E-12	--	--	2.92E-11	Nasal	9.27E-07	1.73E-07	--	--	1.10E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	9.39E-07	1.75E-07	--	--	1.11E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.08E-05	2.00E-06	--	--	1.28E-05
			1,4-Dichlorobenzene	1.64E-08	--	--	--	1.64E-08	Organ Weight	6.65E-05	--	--	--	6.65E-05
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	3.08E-06	5.74E-07	--	--	3.66E-06
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	4.76E-07	8.85E-07	--	--	1.36E-06
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	1.23E-04	2.28E-05	--	--	1.46E-04
			4,4'-DDD	2.90E-11	5.40E-12	--	--	3.44E-11	Liver	7.05E-07	1.31E-07	--	--	8.36E-07
			4,4'-DDE	2.82E-09	5.24E-10	--	--	3.34E-09	Liver	4.83E-05	9.00E-06	--	--	5.73E-05
			4,4'-DDT	1.52E-09	8.50E-10	--	--	2.37E-09	Liver	2.61E-05	1.46E-05	--	--	4.07E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.59E-05	2.95E-05	--	--	4.54E-05
			4-Nitroaniline	1.31E-09	2.44E-09	--	--	3.75E-09	--	6.07E-05	1.13E-04	--	--	1.74E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.47E-04	4.59E-04	--	--	7.06E-04
			Acenaphthene	--	--	--	--	--	Liver	2.07E-05	5.01E-05	--	--	7.09E-05
			Acenaphthylene	--	--	--	--	--	Liver	5.10E-07	9.49E-08	--	--	6.05E-07
			Aldrin	2.22E-08	4.14E-08	--	--	6.37E-08	Liver	1.27E-04	2.37E-04	--	--	3.64E-04
			alpha-BHC	4.63E-10	8.62E-11	--	--	5.49E-10	Liver/Kidney	4.29E-07	7.98E-08	--	--	5.08E-07
			alpha-Chlordane	2.87E-10	--	--	--	2.87E-10	Liver	4.78E-06	--	--	--	4.78E-06
			Aluminum	--	--	--	--	--	CNS	2.59E-03	4.82E-05	--	--	2.64E-03
			Anthracene	--	--	--	--	--	No observed effect	1.03E-06	2.50E-06	--	--	3.53E-06
			Antimony	--	--	--	--	--	Whole body/Blood	2.99E-03	5.57E-05	--	--	3.05E-03
			Aroclor-1248	2.42E-07	6.30E-07	--	--	8.71E-07	Immune System/ Eye/Finger and Toe Nails	1.76E-02	4.59E-02	--	--	6.35E-02
			Aroclor-1254	8.94E-08	2.33E-07	--	--	3.22E-07	Immune System/ Eye/Finger and Toe Nails	6.52E-03	1.70E-02	--	--	2.35E-02
			Aroclor-1260	1.09E-07	2.84E-07	--	--	3.93E-07	Immune System/ Eye/Finger and Toe Nails	7.95E-03	2.07E-02	--	--	2.87E-02
			Aroclor-1268	5.59E-09	1.46E-08	--	--	2.02E-08	Immune System/ Eye/Finger and Toe Nails	4.07E-04	1.06E-03	--	--	1.47E-03
			Arsenic	9.31E-07	5.20E-07	--	--	1.45E-06	Skin	6.03E-03	3.37E-03	--	--	9.40E-03
			Barium	--	--	--	--	--	Kidney	2.84E-04	5.30E-06	--	--	2.90E-04
			Benzo(a)anthracene	3.68E-07	8.90E-07	--	--	1.26E-06	--	--	--	--	--	--
			Benzo(a)pyrene	1.22E-06	2.96E-06	--	--	4.19E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	2.01E-07	4.87E-07	--	--	6.88E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	7.47E-06	1.81E-05	--	--	2.56E-05
			Benzo(k)fluoranthene	2.40E-08	5.80E-08	--	--	8.19E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	3.50E-05	6.51E-07	--	--	3.56E-05
			Beta-BHC	3.99E-10	7.42E-11	--	--	4.73E-10	Kidney/Liver	3.23E-06	6.01E-07	--	--	3.83E-06
			bis(2-ethylhexyl)phthalate	1.10E-08	2.05E-09	--	--	1.31E-08	Liver	1.15E-04	2.14E-05	--	--	1.36E-04
			Cadmium	--	--	--	--	--	Kidney	5.56E-03	1.04E-04	--	--	5.67E-03
			Carbon disulfide	--	--	--	--	--	Developmental	7.05E-10	3.28E-09	--	--	3.98E-09
			Chlorobenzene	--	--	--	--	--	Liver	1.61E-06	3.01E-07	--	--	1.92E-06

TABLE H-8.11  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	2.18E-05	4.05E-07	--	--	2.22E-05		
			Chrysene	4.18E-09	1.01E-08	--	--	1.43E-08	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.11E-04	2.07E-06	--	--	--	1.13E-04	
			Copper	--	--	--	--	--	GI Tract	4.53E-04	8.43E-06	--	--	--	4.61E-04	
			Delta-BHC	1.52E-09	1.42E-09	--	--	2.94E-09	Liver/Kidney	1.23E-05	1.15E-05	--	--	--	2.38E-05	
			Dibenzo(a,h)anthracene	2.33E-07	5.65E-07	--	--	7.98E-07	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	1.91E-03	3.55E-04	--	--	--	2.26E-03	
			Dieldrin	8.88E-08	1.65E-08	--	--	1.05E-07	Liver	3.24E-04	6.03E-05	--	--	--	3.84E-04	
			Dimethylphthalate	--	--	--	--	--	--	--	1.12E-09	2.08E-10	--	--	--	1.32E-09
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	6.46E-06	1.20E-06	--	--	--	7.66E-06	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.13E-06	1.05E-06	--	--	--	2.17E-06	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.17E-06	1.08E-06	--	--	--	2.25E-06	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	2.10E-06	1.96E-06	--	--	--	4.06E-06	
			Endrin aldehyde	--	--	--	--	--	Liver	4.12E-05	3.83E-05	--	--	--	7.95E-05	
			Endrin Ketone	--	--	--	--	--	Liver	9.78E-06	--	--	--	--	9.78E-06	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	1.95E-04	4.71E-04	--	--	--	6.65E-04	
			Fluorene	--	--	--	--	--	Blood	2.14E-05	5.18E-05	--	--	--	7.32E-05	
			gamma-BHC (Lindane)	3.40E-10	2.53E-10	--	--	5.94E-10	Liver/Kidney	2.54E-06	1.89E-06	--	--	--	4.44E-06	
			gamma-Chlordane	4.62E-10	--	--	--	4.62E-10	Liver	7.69E-06	--	--	--	--	7.69E-06	
			Heptachlor	3.12E-09	5.82E-10	--	--	3.71E-09	Liver	4.05E-06	7.54E-07	--	--	--	4.81E-06	
			Heptachlor Epoxide	1.02E-08	1.90E-09	--	--	1.21E-08	Liver	2.52E-04	4.69E-05	--	--	--	2.99E-04	
			Indeno(1,2,3-cd)pyrene	6.41E-08	1.55E-07	--	--	2.19E-07	--	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	3.99E-02	7.42E-04	--	--	--	4.06E-02	
			Isophorone	1.91E-11	3.56E-11	--	--	5.47E-11	No observed effect	2.94E-07	5.47E-07	--	--	--	8.40E-07	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	4.05E-03	7.54E-05	--	--	--	4.12E-03	
			Mercury	--	--	--	--	--	Immune System	3.03E-04	--	--	--	--	3.03E-04	
			Methoxychlor	--	--	--	--	--	Developmental	7.05E-06	1.31E-06	--	--	--	8.36E-06	
			Molybdenum	--	--	--	--	--	Blood	1.47E-04	2.74E-06	--	--	--	1.50E-04	
			Naphthalene	--	--	--	--	--	Whole Body	1.91E-04	4.62E-04	--	--	--	6.53E-04	
			Nickel	--	--	--	--	--	Whole Body	5.74E-04	1.07E-05	--	--	--	5.85E-04	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.36E-05	2.54E-06	--	--	--	1.62E-05	
			Phenol	--	--	--	--	--	Whole Body	5.68E-07	1.06E-06	--	--	--	1.62E-06	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.23E-07	--	--	--	--	3.23E-07	
			Pyrene	--	--	--	--	--	Kidney	2.36E-04	5.72E-04	--	--	--	8.08E-04	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	5.21E-07	--	--	--	--	5.21E-07	
			Selenium	--	--	--	--	--	Whole Body	1.32E-05	2.45E-07	--	--	--	1.34E-05	
			Silver	--	--	--	--	--	Skin	6.80E-05	1.27E-06	--	--	--	6.93E-05	
			Technical Chlordane	1.94E-08	1.45E-08	--	--	3.39E-08	Liver	3.24E-04	2.41E-04	--	--	--	5.64E-04	
			Thallium	--	--	--	--	--	Blood	2.21E-03	--	--	--	--	2.21E-03	
Toluene	--	--	--	--	--	Liver/Kidney	1.58E-09	2.94E-10	--	--	--	1.87E-09				
Vanadium	--	--	--	--	--	Kidney	1.00E-02	1.87E-04	--	--	--	1.02E-02				

TABLE H-8.11  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	4.44E-04	8.26E-06	--	--	4.52E-04
		Exposure Point Total	Chemical Total	3.67E-06	6.69E-06	0.00E+00	0.00E+00	1.06E-05		1.13E-01	9.27E-02	0.00E+00	0.00E+00	2.06E-01
	Exposure medium Total													2.06E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.43E-03	--	4.43E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.50E-02	--	1.50E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.19E-03	--	3.19E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	4.35E-03	--	4.35E-03
			1,2-Dichloropropane	--	--	3.11E-09	--	3.11E-09	Nasal	--	--	1.17E-04	--	1.17E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.94E-04	--	9.94E-04
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	2.53E-04	--	2.53E-04
			1,4-Dichlorobenzene	--	--	5.49E-07	--	5.49E-07	Liver	--	--	3.17E-04	--	3.17E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	3.71E-10	--	3.71E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.90E-05	--	6.90E-05
			4,4'-DDD	--	--	3.49E-15	--	3.49E-15	Liver	--	--	8.48E-11	--	8.48E-11
			4,4'-DDE	--	--	5.27E-11	--	5.27E-11	Liver	--	--	9.04E-07	--	9.04E-07
			4,4'-DDT	--	--	1.83E-13	--	1.83E-13	Liver	--	--	3.14E-09	--	3.14E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.91E-09	--	1.91E-09
			4-Nitroaniline	--	--	1.58E-13	--	1.58E-13	--	--	--	2.19E-08	--	2.19E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	2.60E-08	--	2.60E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.52E-05	--	4.52E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.11E-06	--	1.11E-06
			Aldrin	--	--	1.53E-09	--	1.53E-09	Liver	--	--	8.75E-06	--	8.75E-06
			alpha-BHC	--	--	3.66E-10	--	3.66E-10	Liver/Kidney	--	--	3.39E-07	--	3.39E-07
			alpha-Chlordane	--	--	4.51E-11	--	4.51E-11	Liver	--	--	1.88E-06	--	1.88E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	2.18E-04	--	2.18E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.25E-06	--	2.25E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	2.91E-11	--	2.91E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.12E-06	--	2.12E-06
			Aroclor-1254	--	--	1.08E-11	--	1.08E-11	Immune System/Eye/Finger and Toe nails	--	--	7.84E-07	--	7.84E-07
			Aroclor-1260	--	--	1.31E-11	--	1.31E-11	Immune System/Eye/Finger and Toe Nails	--	--	9.56E-07	--	9.56E-07
			Aroclor-1268	--	--	6.72E-13	--	6.72E-13	Immune System/Eye/Finger and Toe Nails	--	--	4.90E-08	--	4.90E-08
			Arsenic	--	--	1.12E-09	--	1.12E-09	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	1.71E-05	--	1.71E-05
			Benzo(a)anthracene	--	--	4.42E-11	--	4.42E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	1.47E-10	--	1.47E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	2.07E-08	--	2.07E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	8.99E-10	--	8.99E-10
			Benzo(k)fluoranthene	--	--	2.88E-12	--	2.88E-12	--	--	--	--	--	--
			Beryllium	--	--	2.42E-11	--	2.42E-11	Immune System/Lung	--	--	1.47E-06	--	1.47E-06
			Beta-BHC	--	--	4.94E-14	--	4.94E-14	Liver/Kidney	--	--	3.86E-10	--	3.86E-10

TABLE H-8.11

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.33E-12	--	1.33E-12	Liver	--	--	1.38E-08	--	1.38E-08
			Cadmium	--	--	7.23E-10	--	7.23E-10	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.05E-07	--	1.05E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.42E-04	--	1.42E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	7.29E-10	--	7.29E-10	--	--	--	--	--	--
			Cobalt	--	--	8.99E-10	--	8.99E-10	Respiratory System	--	--	4.68E-05	--	4.68E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.24E-09	--	1.24E-09	Liver/Kidney	--	--	9.76E-06	--	9.76E-06
			Dibenzo(a,h)anthracene	--	--	2.81E-11	--	2.81E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.05E-03	--	1.05E-03
			Dieldrin	--	--	1.90E-08	--	1.90E-08	Liver	--	--	6.92E-05	--	6.92E-05
			Dimethylphthalate	--	--	--	--	--	--	--	--	1.34E-13	--	1.34E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	7.77E-10	--	7.77E-10
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.26E-07	--	6.26E-07
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	6.48E-07	--	6.48E-07
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.17E-06	--	1.17E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	4.95E-09	--	4.95E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.18E-09	--	1.18E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.00E-05	--	2.00E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.99E-05	--	1.99E-05
			gamma-BHC (Lindane)	--	--	3.31E-10	--	3.31E-10	Liver/Kidney	--	--	2.48E-06	--	2.48E-06
			gamma-Chlordane	--	--	7.26E-11	--	7.26E-11	Liver	--	--	3.02E-06	--	3.02E-06
			Heptachlor	--	--	2.46E-08	--	2.46E-08	Liver	--	--	3.15E-05	--	3.15E-05
			Heptachlor Epoxide	--	--	1.23E-12	--	1.23E-12	Liver	--	--	3.03E-08	--	3.03E-08
			Indeno(1,2,3-cd)pyrene	--	--	7.72E-12	--	7.72E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	2.30E-15	--	2.30E-15	No observed effect	--	--	3.53E-11	--	3.53E-11
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	8.18E-04	--	8.18E-04
			Mercury	--	--	--	--	--	CNS	--	--	1.27E-07	--	1.27E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.05E-07	--	8.05E-07
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	Respiratory System	--	--	3.80E-02	--	3.80E-02			
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.97E-05	--	2.97E-05			
Phenol	--	--	--	--	--	Body Weight	--	--	6.83E-11	--	6.83E-11			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.12E-05	--	8.12E-05			
Pyrene	--	--	--	--	--	Kidney	--	--	2.87E-05	--	2.87E-05			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.27E-05	--	3.27E-05			
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.11  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	3.05E-12	--	3.05E-12	Liver	--	--	1.27E-04	--	1.27E-04	
			Thallium	--	--	--	--	--	--	--	--	--	--	--	
			Toluene	--	--	--	--	--	--	CNS	--	--	1.02E-08	--	1.02E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	6.24E-07	0.00E+00	6.24E-07		0.00E+00	0.00E+00	6.96E-02	0.00E+00	6.96E-02	
			Exposure Point Total					6.24E-07						6.96E-02	
			Exposure Medium Total					6.24E-07						6.96E-02	
			Medium Total					1.12E-05						2.75E-01	
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.41E-07	--	1.41E-07	
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.43E-06	--	3.43E-06	
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	6.76E-07	--	6.76E-07	
			1,2-Dichloroethane	--	--	8.66E-10	--	8.66E-10	Liver/Kidney/CNS	--	--	1.98E-05	--	1.98E-05	
			1,2-Dichloropropane	--	--	2.42E-10	--	2.42E-10	Nasal	--	--	9.12E-06	--	9.12E-06	
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.96E-06	--	1.96E-06	
			1,4-Dichlorobenzene	--	--	9.90E-11	--	9.90E-11	Liver	--	--	5.71E-08	--	5.71E-08	
			2-Hexanone	--	--	--	--	--	Developmental	--	--	3.55E-10	--	3.55E-10	
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.02E-10	--	9.02E-10	
			4,4'-DDE	--	--	7.03E-12	--	7.03E-12	Liver	--	--	1.21E-07	--	1.21E-07	
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	2.19E-10	--	2.19E-10	
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.01E-08	--	3.01E-08	
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.28E-09	--	1.28E-09	
			Aldrin	--	--	6.07E-10	--	6.07E-10	Liver	--	--	3.47E-06	--	3.47E-06	
			alpha-BHC	--	--	2.85E-11	--	2.85E-11	Liver/Kidney	--	--	2.64E-08	--	2.64E-08	
			alpha-Chlordane	--	--	3.75E-12	--	3.75E-12	Liver	--	--	1.56E-07	--	1.56E-07	
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.11E-10	--	5.11E-10	
			Benzene	--	--	1.14E-10	--	1.14E-10	Blood	--	--	1.41E-06	--	1.41E-06	
			Benzo(b)fluoranthene	--	--	5.68E-12	--	5.68E-12	--	--	--	--	--	--	
			Bromoform	--	--	4.53E-13	--	4.53E-13	Liver	--	--	1.72E-08	--	1.72E-08	
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.05E-06	--	1.05E-06	
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.01E-07	--	2.01E-07	
			Chloroform	--	--	2.66E-09	--	2.66E-09	Liver/Kidney/Respiratory	--	--	6.88E-06	--	6.88E-06	
			Chloromethane	--	--	--	--	--	CNS	--	--	1.34E-06	--	1.34E-06	
			Chrysene	--	--	1.54E-13	--	1.54E-13	--	--	--	--	--	--	
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.47E-06	--	2.47E-06	
			Dieldrin	--	--	2.51E-10	--	2.51E-10	Liver	--	--	9.16E-07	--	9.16E-07	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.74E-09	--	1.74E-09	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.86E-12	--	2.86E-12	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.21E-08	--	3.21E-08	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	5.89E-10	--	5.89E-10	
			Fluorene	--	--	--	--	--	Blood	--	--	1.16E-09	--	1.16E-09	
gamma-BHC (Lindane)	--	--	2.58E-14	--	2.58E-14	Liver/Kidney	--	--	1.93E-10	--	1.93E-10				

TABLE H-8.11

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	9.73E-12	--	9.73E-12	Liver	--	--	4.06E-07	--	4.06E-07
			Heptachlor	--	--	1.30E-09	--	1.30E-09	Liver	--	--	1.66E-06	--	1.66E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.45E-05	--	1.45E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.12E-06	--	1.12E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.05E-08	--	3.05E-08
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.95E-07	--	2.95E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.38E-05	--	1.38E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.28E-07	--	3.28E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.07E-10	--	4.07E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.45E-05	--	1.45E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	7.16E-10	--	7.16E-10
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	9.34E-07	--	9.34E-07
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.06E-06	--	1.06E-06
			Toluene	--	--	--	--	--	CNS	--	--	1.24E-08	--	1.24E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.09E-06	--	2.09E-06
			Trichloroethene	--	--	5.96E-09	--	5.96E-09	CNS/Liver/Endocrine	--	--	4.34E-06	--	4.34E-06
			Vinyl chloride	--	--	9.55E-10	--	9.55E-10	Liver	--	--	3.15E-06	--	3.15E-06
						Chemical Total	0.00E+00	0.00E+00	1.31E-08	0.00E+00	1.31E-08		0.00E+00	0.00E+00
			Exposure Point Total					1.31E-08						1.12E-04
			Exposure Medium Total					1.31E-08						1.12E-04
Medium Total								1.31E-08						1.12E-04
Receptor Total								1.12E-05						2.75E-01

- Notes:
- Not applicable or not available
  - COPC Chemicals of Potential Concern
  - CNS Central nervous system
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.51E-02
Total Organ 2 (Kidney) HI Across All Media =	4.17E-02
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	1.19E-02
Total Organ 5 (Endocrine) HI Across All Media =	4.34E-06
Total Organ 6 (Blood) HI Across All Media =	1.17E-02
Total Organ 7 (Adrenal) HI Across All Media =	3.04E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.75E-04
Total Organ 9 (Skin) HI Across All Media =	9.47E-03
Total Organ 10 (Gastrointestinal System) HI Across All Media =	4.97E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	1.17E-01
Total Organ 12 (Body Weight) HI Across All Media =	4.44E-03
Total Organ 13 (Developmental) HI Across All Media =	2.63E-05
Total Organ 14 (Respiratory/Lung) HI Across All Media =	4.27E-02
Total Organ 15 (Whole Body) HI Across All Media =	4.36E-03
Total Organ 16 (Immune System) HI Across All Media =	1.17E-01
Total Organ 17 (Organ Weight) HI Across All Media =	6.76E-05
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	1.17E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.27E-04

TABLE H-8.12  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	-	-	-	-	-	Adrenal	4.11E-04	5.56E-04	-	-	9.67E-04
			1,2,4-Trichlorobenzene	-	-	-	-	-	Adrenal	1.40E-03	1.89E-04	-	-	1.59E-03
			1,2,4-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	2.74E-05	3.71E-06	-	-	3.11E-05
			1,2-Dichlorobenzene	-	-	-	-	-	No Observed Effect	7.91E-04	1.07E-04	-	-	8.99E-04
			1,2-Dichloropropane	5.75E-11	7.78E-12	-	-	6.53E-11	Nasal	8.65E-06	1.17E-06	-	-	9.82E-06
			1,3,5-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	8.77E-06	1.19E-06	-	-	9.95E-06
			1,3-Dichlorobenzene	-	-	-	-	-	Kidney/Liver	1.00E-04	1.36E-05	-	-	1.14E-04
			1,4-Dichlorobenzene	3.83E-08	-	-	-	3.83E-08	Organ Weight	6.21E-04	-	-	-	6.21E-04
			2,4-Dimethylphenol	-	-	-	-	-	Blood/Whole Body	2.88E-05	3.89E-06	-	-	3.27E-05
			2-Methylphenol	-	-	-	-	-	CNS/Body Weight	4.44E-06	6.01E-06	-	-	1.04E-05
			2-Methylnaphthalene	-	-	-	-	-	Respiratory System	1.15E-03	1.55E-04	-	-	1.30E-03
			4,4'-DDD	6.76E-11	9.15E-12	-	-	7.68E-11	Liver	6.58E-06	8.90E-07	-	-	7.47E-06
			4,4'-DDE	6.57E-09	8.89E-10	-	-	7.46E-09	Liver	4.51E-04	6.10E-05	-	-	5.12E-04
			4,4'-DDT	3.55E-09	1.44E-09	-	-	4.99E-09	Liver	2.44E-04	9.90E-05	-	-	3.43E-04
			4-Methylphenol	-	-	-	-	-	Whole Body/CNS/Respiratory	1.48E-04	2.00E-04	-	-	3.48E-04
			4-Nitroaniline	3.06E-09	4.14E-09	-	-	7.20E-09	-	5.66E-04	7.66E-04	-	-	1.33E-03
			4-Nitrophenol	-	-	-	-	-	Kidney/Liver/Blood	2.30E-03	3.11E-03	-	-	5.42E-03
			Acenaphthene	-	-	-	-	-	Liver	1.93E-04	3.40E-04	-	-	5.34E-04
			Acenaphthylene	-	-	-	-	-	Liver	4.76E-06	6.44E-07	-	-	5.40E-06
			Aldrin	5.19E-08	7.02E-08	-	-	1.22E-07	Liver	1.19E-03	1.61E-03	-	-	2.79E-03
			alpha-BHC	1.08E-09	1.46E-10	-	-	1.23E-09	Liver/Kidney	4.00E-06	5.41E-07	-	-	4.54E-06
			alpha-Chlordane	6.69E-10	-	-	-	6.69E-10	Liver	4.46E-05	-	-	-	4.46E-05
			Aluminum	-	-	-	-	-	CNS	2.42E-02	3.27E-04	-	-	2.45E-02
			Anthracene	-	-	-	-	-	No observed effect	9.63E-06	1.69E-05	-	-	2.66E-05
			Antimony	-	-	-	-	-	Whole body/Blood	2.79E-02	3.78E-04	-	-	2.83E-02
			Aroclor-1248	5.64E-07	1.07E-06	-	-	1.63E-06	Immune System/ Eye/Finger and Toe Nails	1.64E-01	3.11E-01	-	-	4.76E-01
			Aroclor-1254	2.09E-07	3.95E-07	-	-	6.04E-07	Immune System/ Eye/Finger and Toe Nails	6.08E-02	1.15E-01	-	-	1.76E-01
			Aroclor-1260	2.54E-07	4.82E-07	-	-	7.36E-07	Immune System/ Eye/Finger and Toe Nails	7.42E-02	1.41E-01	-	-	2.15E-01
			Aroclor-1268	1.30E-08	2.47E-08	-	-	3.77E-08	Immune System/ Eye/Finger and Toe Nails	3.80E-03	7.20E-03	-	-	1.10E-02
			Arsenic	2.17E-06	8.82E-07	-	-	3.05E-06	Skin	5.63E-02	2.29E-02	-	-	7.92E-02
			Barium	-	-	-	-	-	Kidney	2.65E-03	3.59E-05	-	-	2.69E-03
			Benzo(a)anthracene	8.58E-07	1.51E-06	-	-	2.37E-06	-	-	-	-	-	-
			Benzo(a)pyrene	2.85E-06	5.02E-06	-	-	7.88E-06	-	-	-	-	-	-
			Benzo(b)fluoranthene	4.69E-07	8.26E-07	-	-	1.30E-06	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	Kidney	6.97E-05	1.23E-04	-	-	1.92E-04
			Benzo(k)fluoranthene	5.59E-08	9.83E-08	-	-	1.54E-07	-	-	-	-	-	-
			Beryllium	-	-	-	-	-	GI Tract	3.26E-04	4.41E-06	-	-	3.31E-04
			Beta-BHC	9.30E-10	1.26E-10	-	-	1.06E-09	Kidney/Liver	3.01E-05	4.08E-06	-	-	3.42E-05
			bis(2-ethylhexyl)phthalate	2.58E-08	3.48E-09	-	-	2.92E-08	Liver	1.07E-03	1.45E-04	-	-	1.22E-03
			Cadmium	-	-	-	-	-	Kidney	5.19E-02	7.02E-04	-	-	5.26E-02
			Carbon disulfide	-	-	-	-	-	Developmental	6.58E-09	2.22E-08	-	-	2.88E-08
			Chlorobenzene	-	-	-	-	-	Liver	1.51E-05	2.04E-06	-	-	1.71E-05

TABLE H-8.12  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	2.03E-04	2.75E-06	--	--	2.06E-04		
			Chrysene	9.74E-09	1.71E-08	--	--	2.69E-08	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.04E-03	1.40E-05	--	--	--	1.05E-03	
			Copper	--	--	--	--	--	GI Tract	4.22E-03	5.72E-05	--	--	--	4.28E-03	
			Delta-BHC	3.55E-09	2.40E-09	--	--	5.95E-09	Liver/Kidney	1.15E-04	7.79E-05	--	--	--	1.93E-04	
			Dibenzo(a,h)anthracene	5.44E-07	9.58E-07	--	--	1.50E-06	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	1.78E-02	2.41E-03	--	--	--	2.02E-02	
			Dieldrin	2.07E-07	2.80E-08	--	--	2.35E-07	Liver	3.02E-03	4.09E-04	--	--	--	3.43E-03	
			Dimethylphthalate	--	--	--	--	--	--	--	1.04E-08	1.41E-09	--	--	--	1.18E-08
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	6.03E-05	8.16E-06	--	--	--	6.84E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.05E-05	7.11E-06	--	--	--	1.76E-05	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.09E-05	7.36E-06	--	--	--	1.82E-05	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	1.96E-05	1.33E-05	--	--	--	3.29E-05	
			Endrin aldehyde	--	--	--	--	--	Liver	3.84E-04	2.60E-04	--	--	--	6.44E-04	
			Endrin Ketone	--	--	--	--	--	Liver	9.13E-05	--	--	--	--	9.13E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	1.82E-03	3.19E-03	--	--	--	5.01E-03	
			Fluorene	--	--	--	--	--	Blood	2.00E-04	3.51E-04	--	--	--	5.51E-04	
			gamma-BHC (Lindane)	7.94E-10	4.30E-10	--	--	1.22E-09	Liver/Kidney	2.37E-05	1.29E-05	--	--	--	3.66E-05	
			gamma-Chlordane	1.08E-09	--	--	--	1.08E-09	Liver	7.18E-05	--	--	--	--	7.18E-05	
			Heptachlor	7.29E-09	9.87E-10	--	--	8.28E-09	Liver	3.78E-05	5.12E-06	--	--	--	4.29E-05	
			Heptachlor Epoxide	2.38E-08	3.23E-09	--	--	2.71E-08	Liver	2.35E-03	3.18E-04	--	--	--	2.67E-03	
			Indeno(1,2,3-cd)pyrene	1.50E-07	2.63E-07	--	--	4.13E-07	--	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	3.72E-01	5.03E-03	--	--	--	3.77E-01	
			Isophorone	4.46E-11	6.04E-11	--	--	1.05E-10	No observed effect	2.74E-06	3.71E-06	--	--	--	6.45E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	3.78E-02	5.11E-04	--	--	--	3.83E-02	
			Mercury	--	--	--	--	--	Immune System	2.83E-03	--	--	--	--	2.83E-03	
			Methoxychlor	--	--	--	--	--	Developmental	6.58E-05	8.90E-06	--	--	--	7.47E-05	
			Molybdenum	--	--	--	--	--	Blood	1.37E-03	1.86E-05	--	--	--	1.39E-03	
			Naphthalene	--	--	--	--	--	Whole Body	1.78E-03	3.13E-03	--	--	--	4.91E-03	
			Nickel	--	--	--	--	--	Whole Body	5.36E-03	7.25E-05	--	--	--	5.43E-03	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.27E-04	1.72E-05	--	--	--	1.44E-04	
			Phenol	--	--	--	--	--	Whole Body	5.30E-06	7.17E-06	--	--	--	1.25E-05	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.01E-06	--	--	--	--	3.01E-06	
			Pyrene	--	--	--	--	--	Kidney	2.21E-03	3.88E-03	--	--	--	6.09E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	4.86E-06	--	--	--	--	4.86E-06	
			Selenium	--	--	--	--	--	Whole Body	1.23E-04	1.66E-06	--	--	--	1.25E-04	
			Silver	--	--	--	--	--	Skin	6.35E-04	8.59E-06	--	--	--	6.44E-04	
			Technical Chlordane	4.53E-08	2.45E-08	--	--	6.98E-08	Liver	3.02E-03	1.63E-03	--	--	--	4.65E-03	
			Thallium	--	--	--	--	--	Blood	2.06E-02	--	--	--	--	2.06E-02	
Toluene	--	--	--	--	--	Liver/Kidney	1.47E-08	1.99E-09	--	--	--	1.67E-08				
Vanadium	--	--	--	--	--	Kidney	9.36E-02	1.27E-03	--	--	--	9.48E-02				

TABLE H-8.12  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	4.14E-03	5.60E-05	--	--	4.20E-03
		Exposure Point Total	Chemical Total	8.57E-06	1.17E-05	0.00E+00	0.00E+00	2.03E-05		1.05E+00	6.29E-01	0.00E+00	0.00E+00	1.68E+00
Exposure Medium Total				2.03E-05					1.68E+00					
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.55E-03	--	--	2.55E-03
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	8.67E-03	--	--	8.67E-03
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.84E-03	--	--	1.84E-03
		1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.51E-03	--	--	2.51E-03
		1,2-Dichloropropane	--	--	4.48E-10	--	4.48E-10	Nasal	--	--	6.74E-05	--	--	6.74E-05
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.72E-04	--	--	5.72E-04
		1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.46E-04	--	--	1.46E-04
		1,4-Dichlorobenzene	--	--	7.91E-08	--	7.91E-08	Liver	--	--	1.82E-04	--	--	1.82E-04
		2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.14E-10	--	--	2.14E-10
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.97E-05	--	--	3.97E-05
		4,4'-DDD	--	--	5.02E-16	--	5.02E-16	Liver	--	--	4.88E-11	--	--	4.88E-11
		4,4'-DDE	--	--	7.59E-12	--	7.59E-12	Liver	--	--	5.21E-07	--	--	5.21E-07
		4,4'-DDT	--	--	2.64E-14	--	2.64E-14	Liver	--	--	1.81E-09	--	--	1.81E-09
		4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.10E-09	--	--	1.10E-09
		4-Nitroaniline	--	--	2.27E-14	--	2.27E-14	--	--	--	1.26E-08	--	--	1.26E-08
		4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.50E-08	--	--	1.50E-08
		Acenaphthene	--	--	--	--	--	Liver	--	--	2.60E-05	--	--	2.60E-05
		Acenaphthylene	--	--	--	--	--	Liver	--	--	6.40E-07	--	--	6.40E-07
		Aldrin	--	--	2.20E-10	--	2.20E-10	Liver	--	--	5.04E-06	--	--	5.04E-06
		alpha-BHC	--	--	5.27E-11	--	5.27E-11	Liver/Kidney	--	--	1.95E-07	--	--	1.95E-07
		alpha-Chlordane	--	--	6.49E-12	--	6.49E-12	Liver	--	--	1.08E-06	--	--	1.08E-06
		Aluminum	--	--	--	--	--	Respiratory System	--	--	1.26E-04	--	--	1.26E-04
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.30E-06	--	--	1.30E-06
		Antimony	--	--	--	--	--	--	--	--	--	--	--	--
		Aroclor-1248	--	--	4.18E-12	--	4.18E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.22E-06	--	--	1.22E-06
		Aroclor-1254	--	--	1.55E-12	--	1.55E-12	Immune System/Eye/Finger and Toe nails	--	--	4.52E-07	--	--	4.52E-07
		Aroclor-1260	--	--	1.89E-12	--	1.89E-12	Immune System/Eye/Finger and Toe Nails	--	--	5.51E-07	--	--	5.51E-07
		Aroclor-1268	--	--	9.68E-14	--	9.68E-14	Immune System/Eye/Finger and Toe Nails	--	--	2.82E-08	--	--	2.82E-08
		Arsenic	--	--	1.61E-10	--	1.61E-10	--	--	--	--	--	--	--
		Barium	--	--	--	--	--	Developmental	--	--	9.85E-06	--	--	9.85E-06
		Benzo(a)anthracene	--	--	6.37E-12	--	6.37E-12	--	--	--	--	--	--	--
		Benzo(a)pyrene	--	--	2.12E-11	--	2.12E-11	--	--	--	--	--	--	--
Benzo(b)fluoranthene	--	--	2.97E-09	--	2.97E-09	--	--	--	--	--	--	--		
Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	5.18E-10	--	--	5.18E-10		
Benzo(k)fluoranthene	--	--	4.15E-13	--	4.15E-13	--	--	--	--	--	--	--		
Beryllium	--	--	3.49E-12	--	3.49E-12	Immune System/Lung	--	--	8.48E-07	--	--	8.48E-07		
Beta-BHC	--	--	7.12E-15	--	7.12E-15	Liver/Kidney	--	--	2.24E-10	--	--	2.24E-10		

TABLE H-8.12  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.91E-13	--	1.91E-13	Liver	--	--	7.97E-09	--	7.97E-09
			Cadmium	--	--	1.04E-10	--	1.04E-10	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.07E-08	--	6.07E-08
			Chlorobenzene	--	--	--	--	--	Liver	--	--	8.18E-05	--	8.18E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.05E-10	--	1.05E-10	--	--	--	--	--	--
			Cobalt	--	--	1.28E-10	--	1.28E-10	Respiratory System	--	--	2.70E-05	--	2.70E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.79E-10	--	1.79E-10	Liver/Kidney	--	--	5.62E-06	--	5.62E-06
			Dibenzo(a,h)anthracene	--	--	4.04E-12	--	4.04E-12	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.02E-04	--	6.02E-04
			Dieckrin	--	--	2.73E-09	--	2.73E-09	Liver	--	--	3.98E-05	--	3.98E-05
			Dimethylphthalate	--	--	--	--	--	--	--	--	7.73E-14	--	7.73E-14
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.47E-10	--	4.47E-10
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.61E-07	--	3.61E-07
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.73E-07	--	3.73E-07
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	6.74E-07	--	6.74E-07
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.85E-09	--	2.85E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.78E-10	--	6.78E-10
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.15E-05	--	1.15E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.15E-05	--	1.15E-05
			gamma-BHC (Lindane)	--	--	4.77E-11	--	4.77E-11	Liver/Kidney	--	--	1.43E-06	--	1.43E-06
			gamma-Chlordane	--	--	1.04E-11	--	1.04E-11	Liver	--	--	1.74E-06	--	1.74E-06
			Heptachlor	--	--	3.54E-09	--	3.54E-09	Liver	--	--	1.82E-05	--	1.82E-05
			Heptachlor Epoxide	--	--	1.77E-13	--	1.77E-13	Liver	--	--	1.75E-08	--	1.75E-08
			Indeno(1,2,3-cd)pyrene	--	--	1.11E-12	--	1.11E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	3.31E-16	--	3.31E-16	No observed effect	--	--	2.03E-11	--	2.03E-11
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.71E-04	--	4.71E-04
			Mercury	--	--	--	--	--	CNS	--	--	7.32E-08	--	7.32E-08
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.64E-07	--	4.64E-07
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.19E-02	--	2.19E-02
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.71E-05	--	1.71E-05
			Phenol	--	--	--	--	--	Body Weight	--	--	3.93E-11	--	3.93E-11
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.68E-05	--	4.68E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	1.65E-05	--	1.65E-05
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.88E-05	--	1.88E-05
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.12  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	4.39E-13	--	4.39E-13	Liver	--	--	7.32E-05	--	7.32E-05
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	5.87E-09	--	5.87E-09
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	8.99E-08	0.00E+00	8.99E-08		0.00E+00	0.00E+00	4.01E-02	0.00E+00	4.01E-02
			Exposure Point Total					8.99E-08						4.01E-02
			Exposure Medium Total					8.99E-08						4.01E-02
			Medium Total					2.03E-05						1.72E+00
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	8.12E-08	--	8.12E-08
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.98E-06	--	1.98E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	3.90E-07	--	3.90E-07
			1,2-Dichloroethane	--	--	1.25E-10	--	1.25E-10	Liver/Kidney/CNS	--	--	1.14E-05	--	1.14E-05
			1,2-Dichloropropane	--	--	3.49E-11	--	3.49E-11	Nasal	--	--	5.25E-06	--	5.25E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.13E-06	--	1.13E-06
			1,4-Dichlorobenzene	--	--	1.43E-11	--	1.43E-11	Liver	--	--	3.29E-08	--	3.29E-08
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.05E-10	--	2.05E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.19E-10	--	5.19E-10
			4,4'-DDE	--	--	1.01E-12	--	1.01E-12	Liver	--	--	6.95E-08	--	6.95E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.26E-10	--	1.26E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.73E-08	--	1.73E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.39E-10	--	7.39E-10
			Aldrin	--	--	8.74E-11	--	8.74E-11	Liver	--	--	2.00E-06	--	2.00E-06
			alpha-BHC	--	--	4.11E-12	--	4.11E-12	Liver/Kidney	--	--	1.52E-08	--	1.52E-08
			alpha-Chlordane	--	--	5.40E-13	--	5.40E-13	Liver	--	--	8.99E-08	--	8.99E-08
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.94E-10	--	2.94E-10
			Benzene	--	--	1.64E-11	--	1.64E-11	Blood	--	--	8.15E-07	--	8.15E-07
			Benzo(b)fluoranthene	--	--	8.17E-13	--	8.17E-13	--	--	--	--	--	--
			Bromoform	--	--	6.52E-14	--	6.52E-14	Liver	--	--	9.88E-09	--	9.88E-09
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.05E-07	--	6.05E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.16E-07	--	1.16E-07
			Chloroform	--	--	3.83E-10	--	3.83E-10	Liver/Kidney/Respiratory	--	--	3.96E-06	--	3.96E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	7.73E-07	--	7.73E-07
			Chrysene	--	--	2.21E-14	--	2.21E-14	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.42E-06	--	1.42E-06
			Dieldrin	--	--	3.62E-11	--	3.62E-11	Liver	--	--	5.27E-07	--	5.27E-07
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.00E-09	--	1.00E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.65E-12	--	1.65E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.85E-08	--	1.85E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.39E-10	--	3.39E-10
			Fluorene	--	--	--	--	--	Blood	--	--	6.71E-10	--	6.71E-10
			gamma-BHC (Lindane)	--	--	3.72E-15	--	3.72E-15	Liver/Kidney	--	--	1.11E-10	--	1.11E-10

TABLE H-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	1.40E-12	-	1.40E-12	Liver	-	-	2.34E-07	-	2.34E-07		
			Heptachlor	-	-	1.87E-10	-	1.87E-10	Liver	-	-	9.59E-07	-	9.59E-07		
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	8.36E-06	-	8.36E-06		
			m,p-Xylene	-	-	-	-	-	CNS	-	-	6.43E-07	-	6.43E-07		
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.75E-08	-	1.75E-08		
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	1.70E-07	-	1.70E-07		
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	7.93E-06	-	7.93E-06		
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	1.89E-07	-	1.89E-07		
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	2.34E-10	-	2.34E-10		
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	8.38E-06	-	8.38E-06		
			Pyrene	-	-	-	-	-	Kidney	-	-	4.13E-10	-	4.13E-10		
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	5.38E-07	-	5.38E-07		
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	6.09E-07	-	6.09E-07		
			Toluene	-	-	-	-	-	CNS	-	-	7.14E-09	-	7.14E-09		
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.20E-06	-	1.20E-06		
			Trichloroethene	-	-	8.58E-10	-	8.58E-10	CNS/Liver/Endocrine	-	-	2.50E-06	-	2.50E-06		
			Vinyl chloride	-	-	1.38E-10	-	1.38E-10	Liver	-	-	1.81E-06	-	1.81E-06		
						Chemical Total	0.00E+00	0.00E+00	1.89E-09	0.00E+00	1.89E-09		0.00E+00	0.00E+00	6.43E-05	6.43E-05
						Exposure Point Total					1.89E-09					6.43E-05
						Exposure Medium Total					1.89E-09					6.43E-05
Medium Total								1.89E-09					6.43E-05			
Receptor Total								2.04E-05					1.72E+00			

- Notes:
- Not applicable or not available
  - COPC Chemicals of Potential Concern
  - CNS Central nervous system
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.06E-01
Total Organ 2 (Kidney) HI Across All Media =	2.00E-01
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	6.62E-02
Total Organ 5 (Endocrine) HI Across All Media =	2.50E-06
Total Organ 6 (Blood) HI Across All Media =	6.90E-02
Total Organ 7 (Adrenal) HI Across All Media =	2.55E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.30E-03
Total Organ 9 (Skin) HI Across All Media =	7.98E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	4.61E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	8.78E-01
Total Organ 12 (Body Weight) HI Across All Media =	2.63E-03
Total Organ 13 (Developmental) HI Across All Media =	8.50E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	2.61E-02
Total Organ 15 (Whole Body) HI Across All Media =	3.93E-02
Total Organ 16 (Immune System) HI Across All Media =	8.80E-01
Total Organ 17 (Organ Weight) HI Across All Media =	6.22E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	8.78E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	8.25E-05

**TABLE H-8.13**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	4.11E-04	5.56E-04	--	--	9.67E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.40E-03	1.89E-04	--	--	1.59E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.74E-05	3.71E-06	--	--	3.11E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	7.91E-04	1.07E-04	--	--	8.99E-04
			1,2-Dichloropropane	8.21E-11	1.24E-11	--	--	9.45E-11	Nasal	8.65E-06	1.17E-06	--	--	9.82E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	8.77E-06	1.19E-06	--	--	9.95E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.00E-04	1.36E-05	--	--	1.14E-04
			1,4-Dichlorobenzene	5.47E-08	--	--	--	5.47E-08	Organ Weight	6.21E-04	--	--	--	6.21E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	2.88E-05	3.89E-06	--	--	3.27E-05
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	4.44E-06	6.01E-06	--	--	1.04E-05
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	1.15E-03	1.55E-04	--	--	1.30E-03
			4,4'-DDD	9.66E-11	1.45E-11	--	--	1.11E-10	Liver	6.58E-06	8.90E-07	--	--	7.47E-06
			4,4'-DDE	9.39E-09	1.41E-09	--	--	1.08E-08	Liver	4.51E-04	6.10E-05	--	--	5.12E-04
			4,4'-DDT	5.07E-09	2.29E-09	--	--	7.37E-09	Liver	2.44E-04	9.90E-05	--	--	3.43E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.48E-04	2.00E-04	--	--	3.48E-04
			4-Nitroaniline	4.37E-09	6.58E-09	--	--	1.09E-08	--	5.66E-04	7.66E-04	--	--	1.33E-03
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.30E-03	3.11E-03	--	--	5.42E-03
			Acenaphthene	--	--	--	--	--	Liver	1.93E-04	3.40E-04	--	--	5.34E-04
			Acenaphthylene	--	--	--	--	--	Liver	4.76E-06	6.44E-07	--	--	5.40E-06
			Aldrin	7.41E-08	1.12E-07	--	--	1.86E-07	Liver	1.19E-03	1.61E-03	--	--	2.79E-03
			alpha-BHC	1.54E-09	2.32E-10	--	--	1.78E-09	Liver/Kidney	4.00E-06	5.41E-07	--	--	4.54E-06
			alpha-Chlordane	9.56E-10	--	--	--	9.56E-10	Liver	4.46E-05	--	--	--	4.46E-05
			Aluminum	--	--	--	--	--	CNS	2.42E-02	3.27E-04	--	--	2.45E-02
			Anthracene	--	--	--	--	--	No observed effect	9.63E-06	1.69E-05	--	--	2.66E-05
			Antimony	--	--	--	--	--	Whole body/Blood	2.79E-02	3.78E-04	--	--	2.83E-02
			Aroclor-1248	8.05E-07	1.70E-06	--	--	2.50E-06	Immune System/ Eye/Finger and Toe Nails	1.64E-01	3.11E-01	--	--	4.76E-01
			Aroclor-1254	2.98E-07	6.28E-07	--	--	9.26E-07	Immune System/ Eye/Finger and Toe Nails	6.08E-02	1.15E-01	--	--	1.76E-01
			Aroclor-1260	3.63E-07	7.66E-07	--	--	1.13E-06	Immune System/ Eye/Finger and Toe Nails	7.42E-02	1.41E-01	--	--	2.15E-01
			Aroclor-1268	1.86E-08	3.93E-08	--	--	5.79E-08	Immune System/ Eye/Finger and Toe Nails	3.80E-03	7.20E-03	--	--	1.10E-02
			Arsenic	3.10E-06	1.40E-06	--	--	4.50E-06	Skin	5.63E-02	2.29E-02	--	--	7.92E-02
			Barium	--	--	--	--	--	Kidney	2.65E-03	3.59E-05	--	--	2.69E-03
			Benzo(a)anthracene	1.23E-06	2.40E-06	--	--	3.63E-06	--	--	--	--	--	--
			Benzo(a)pyrene	4.08E-06	7.98E-06	--	--	1.21E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	6.71E-07	1.31E-06	--	--	1.98E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	6.97E-05	1.23E-04	--	--	1.92E-04
			Benzo(k)fluoranthene	7.98E-08	1.56E-07	--	--	2.36E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	3.26E-04	4.41E-06	--	--	3.31E-04
			Beta-BHC	1.33E-09	2.00E-10	--	--	1.53E-09	Kidney/Liver	3.01E-05	4.08E-06	--	--	3.42E-05
			bis(2-ethylhexyl)phthalate	3.68E-08	5.54E-09	--	--	4.23E-08	Liver	1.07E-03	1.45E-04	--	--	1.22E-03
			Cadmium	--	--	--	--	--	Kidney	5.19E-02	7.02E-04	--	--	5.26E-02
			Carbon disulfide	--	--	--	--	--	Developmental	6.58E-09	2.22E-08	--	--	2.88E-08
			Chlorobenzene	--	--	--	--	--	Liver	1.51E-05	2.04E-06	--	--	1.71E-05

TABLE H-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	2.03E-04	2.75E-06	--	--	2.06E-04		
			Chrysene	1.39E-08	2.72E-08	--	--	4.12E-08	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.04E-03	1.40E-05	--	--	--	1.05E-03	
			Copper	--	--	--	--	--	GI Tract	4.22E-03	5.72E-05	--	--	--	4.28E-03	
			Delta-BHC	5.07E-09	3.82E-09	--	--	8.89E-09	Liver/Kidney	1.15E-04	7.79E-05	--	--	--	1.93E-04	
			Dibenzo(a,h)anthracene	7.78E-07	1.52E-06	--	--	2.30E-06	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	1.78E-02	2.41E-03	--	--	--	2.02E-02	
			Dieldrin	2.96E-07	4.46E-08	--	--	3.41E-07	Liver	3.02E-03	4.09E-04	--	--	--	3.43E-03	
			Dimethylphthalate	--	--	--	--	--	--	--	1.04E-08	1.41E-09	--	--	--	1.18E-08
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	6.03E-05	8.16E-06	--	--	--	6.84E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.05E-05	7.11E-06	--	--	--	1.76E-05	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.09E-05	7.36E-06	--	--	--	1.82E-05	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	1.96E-05	1.33E-05	--	--	--	3.29E-05	
			Endrin aldehyde	--	--	--	--	--	Liver	3.84E-04	2.60E-04	--	--	--	6.44E-04	
			Endrin Ketone	--	--	--	--	--	Liver	9.13E-05	--	--	--	--	9.13E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	1.82E-03	3.19E-03	--	--	--	5.01E-03	
			Fluorene	--	--	--	--	--	Blood	2.00E-04	3.51E-04	--	--	--	5.51E-04	
			gamma-BHC (Lindane)	1.13E-09	6.83E-10	--	--	1.82E-09	Liver/Kidney	2.37E-05	1.29E-05	--	--	--	3.66E-05	
			gamma-Chlordane	1.54E-09	--	--	--	1.54E-09	Liver	7.18E-05	--	--	--	--	7.18E-05	
			Heptachlor	1.04E-08	1.57E-09	--	--	1.20E-08	Liver	3.78E-05	5.12E-06	--	--	--	4.29E-05	
			Heptachlor Epoxide	3.41E-08	5.13E-09	--	--	3.92E-08	Liver	2.35E-03	3.18E-04	--	--	--	2.67E-03	
			Indeno(1,2,3-cd)pyrene	2.14E-07	4.19E-07	--	--	6.32E-07	--	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	3.72E-01	5.03E-03	--	--	--	3.77E-01	
			Isophorone	6.37E-11	9.60E-11	--	--	1.60E-10	No observed effect	2.74E-06	3.71E-06	--	--	--	6.45E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	3.78E-02	5.11E-04	--	--	--	3.83E-02	
			Mercury	--	--	--	--	--	Immune System	2.83E-03	--	--	--	--	2.83E-03	
			Methoxychlor	--	--	--	--	--	Developmental	6.58E-05	8.90E-06	--	--	--	7.47E-05	
			Molybdenum	--	--	--	--	--	Blood	1.37E-03	1.86E-05	--	--	--	1.39E-03	
			Naphthalene	--	--	--	--	--	Whole Body	1.78E-03	3.13E-03	--	--	--	4.91E-03	
			Nickel	--	--	--	--	--	Whole Body	5.36E-03	7.25E-05	--	--	--	5.43E-03	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.27E-04	1.72E-05	--	--	--	1.44E-04	
			Phenol	--	--	--	--	--	Whole Body	5.30E-06	7.17E-06	--	--	--	1.25E-05	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.01E-06	--	--	--	--	3.01E-06	
Pyrene	--	--	--	--	--	Kidney	2.21E-03	3.88E-03	--	--	--	6.09E-03				
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	4.86E-06	--	--	--	--	4.86E-06				
Selenium	--	--	--	--	--	Whole Body	1.23E-04	1.66E-06	--	--	--	1.25E-04				
Silver	--	--	--	--	--	Skin	6.35E-04	8.59E-06	--	--	--	6.44E-04				
Technical Chlordane	6.47E-08	3.90E-08	--	--	1.04E-07	Liver	3.02E-03	1.63E-03	--	--	--	4.65E-03				
Thallium	--	--	--	--	--	Blood	2.06E-02	--	--	--	--	2.06E-02				
Toluene	--	--	--	--	--	Liver/Kidney	1.47E-08	1.99E-09	--	--	--	1.67E-08				
Vanadium	--	--	--	--	--	Kidney	9.36E-02	1.27E-03	--	--	--	9.48E-02				

TABLE H-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	4.14E-03	5.60E-05	--	--	4.20E-03
		Exposure Point Total	Chemical Total	1.22E-05	1.86E-05	0.00E+00	0.00E+00	3.08E-05		1.05E+00	6.29E-01	0.00E+00	0.00E+00	1.68E+00
Exposure Medium Total								3.08E-05						1.68E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.55E-03	--	2.55E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	8.67E-03	--	8.67E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.84E-03	--	1.84E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.51E-03	--	2.51E-03
			1,2-Dichloropropane	--	--	3.56E-09	--	3.56E-09	Nasal	--	--	6.74E-05	--	6.74E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.72E-04	--	5.72E-04
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.46E-04	--	1.46E-04
			1,4-Dichlorobenzene	--	--	6.29E-07	--	6.29E-07	Liver	--	--	1.82E-04	--	1.82E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.14E-10	--	2.14E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.97E-05	--	3.97E-05
			4,4'-DDD	--	--	3.99E-15	--	3.99E-15	Liver	--	--	4.88E-11	--	4.88E-11
			4,4'-DDE	--	--	6.03E-11	--	6.03E-11	Liver	--	--	5.21E-07	--	5.21E-07
			4,4'-DDT	--	--	2.10E-13	--	2.10E-13	Liver	--	--	1.81E-09	--	1.81E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.10E-09	--	1.10E-09
			4-Nitroaniline	--	--	1.80E-13	--	1.80E-13	--	--	--	1.26E-08	--	1.26E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.50E-08	--	1.50E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.60E-05	--	2.60E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	6.40E-07	--	6.40E-07
			Aldrin	--	--	1.75E-09	--	1.75E-09	Liver	--	--	5.04E-06	--	5.04E-06
			alpha-BHC	--	--	4.19E-10	--	4.19E-10	Liver/Kidney	--	--	1.95E-07	--	1.95E-07
			alpha-Chlordane	--	--	5.16E-11	--	5.16E-11	Liver	--	--	1.08E-06	--	1.08E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	1.26E-04	--	1.26E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.30E-06	--	1.30E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	3.32E-11	--	3.32E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.22E-06	--	1.22E-06
			Aroclor-1254	--	--	1.23E-11	--	1.23E-11	Immune System/Eye/Finger and Toe Nails	--	--	4.52E-07	--	4.52E-07
			Aroclor-1260	--	--	1.50E-11	--	1.50E-11	Immune System/Eye/Finger and Toe Nails	--	--	5.51E-07	--	5.51E-07
			Aroclor-1268	--	--	7.69E-13	--	7.69E-13	Immune System/Eye/Finger and Toe Nails	--	--	2.82E-08	--	2.82E-08
			Arsenic	--	--	1.28E-09	--	1.28E-09	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	9.85E-06	--	9.85E-06
			Benzo(a)anthracene	--	--	5.06E-11	--	5.06E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	1.68E-10	--	1.68E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	2.36E-08	--	2.36E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	5.18E-10	--	5.18E-10
			Benzo(k)fluoranthene	--	--	3.30E-12	--	3.30E-12	--	--	--	--	--	--
			Beryllium	--	--	2.77E-11	--	2.77E-11	Immune System/Lung	--	--	8.48E-07	--	8.48E-07
			Beta-BHC	--	--	5.65E-14	--	5.65E-14	Liver/Kidney	--	--	2.24E-10	--	2.24E-10

TABLE H-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.52E-12	--	1.52E-12	Liver	--	--	7.97E-09	--	7.97E-09
			Cadmium	--	--	8.27E-10	--	8.27E-10	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.07E-08	--	6.07E-08
			Chlorobenzene	--	--	--	--	--	Liver	--	--	8.18E-05	--	8.18E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	8.34E-10	--	8.34E-10	--	--	--	--	--	--
			Cobalt	--	--	1.03E-09	--	1.03E-09	Respiratory System	--	--	2.70E-05	--	2.70E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.42E-09	--	1.42E-09	Liver/Kidney	--	--	5.62E-06	--	5.62E-06
			Dibenzo(a,h)anthracene	--	--	3.21E-11	--	3.21E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.02E-04	--	6.02E-04
			Dieldrin	--	--	2.17E-08	--	2.17E-08	Liver	--	--	3.98E-05	--	3.98E-05
			Dimethylphthalate	--	--	--	--	--	--	--	--	7.73E-14	--	7.73E-14
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.47E-10	--	4.47E-10
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.61E-07	--	3.61E-07
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.73E-07	--	3.73E-07
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	6.74E-07	--	6.74E-07
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.85E-09	--	2.85E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.78E-10	--	6.78E-10
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.15E-05	--	1.15E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.15E-05	--	1.15E-05
			gamma-BHC (Lindane)	--	--	3.79E-10	--	3.79E-10	Liver/Kidney	--	--	1.43E-06	--	1.43E-06
			gamma-Chlordane	--	--	8.30E-11	--	8.30E-11	Liver	--	--	1.74E-06	--	1.74E-06
			Heptachlor	--	--	2.81E-08	--	2.81E-08	Liver	--	--	1.82E-05	--	1.82E-05
			Heptachlor Epoxide	--	--	1.41E-12	--	1.41E-12	Liver	--	1.41E-12	1.75E-08	--	1.75E-08
			Indeno(1,2,3-cd)pyrene	--	--	8.83E-12	--	8.83E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	2.63E-15	--	2.63E-15	No observed effect	--	--	2.03E-11	--	2.03E-11
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.71E-04	--	4.71E-04
			Mercury	--	--	--	--	--	CNS	--	--	7.32E-08	--	7.32E-08
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.64E-07	--	4.64E-07
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.19E-02	--	2.19E-02
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.71E-05	--	1.71E-05
			Phenol	--	--	--	--	--	Body Weight	--	--	3.93E-11	--	3.93E-11
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.68E-05	--	4.68E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	1.65E-05	--	1.65E-05
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.88E-05	--	1.88E-05
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

**TABLE H-8.13**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	3.49E-12	--	3.49E-12	Liver	--	--	7.32E-05	--	7.32E-05
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	5.87E-09	--	5.87E-09
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	7.14E-07	0.00E+00	7.14E-07		0.00E+00	0.00E+00	4.01E-02	0.00E+00	4.01E-02
			Exposure Point Total					7.14E-07						4.01E-02
			Exposure Medium Total					7.14E-07						4.01E-02
			Medium Total					3.15E-05						1.72E+00
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	8.12E-08	--	8.12E-08
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.98E-06	--	1.98E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	3.90E-07	--	3.90E-07
			1,2-Dichloroethane	--	--	9.90E-10	--	9.90E-10	Liver/Kidney/CNS	--	--	1.14E-05	--	1.14E-05
			1,2-Dichloropropane	--	--	2.77E-10	--	2.77E-10	Nasal	--	--	5.25E-06	--	5.25E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.13E-06	--	1.13E-06
			1,4-Dichlorobenzene	--	--	1.13E-10	--	1.13E-10	Liver	--	--	3.29E-08	--	3.29E-08
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.05E-10	--	2.05E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.19E-10	--	5.19E-10
			4,4'-DDE	--	--	8.04E-12	--	8.04E-12	Liver	--	--	6.95E-08	--	6.95E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.26E-10	--	1.26E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.73E-08	--	1.73E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.39E-10	--	7.39E-10
			Aldrin	--	--	6.95E-10	--	6.95E-10	Liver	--	--	2.00E-06	--	2.00E-06
			alpha-BHC	--	--	3.26E-11	--	3.26E-11	Liver/Kidney	--	--	1.52E-08	--	1.52E-08
			alpha-Chlordane	--	--	4.29E-12	--	4.29E-12	Liver	--	--	8.99E-08	--	8.99E-08
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.94E-10	--	2.94E-10
			Benzene	--	--	1.30E-10	--	1.30E-10	Blood	--	--	8.15E-07	--	8.15E-07
			Benzo(b)fluoranthene	--	--	6.49E-12	--	6.49E-12	--	--	--	--	--	--
			Bromoform	--	--	5.18E-13	--	5.18E-13	Liver	--	--	9.88E-09	--	9.88E-09
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.05E-07	--	6.05E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.16E-07	--	1.16E-07
			Chloroform	--	--	3.04E-09	--	3.04E-09	Liver/Kidney/Respiratory	--	--	3.96E-06	--	3.96E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	7.73E-07	--	7.73E-07
			Chrysene	--	--	1.76E-13	--	1.76E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.42E-06	--	1.42E-06
			Dieldrin	--	--	2.87E-10	--	2.87E-10	Liver	--	--	5.27E-07	--	5.27E-07
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.00E-09	--	1.00E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.65E-12	--	1.65E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.85E-08	--	1.85E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.39E-10	--	3.39E-10
			Fluorene	--	--	--	--	--	Blood	--	--	6.71E-10	--	6.71E-10
gamma-BHC (Lindane)	--	--	2.95E-14	--	2.95E-14	Liver/Kidney	--	--	1.11E-10	--	1.11E-10			

TABLE H-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	1.11E-11	-	1.11E-11	Liver	-	-	2.34E-07	-	2.34E-07		
			Heptachlor	-	-	1.49E-09	-	1.49E-09	Liver	-	-	9.59E-07	-	9.59E-07		
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	8.36E-06	-	8.36E-06		
			m,p-Xylene	-	-	-	-	-	CNS	-	-	6.43E-07	-	6.43E-07		
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.75E-08	-	1.75E-08		
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	1.70E-07	-	1.70E-07		
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	7.93E-06	-	7.93E-06		
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	1.89E-07	-	1.89E-07		
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	2.34E-10	-	2.34E-10		
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	8.36E-06	-	8.36E-06		
			Pyrene	-	-	-	-	-	Kidney	-	-	4.13E-10	-	4.13E-10		
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	5.38E-07	-	5.38E-07		
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	6.09E-07	-	6.09E-07		
			Toluene	-	-	-	-	-	CNS	-	-	7.14E-09	-	7.14E-09		
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.20E-06	-	1.20E-06		
			Trichloroethene	-	-	6.82E-09	-	6.82E-09	CNS/Liver/Endocrine	-	-	2.50E-06	-	2.50E-06		
			Vinyl chloride	-	-	1.09E-09	-	1.09E-09	Liver	-	-	1.81E-06	-	1.81E-06		
						Chemical Total	0.00E+00	0.00E+00	1.50E-08	0.00E+00	1.50E-08		0.00E+00	0.00E+00	6.43E-05	6.43E-05
						Exposure Point Total										6.43E-05
						Exposure Medium Total					1.50E-08					6.43E-05
Medium Total								1.50E-08					6.43E-05			
Receptor Total								3.16E-05					1.72E+00			

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-8.14**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.47E-04	1.67E-04	--	--	3.14E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	4.99E-04	5.69E-05	--	--	5.56E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	9.78E-06	1.12E-06	--	--	1.09E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	2.83E-04	3.22E-05	--	--	3.15E-04
			1,2-Dichloropropane	4.53E-11	5.16E-12	--	--	5.05E-11	Nasal	3.09E-06	3.52E-07	--	--	3.44E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	3.13E-06	3.57E-07	--	--	3.49E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	3.59E-05	4.09E-06	--	--	4.00E-05
			1,4-Dichlorobenzene	1.28E-08	--	--	--	1.28E-08	Organ weight	2.22E-04	--	--	--	2.22E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.03E-05	1.17E-06	--	--	1.14E-05
			2-Methylphenol	--	--	--	--	--	Respiratory System	1.98E-05	2.26E-05	--	--	4.24E-05
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	3.27E-05	3.73E-06	--	--	3.64E-05
			4,4'-DDD	1.01E-10	1.15E-11	--	--	1.12E-10	Liver	2.35E-06	2.68E-07	--	--	2.62E-06
			4,4'-DDE	9.78E-09	1.11E-09	--	--	1.09E-08	Liver	1.61E-04	1.84E-05	--	--	1.79E-04
			4,4'-DDT	5.29E-09	1.81E-09	--	--	7.09E-09	Liver	8.71E-05	2.98E-05	--	--	1.17E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	5.28E-05	6.02E-05	--	--	1.13E-04
			4-Nitroaniline	4.55E-09	5.19E-09	--	--	9.74E-09	--	2.02E-04	2.31E-04	--	--	4.33E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	8.22E-04	9.37E-04	--	--	1.76E-03
			Acenaphthene	--	--	--	--	--	Liver	6.91E-05	1.02E-04	--	--	1.71E-04
			Acenaphthylene	--	--	--	--	--	Liver	1.70E-06	1.94E-07	--	--	1.89E-06
			Aldrin	7.72E-08	8.80E-08	--	--	1.65E-07	Liver	4.24E-04	4.83E-04	--	--	9.07E-04
			alpha-BHC	6.89E-10	7.85E-11	--	--	7.67E-10	Liver/Kidney	1.43E-04	1.63E-07	--	--	1.59E-06
			alpha-Chlordane	3.70E-09	--	--	--	3.70E-09	Liver	1.59E-05	--	--	--	1.59E-05
			Aluminum	--	--	--	--	--	CNS	8.63E-03	9.84E-05	--	--	8.73E-03
			Anthracene	--	--	--	--	--	No Observed Effect	3.44E-06	5.10E-06	--	--	8.54E-06
			Antimony	--	--	--	--	--	Whole Body/Blood	9.98E-03	1.14E-04	--	--	1.01E-02
			Aroclor-1248	8.39E-07	1.34E-06	--	--	2.18E-06	Immune System/ Eye/Finger and Toe Nails	5.87E-02	9.37E-02	--	--	1.52E-01
			Aroclor-1254	3.10E-07	4.95E-07	--	--	8.06E-07	Immune System/ Eye/Finger and Toe Nails	2.17E-02	3.47E-02	--	--	5.64E-02
			Aroclor-1260	3.78E-07	6.04E-07	--	--	9.82E-07	Immune System/ Eye/Finger and Toe Nails	2.65E-02	4.23E-02	--	--	6.88E-02
			Aroclor-1268	1.94E-08	3.10E-08	--	--	5.04E-08	Immune System/ Eye/Finger and Toe Nails	1.36E-03	2.17E-03	--	--	3.53E-03
			Arsenic	2.04E-05	6.96E-06	--	--	2.73E-05	Skin	2.01E-02	6.88E-03	--	--	2.70E-02
			Barium	--	--	--	--	--	Kidney	9.48E-04	1.08E-05	--	--	9.59E-04
			Benzo(a)anthracene	2.10E-06	3.11E-06	--	--	5.21E-06	--	--	--	--	--	--
			Benzo(a)pyrene	6.98E-06	1.03E-05	--	--	1.73E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.15E-06	1.70E-06	--	--	2.85E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	2.49E-05	3.69E-05	--	--	6.18E-05
			Benzo(k)fluoranthene	1.37E-06	2.03E-06	--	--	3.39E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.17E-04	1.33E-06	--	--	1.18E-04
			Beta-BHC	1.15E-09	1.31E-10	--	--	1.28E-09	Liver/Kidney	1.08E-05	1.23E-06	--	--	1.20E-05
			bis(2-ethylhexyl)phthalate	8.21E-09	9.36E-10	--	--	9.15E-09	Liver	3.83E-04	4.37E-05	--	--	4.27E-04
			Cadmium	1.26E-06	1.43E-08	--	--	1.27E-06	Kidney	1.85E-02	2.11E-04	--	--	1.88E-02
			Carbon disulfide	--	--	--	--	--	Developmental	2.35E-09	6.69E-09	--	--	9.04E-09
			Chlorobenzene	--	--	--	--	--	Liver	5.38E-06	6.14E-07	--	--	6.00E-06

TABLE H-8.14

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	7.25E-05	8.27E-07	--	--	7.34E-05	
			Chrysene	2.38E-07	3.53E-07	--	--	5.91E-07	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	3.71E-04	4.22E-06	--	--	--	3.75E-04
			Copper	--	--	--	--	--	GI Tract/Kidney	1.40E-03	1.59E-05	--	--	--	1.41E-03
			Delta-BHC	4.40E-09	2.51E-09	--	--	6.91E-09	Liver/Kidney	4.11E-05	2.34E-05	--	--	--	6.45E-05
			Dibenzo(a,h)anthracene	4.55E-07	6.74E-07	--	--	1.13E-06	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	6.36E-03	7.25E-04	--	--	--	7.09E-03
			Dieldrin	3.08E-07	3.51E-08	--	--	3.43E-07	Liver	1.08E-03	1.23E-04	--	--	--	1.20E-03
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	4.65E-08	5.30E-09	--	--	--	5.18E-08
			di-n-Butylphthalate	--	--	--	--	--	Liver	1.08E-05	1.23E-06	--	--	--	1.20E-05
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	3.75E-06	2.14E-06	--	--	--	5.89E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	3.88E-06	2.21E-06	--	--	--	6.10E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	7.01E-06	4.00E-06	--	--	--	1.10E-05
			Endrin aldehyde	--	--	--	--	--	Liver	1.37E-04	7.82E-05	--	--	--	2.15E-04
			Endrin Ketone	--	--	--	--	--	Liver	3.26E-05	--	--	--	--	3.26E-05
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	6.48E-04	9.61E-04	--	--	--	1.61E-03
			Fluorene	--	--	--	--	--	Blood	7.13E-05	1.06E-04	--	--	--	1.77E-04
			gamma-BHC (Lindane)	9.99E-10	4.56E-10	--	--	1.46E-09	Liver/Kidney	8.48E-06	3.87E-06	--	--	--	1.23E-05
			gamma-Chlordane	5.95E-09	--	--	--	5.95E-09	Liver	2.58E-05	--	--	--	--	2.56E-05
			Heptachlor	9.89E-09	1.13E-09	--	--	1.10E-08	Liver	1.35E-05	1.54E-06	--	--	--	1.50E-05
			Heptachlor Epoxide	2.14E-08	2.44E-09	--	--	2.39E-08	Liver	8.40E-04	9.57E-05	--	--	--	9.35E-04
			Indeno(1,2,3-cd)pyrene	3.66E-07	5.43E-07	--	--	9.09E-07	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	1.33E-01	1.51E-03	--	--	--	1.34E-01
			Isophorone	6.64E-11	7.57E-11	--	--	1.42E-10	No Observed Effect	9.78E-07	1.12E-06	--	--	--	2.09E-06
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	1.35E-02	1.54E-04	--	--	--	1.37E-02
			Mercury	--	--	--	--	--	Immune System	1.01E-03	--	--	--	--	1.01E-03
			Methoxychlor	--	--	--	--	--	Developmental	2.35E-05	2.68E-06	--	--	--	2.62E-05
			Molybdenum	--	--	--	--	--	Blood	4.90E-04	5.59E-06	--	--	--	4.96E-04
			Naphthalene	--	--	--	--	--	Whole Body	6.36E-04	9.43E-04	--	--	--	1.58E-03
			Nickel	--	--	--	--	--	Whole Body	1.91E-03	2.18E-05	--	--	--	1.94E-03
			Phenanthrene	--	--	--	--	--	No Observed Effect	4.54E-05	5.18E-06	--	--	--	5.06E-05
			Phenol	--	--	--	--	--	Whole Body	1.89E-06	2.16E-06	--	--	--	4.05E-06
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.08E-06	--	--	--	--	1.08E-06
			Pyrene	--	--	--	--	--	Kidney	7.88E-04	1.17E-03	--	--	--	1.95E-03
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.74E-06	--	--	--	--	1.74E-06
			Selenium	--	--	--	--	--	Whole Body	4.39E-05	5.01E-07	--	--	--	4.44E-05
			Silver	--	--	--	--	--	Skin	2.27E-04	2.59E-06	--	--	--	2.29E-04
			Technical Chlordane	2.50E-07	1.14E-07	--	--	3.65E-07	Liver	1.08E-03	4.92E-04	--	--	--	1.57E-03
			Thallium	--	--	--	--	--	Blood	6.08E-03	--	--	--	--	6.08E-03
Toluene	--	--	--	--	--	Liver/Kidney	5.26E-09	6.00E-10	--	--	--	5.86E-09			
Vanadium	--	--	--	--	--	Kidney	3.34E-02	3.81E-04	--	--	--	3.38E-02			

TABLE H-8.14  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	1.48E-03	1.69E-05	--	--	1.50E-03
		Chemical Total		3.65E-05	2.85E-05	0.00E+00	0.00E+00	6.50E-05		3.75E-01	1.89E-01	0.00E+00	0.00E+00	5.64E-01
	Exposure Point Total						6.50E-05							5.64E-01
	Exposure Medium Total						6.50E-05							5.64E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.30E-02	--	1.30E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.42E-02	--	4.42E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.44E-03	--	9.44E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.28E-02	--	1.28E-02
			1,2-Dichloropropane	--	--	5.04E-09	--	5.04E-09	Nasal	--	--	3.44E-04	--	3.44E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.94E-03	--	2.94E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	7.44E-04	--	7.44E-04
			1,4-Dichlorobenzene	--	--	3.06E-06	--	3.06E-06	Liver	--	--	9.31E-04	--	9.31E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	1.09E-09	--	1.09E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.03E-04	--	2.03E-04
			4,4'-DDD	--	--	1.07E-14	--	1.07E-14	Liver	--	--	2.49E-10	--	2.49E-10
			4,4'-DDE	--	--	1.61E-10	--	1.61E-10	Liver	--	--	2.66E-06	--	2.66E-06
			4,4'-DDT	--	--	5.61E-13	--	5.61E-13	Liver	--	--	9.23E-09	--	9.23E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	5.60E-09	--	5.60E-09
			4-Nitroaniline	--	--	4.83E-13	--	4.83E-13	--	--	--	6.43E-08	--	6.43E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	7.65E-08	--	7.65E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.33E-04	--	1.33E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.27E-06	--	3.27E-06
			Aldrin	--	--	4.68E-09	--	4.68E-09	Liver	--	--	2.57E-05	--	2.57E-05
			alpha-BHC	--	--	4.81E-10	--	4.81E-10	Liver/ Kidney	--	--	9.97E-07	--	9.97E-07
			alpha-Chlordane	--	--	4.73E-10	--	4.73E-10	Liver	--	--	5.52E-06	--	5.52E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	6.40E-04	--	6.40E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	6.61E-06	--	6.61E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	8.90E-11	--	8.90E-11	Immune System/Eye/Finger and Toe nails	--	--	6.23E-06	--	6.23E-06
			Aroclor-1254	--	--	3.29E-11	--	3.29E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.30E-06	--	2.30E-06
			Aroclor-1260	--	--	4.01E-11	--	4.01E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.81E-06	--	2.81E-06
			Aroclor-1268	--	--	2.06E-12	--	2.06E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.44E-07	--	1.44E-07
			Arsenic	--	--	2.74E-09	--	2.74E-09	Developmental	--	--	7.44E-05	--	7.44E-05
			Barium	--	--	--	--	--	Developmental	--	--	5.03E-05	--	5.03E-05
			Benzo(a)anthracene	--	--	7.23E-11	--	7.23E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	2.41E-10	--	2.41E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	3.38E-08	--	3.38E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	2.64E-09	--	2.64E-09
			Benzo(k)fluoranthene	--	--	4.71E-11	--	4.71E-11	--	--	--	--	--	--
			Beryllium	--	--	7.41E-11	--	7.41E-11	Immune System/Lung	--	--	4.32E-06	--	4.32E-06
			Beta-BHC	--	--	1.22E-13	--	1.22E-13	Liver/Kidney	--	--	1.14E-09	--	1.14E-09

TABLE H-8.14

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	2.44E-12	--	2.44E-12	Liver	--	--	4.06E-08	--	4.06E-08
			Cadmium	--	--	5.27E-09	--	5.27E-09	Kidney/Respiratory System	--	--	1.72E-04	--	1.72E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.10E-07	--	3.10E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	2.48E-05	--	2.48E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.19E-08	--	1.19E-08	--	--	--	--	--	--
			Cobalt	--	--	2.75E-09	--	2.75E-09	Respiratory System	--	--	1.38E-04	--	1.38E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	3.07E-09	--	3.07E-09	Liver/Kidney	--	--	2.87E-05	--	2.87E-05
			Dibenzo(a,h)anthracene	--	--	4.82E-11	--	4.82E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	3.07E-03	--	3.07E-03
			Dieldrin	--	--	5.81E-08	--	5.81E-08	Liver	--	--	2.03E-04	--	2.03E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	4.93E-12	--	4.93E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	2.28E-09	--	2.28E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.84E-06	--	1.84E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.90E-06	--	1.90E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.44E-06	--	3.44E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.46E-08	--	1.46E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	3.46E-09	--	3.46E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	5.87E-05	--	5.87E-05
			Fluorene	--	--	--	--	--	Blood	--	--	5.85E-05	--	5.85E-05
			gamma-BHC (Lindane)	--	--	8.58E-10	--	8.58E-10	Liver/Kidney	--	--	7.28E-06	--	7.28E-06
			gamma-Chlordane	--	--	7.61E-10	--	7.61E-10	Liver	--	--	8.88E-06	--	8.88E-06
			Heptachlor	--	--	6.78E-08	--	6.78E-08	Liver	--	--	9.26E-05	--	9.26E-05
			Heptachlor Epoxide	--	--	2.27E-12	--	2.27E-12	Liver	--	--	8.90E-08	--	8.90E-08
			Indeno(1,2,3-cd)pyrene	--	--	1.26E-11	--	1.26E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	2.40E-03	--	2.40E-03
			Mercury	--	--	--	--	--	CNS	--	--	3.74E-07	--	3.74E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.37E-06	--	2.37E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	4.11E-06	--	4.11E-06	Nasal Epithelium	--	--	1.12E-01	--	1.12E-01
			Nickel	--	--	1.32E-09	--	1.32E-09	Respiratory System	--	--	2.90E-04	--	2.90E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	8.73E-05	--	8.73E-05
			Phenol	--	--	--	--	--	Liver/CNS	--	--	1.05E-09	--	1.05E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.39E-04	--	2.39E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	8.43E-05	--	8.43E-05
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	9.62E-05	--	9.62E-05
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	4.09E-09	--	4.09E-09			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.14  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	3.20E-08	--	3.20E-08	Liver	--	--	3.74E-04	--	3.74E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	2.99E-08	--	2.99E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	7.40E-06	0.00E+00	7.40E-06		0.00E+00	0.00E+00	2.05E-01	0.00E+00	2.05E-01
			Exposure Point Total					7.40E-06						2.05E-01
	Indoor Air (Vapor Intrusion)		1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.97E-01	--	4.97E-01
				1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.69E+00	--
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.07E-01	--	1.07E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.66E-01	--	1.66E-01
			1,2-Dichloropropane	--	--	1.69E-08	--	1.69E-08	Nasal	--	--	1.15E-03	--	1.15E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.43E-02	--	3.43E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.34E-02	--	1.34E-02
			1,4-Dichlorobenzene	--	--	3.54E-05	--	3.54E-05	Liver	--	--	1.08E-02	--	1.08E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.38E-03	--	5.38E-03
			4,4'-DDE	--	--	4.03E-11	--	4.03E-11	Liver	--	--	6.64E-07	--	6.64E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.55E-03	--	1.55E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.00E-05	--	4.00E-05
			Aldrin	--	--	5.34E-09	--	5.34E-09	Liver	--	--	2.93E-05	--	2.93E-05
			alpha-BHC	--	--	5.69E-09	--	5.69E-09	Liver/ Kidney	--	--	1.18E-05	--	1.18E-05
			alpha-Chlordane	--	--	1.27E-09	--	1.27E-09	Liver	--	--	1.48E-05	--	1.48E-05
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.16E-05	--	8.16E-05
			Benzo(b)fluoranthene	--	--	2.40E-08	--	2.40E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.37E-07	--	4.37E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.40E-04	--	1.40E-04
			Chrysene	--	--	1.36E-08	--	1.36E-08	--	--	--	--	--	--
			Delta-BHC	--	--	5.41E-08	--	5.41E-08	Liver/Kidney	--	--	5.05E-04	--	5.05E-04
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.48E-04	--	6.48E-04
			Dieldrin	--	--	1.64E-07	--	1.64E-07	Liver	--	--	5.74E-04	--	5.74E-04
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.97E-05	--	1.97E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.00E-05	--	2.00E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.68E-05	--	3.68E-05
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.71E-06	--	6.71E-06
			Fluorene	--	--	--	--	--	Blood	--	--	3.67E-04	--	3.67E-04
			gamma-BHC (Lindane)	--	--	1.23E-08	--	1.23E-08	Liver/Kidney	--	--	1.04E-04	--	1.04E-04
			gamma-Chlordane	--	--	2.31E-11	--	2.31E-11	Liver	--	--	2.70E-07	--	2.70E-07
			Heptachlor	--	--	8.70E-09	--	8.70E-09	Liver	--	--	1.19E-05	--	1.19E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.25E-06	--	3.25E-06
			Methylene Chloride	--	--	1.09E-09	--	1.09E-09	Blood	--	--	7.95E-06	--	7.95E-06
			Naphthalene	--	--	1.50E-04	--	1.50E-04	Nasal Epithelium	--	--	4.08E+00	--	4.08E+00
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.05E-03	--	1.05E-03

TABLE H-8.14

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.64E-04	--	3.64E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.26E-05	--	7.26E-05
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.17E-04	--	3.17E-04
			Technical Chlordane	--	--	9.86E-08	--	9.86E-08	Liver	--	--	1.15E-03	--	1.15E-03
			Toluene	--	--	--	--	--	CNS	--	--	1.10E-07	--	1.10E-07
			Chemical Total	0.00E+00	0.00E+00	1.86E-04	0.00E+00	1.86E-04			0.00E+00	0.00E+00	6.61E+00	0.00E+00
Exposure Point Total													6.61E+00	
Exposure Medium Total														6.81E+00
Medium Total														7.38E+00
Groundwater	Outdoor Air	Inhalation (Outdoor Air)	1,1-Dichloroethane	--	--	1.18E-10	--	1.18E-10	No observed effect	--	--	4.14E-07	--	4.14E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.02E-05	--	1.02E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.99E-06	--	1.99E-06
			1,2-Dichloroethane	--	--	2.10E-09	--	2.10E-09	Liver/ Kidney/ CNS	--	--	5.82E-05	--	5.82E-05
			1,2-Dichloropropane	--	--	3.93E-10	--	3.93E-10	Nasal	--	--	2.68E-05	--	2.68E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.79E-06	--	5.79E-06
			1,4-Dichlorobenzene	--	--	5.51E-10	--	5.51E-10	Liver	--	--	1.68E-07	--	1.68E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.04E-09	--	1.04E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.65E-09	--	2.65E-09
			4,4'-DDE	--	--	2.15E-11	--	2.15E-11	Liver	--	--	3.54E-07	--	3.54E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	6.44E-10	--	6.44E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	8.85E-08	--	8.85E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.77E-09	--	3.77E-09
			Aldrin	--	--	1.86E-09	--	1.86E-09	Liver	--	--	1.02E-05	--	1.02E-05
			alpha-BHC	--	--	3.74E-11	--	3.74E-11	Liver/ Kidney	--	--	7.76E-08	--	7.76E-08
			alpha-Chlordane	--	--	3.93E-11	--	3.93E-11	Liver	--	--	4.59E-07	--	4.59E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.50E-09	--	1.50E-09
			Benzene	--	--	1.28E-09	--	1.28E-09	Blood	--	--	4.16E-06	--	4.16E-06
			Benzo(b)fluoranthene	--	--	9.28E-12	--	9.28E-12	--	--	--	--	--	--
			Bromoform	--	--	1.40E-12	--	1.40E-12	Liver	--	--	5.04E-08	--	5.04E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.09E-06	--	3.09E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.51E-08	--	3.51E-08
			Chloroform	--	--	1.92E-09	--	1.92E-09	GI Tract/ Kidney/ Development	--	--	3.30E-06	--	3.30E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	3.95E-06	--	3.95E-06
			Chrysene	--	--	2.51E-12	--	2.51E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	7.26E-06	--	7.26E-06
			Dieldrin	--	--	7.69E-10	--	7.69E-10	Liver	--	--	2.69E-06	--	2.69E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.11E-09	--	5.11E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.40E-12	--	8.40E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	9.42E-08	--	9.42E-08
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.73E-09	--	1.73E-09			
Fluorene	--	--	--	--	--	Blood	--	--	3.42E-09	--	3.42E-09			
gamma-BHC (Lindane)	--	--	6.69E-14	--	6.69E-14	Liver/Kidney	--	--	5.67E-10	--	5.67E-10			

TABLE H-8.14  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Outdoor Air) (continued)	gamma-Chlordane	--	--	1.02E-10	--	1.02E-10	Liver	--	--	1.19E-06	--	1.19E-06
			Heptachlor	--	--	3.58E-09	--	3.58E-09	Liver	--	--	4.89E-06	--	4.89E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	4.27E-05	--	4.27E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	3.28E-06	--	3.28E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.95E-08	--	8.95E-08
			Naphthalene	--	--	3.19E-11	--	3.19E-11	Nasal Epithelium	--	--	8.68E-07	--	8.68E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	4.04E-05	--	4.04E-05
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	9.65E-07	--	9.65E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.20E-09	--	1.20E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.27E-05	--	4.27E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	2.11E-09	--	2.11E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.74E-06	--	2.74E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	3.11E-06	--	3.11E-06
			Toluene	--	--	--	--	--	CNS	--	--	3.64E-08	--	3.64E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	6.14E-06	--	6.14E-06
			Trichloroethene	--	--	3.19E-10	--	3.19E-10	CNS/Eye	--	--	7.51E-07	--	7.51E-07
			Vinyl chloride	--	--	2.55E-08	--	2.55E-08	Liver	--	--	9.25E-06	--	9.25E-06
		Chemical Total		0.00E+00	0.00E+00	3.86E-08	0.00E+00	3.86E-08		0.00E+00	0.00E+00	2.98E-04	0.00E+00	2.98E-04
		Exposure Point Total				3.86E-08		3.86E-08						2.98E-04
Exposure Medium Total														
						3.86E-08		3.86E-08						2.98E-04
Groundwater Vapor Intrusion Indoor Air	Indoor Air (Inhalation)	Indoor Air (Inhalation)	1,1-Dichloroethane	--	--	1.67E-08	--	1.67E-08	No observed effect	--	--	5.85E-05	--	5.85E-05
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.17E-04	--	2.17E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	4.14E-05	--	4.14E-05
			1,2-Dichloroethane	--	--	4.60E-08	--	4.60E-08	Liver/ Kidney/ CNS	--	--	1.28E-03	--	1.28E-03
			1,2-Dichloropropane	--	--	9.21E-09	--	9.21E-09	Nasal	--	--	6.28E-04	--	6.28E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.24E-04	--	1.24E-04
			1,4-Dichlorobenzene	--	--	1.17E-08	--	1.17E-08	Liver	--	--	3.57E-06	--	3.57E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.44E-08	--	2.44E-08
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.86E-08	--	4.86E-08
			4,4'-DDE	--	--	8.21E-13	--	8.21E-13	Liver	--	--	1.35E-08	--	1.35E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.47E-08	--	1.47E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.84E-06	--	1.84E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.81E-08	--	7.81E-08
			Aldrin	--	--	8.72E-11	--	8.72E-11	Liver	--	--	4.79E-07	--	4.79E-07
			alpha-BHC	--	--	1.83E-12	--	1.83E-12	Liver/ Kidney	--	--	3.80E-09	--	3.80E-09
			alpha-Chlordane	--	--	4.92E-12	--	4.92E-12	Liver	--	--	5.74E-08	--	5.74E-08
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.10E-08	--	3.10E-08
			Benzene	--	--	2.98E-08	--	2.98E-08	Blood	--	--	9.69E-05	--	9.69E-05
			Benzo(b)fluoranthene	--	--	1.63E-10	--	1.63E-10	--	--	--	--	--	--
			Bromoform	--	--	3.99E-11	--	3.99E-11	Liver	--	--	1.43E-06	--	1.43E-06
Carbon disulfide	--	--	--	--	--	CNS	--	--	7.30E-05	--	7.30E-05			
Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	7.90E-07	--	7.90E-07			

TABLE H-8.14

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (Inhalation) (continued)	Chloroform	--	--	4.41E-08	--	4.41E-08	GI Tract/Kidney Development	--	--	7.58E-05	--	7.58E-05		
			Chloromethane	--	--	--	--	--	CNS	--	--	9.79E-05	--	9.79E-05		
			Chrysene	--	--	4.56E-11	--	4.56E-11	--	--	--	--	--	--		
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.80E-04	--	1.80E-04		
			Dieldrin	--	--	1.27E-11	--	1.27E-11	Liver	--	--	4.43E-08	--	4.43E-08		
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.78E-10	--	4.78E-10		
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.60E-10	--	1.60E-10		
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	2.07E-06	--	2.07E-06		
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.93E-08	--	2.93E-08		
			Fluorene	--	--	--	--	--	Blood	--	--	7.45E-08	--	7.45E-08		
			gamma-BHC (Lindane)	--	--	1.01E-12	--	1.01E-12	Liver/Kidney	--	--	8.56E-09	--	8.56E-09		
			gamma-Chlordane	--	--	2.38E-12	--	2.38E-12	Liver	--	--	2.78E-08	--	2.78E-08		
			Heptachlor	--	--	5.90E-11	--	5.90E-11	Liver	--	--	8.05E-08	--	8.05E-08		
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.56E-04	--	8.56E-04		
			m,p-Xylene	--	--	--	--	--	CNS	--	--	7.27E-05	--	7.27E-05		
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.48E-09	--	1.48E-09		
			Naphthalene	--	--	6.61E-10	--	6.61E-10	Nasal Epithelium	--	--	1.80E-05	--	1.80E-05		
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.64E-04	--	8.64E-04		
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	2.09E-05	--	2.09E-05		
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.53E-08	--	2.53E-08		
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.56E-04	--	8.56E-04		
			Pyrene	--	--	--	--	--	Kidney	--	--	3.37E-08	--	3.37E-08		
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	7.45E-07	--	7.45E-07		
			Teri-Butylbenzene	--	--	--	--	--	Organ weight	--	--	7.43E-05	--	7.43E-05		
			Toluene	--	--	--	--	--	CNS	--	--	8.00E-08	--	8.00E-08		
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.58E-04	--	1.58E-04		
			Trichloroethene	--	--	7.47E-09	--	7.47E-09	CNS/Eye	--	--	1.76E-05	--	1.76E-05		
			Vinyl chloride	--	--	6.58E-07	--	6.58E-07	Liver	--	--	2.39E-04	--	2.39E-04		
						Chemical Total	0.00E+00	0.00E+00	8.24E-07	0.00E+00	8.24E-07		0.00E+00	0.00E+00	6.06E-03	6.06E-03
						Exposure Point Total					8.24E-07					6.06E-03
						Exposure Medium Total					8.24E-07					6.06E-03
			Medium Total								8.82E-07					6.38E-03
			Receptor Total								Receptor Risk Total					Receptor HI Total

**TABLE H-8.14**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.77E-01
Total Organ 2 (Kidney) HI Across All Media =	2.33E+00
Total Organ 3 (Reproductive System) HI Across All Media =	1.66E-04
Total Organ 4 (Nervous System) HI Across All Media =	1.86E-01
Total Organ 5 (Skin) HI Across All Media =	2.72E-02
Total Organ 6 (Blood) HI Across All Media =	1.77E-01
Total Organ 7 (Adrenal) HI Across All Media =	8.70E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.73E-03
Total Organ 9 (Brain) HI Across All Media =	4.93E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	1.77E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	2.81E-01
Total Organ 12 (Body Weight) HI Across All Media =	1.85E-01
Total Organ 13 (Developmental) HI Across All Media =	2.38E-04
Total Organ 14 (Respiratory/Lung) HI Across All Media =	1.56E-01
Total Organ 15 (Whole Body) HI Across All Media =	1.38E-02
Total Organ 16 (Immune System) HI Across All Media =	2.82E-01
Total Organ 17 (Organ Weight) HI Across All Media =	2.99E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.81E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	4.19E+00

TABLE H-8.15  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.47E-04	1.67E-04	--	--	3.14E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	4.99E-04	5.69E-05	--	--	5.56E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	9.78E-06	1.12E-06	--	--	1.09E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	2.83E-04	3.22E-05	--	--	3.15E-04
			1,2-Dichloropropane	4.53E-11	5.16E-12	--	--	5.05E-11	Nasal	3.09E-06	3.52E-07	--	--	3.44E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	3.13E-06	3.57E-07	--	--	3.49E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	3.59E-05	4.09E-06	--	--	4.00E-05
			1,4-Dichlorobenzene	1.28E-08	--	--	--	1.28E-08	Organ weight	2.22E-04	--	--	--	2.22E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.03E-05	1.17E-06	--	--	1.14E-05
			2-Methylphenol	--	--	--	--	--	Respiratory System	1.98E-05	2.26E-05	--	--	4.24E-05
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	2.84E-05	3.23E-06	--	--	3.16E-05
			4,4'-DDD	1.01E-10	1.15E-11	--	--	1.12E-10	Liver	2.35E-06	2.68E-07	--	--	2.62E-06
			4,4'-DDE	8.91E-09	1.02E-09	--	--	9.93E-09	Liver	1.47E-04	1.67E-05	--	--	1.64E-04
			4,4'-DDT	4.99E-09	1.71E-09	--	--	6.70E-09	Liver	8.22E-05	2.81E-05	--	--	1.10E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	5.28E-05	6.02E-05	--	--	1.13E-04
			4-Nitroaniline	4.55E-09	5.19E-09	--	--	9.74E-09	--	2.02E-04	2.31E-04	--	--	4.33E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	8.22E-04	9.37E-04	--	--	1.76E-03
			Acenaphthene	--	--	--	--	--	Liver	5.66E-05	8.39E-05	--	--	1.41E-04
			Acenaphthylene	--	--	--	--	--	Liver	1.46E-06	1.67E-07	--	--	1.63E-06
			Aldrin	7.72E-08	8.80E-08	--	--	1.65E-07	Liver	4.24E-04	4.83E-04	--	--	9.07E-04
			alpha-BHC	6.89E-10	7.85E-11	--	--	7.67E-10	Liver/Kidney	1.43E-06	1.63E-07	--	--	1.59E-06
			alpha-Chlordane	3.17E-09	--	--	--	3.17E-09	Liver	1.37E-05	--	--	--	1.37E-05
			Aluminum	--	--	--	--	--	CNS	8.86E-03	1.01E-04	--	--	8.96E-03
			Anthracene	--	--	--	--	--	No Observed Effect	2.98E-06	4.41E-06	--	--	7.39E-06
			Antimony	--	--	--	--	--	Whole Body/Blood	6.66E-03	7.60E-05	--	--	6.74E-03
			Aroclor-1248	8.39E-07	1.34E-06	--	--	2.18E-06	Immune System/ Eye/Finger and Toe Nails	5.87E-02	9.37E-02	--	--	1.52E-01
			Aroclor-1254	3.06E-07	4.88E-07	--	--	7.94E-07	Immune System/ Eye/Finger and Toe Nails	2.14E-02	3.42E-02	--	--	5.56E-02
			Aroclor-1260	3.41E-07	5.45E-07	--	--	8.86E-07	Immune System/ Eye/Finger and Toe Nails	2.39E-02	3.81E-02	--	--	6.20E-02
			Aroclor-1268	1.90E-08	3.03E-08	--	--	4.93E-08	Immune System/ Eye/Finger and Toe Nails	1.33E-03	2.12E-03	--	--	3.45E-03
			Arsenic	3.15E-05	1.08E-05	--	--	4.22E-05	Skin	3.11E-02	1.06E-02	--	--	4.17E-02
			Barium	--	--	--	--	--	Kidney	9.71E-04	1.11E-05	--	--	9.82E-04
			Benzo(a)anthracene	1.77E-06	2.62E-06	--	--	4.38E-06	--	--	--	--	--	--
			Benzo(a)pyrene	5.90E-06	8.74E-06	--	--	1.46E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	9.95E-07	1.47E-06	--	--	2.47E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	2.11E-05	3.13E-05	--	--	5.24E-05
			Benzo(k)fluoranthene	1.18E-06	1.76E-06	--	--	2.94E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.11E-04	1.27E-06	--	--	1.13E-04
			Beta-BHC	1.15E-09	1.31E-10	--	--	1.28E-09	Liver/Kidney	1.08E-05	1.23E-06	--	--	1.20E-05
			bis(2-ethylhexyl)phthalate	5.55E-09	6.33E-10	--	--	6.18E-09	Liver	2.59E-04	2.95E-05	--	--	2.89E-04
			Cadmium	1.15E-06	1.31E-08	--	--	1.16E-06	Kidney	1.69E-02	1.93E-04	--	--	1.71E-02
			Carbon disulfide	--	--	--	--	--	Developmental	2.35E-09	6.69E-09	--	--	9.04E-09
			Chlorobenzene	--	--	--	--	--	Liver	5.38E-06	6.14E-07	--	--	6.00E-06

TABLE H-8.15  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	6.52E-05	7.43E-07	--	--	6.60E-05		
			Chrysene	2.01E-07	2.98E-07	--	--	4.99E-07	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	3.64E-04	4.15E-06	--	--	--	3.68E-04	
			Copper	--	--	--	--	--	GI Tract/Kidney	1.47E-03	1.68E-05	--	--	--	1.49E-03	
			Delta-BHC	4.40E-09	2.51E-09	--	--	6.91E-09	Liver/Kidney	4.11E-05	2.34E-05	--	--	--	6.45E-05	
			Dibenzo(a,h)anthracene	3.95E-07	5.85E-07	--	--	9.80E-07	--	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	6.36E-03	7.25E-04	--	--	--	7.09E-03	
			Dieldrin	2.74E-07	3.12E-08	--	--	3.05E-07	Liver	9.57E-04	1.09E-04	--	--	--	1.07E-03	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	4.65E-08	5.30E-09	--	--	--	5.18E-08	
			di-n-Butylphthalate	--	--	--	--	--	Liver	1.13E-05	1.28E-06	--	--	--	1.25E-05	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	3.75E-06	2.14E-06	--	--	--	5.89E-06	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	3.81E-06	2.17E-06	--	--	--	5.98E-06	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	7.01E-06	4.00E-06	--	--	--	1.10E-05	
			Endrin aldehyde	--	--	--	--	--	Liver	2.05E-04	1.17E-04	--	--	--	3.23E-04	
			Endrin Ketone	--	--	--	--	--	Liver	3.26E-05	--	--	--	--	3.26E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	5.44E-04	8.07E-04	--	--	--	1.35E-03	
			Fluorene	--	--	--	--	--	Blood	6.18E-05	9.16E-05	--	--	--	1.53E-04	
			gamma-BHC (Lindane)	9.99E-10	4.56E-10	--	--	1.46E-09	Liver/Kidney	8.48E-06	3.87E-06	--	--	--	1.23E-05	
			gamma-Chlordane	5.77E-09	--	--	--	5.77E-09	Liver	2.49E-05	--	--	--	--	2.49E-05	
			Heptachlor	9.89E-09	1.13E-09	--	--	1.10E-08	Liver	1.35E-05	1.54E-06	--	--	--	1.50E-05	
			Heptachlor Epoxide	1.89E-08	2.16E-09	--	--	2.11E-08	Liver	7.42E-04	8.46E-05	--	--	--	8.27E-04	
			Indeno(1,2,3-cd)pyrene	2.08E-07	3.09E-07	--	--	5.17E-07	--	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	1.20E-01	1.37E-03	--	--	--	1.21E-01	
			Isophorone	6.64E-11	7.57E-11	--	--	1.42E-10	No Observed Effect	9.78E-07	1.12E-06	--	--	--	2.09E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	1.24E-02	1.41E-04	--	--	--	1.25E-02	
			Mercury	--	--	--	--	--	Immune System	8.65E-04	--	--	--	--	8.65E-04	
			Methoxychlor	--	--	--	--	--	Developmental	2.35E-05	2.68E-06	--	--	--	2.62E-05	
			Methylene chloride	1.17E-11	1.34E-12	--	--	1.31E-11	Liver	3.91E-08	4.46E-09	--	--	--	4.36E-08	
			Molybdenum	--	--	--	--	--	Blood	4.27E-04	4.86E-06	--	--	--	4.31E-04	
			Naphthalene	--	--	--	--	--	Whole Body	6.36E-04	9.43E-04	--	--	--	1.58E-03	
			Nickel	--	--	--	--	--	Whole Body	1.91E-03	2.17E-05	--	--	--	1.93E-03	
			Phenanthrene	--	--	--	--	--	No Observed Effect	3.81E-05	4.34E-06	--	--	--	4.24E-05	
			Phenol	--	--	--	--	--	Whole Body	1.89E-06	2.16E-06	--	--	--	4.05E-06	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.08E-06	--	--	--	--	1.08E-06	
			Pyrene	--	--	--	--	--	Kidney	6.64E-04	9.83E-04	--	--	--	1.65E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.74E-06	--	--	--	--	1.74E-06	
			Selenium	--	--	--	--	--	Whole Body	5.55E-05	6.33E-07	--	--	--	5.61E-05	
			Silver	--	--	--	--	--	Skin	1.92E-04	2.19E-06	--	--	--	1.94E-04	
			Technical Chlordane	2.46E-07	1.12E-07	--	--	3.58E-07	Liver	1.06E-03	4.83E-04	--	--	--	1.54E-03	
Thallium	--	--	--	--	--	Blood	5.90E-03	--	--	--	--	5.90E-03				
Toluene	--	--	--	--	--	Liver/Kidney	5.26E-09	6.00E-10	--	--	--	5.86E-09				

TABLE H-8.15  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	3.30E-02	3.76E-04	--	--	3.33E-02
			Zinc	--	--	--	--	--	Blood	1.08E-03	1.23E-05	--	--	1.09E-03
			Chemical Total	4.55E-05	2.92E-05	0.00E+00	0.00E+00	7.47E-05		3.62E-01	1.88E-01	0.00E+00	0.00E+00	5.50E-01
			Exposure Point Total					7.47E-05						5.50E-01
	Exposure Medium Total							7.47E-05						5.50E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.30E-02	--	1.30E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.42E-02	--	4.42E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.44E-03	--	9.44E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.28E-02	--	1.28E-02
			1,2-Dichloropropane	--	--	5.04E-09	--	5.04E-09	Nasal	--	--	3.44E-04	--	3.44E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.94E-03	--	2.94E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	7.44E-04	--	7.44E-04
			1,4-Dichlorobenzene	--	--	3.06E-06	--	3.06E-06	Liver	--	--	9.31E-04	--	9.31E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	1.09E-09	--	1.09E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.76E-04	--	1.76E-04
			4,4'-DDD	--	--	1.07E-14	--	1.07E-14	Liver	--	--	2.49E-10	--	2.49E-10
			4,4'-DDE	--	--	1.47E-10	--	1.47E-10	Liver	--	--	2.42E-06	--	2.42E-06
			4,4'-DDT	--	--	5.29E-13	--	5.29E-13	Liver	--	--	8.72E-09	--	8.72E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	5.60E-09	--	5.60E-09
			4-Nitroaniline	--	--	4.83E-13	--	4.83E-13	--	--	--	6.43E-08	--	6.43E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	7.65E-08	--	7.65E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.09E-04	--	1.09E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.81E-06	--	2.81E-06
			Aldrin	--	--	4.68E-09	--	4.68E-09	Liver	--	--	2.57E-05	--	2.57E-05
			alpha-BHC	--	--	4.81E-10	--	4.81E-10	Liver/ Kidney	--	--	9.97E-07	--	9.97E-07
			alpha-Chlordane	--	--	4.06E-10	--	4.06E-10	Liver	--	--	4.73E-06	--	4.73E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	6.57E-04	--	6.57E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.72E-06	--	5.72E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	8.90E-11	--	8.90E-11	Immune System/Eye/Finger and Toe nails	--	--	6.23E-06	--	6.23E-06
			Aroclor-1254	--	--	3.24E-11	--	3.24E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.27E-06	--	2.27E-06
			Aroclor-1260	--	--	3.62E-11	--	3.62E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.53E-06	--	2.53E-06
			Aroclor-1268	--	--	2.01E-12	--	2.01E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.41E-07	--	1.41E-07
			Arsenic	--	--	4.24E-09	--	4.24E-09	Developmental	--	--	1.15E-04	--	1.15E-04
			Barium	--	--	--	--	--	Developmental	--	--	5.15E-05	--	5.15E-05
			Benzo(a)anthracene	--	--	6.09E-11	--	6.09E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	2.03E-10	--	2.03E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	2.93E-08	--	2.93E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	2.24E-09	--	2.24E-09
			Benzo(k)fluoranthene	--	--	4.08E-11	--	4.08E-11	--	--	--	--	--	--
			Beryllium	--	--	7.09E-11	--	7.09E-11	Immune System/Lung	--	--	4.14E-06	--	4.14E-06

TABLE H-8.15

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	1.22E-13	--	1.22E-13	Liver/Kidney	--	--	1.14E-09	--	1.14E-09
			bis(2-ethylhexyl)phthalate	--	--	1.65E-12	--	1.65E-12	Liver	--	--	2.75E-08	--	2.75E-08
			Cadmium	--	--	4.81E-09	--	4.81E-09	Kidney/Respiratory System	--	--	1.57E-04	--	1.57E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.10E-07	--	3.10E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	2.48E-05	--	2.48E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.01E-08	--	1.01E-08	--	--	--	--	--	--
			Cobalt	--	--	2.70E-09	--	2.70E-09	Respiratory System	--	--	1.35E-04	--	1.35E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	3.07E-09	--	3.07E-09	Liver/Kidney	--	--	2.87E-05	--	2.87E-05
			Dibenzo(a,h)anthracene	--	--	4.19E-11	--	4.19E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	3.07E-03	--	3.07E-03
			Diethylin	--	--	5.15E-08	--	5.15E-08	Liver	--	--	1.80E-04	--	1.80E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	4.93E-12	--	4.93E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	2.39E-09	--	2.39E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.84E-06	--	1.84E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.87E-06	--	1.87E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.44E-06	--	3.44E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.18E-08	--	2.18E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	3.46E-09	--	3.46E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	4.93E-05	--	4.93E-05
			Fluorene	--	--	--	--	--	Blood	--	--	5.07E-05	--	5.07E-05
			gamma-BHC (Lindane)	--	--	8.58E-10	--	8.58E-10	Liver/Kidney	--	--	7.28E-06	--	7.28E-06
			gamma-Chlordane	--	--	7.38E-10	--	7.38E-10	Liver	--	--	8.61E-06	--	8.61E-06
			Heptachlor	--	--	6.78E-08	--	6.78E-08	Liver	--	--	9.26E-05	--	9.26E-05
			Heptachlor Epoxide	--	--	2.01E-12	--	2.01E-12	Liver	--	--	7.87E-08	--	7.87E-08
			Indeno(1,2,3-cd)pyrene	--	--	7.19E-12	--	7.19E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	2.21E-03	--	2.21E-03
			Mercury	--	--	--	--	--	CNS	--	--	3.20E-07	--	3.20E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.37E-06	--	2.37E-06
			Methylene chloride	--	--	--	--	--	Blood	--	--	--	--	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	4.11E-06	--	4.11E-06	Nasal Epithelium	--	--	1.12E-01	--	1.12E-01
			Nickel	--	--	1.31E-09	--	1.31E-09	Respiratory System	--	--	2.89E-04	--	2.89E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	7.32E-05	--	7.32E-05
			Phenol	--	--	--	--	--	Liver/CNS	--	--	1.05E-09	--	1.05E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.39E-04	--	2.39E-04
Pyrene	--	--	--	--	--	Kidney	--	--	7.10E-05	--	7.10E-05			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	9.62E-05	--	9.62E-05			

TABLE H-8.15  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	5.16E-09	--	5.16E-09
			Silver	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	3.14E-08	--	3.14E-08	Liver	--	--	3.67E-04	--	3.67E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	2.99E-08	--	2.99E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	7.38E-06	0.00E+00	7.38E-06		0.00E+00	0.00E+00	2.05E-01	0.00E+00	2.05E-01
		Exposure Point Total						7.38E-06						2.05E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.97E-01	--	4.97E-01
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.69E+00	--	1.69E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.07E-01	--	1.07E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.66E-01	--	1.66E-01
			1,2-Dichloropropane	--	--	1.69E-08	--	1.69E-08	Nasal	--	--	1.15E-03	--	1.15E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.43E-02	--	3.43E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.34E-02	--	1.34E-02
			1,4-Dichlorobenzene	--	--	3.54E-05	--	3.54E-05	Liver	--	--	1.08E-02	--	1.08E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.38E-03	--	5.38E-03
			4,4'-DDE	--	--	4.03E-11	--	4.03E-11	Liver	--	--	6.64E-07	--	6.64E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.55E-03	--	1.55E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.00E-05	--	4.00E-05
			Aldrin	--	--	5.34E-09	--	5.34E-09	Liver	--	--	2.93E-05	--	2.93E-05
			alpha-BHC	--	--	5.69E-09	--	5.69E-09	Liver/ Kidney	--	--	1.18E-05	--	1.18E-05
			alpha-Chlordane	--	--	1.27E-09	--	1.27E-09	Liver	--	--	1.48E-05	--	1.48E-05
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.16E-05	--	8.16E-05
			Benzo(b)fluoranthene	--	--	2.40E-08	--	2.40E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.37E-07	--	4.37E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.40E-04	--	1.40E-04
			Chrysene	--	--	1.36E-08	--	1.36E-08	--	--	--	--	--	--
			Delta-BHC	--	--	5.41E-08	--	5.41E-08	Liver/Kidney	--	--	5.05E-04	--	5.05E-04
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.48E-04	--	6.48E-04
			Dieldrin	--	--	1.64E-07	--	1.64E-07	Liver	--	--	5.74E-04	--	5.74E-04
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.97E-05	--	1.97E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.00E-05	--	2.00E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.68E-05	--	3.68E-05
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.71E-06	--	6.71E-06
			Fluorene	--	--	--	--	--	Blood	--	--	3.67E-04	--	3.67E-04
			gamma-BHC (Lindane)	--	--	1.23E-08	--	1.23E-08	Liver/Kidney	--	--	1.04E-04	--	1.04E-04
			gamma-Chlordane	--	--	2.31E-11	--	2.31E-11	Liver	--	--	2.70E-07	--	2.70E-07
			Heptachlor	--	--	8.70E-09	--	8.70E-09	Liver	--	--	1.19E-05	--	1.19E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.25E-06	--	3.25E-06
			Methylene Chloride	--	--	1.09E-09	--	1.09E-09	Blood	--	--	7.95E-06	--	7.95E-06

TABLE H-8.15  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	1.50E-04	--	1.50E-04	Nasal Epithelium	--	--	4.08E+00	--	4.08E+00
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.05E-03	--	1.05E-03
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.64E-04	--	3.64E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.26E-05	--	7.26E-05
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.17E-04	--	3.17E-04
			Technical Chlordane	--	--	9.86E-08	--	9.86E-08	Liver	--	--	1.15E-03	--	1.15E-03
			Toluene	--	--	--	--	--	CNS	--	--	1.10E-07	--	1.10E-07
			Chemical Total	0.00E+00	0.00E+00	1.86E-04	0.00E+00	1.86E-04		0.00E+00	0.00E+00	6.61E+00	0.00E+00	6.61E+00
Exposure Point Total			1.86E-04					6.61E+00						
Exposure Medium Total			1.93E-04					6.81E+00						
Medium Total			2.68E-04					7.36E+00						
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	1.18E-10	--	1.18E-10	No observed effect	--	--	4.14E-07	--	4.14E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.02E-05	--	1.02E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.99E-06	--	1.99E-06
			1,2-Dichloroethane	--	--	2.10E-09	--	2.10E-09	Liver/ Kidney/ CNS	--	--	5.82E-05	--	5.82E-05
			1,2-Dichloropropane	--	--	3.93E-10	--	3.93E-10	Nasal	--	--	2.68E-05	--	2.68E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.79E-06	--	5.79E-06
			1,4-Dichlorobenzene	--	--	5.51E-10	--	5.51E-10	Liver	--	--	1.68E-07	--	1.68E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.04E-09	--	1.04E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.65E-09	--	2.65E-09
			4,4'-DDE	--	--	2.15E-11	--	2.15E-11	Liver	--	--	3.54E-07	--	3.54E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	6.44E-10	--	6.44E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	8.85E-08	--	8.85E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.77E-09	--	3.77E-09
			Aldrin	--	--	1.86E-09	--	1.86E-09	Liver	--	--	1.02E-05	--	1.02E-05
			alpha-BHC	--	--	3.74E-11	--	3.74E-11	Liver/ Kidney	--	--	7.78E-08	--	7.78E-08
			alpha-Chlordane	--	--	3.93E-11	--	3.93E-11	Liver	--	--	4.59E-07	--	4.59E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.50E-09	--	1.50E-09
			Benzene	--	--	1.28E-09	--	1.28E-09	Blood	--	--	4.16E-06	--	4.16E-06
			Benzo(b)fluoranthene	--	--	9.28E-12	--	9.28E-12	--	--	--	--	--	--
			Bromoform	--	--	1.40E-12	--	1.40E-12	Liver	--	--	5.04E-08	--	5.04E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.09E-06	--	3.09E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.51E-08	--	3.51E-08
			Chloroform	--	--	1.92E-09	--	1.92E-09	GI Tract/ Kidney/ Development	--	--	3.30E-06	--	3.30E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	3.95E-06	--	3.95E-06
			Chrysene	--	--	2.51E-12	--	2.51E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	7.26E-06	--	7.26E-06
			Dieckrin	--	--	7.69E-10	--	7.69E-10	Liver	--	--	2.69E-06	--	2.69E-06
Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.11E-09	--	5.11E-09			
Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.40E-12	--	8.40E-12			
Ethylbenzene	--	--	--	--	--	Developmental	--	--	9.42E-08	--	9.42E-08			
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.73E-09	--	1.73E-09			

TABLE H-8.15  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	3.42E-09	--	3.42E-09		
			gamma-BHC (Lindane)	--	--	6.69E-14	--	6.69E-14	Liver/Kidney	--	--	5.67E-10	--	5.67E-10		
			gamma-Chlordane	--	--	1.02E-10	--	1.02E-10	Liver	--	--	1.19E-06	--	1.19E-06		
			Heptachlor	--	--	3.58E-09	--	3.58E-09	Liver	--	--	4.89E-06	--	4.89E-06		
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	4.27E-05	--	4.27E-05		
			m,p-Xylene	--	--	--	--	--	CNS	--	--	3.28E-06	--	3.28E-06		
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.95E-08	--	8.95E-08		
			Naphthalene	--	--	3.19E-11	--	3.19E-11	Nasal Epithelium	--	--	8.68E-07	--	8.68E-07		
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	4.04E-05	--	4.04E-05		
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	9.65E-07	--	9.65E-07		
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.20E-09	--	1.20E-09		
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.27E-05	--	4.27E-05		
			Pyrene	--	--	--	--	--	Kidney	--	--	2.11E-09	--	2.11E-09		
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.74E-06	--	2.74E-06		
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	3.11E-06	--	3.11E-06		
			Toluene	--	--	--	--	--	CNS	--	--	3.64E-08	--	3.64E-08		
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	6.14E-06	--	6.14E-06		
			Trichloroethene	--	--	3.19E-10	--	3.19E-10	CNS/Eye	--	--	7.51E-07	--	7.51E-07		
			Vinyl chloride	--	--	2.55E-08	--	2.55E-08	Liver	--	--	9.25E-06	--	9.25E-06		
						Chemical Total	0.00E+00	0.00E+00	3.86E-08	0.00E+00	3.86E-08				0.00E+00	0.00E+00
Exposure Point Total																
Exposure Medium Total																
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	1.67E-08	--	1.67E-08	No observed effect	--	--	5.65E-05	--	5.65E-05		
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.17E-04	--	2.17E-04		
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	4.14E-05	--	4.14E-05		
			1,2-Dichloroethane	--	--	4.60E-08	--	4.60E-08	Liver/ Kidney/ CNS	--	--	1.28E-03	--	1.28E-03		
			1,2-Dichloropropane	--	--	9.21E-09	--	9.21E-09	Nasal	--	--	6.28E-04	--	6.28E-04		
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.24E-04	--	1.24E-04		
			1,4-Dichlorobenzene	--	--	1.17E-08	--	1.17E-08	Liver	--	--	3.57E-06	--	3.57E-06		
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.44E-08	--	2.44E-08		
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.86E-08	--	4.86E-08		
			4,4'-DDE	--	--	8.21E-13	--	8.21E-13	Liver	--	--	1.35E-08	--	1.35E-08		
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.47E-08	--	1.47E-08		
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.84E-06	--	1.84E-06		
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.81E-08	--	7.81E-08		
			Aldrin	--	--	8.72E-11	--	8.72E-11	Liver	--	--	4.79E-07	--	4.79E-07		
			alpha-BHC	--	--	1.83E-12	--	1.83E-12	Liver/ Kidney	--	--	3.80E-09	--	3.80E-09		
			alpha-Chlordane	--	--	4.92E-12	--	4.92E-12	Liver	--	--	5.74E-08	--	5.74E-08		
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.10E-08	--	3.10E-08		
			Benzene	--	--	2.98E-08	--	2.98E-08	Blood	--	--	9.69E-05	--	9.69E-05		
			Benzo(b)fluoranthene	--	--	1.63E-10	--	1.63E-10	--	--	--	--	--	--		
			Bromoform	--	--	3.99E-11	--	3.99E-11	Liver	--	--	1.43E-06	--	1.43E-06		

TABLE H-8.15

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	-	-	-	-	-	CNS	-	-	7.30E-05	-	7.30E-05		
			Chlorobenzene	-	-	-	-	-	GI Tract/Kidney/Reproductive System	-	-	7.90E-07	-	7.90E-07		
			Chloroform	-	-	4.41E-08	-	4.41E-08	GI Tract/ Kidney/ Development	-	-	7.58E-05	-	7.58E-05		
			Chloromethane	-	-	-	-	-	CNS	-	-	9.79E-05	-	9.79E-05		
			Chrysene	-	-	4.56E-11	-	4.56E-11	-	-	-	-	-	-		
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.80E-04	-	1.80E-04		
			Dieldrin	-	-	1.27E-11	-	1.27E-11	Liver	-	-	4.43E-08	-	4.43E-08		
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	4.78E-10	-	4.78E-10		
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	1.60E-10	-	1.60E-10		
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	2.07E-06	-	2.07E-06		
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	2.93E-08	-	2.93E-08		
			Fluorene	-	-	-	-	-	Blood	-	-	7.45E-08	-	7.45E-08		
			gamma-BHC (Lindane)	-	-	1.01E-12	-	1.01E-12	Liver/Kidney	-	-	8.56E-09	-	8.56E-09		
			gamma-Chlordane	-	-	2.38E-12	-	2.38E-12	Liver	-	-	2.78E-08	-	2.78E-08		
			Heptachlor	-	-	5.90E-11	-	5.90E-11	Liver	-	-	8.05E-08	-	8.05E-08		
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	8.56E-04	-	8.56E-04		
			m,p-Xylene	-	-	-	-	-	CNS	-	-	7.27E-05	-	7.27E-05		
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.48E-09	-	1.48E-09		
			Naphthalene	-	-	6.61E-10	-	6.61E-10	Nasal Epithelium	-	-	1.80E-05	-	1.80E-05		
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	8.64E-04	-	8.64E-04		
			n-Propylbenzene	-	-	-	-	-	Liver/ Kidney	-	-	2.09E-05	-	2.09E-05		
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	2.53E-08	-	2.53E-08		
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	8.56E-04	-	8.56E-04		
			Pyrene	-	-	-	-	-	Kidney	-	-	3.37E-08	-	3.37E-08		
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	7.45E-07	-	7.45E-07		
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	7.43E-05	-	7.43E-05		
			Toluene	-	-	-	-	-	CNS	-	-	8.00E-08	-	8.00E-08		
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.58E-04	-	1.58E-04		
			Trichloroethene	-	-	7.47E-09	-	7.47E-09	CNS/Eye	-	-	1.76E-05	-	1.76E-05		
			Vinyl chloride	-	-	6.58E-07	-	6.58E-07	Liver	-	-	2.39E-04	-	2.39E-04		
						Chemical Total	0.00E+00	0.00E+00	8.24E-07	0.00E+00	8.24E-07		0.00E+00	0.00E+00	6.06E-03	6.06E-03
						Exposure Point Total					8.24E-07					6.06E-03
						Exposure Medium Total					8.24E-07					6.06E-03
			Medium Total					8.24E-07					6.06E-03			
			Receptor Total					2.68E-04					7.37E+00			

**TABLE H-8.15**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.63E-01
Total Organ 2 (Kidney) HI Across All Media =	2.33E+00
Total Organ 3 (Reproductive System) HI Across All Media =	1.66E-04
Total Organ 4 (Nervous System) HI Across All Media =	1.85E-01
Total Organ 5 (Skin) HI Across All Media =	4.19E-02
Total Organ 6 (Blood) HI Across All Media =	1.73E-01
Total Organ 7 (Adrenal) HI Across All Media =	8.70E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.70E-03
Total Organ 9 (Brain) HI Across All Media =	4.93E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	1.84E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	2.73E-01
Total Organ 12 (Body Weight) HI Across All Media =	1.85E-01
Total Organ 13 (Developmental) HI Across All Media =	2.80E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.56E-01
Total Organ 15 (Whole Body) HI Across All Media =	1.04E-02
Total Organ 16 (Immune System) HI Across All Media =	2.74E-01
Total Organ 17 (Organ Weight) HI Across All Media =	2.99E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.73E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	4.19E+00

TABLE H-8.16  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	4.84E-04	6.69E-04	--	--	1.15E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.65E-03	2.28E-04	--	--	1.87E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	3.23E-05	4.46E-06	--	--	3.68E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	9.33E-04	1.29E-04	--	--	1.06E-03
			1,2-Dichloropropane	5.98E-12	8.26E-13	--	--	6.80E-12	Nasal	1.02E-05	1.41E-06	--	--	1.16E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.03E-05	1.43E-06	--	--	1.18E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.18E-04	1.64E-05	--	--	1.35E-04
			1,4-Dichlorobenzene	1.69E-09	--	--	--	1.69E-09	Organ weight	7.32E-04	--	--	--	7.32E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	3.39E-05	4.68E-06	--	--	3.86E-05
			2-Methylphenol	--	--	--	--	--	Respiratory System	6.54E-05	9.04E-05	--	--	1.56E-04
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	1.08E-04	1.49E-05	--	--	1.23E-04
			4,4'-DDD	1.33E-11	1.84E-12	--	--	1.51E-11	Liver	7.75E-06	1.07E-06	--	--	8.82E-06
			4,4'-DDE	1.29E-09	1.78E-10	--	--	1.47E-09	Liver	5.32E-04	7.35E-05	--	--	6.05E-04
			4,4'-DDT	6.98E-10	2.89E-10	--	--	9.87E-10	Liver	2.87E-04	1.19E-04	--	--	4.06E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.74E-04	2.41E-04	--	--	4.15E-04
			4-Nitroaniline	6.01E-10	8.30E-10	--	--	1.43E-09	--	6.67E-04	9.22E-04	--	--	1.59E-03
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.71E-03	3.75E-03	--	--	6.46E-03
			Acenaphthene	--	--	--	--	--	Liver	2.28E-04	4.09E-04	--	--	6.37E-04
			Acenaphthylene	--	--	--	--	--	Liver	5.61E-06	7.75E-07	--	--	6.38E-06
			Aldrin	1.02E-08	1.41E-08	--	--	2.43E-08	Liver	1.40E-03	1.93E-03	--	--	3.33E-03
			alpha-BHC	9.09E-11	1.26E-11	--	--	1.03E-10	Liver/Kidney	4.71E-06	6.51E-07	--	--	5.37E-06
			alpha-Chlordane	4.88E-10	--	--	--	4.88E-10	Liver	5.26E-05	--	--	--	5.26E-05
			Aluminum	--	--	--	--	--	CNS	2.85E-02	3.94E-04	--	--	2.89E-02
			Anthracene	--	--	--	--	--	No Observed Effect	1.14E-05	2.04E-05	--	--	3.17E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	3.29E-02	4.55E-04	--	--	3.34E-02
			Aroclor-1248	1.11E-07	2.14E-07	--	--	3.25E-07	Immune System/ Eye/Finger and Toe Nails	1.94E-01	3.75E-01	--	--	5.69E-01
			Aroclor-1254	4.10E-08	7.93E-08	--	--	1.20E-07	Immune System/ Eye/Finger and Toe Nails	7.17E-02	1.39E-01	--	--	2.10E-01
			Aroclor-1260	4.99E-08	9.66E-08	--	--	1.47E-07	Immune System/ Eye/Finger and Toe Nails	8.74E-02	1.69E-01	--	--	2.56E-01
			Aroclor-1268	2.56E-09	4.95E-09	--	--	7.52E-09	Immune System/ Eye/Finger and Toe Nails	4.48E-03	8.67E-03	--	--	1.32E-02
			Arsenic	2.69E-06	1.11E-06	--	--	3.80E-06	Skin	6.64E-02	2.75E-02	--	--	9.39E-02
			Barium	--	--	--	--	--	Kidney	3.13E-03	4.32E-05	--	--	3.17E-03
			Benzo(a)anthracene	2.77E-07	4.98E-07	--	--	7.75E-07	--	--	--	--	--	--
			Benzo(a)pyrene	9.22E-07	1.66E-06	--	--	2.58E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.52E-07	2.72E-07	--	--	4.24E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	8.22E-05	1.48E-04	--	--	2.30E-04
			Benzo(k)fluoranthene	1.80E-07	3.24E-07	--	--	5.05E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	3.84E-04	5.31E-06	--	--	3.90E-04
			Beta-BHC	1.52E-10	2.10E-11	--	--	1.73E-10	Liver/Kidney	3.55E-05	4.91E-06	--	--	4.04E-05
			bis(2-ethylhexyl)phthalate	1.08E-09	1.50E-10	--	--	1.23E-09	Liver	1.26E-03	1.75E-04	--	--	1.44E-03
			Cadmium	1.66E-07	2.29E-09	--	--	1.68E-07	Kidney	6.12E-02	8.45E-04	--	--	6.20E-02
			Carbon disulfide	--	--	--	--	--	Developmental	7.75E-09	2.68E-08	--	--	3.45E-08
			Chlorobenzene	--	--	--	--	--	Liver	1.78E-05	2.45E-06	--	--	2.02E-05

TABLE H-8.16

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	-	-	-	-	-	No Observed Effect	2.39E-04	3.31E-06	-	-	2.43E-04
			Chrysene	3.15E-08	5.65E-08	-	-	8.80E-08	-	-	-	-	-	-
			Cobalt	-	-	-	-	-	Blood	1.22E-03	1.69E-05	-	-	1.24E-03
			Copper	-	-	-	-	-	GI Tract/Kidney	4.61E-03	6.36E-05	-	-	4.67E-03
			Delta-BHC	5.81E-10	4.02E-10	-	-	9.83E-10	Liver/Kidney	1.36E-04	9.37E-05	-	-	2.29E-04
			Dibenzo(a,h)anthracene	6.00E-08	1.08E-07	-	-	1.68E-07	-	-	-	-	-	-
			Dibenzofuran	-	-	-	-	-	Kidney	2.10E-02	2.90E-03	-	-	2.39E-02
			Dieldrin	4.07E-08	5.62E-09	-	-	4.63E-08	Liver	3.56E-03	4.92E-04	-	-	4.05E-03
			Dimethylphthalate	-	-	-	-	-	Developmental/Organ Weight	1.53E-07	2.12E-08	-	-	1.75E-07
			di-n-Butylphthalate	-	-	-	-	-	Liver	3.55E-05	4.91E-06	-	-	4.04E-05
			Endosulfan I	-	-	-	-	-	Body weight/Kidney/CNS	1.24E-05	8.55E-06	-	-	2.09E-05
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	1.28E-05	8.86E-06	-	-	2.17E-05
			Endosulfan Sulfate	-	-	-	-	-	Body Weight/Kidney/CNS	2.31E-05	1.60E-05	-	-	3.91E-05
			Endrin aldehyde	-	-	-	-	-	Liver	4.53E-04	3.13E-04	-	-	7.66E-04
			Endrin Ketone	-	-	-	-	-	Liver	1.08E-04	-	-	-	1.08E-04
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	2.14E-03	3.84E-03	-	-	5.98E-03
			Fluorene	-	-	-	-	-	Blood	2.35E-04	4.23E-04	-	-	6.58E-04
			gamma-BHC (Lindane)	1.32E-10	7.29E-11	-	-	2.05E-10	Liver/Kidney	2.80E-05	1.55E-05	-	-	4.35E-05
			gamma-Chlordane	7.86E-10	-	-	-	7.86E-10	Liver	8.46E-05	-	-	-	8.46E-05
			Heptachlor	1.30E-09	1.80E-10	-	-	1.49E-09	Liver	4.46E-05	6.16E-06	-	-	5.07E-05
			Heptachlor Epoxide	2.83E-09	3.91E-10	-	-	3.22E-09	Liver	2.77E-03	3.83E-04	-	-	3.15E-03
			Indeno(1,2,3-cd)pyrene	4.83E-08	8.68E-08	-	-	1.35E-07	-	-	-	-	-	-
			Iron	-	-	-	-	-	Liver	4.38E-01	6.06E-03	-	-	4.44E-01
			Isophorone	8.76E-12	1.21E-11	-	-	2.09E-11	No Observed Effect	3.23E-06	4.46E-06	-	-	7.69E-06
			Lead	-	-	-	-	-	-	-	-	-	-	-
			Manganese	-	-	-	-	-	CNS	4.45E-02	6.15E-04	-	-	4.52E-02
			Mercury	-	-	-	-	-	Immune System	3.33E-03	-	-	-	3.33E-03
			Methoxychlor	-	-	-	-	-	Developmental	7.75E-05	1.07E-05	-	-	8.82E-05
			Molybdenum	-	-	-	-	-	Blood	1.62E-03	2.23E-05	-	-	1.64E-03
			Naphthalene	-	-	-	-	-	Whole Body	2.10E-03	3.77E-03	-	-	5.87E-03
			Nickel	-	-	-	-	-	Whole Body	6.32E-03	8.73E-05	-	-	6.40E-03
			Phenanthrene	-	-	-	-	-	No Observed Effect	1.50E-04	2.07E-05	-	-	1.71E-04
			Phenol	-	-	-	-	-	Whole Body	6.24E-06	8.63E-06	-	-	1.49E-05
			p-Isopropyltoluene	-	-	-	-	-	Kidney	3.55E-06	-	-	-	3.55E-06
			Pyrene	-	-	-	-	-	Kidney	2.60E-03	4.67E-03	-	-	7.27E-03
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	5.73E-06	-	-	-	5.73E-06
			Selenium	-	-	-	-	-	Whole Body	1.45E-04	2.00E-06	-	-	1.47E-04
			Silver	-	-	-	-	-	Skin	7.48E-04	1.03E-05	-	-	7.59E-04
			Technical Chlordane	3.30E-08	1.83E-08	-	-	5.13E-08	Liver	3.56E-03	1.97E-03	-	-	5.53E-03
			Thallium	-	-	-	-	-	Blood	2.01E-02	-	-	-	2.01E-02
Toluene	-	-	-	-	-	Liver/Kidney	1.74E-08	2.40E-09	-	-	1.98E-08			
Vanadium	-	-	-	-	-	Kidney	1.10E-01	1.52E-03	-	-	1.12E-01			

TABLE H-8.16

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	4.88E-03	6.74E-05	--	--	4.95E-03
		Exposure Point Total	Chemical Total	4.82E-06	4.55E-06	0.00E+00	0.00E+00	9.38E-06		1.24E+00	7.57E-01	0.00E+00	0.00E+00	1.99E+00
Exposure Medium Total							9.38E-06							1.99E+00
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene		--	--	--	--	--	Kidney	--	--	1.86E-02	--	1.86E-02
		1,2,4-Trichlorobenzene		--	--	--	--	--	Kidney	--	--	6.32E-02	--	6.32E-02
		1,2,4-Trimethylbenzene		--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.35E-02	--	1.35E-02
		1,2-Dichlorobenzene		--	--	--	--	--	Body weight	--	--	1.83E-02	--	1.83E-02
		1,2-Dichloropropane		--	--	2.88E-10	--	2.88E-10	Nasal	--	--	4.91E-04	--	4.91E-04
		1,3,5-Trimethylbenzene		--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.21E-03	--	4.21E-03
		1,3-Dichlorobenzene		--	--	--	--	--	Kidney/Liver	--	--	1.06E-03	--	1.06E-03
		1,4-Dichlorobenzene		--	--	1.75E-07	--	1.75E-07	Liver	--	--	1.33E-03	--	1.33E-03
		2,4-Dimethylphenol		--	--	--	--	--	Blood/Whole Body	--	--	2.05E-06	--	2.05E-06
		2-Methylphenol		--	--	--	--	--	--	--	--	--	--	--
		2-Methylnaphthalene		--	--	--	--	--	CNS/Body Weight	--	--	2.90E-04	--	2.90E-04
		4,4'-DDD		--	--	8.05E-13	--	8.05E-13	Liver	--	--	4.70E-07	--	4.70E-07
		4,4'-DDE		--	--	9.22E-12	--	9.22E-12	Liver	--	--	3.80E-06	--	3.80E-06
		4,4'-DDT		--	--	4.23E-11	--	4.23E-11	Liver	--	--	1.74E-05	--	1.74E-05
		4-Methylphenol		--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.06E-05	--	1.06E-05
		4-Nitroaniline		--	--	3.64E-11	--	3.64E-11	--	--	--	1.21E-04	--	1.21E-04
		4-Nitrophenol		--	--	--	--	--	Blood/Kidney/Liver	--	--	1.44E-04	--	1.44E-04
		Acenaphthene		--	--	--	--	--	Liver	--	--	1.90E-04	--	1.90E-04
		Acenaphthylene		--	--	--	--	--	Liver	--	--	4.66E-06	--	4.66E-06
		Aldrin		--	--	2.68E-10	--	2.68E-10	Liver	--	--	3.67E-05	--	3.67E-05
		alpha-BHC		--	--	2.75E-11	--	2.75E-11	Liver/ Kidney	--	--	1.42E-06	--	1.42E-06
		alpha-Chlordane		--	--	2.70E-11	--	2.70E-11	Liver	--	--	7.89E-06	--	7.89E-06
		Aluminum		--	--	--	--	--	Respiratory System	--	--	1.21E+00	--	1.21E+00
		Anthracene		--	--	--	--	--	No Observed Effect	--	--	9.45E-06	--	9.45E-06
		Antimony		--	--	--	--	--	--	--	--	--	--	--
		Aroclor-1248		--	--	6.71E-09	--	6.71E-09	Immune System/Eye/Finger and Toe nails	--	--	1.17E-02	--	1.17E-02
		Aroclor-1254		--	--	2.48E-09	--	2.48E-09	Immune System/Eye/Finger and Toe Nails	--	--	4.35E-03	--	4.35E-03
		Aroclor-1260		--	--	3.03E-09	--	3.03E-09	Immune System/Eye/Finger and Toe Nails	--	--	5.30E-03	--	5.30E-03
		Aroclor-1268		--	--	1.55E-10	--	1.55E-10	Immune System/Eye/Finger and Toe Nails	--	--	2.72E-04	--	2.72E-04
		Arsenic		--	--	2.07E-07	--	2.07E-07	Developmental	--	--	1.40E-01	--	1.40E-01
		Barium		--	--	--	--	--	Developmental	--	--	9.48E-02	--	9.48E-02
		Benzo(a)anthracene		--	--	5.46E-09	--	5.46E-09	--	--	--	--	--	--
		Benzo(a)pyrene		--	--	1.82E-08	--	1.82E-08	--	--	--	--	--	--
		Benzo(b)fluoranthene		--	--	1.93E-09	--	1.93E-09	--	--	--	--	--	--
Benzo(g,h,i)perylene		--	--	--	--	--	Kidney	--	--	4.98E-06	--	4.98E-06		
Benzo(k)fluoranthene		--	--	3.55E-09	--	3.55E-09	--	--	--	--	--	--		
Beryllium		--	--	5.59E-09	--	5.59E-09	Immune System/Lung	--	--	8.16E-03	--	8.16E-03		
Beta-BHC		--	--	9.23E-12	--	9.23E-12	Liver/Kidney	--	--	2.15E-06	--	2.15E-06		

TABLE H-8.16

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.84E-10	--	1.84E-10	Liver	--	--	7.66E-05	--	7.66E-05
			Cadmium	--	--	3.97E-07	--	3.97E-07	Kidney/Respiratory System	--	--	3.24E-01	--	3.24E-01
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.43E-07	--	4.43E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.55E-05	--	3.55E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	6.81E-10	--	6.81E-10	--	--	--	--	--	--
			Cobalt	--	--	2.07E-07	--	2.07E-07	Respiratory System	--	--	2.60E-01	--	2.60E-01
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.76E-10	--	1.76E-10	Liver/Kidney	--	--	4.10E-05	--	4.10E-05
			Dibenzo(a,h)anthracene	--	--	3.64E-09	--	3.64E-09	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	4.39E-03	--	4.39E-03
			Dieldrin	--	--	3.32E-09	--	3.32E-09	Liver	--	--	2.90E-04	--	2.90E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	9.30E-09	--	9.30E-09
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.31E-06	--	4.31E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.63E-06	--	2.63E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.72E-06	--	2.72E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.91E-06	--	4.91E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.74E-05	--	2.74E-05
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.52E-06	--	6.52E-06
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.39E-05	--	8.39E-05
			Fluorene	--	--	--	--	--	Blood	--	--	8.35E-05	--	8.35E-05
			gamma-BHC (Lindane)	--	--	4.90E-11	--	4.90E-11	Liver/Kidney	--	--	1.04E-05	--	1.04E-05
			gamma-Chlordane	--	--	4.35E-11	--	4.35E-11	Liver	--	--	1.27E-05	--	1.27E-05
			Heptachlor	--	--	3.87E-09	--	3.87E-09	Liver	--	--	1.32E-04	--	1.32E-04
			Heptachlor Epoxide	--	--	1.72E-10	--	1.72E-10	Liver	--	--	1.68E-04	--	1.68E-04
			Indeno(1,2,3-cd)pyrene	--	--	9.52E-10	--	9.52E-10	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.54E+00	--	4.54E+00
			Mercury	--	--	--	--	--	CNS	--	--	7.04E-04	--	7.04E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.38E-06	--	3.38E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	2.35E-07	--	2.35E-07	Nasal Epithelium	--	--	1.60E-01	--	1.60E-01
			Nickel	--	--	9.95E-08	--	9.95E-08	Respiratory System	--	--	5.47E-01	--	5.47E-01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.25E-04	--	1.25E-04
			Phenol	--	--	--	--	--	Liver/CNS	--	--	1.99E-06	--	1.99E-06
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.41E-04	--	3.41E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	1.20E-04	--	1.20E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.37E-04	--	1.37E-04
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	7.71E-06	--	7.71E-06			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.16  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	1.83E-09	--	1.83E-09	Liver	--	--	5.34E-04	--	5.34E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	4.28E-08	--	4.28E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	1.38E-06	0.00E+00	1.38E-06		0.00E+00	0.00E+00	7.43E+00	0.00E+00	7.43E+00
			Exposure Point Total					1.38E-06						7.43E+00
			Exposure Medium Total					1.38E-06						7.43E+00
Medium Total								1.08E-05						9.42E+00
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	6.75E-12	--	6.75E-12	No observed effect	--	--	5.92E-07	--	5.92E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.45E-05	--	1.45E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.84E-06	--	2.84E-06
			1,2-Dichloroethane	--	--	1.20E-10	--	1.20E-10	Liver/ Kidney/ CNS	--	--	8.32E-05	--	8.32E-05
			1,2-Dichloropropane	--	--	2.24E-11	--	2.24E-11	Nasal	--	--	3.83E-05	--	3.83E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.28E-06	--	8.28E-06
			1,4-Dichlorobenzene	--	--	3.15E-11	--	3.15E-11	Liver	--	--	2.40E-07	--	2.40E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.49E-09	--	1.49E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.79E-09	--	3.79E-09
			4,4'-DDE	--	--	1.23E-12	--	1.23E-12	Liver	--	--	5.06E-07	--	5.06E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.20E-10	--	9.20E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.26E-07	--	1.26E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.38E-09	--	5.38E-09
			Aldrin	--	--	1.06E-10	--	1.06E-10	Liver	--	--	1.46E-05	--	1.46E-05
			alpha-BHC	--	--	2.14E-12	--	2.14E-12	Liver/ Kidney	--	--	1.11E-07	--	1.11E-07
			alpha-Chlordane	--	--	2.25E-12	--	2.25E-12	Liver	--	--	6.56E-07	--	6.56E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.14E-09	--	2.14E-09
			Benzene	--	--	7.30E-11	--	7.30E-11	Blood	--	--	5.94E-06	--	5.94E-06
			Benzo(b)fluoranthene	--	--	5.30E-13	--	5.30E-13	--	--	--	--	--	--
			Bromoform	--	--	8.03E-14	--	8.03E-14	Liver	--	--	7.20E-08	--	7.20E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.41E-06	--	4.41E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	5.02E-08	--	5.02E-08
			Chloroform	--	--	1.10E-10	--	1.10E-10	GI Tract/ Kidney/ Development	--	--	4.72E-06	--	4.72E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	5.64E-06	--	5.64E-06
			Chrysene	--	--	1.43E-13	--	1.43E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.04E-05	--	1.04E-05
			Dieldrin	--	--	4.39E-11	--	4.39E-11	Liver	--	--	3.84E-06	--	3.84E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.30E-09	--	7.30E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.20E-11	--	1.20E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.35E-07	--	1.35E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.47E-09	--	2.47E-09			
Fluorene	--	--	--	--	--	Blood	--	--	4.89E-09	--	4.89E-09			
gamma-BHC (Lindane)	--	--	3.82E-15	--	3.82E-15	Liver/Kidney	--	--	8.10E-10	--	8.10E-10			

TABLE H-8.16

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	5.84E-12	-	5.84E-12	Liver	-	-	1.70E-06	-	1.70E-06
			Heptachlor	-	-	2.05E-10	-	2.05E-10	Liver	-	-	6.99E-06	-	6.99E-06
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	6.09E-05	-	6.09E-05
			m,p-Xylene	-	-	-	-	-	CNS	-	-	4.68E-06	-	4.68E-06
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.28E-07	-	1.28E-07
			Naphthalene	-	-	1.82E-12	-	1.82E-12	Nasal Epithelium	-	-	1.24E-06	-	1.24E-06
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	5.78E-05	-	5.78E-05
			n-Propylbenzene	-	-	-	-	-	Liver/ Kidney	-	-	1.38E-06	-	1.38E-06
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	1.71E-09	-	1.71E-09
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	6.09E-05	-	6.09E-05
			Pyrene	-	-	-	-	-	Kidney	-	-	3.01E-09	-	3.01E-09
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	3.92E-06	-	3.92E-06
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	4.44E-06	-	4.44E-06
			Toluene	-	-	-	-	-	CNS	-	-	5.20E-08	-	5.20E-08
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	8.77E-06	-	8.77E-06
			Trichloroethene	-	-	1.82E-11	-	1.82E-11	CNS/Eye	-	-	1.07E-06	-	1.07E-06
			Vinyl chloride	-	-	1.46E-09	-	1.46E-09	Liver	-	-	1.32E-05	-	1.32E-05
			Chemical Total	0.00E+00	0.00E+00	2.21E-09	0.00E+00	2.21E-09		0.00E+00	0.00E+00	4.26E-04	4.26E-04	
			Exposure Point Total										4.26E-04	
			Exposure Medium Total					2.21E-09					4.26E-04	
Medium Total								2.21E-09					4.26E-04	
Receptor Total								2.21E-09					4.26E-04	
								Receptor Risk Total					1.08E-05	
													Receptor HI Total	9.42E+00

- Notes:
- Not applicable or not available
  - COPC Chemicals of Potential Concern
  - CNS Central nervous system
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.82E-01
Total Organ 2 (Kidney) HI Across All Media =	6.39E-01
Total Organ 3 (Reproductive System) HI Across All Media =	3.55E-05
Total Organ 4 (Nervous System) HI Across All Media =	4.63E+00
Total Organ 5 (Skin) HI Across All Media =	9.46E-02
Total Organ 6 (Blood) HI Across All Media =	9.25E-02
Total Organ 7 (Adrenal) HI Across All Media =	3.03E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.65E-03
Total Organ 9 (Brain) HI Across All Media =	9.30E-09
Total Organ 10 (Gastrointestinal System) HI Across All Media =	5.10E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	1.07E+00
Total Organ 12 (Body Weight) HI Across All Media =	1.88E-02
Total Organ 13 (Developmental) HI Across All Media =	2.35E-01
Total Organ 14 (Respiratory/Lung) HI Across All Media =	2.36E+00
Total Organ 15 (Whole Body) HI Across All Media =	4.63E-02
Total Organ 16 (Immune System) HI Across All Media =	1.08E+00
Total Organ 17 (Organ Weight) HI Across All Media =	7.37E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	1.07E+00
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.60E-01

TABLE H-8.17  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	-	-	-	-	-	Adrenal	4.84E-04	6.69E-04	-	-	1.15E-03
			1,2,4-Trichlorobenzene	-	-	-	-	-	Adrenal	1.65E-03	2.28E-04	-	-	1.87E-03
			1,2,4-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	3.23E-05	4.46E-06	-	-	3.68E-05
			1,2-Dichlorobenzene	-	-	-	-	-	No Observed Effect	9.33E-04	1.29E-04	-	-	1.06E-03
			1,2-Dichloropropane	5.98E-12	8.26E-13	-	-	6.80E-12	Nasal	1.02E-05	1.41E-06	-	-	1.16E-05
			1,3,5-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	1.03E-05	1.43E-06	-	-	1.18E-05
			1,3-Dichlorobenzene	-	-	-	-	-	Kidney/Liver	1.18E-04	1.64E-05	-	-	1.35E-04
			1,4-Dichlorobenzene	1.69E-09	-	-	-	1.69E-09	Organ weight	7.32E-04	-	-	-	7.32E-04
			2,4-Dimethylphenol	-	-	-	-	-	Blood/Whole Body	3.39E-05	4.68E-06	-	-	3.86E-05
			2-Methylphenol	-	-	-	-	-	Respiratory System	6.54E-05	9.04E-05	-	-	1.56E-04
			2-Methylnaphthalene	-	-	-	-	-	CNS/Body Weight	9.36E-05	1.29E-05	-	-	1.07E-04
			4,4'-DDD	1.33E-11	1.84E-12	-	-	1.51E-11	Liver	7.75E-06	1.07E-06	-	-	8.82E-06
			4,4'-DDE	1.18E-09	1.63E-10	-	-	1.34E-09	Liver	4.84E-04	6.69E-05	-	-	5.51E-04
			4,4'-DDT	6.59E-10	2.73E-10	-	-	9.32E-10	Liver	2.71E-04	1.12E-04	-	-	3.84E-04
			4-Methylphenol	-	-	-	-	-	Whole Body/CNS/Respiratory	1.74E-04	2.41E-04	-	-	4.15E-04
			4-Nitroaniline	6.01E-10	8.30E-10	-	-	1.43E-09	-	6.67E-04	9.22E-04	-	-	1.59E-03
			4-Nitrophenol	-	-	-	-	-	Kidney/Liver/Blood	2.71E-03	3.75E-03	-	-	6.46E-03
			Acenaphthene	-	-	-	-	-	Liver	1.87E-04	3.36E-04	-	-	5.22E-04
			Acenaphthylene	-	-	-	-	-	Liver	4.82E-06	6.66E-07	-	-	5.49E-06
			Aldrin	1.02E-08	1.41E-08	-	-	2.43E-08	Liver	1.40E-03	1.93E-03	-	-	3.33E-03
			alpha-BHC	9.09E-11	1.26E-11	-	-	1.03E-10	Liver/Kidney	4.71E-06	6.51E-07	-	-	5.37E-06
			alpha-Chlordane	4.19E-10	-	-	-	4.19E-10	Liver	4.51E-05	-	-	-	4.51E-05
			Aluminum	-	-	-	-	-	CNS	2.92E-02	4.04E-04	-	-	2.96E-02
			Anthracene	-	-	-	-	-	No Observed Effect	9.83E-06	1.77E-05	-	-	2.75E-05
			Antimony	-	-	-	-	-	Whole Body/Blood	2.20E-02	3.04E-04	-	-	2.23E-02
			Aroclor-1248	1.11E-07	2.14E-07	-	-	3.25E-07	Immune System/ Eye/Finger and Toe Nails	1.94E-01	3.75E-01	-	-	5.69E-01
			Aroclor-1254	4.04E-08	7.81E-08	-	-	1.18E-07	Immune System/ Eye/Finger and Toe Nails	7.07E-02	1.37E-01	-	-	2.07E-01
			Aroclor-1260	4.50E-08	8.71E-08	-	-	1.32E-07	Immune System/ Eye/Finger and Toe Nails	7.88E-02	1.52E-01	-	-	2.31E-01
			Aroclor-1268	2.51E-09	4.85E-09	-	-	7.36E-09	Immune System/ Eye/Finger and Toe Nails	4.39E-03	8.49E-03	-	-	1.29E-02
			Arsenic	4.16E-06	1.72E-06	-	-	5.88E-06	Skin	1.03E-01	4.25E-02	-	-	1.45E-01
			Barium	-	-	-	-	-	Kidney	3.20E-03	4.43E-05	-	-	3.25E-03
			Benzo(a)anthracene	2.33E-07	4.19E-07	-	-	6.52E-07	-	-	-	-	-	-
			Benzo(a)pyrene	7.78E-07	1.40E-06	-	-	2.18E-06	-	-	-	-	-	-
			Benzo(b)fluoranthene	1.31E-07	2.36E-07	-	-	3.67E-07	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	Kidney	6.97E-05	1.25E-04	-	-	1.95E-04
			Benzo(k)fluoranthene	1.56E-07	2.81E-07	-	-	4.37E-07	-	-	-	-	-	-
			Beryllium	-	-	-	-	-	GI Tract	3.68E-04	5.08E-06	-	-	3.73E-04
			Beta-BHC	1.52E-10	2.10E-11	-	-	1.73E-10	Liver/Kidney	3.55E-05	4.91E-06	-	-	4.04E-05
			bis(2-ethylhexyl)phthalate	7.33E-10	1.01E-10	-	-	8.34E-10	Liver	8.55E-04	1.18E-04	-	-	9.73E-04
			Cadmium	1.52E-07	2.09E-09	-	-	1.54E-07	Kidney	5.58E-02	7.72E-04	-	-	5.66E-02
			Carbon disulfide	-	-	-	-	-	Developmental	7.75E-09	2.68E-08	-	-	3.45E-08
			Chlorobenzene	-	-	-	-	-	Liver	1.78E-05	2.45E-06	-	-	2.02E-05

TABLE H-8.17

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	2.15E-04	2.97E-06	--	--	2.18E-04
			Chrysene	2.65E-08	4.77E-08	--	--	7.42E-08	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	1.20E-03	1.66E-05	--	--	1.22E-03
			Copper	--	--	--	--	--	GI Tract/Kidney	4.85E-03	6.70E-05	--	--	4.92E-03
			Delta-BHC	5.81E-10	4.02E-10	--	--	9.83E-10	Liver/Kidney	1.36E-04	9.37E-05	--	--	2.29E-04
			Dibenzo(a,h)anthracene	5.21E-08	9.36E-08	--	--	1.46E-07	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	2.10E-02	2.90E-03	--	--	2.39E-02
			Dieldrin	3.61E-08	4.99E-09	--	--	4.11E-08	Liver	3.16E-03	4.37E-04	--	--	3.60E-03
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	1.53E-07	2.12E-08	--	--	1.75E-07
			di-n-Butylphthalate	--	--	--	--	--	Liver	3.71E-05	5.13E-06	--	--	4.23E-05
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	1.24E-05	8.55E-06	--	--	2.09E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	1.26E-05	8.69E-06	--	--	2.13E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	2.31E-05	1.60E-05	--	--	3.91E-05
			Endrin aldehyde	--	--	--	--	--	Liver	6.78E-04	4.68E-04	--	--	1.15E-03
			Endrin Ketone	--	--	--	--	--	Liver	1.08E-04	--	--	--	1.08E-04
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	1.80E-03	3.23E-03	--	--	5.02E-03
			Fluorene	--	--	--	--	--	Blood	2.04E-04	3.67E-04	--	--	5.71E-04
			gamma-BHC (Lindane)	1.32E-10	7.29E-11	--	--	2.05E-10	Liver/Kidney	2.80E-05	1.55E-05	--	--	4.35E-05
			gamma-Chlordane	7.62E-10	--	--	--	7.62E-10	Liver	8.20E-05	--	--	--	8.20E-05
			Heptachlor	1.30E-09	1.80E-10	--	--	1.49E-09	Liver	4.46E-05	6.16E-06	--	--	5.07E-05
			Heptachlor Epoxide	2.50E-09	3.46E-10	--	--	2.85E-09	Liver	2.45E-03	3.38E-04	--	--	2.79E-03
			Indeno(1,2,3-cd)pyrene	2.75E-08	4.94E-08	--	--	7.69E-08	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	3.96E-01	5.47E-03	--	--	4.01E-01
			Isophorone	8.76E-12	1.21E-11	--	--	2.09E-11	No Observed Effect	3.23E-06	4.46E-06	--	--	7.69E-06
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	4.09E-02	5.66E-04	--	--	4.15E-02
			Mercury	--	--	--	--	--	Immune System	2.86E-03	--	--	--	2.86E-03
			Methoxychlor	--	--	--	--	--	Developmental	7.75E-05	1.07E-05	--	--	8.82E-05
			Methylene chloride	1.55E-12	2.14E-13	--	--	1.76E-12	Liver	1.29E-07	1.78E-08	--	--	1.47E-07
			Molybdenum	--	--	--	--	--	Blood	1.41E-03	1.94E-05	--	--	1.43E-03
			Naphthalene	--	--	--	--	--	Whole Body	2.10E-03	3.77E-03	--	--	5.87E-03
			Nickel	--	--	--	--	--	Whole Body	6.29E-03	8.69E-05	--	--	6.37E-03
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.26E-04	1.74E-05	--	--	1.43E-04
			Phenol	--	--	--	--	--	Whole Body	6.24E-06	8.63E-06	--	--	1.49E-05
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.55E-06	--	--	--	3.55E-06
			Pyrene	--	--	--	--	--	Kidney	2.19E-03	3.93E-03	--	--	6.12E-03
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	5.73E-06	--	--	--	5.73E-06
			Selenium	--	--	--	--	--	Whole Body	1.83E-04	2.53E-06	--	--	1.86E-04
			Silver	--	--	--	--	--	Skin	6.33E-04	8.75E-06	--	--	6.42E-04
			Technical Chlordane	3.24E-08	1.79E-08	--	--	5.04E-08	Liver	3.49E-03	1.93E-03	--	--	5.42E-03
Thalium	--	--	--	--	--	Blood	1.95E-02	--	--	--	1.95E-02			
Toluene	--	--	--	--	--	Liver/Kidney	1.74E-08	2.40E-09	--	--	1.98E-08			

TABLE H-8.17  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	1.09E-01	1.50E-03	--	--	1.10E-01
			Zinc	--	--	--	--	--	Blood	3.57E-03	4.93E-05	--	--	3.62E-03
			Chemical Total	6.00E-06	4.67E-06	0.00E+00	0.00E+00	1.07E-05		1.20E+00	7.51E-01	0.00E+00	0.00E+00	1.95E+00
			Exposure Point Total					1.07E-05						1.95E+00
			Exposure Medium Total					1.07E-05						1.95E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.86E-02	--	1.86E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.32E-02	--	6.32E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.35E-02	--	1.35E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.83E-02	--	1.83E-02
			1,2-Dichloropropane	--	--	2.88E-10	--	2.88E-10	Nasal	--	--	4.91E-04	--	4.91E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.21E-03	--	4.21E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.06E-03	--	1.06E-03
			1,4-Dichlorobenzene	--	--	1.75E-07	--	1.75E-07	Liver	--	--	1.33E-03	--	1.33E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.05E-06	--	2.05E-06
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.51E-04	--	2.51E-04
			4,4'-DDD	--	--	8.05E-13	--	8.05E-13	Liver	--	--	4.70E-07	--	4.70E-07
			4,4'-DDE	--	--	8.40E-12	--	8.40E-12	Liver	--	--	3.46E-06	--	3.46E-06
			4,4'-DDT	--	--	3.99E-11	--	3.99E-11	Liver	--	--	1.64E-05	--	1.64E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.06E-05	--	1.06E-05
			4-Nitroaniline	--	--	3.64E-11	--	3.64E-11	--	--	--	1.21E-04	--	1.21E-04
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.44E-04	--	1.44E-04
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.55E-04	--	1.55E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.01E-06	--	4.01E-06
			Aldrin	--	--	2.68E-10	--	2.68E-10	Liver	--	--	3.67E-05	--	3.67E-05
			alpha-BHC	--	--	2.75E-11	--	2.75E-11	Liver/ Kidney	--	--	1.42E-06	--	1.42E-06
			alpha-Chlordane	--	--	2.32E-11	--	2.32E-11	Liver	--	--	6.76E-06	--	6.76E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	1.24E+00	--	1.24E+00
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.18E-06	--	8.18E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	6.71E-09	--	6.71E-09	Immune System/Eye/Finger and Toe nails	--	--	1.17E-02	--	1.17E-02
			Aroclor-1254	--	--	2.45E-09	--	2.45E-09	Immune System/Eye/Finger and Toe Nails	--	--	4.28E-03	--	4.28E-03
			Aroclor-1260	--	--	2.73E-09	--	2.73E-09	Immune System/Eye/Finger and Toe Nails	--	--	4.78E-03	--	4.78E-03
			Aroclor-1268	--	--	1.52E-10	--	1.52E-10	Immune System/Eye/Finger and Toe Nails	--	--	2.66E-04	--	2.66E-04
			Arsenic	--	--	3.20E-07	--	3.20E-07	Developmental	--	--	2.17E-01	--	2.17E-01
			Barium	--	--	--	--	--	Developmental	--	--	9.71E-02	--	9.71E-02
			Benzo(a)anthracene	--	--	4.59E-09	--	4.59E-09	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	1.53E-08	--	1.53E-08	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.67E-09	--	1.67E-09	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	4.23E-06	--	4.23E-06
			Benzo(k)fluoranthene	--	--	3.08E-09	--	3.08E-09	--	--	--	--	--	--
			Beryllium	--	--	5.35E-09	--	5.35E-09	Immune System/Lung	--	--	7.80E-03	--	7.80E-03

TABLE H-8.17

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	9.23E-12	--	9.23E-12	Liver/Kidney	--	--	2.15E-06	--	2.15E-06		
			bis(2-ethylhexyl)phthalate	--	--	1.24E-10	--	1.24E-10	Liver	--	--	5.18E-05	--	5.18E-05		
			Cadmium	--	--	3.63E-07	--	3.63E-07	Kidney/Respiratory System	--	--	2.96E-01	--	2.96E-01		
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.43E-07	--	4.43E-07		
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.55E-05	--	3.55E-05		
			Chromium	--	--	--	--	--	--	--	--	--	--	--	--	
			Chrysene	--	--	5.75E-10	--	5.75E-10	--	--	--	--	--	--	--	
			Cobalt	--	--	2.04E-07	--	2.04E-07	Respiratory System	--	--	2.55E-01	--	2.55E-01	--	2.55E-01
			Copper	--	--	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.76E-10	--	1.76E-10	Liver/Kidney	--	--	4.10E-05	--	4.10E-05	--	4.10E-05
			Dibenzo(a,h)anthracene	--	--	3.16E-09	--	3.16E-09	--	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	4.39E-03	--	4.39E-03	--	4.39E-03
			Dieldrin	--	--	2.94E-09	--	2.94E-09	Liver	--	--	2.58E-04	--	2.58E-04	--	2.58E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	9.30E-09	--	9.30E-09	--	9.30E-09
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.50E-06	--	4.50E-06	--	4.50E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.63E-06	--	2.63E-06	--	2.63E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.67E-06	--	2.67E-06	--	2.67E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.91E-06	--	4.91E-06	--	4.91E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	4.11E-05	--	4.11E-05	--	4.11E-05
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.52E-06	--	6.52E-06	--	6.52E-06
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.04E-05	--	7.04E-05	--	7.04E-05
			Fluorene	--	--	--	--	--	Blood	--	--	7.24E-05	--	7.24E-05	--	7.24E-05
			gamma-BHC (Lindane)	--	--	4.90E-11	--	4.90E-11	Liver/Kidney	--	--	1.04E-05	--	1.04E-05	--	1.04E-05
			gamma-Chlordane	--	--	4.22E-11	--	4.22E-11	Liver	--	--	1.23E-05	--	1.23E-05	--	1.23E-05
			Heptachlor	--	--	3.87E-09	--	3.87E-09	Liver	--	--	1.32E-04	--	1.32E-04	--	1.32E-04
			Heptachlor Epoxide	--	--	1.52E-10	--	1.52E-10	Liver	--	--	1.48E-04	--	1.48E-04	--	1.48E-04
			Indeno(1,2,3-cd)pyrene	--	--	5.42E-10	--	5.42E-10	--	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.17E+00	--	4.17E+00	--	4.17E+00
			Mercury	--	--	--	--	--	CNS	--	--	6.04E-04	--	6.04E-04	--	6.04E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.38E-06	--	3.38E-06	--	3.38E-06
			Methylene chloride	--	--	--	--	--	Blood	--	--	--	--	--	--	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	2.35E-07	--	2.35E-07	Nasal Epithelium	--	--	1.60E-01	--	1.60E-01	--	1.60E-01
			Nickel	--	--	9.91E-08	--	9.91E-08	Respiratory System	--	--	5.44E-01	--	5.44E-01	--	5.44E-01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.05E-04	--	1.05E-04	--	1.05E-04
			Phenol	--	--	--	--	--	Liver/CNS	--	--	1.99E-06	--	1.99E-06	--	1.99E-06
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.41E-04	--	3.41E-04	--	3.41E-04
Pyrene	--	--	--	--	--	Kidney	--	--	1.01E-04	--	1.01E-04	--	1.01E-04			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.37E-04	--	1.37E-04	--	1.37E-04			

**TABLE H-8.17**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	9.74E-06	--	9.74E-06		
			Silver	--	--	--	--	--		--	--	--	--	--	--	
			Technical Chlordane	--	--	1.80E-09	--	1.80E-09		Liver	--	--	5.24E-04	--	5.24E-04	
			Thallium	--	--	--	--	--		--	--	--	--	--	--	--
			Toluene	--	--	--	--	--		CNS	--	--	4.28E-08	--	4.28E-08	
			Vanadium	--	--	--	--	--		--	--	--	--	--	--	--
			Zinc	--	--	--	--	--		--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	1.45E-06	0.00E+00	1.45E-06			0.00E+00	0.00E+00	7.13E+00	0.00E+00	7.13E+00	
			Exposure Point Total					1.45E-06								7.13E+00
			Exposure Medium Total					1.45E-06								7.13E+00
Medium Total					1.21E-05							9.08E+00				
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	6.75E-12	--	6.75E-12	No observed effect	--	--	5.92E-07	--	5.92E-07		
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.45E-05	--	1.45E-05		
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.84E-06	--	2.84E-06		
			1,2-Dichloropropane	--	--	1.20E-10	--	1.20E-10	Liver/ Kidney/ CNS	--	--	8.32E-05	--	8.32E-05		
			1,2-Dichloroethane	--	--	2.24E-11	--	2.24E-11	Nasal	--	--	3.83E-05	--	3.83E-05		
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.28E-06	--	8.28E-06		
			1,4-Dichlorobenzene	--	--	3.15E-11	--	3.15E-11	Liver	--	--	2.40E-07	--	2.40E-07		
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.49E-09	--	1.49E-09		
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.79E-09	--	3.79E-09		
			4,4'-DDE	--	--	1.23E-12	--	1.23E-12	Liver	--	--	5.06E-07	--	5.06E-07		
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.20E-10	--	9.20E-10		
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.26E-07	--	1.26E-07		
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.38E-09	--	5.38E-09		
			Aldrin	--	--	1.06E-10	--	1.06E-10	Liver	--	--	1.46E-05	--	1.46E-05		
			alpha-BHC	--	--	2.14E-12	--	2.14E-12	Liver/ Kidney	--	--	1.11E-07	--	1.11E-07		
			alpha-Chlordane	--	--	2.25E-12	--	2.25E-12	Liver	--	--	6.56E-07	--	6.56E-07		
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.14E-09	--	2.14E-09		
			Benzene	--	--	7.30E-11	--	7.30E-11	Blood	--	--	5.94E-06	--	5.94E-06		
			Benzo(b)fluoranthene	--	--	5.30E-13	--	5.30E-13	--	--	--	--	--	--		
			Bromoform	--	--	8.03E-14	--	8.03E-14	Liver	--	--	7.20E-08	--	7.20E-08		
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.41E-06	--	4.41E-06		
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	5.02E-08	--	5.02E-08		
			Chloroform	--	--	1.10E-10	--	1.10E-10	GI Tract/ Kidney/ Development	--	--	4.72E-06	--	4.72E-06		
			Chloromethane	--	--	--	--	--	CNS	--	--	5.64E-06	--	5.64E-06		
			Chrysene	--	--	1.43E-13	--	1.43E-13	--	--	--	--	--	--		
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.04E-05	--	1.04E-05		
			Dieldrin	--	--	4.39E-11	--	4.39E-11	Liver	--	--	3.84E-06	--	3.84E-06		
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.30E-09	--	7.30E-09		
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.20E-11	--	1.20E-11		
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.35E-07	--	1.35E-07		
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.47E-09	--	2.47E-09					

TABLE H-8.17

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	4.89E-09	--	4.89E-09
			gamma-BHC (Lindane)	--	--	3.82E-15	--	3.82E-15	Liver/Kidney	--	--	8.10E-10	--	8.10E-10
			gamma-Chlordane	--	--	5.84E-12	--	5.84E-12	Liver	--	--	1.70E-06	--	1.70E-06
			Heptachlor	--	--	2.05E-10	--	2.05E-10	Liver	--	--	6.99E-06	--	6.99E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	6.09E-05	--	6.09E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	4.68E-06	--	4.68E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.28E-07	--	1.28E-07
			Naphthalene	--	--	1.82E-12	--	1.82E-12	Nasal Epithelium	--	--	1.24E-06	--	1.24E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	5.78E-05	--	5.78E-05
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	1.38E-06	--	1.38E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.71E-09	--	1.71E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	6.09E-05	--	6.09E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	3.01E-09	--	3.01E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.92E-06	--	3.92E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	4.44E-06	--	4.44E-06
			Toluene	--	--	--	--	--	CNS	--	--	5.20E-08	--	5.20E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	8.77E-06	--	8.77E-06
			Trichloroethene	--	--	1.82E-11	--	1.82E-11	CNS/Eye	--	--	1.07E-06	--	1.07E-06
			Vinyl chloride	--	--	1.46E-09	--	1.46E-09	Liver	--	--	1.32E-05	--	1.32E-05
						Chemical Total	0.00E+00	0.00E+00	2.21E-09	0.00E+00	2.21E-09		0.00E+00	0.00E+00
			Exposure Point Total					2.21E-09						4.26E-04
			Exposure Medium Total					2.21E-09						4.26E-04
Medium Total								2.21E-09						4.26E-04
Receptor Total								1.21E-05						9.08E+00

TABLE H-8.17

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- COPC Chemicals of Potential Concern
- CNS Central nervous system
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- GI Gastrointestinal
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- RME Reasonable maximum exposure
- VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.37E-01
Total Organ 2 (Kidney) HI Across All Media =	6.02E-01
Total Organ 3 (Reproductive System) HI Across All Media =	3.55E-05
Total Organ 4 (Nervous System) HI Across All Media =	4.26E+00
Total Organ 5 (Skin) HI Across All Media =	1.46E-01
Total Organ 6 (Blood) HI Across All Media =	7.82E-02
Total Organ 7 (Adrenal) HI Across All Media =	3.03E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.57E-03
Total Organ 9 (Brain) HI Across All Media =	9.30E-09
Total Organ 10 (Gastrointestinal System) HI Across All Media =	5.33E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	1.04E+00
Total Organ 12 (Body Weight) HI Across All Media =	1.87E-02
Total Organ 13 (Developmental) HI Across All Media =	3.14E-01
Total Organ 14 (Respiratory/lung) HI Across All Media =	2.36E+00
Total Organ 15 (Whole Body) HI Across All Media =	3.53E-02
Total Organ 16 (Immune System) HI Across All Media =	1.05E+00
Total Organ 17 (Organ Weight) HI Across All Media =	7.37E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	1.04E+00
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.60E-01

**TABLE H-8.18**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	-	-	-	-	-	-	Adrenal	2.05E-04	8.20E-05	-	-	2.87E-04
			1,2,4-Trichlorobenzene	-	-	-	-	-	-	Adrenal	6.99E-04	2.79E-05	-	-	7.27E-04
			1,2,4-Trimethylbenzene	-	-	-	-	-	-	Whole Body/Liver/Kidney	1.37E-05	5.47E-07	-	-	1.42E-05
			1,2-Dichlorobenzene	-	-	-	-	-	-	No Observed Effect	3.96E-04	1.58E-05	-	-	4.12E-04
			1,2-Dichloropropane	6.09E-11	2.43E-12	-	-	-	6.33E-11	Nasal	4.33E-06	1.73E-07	-	-	4.50E-06
			1,3,5-Trimethylbenzene	-	-	-	-	-	-	Whole Body/Liver/Kidney	4.38E-06	1.75E-07	-	-	4.56E-06
			1,3-Dichlorobenzene	-	-	-	-	-	-	Kidney/Liver	5.02E-05	2.00E-06	-	-	5.22E-05
			1,4-Dichlorobenzene	1.72E-08	-	-	-	-	1.72E-08	Organ weight	3.11E-04	-	-	-	3.11E-04
			2,4-Dimethylphenol	-	-	-	-	-	-	Blood/Whole Body	1.44E-05	5.74E-07	-	1.58E-03	1.60E-03
			2-Methylphenol	-	-	-	-	-	-	Respiratory System	2.77E-05	1.11E-05	-	7.27E-03	7.31E-03
			2-Methylnaphthalene	-	-	-	-	-	-	CNS/Body Weight	4.58E-05	1.83E-06	-	-	4.76E-05
			4,4'-DDD	1.35E-10	5.40E-12	-	2.54E-11	1.66E-10	1.66E-10	Liver	3.29E-06	1.31E-07	-	6.17E-07	4.04E-06
			4,4'-DDE	1.31E-08	5.24E-10	-	1.79E-09	1.55E-08	1.55E-08	Liver	2.26E-04	9.00E-06	-	3.07E-05	2.65E-04
			4,4'-DDT	7.10E-09	8.50E-10	-	4.16E-09	1.21E-08	1.21E-08	Liver	1.22E-04	1.46E-05	-	7.14E-05	2.08E-04
			4-Methylphenol	-	-	-	-	-	-	Whole Body/CNS/Respiratory	7.40E-05	2.95E-05	-	1.99E-02	2.00E-02
			4-Nitroaniline	6.12E-09	2.44E-09	-	1.13E-06	1.14E-06	1.14E-06	-	2.83E-04	1.13E-04	-	5.22E-02	5.26E-02
			4-Nitrophenol	-	-	-	-	-	-	Kidney/Liver/Blood	1.15E-03	4.59E-04	-	3.18E-01	3.20E-01
			Acenaphthene	-	-	-	-	-	-	Liver	9.67E-05	5.01E-05	-	-	1.47E-04
			Acenaphthylene	-	-	-	-	-	-	Liver	2.38E-06	9.49E-08	-	-	2.47E-06
			Aldrin	1.04E-07	4.14E-08	-	3.19E-08	1.77E-07	1.77E-07	Liver	5.94E-04	2.37E-04	-	1.82E-04	1.01E-03
			alpha-BHC	9.26E-10	3.69E-11	-	6.14E-08	6.23E-08	6.23E-08	Liver/Kidney	2.00E-06	7.98E-08	-	1.33E-04	1.35E-04
			alpha-Chlordane	4.97E-09	-	-	3.35E-09	8.32E-09	8.32E-09	Liver	2.23E-05	-	-	1.50E-05	3.73E-05
			Aluminum	-	-	-	-	-	-	CNS	1.21E-02	4.82E-05	-	1.11E-03	1.32E-02
			Anthracene	-	-	-	-	-	-	No Observed Effect	4.82E-06	2.50E-06	-	-	7.32E-06
			Antimony	-	-	-	-	-	-	Whole Body/Blood	1.40E-02	5.57E-05	-	5.92E-02	7.32E-02
			Aroclor-1248	1.13E-06	6.30E-07	-	2.12E-07	1.97E-06	1.97E-06	Immune System/ Eye/Finger and Toe Nails	8.22E-02	4.59E-02	-	1.55E-02	1.44E-01
			Aroclor-1254	4.17E-07	2.33E-07	-	1.05E-06	1.70E-06	1.70E-06	Immune System/ Eye/Finger and Toe Nails	3.04E-02	1.70E-02	-	7.66E-02	1.24E-01
			Aroclor-1260	5.09E-07	2.84E-07	-	4.58E-08	8.38E-07	8.38E-07	Immune System/ Eye/Finger and Toe Nails	3.71E-02	2.07E-02	-	3.34E-03	6.11E-02
			Aroclor-1268	2.61E-08	1.46E-08	-	6.57E-08	1.06E-07	1.06E-07	Immune System/ Eye/Finger and Toe Nails	1.90E-03	1.06E-03	-	4.79E-03	7.75E-03
			Arsenic	2.74E-05	3.28E-06	-	2.32E-05	5.38E-05	5.38E-05	Skin	2.82E-02	3.37E-03	-	2.39E-02	5.54E-02
			Barium	-	-	-	-	-	-	Kidney	1.33E-03	5.30E-06	-	2.81E-03	4.15E-03
			Benzo(a)anthracene	2.82E-06	1.46E-06	-	1.02E-07	4.39E-06	4.39E-06	-	-	-	-	-	-
			Benzo(a)pyrene	9.39E-06	4.87E-06	-	1.93E-07	1.44E-05	1.44E-05	-	-	-	-	-	-
			Benzo(b)fluoranthene	1.54E-06	8.01E-07	-	3.18E-07	2.66E-06	2.66E-06	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	-	Kidney	3.49E-05	1.81E-05	-	5.47E-06	5.84E-05
			Benzo(k)fluoranthene	1.84E-06	9.53E-07	-	3.78E-07	3.17E-06	3.17E-06	-	-	-	-	-	-
			Beryllium	-	-	-	-	-	-	GI Tract	1.63E-04	6.51E-07	-	3.46E-05	1.98E-04
			Beta-BHC	1.55E-09	6.18E-11	-	1.03E-07	1.04E-07	1.04E-07	Liver/Kidney	1.51E-05	8.01E-07	-	9.99E-04	1.01E-03
			bis(2-ethylhexyl)phthalate	1.10E-08	4.40E-10	-	5.39E-07	5.51E-07	5.51E-07	Liver	5.36E-04	2.14E-05	-	2.62E-02	2.68E-02
			Cadmium	1.69E-06	6.75E-09	-	3.58E-05	3.75E-05	3.75E-05	Kidney	2.60E-02	1.04E-04	-	5.50E-01	5.76E-01
			Carbon disulfide	-	-	-	-	-	-	Developmental	3.29E-09	3.28E-09	-	-	6.57E-09
			Chlorobenzene	-	-	-	-	-	-	Liver	7.53E-06	3.01E-07	-	-	7.83E-06

TABLE H-8.18  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	1.02E-04	4.05E-07	--	6.46E-05	1.67E-04	
			Chrysene	3.20E-07	1.66E-07	--	8.15E-08	5.68E-07	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	5.19E-04	2.07E-06	--	5.13E-04	1.03E-03	
			Copper	--	--	--	--	--	GI Tract/Kidney	1.95E-03	7.80E-06	--	6.90E-02	7.10E-02	
			Delta-BHC	5.92E-09	1.18E-09	--	3.20E-09	1.03E-08	Liver/Kidney	5.75E-05	1.15E-05	--	3.11E-05	1.00E-04	
			Dibenzo(a,h)anthracene	6.11E-07	3.17E-07	--	7.77E-08	1.01E-06	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	8.90E-03	3.55E-04	--	--	9.26E-03	
			Dieldrin	4.14E-07	1.65E-08	--	3.10E-05	3.15E-05	Liver	1.51E-03	6.03E-05	--	1.13E-01	1.15E-01	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	6.51E-08	2.60E-09	--	1.37E-05	1.38E-05	
			di-n-Butylphthalate	--	--	--	--	--	Liver	1.51E-05	6.01E-07	--	4.43E-06	2.01E-05	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	5.25E-06	1.05E-06	--	3.32E-04	3.39E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	5.44E-06	1.08E-06	--	3.30E-04	3.36E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	9.82E-06	1.96E-06	--	5.81E-04	5.93E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.92E-04	3.83E-05	--	4.50E-05	2.75E-04	
			Endrin Ketone	--	--	--	--	--	Liver	4.57E-05	--	--	1.07E-05	5.64E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	9.08E-04	4.71E-04	--	3.47E-04	1.73E-03	
			Fluorene	--	--	--	--	--	Blood	9.99E-05	5.18E-05	--	--	1.52E-04	
			gamma-BHC (Lindane)	1.34E-09	2.14E-10	--	3.13E-07	3.15E-07	Liver/Kidney	1.19E-05	1.89E-06	--	2.77E-03	2.78E-03	
			gamma-Chlordane	8.00E-09	--	--	5.39E-09	1.34E-08	Liver	3.59E-05	--	--	2.42E-05	6.01E-05	
			Heptachlor	1.33E-08	5.30E-10	--	6.66E-09	2.05E-08	Liver	1.89E-05	7.54E-07	--	9.48E-06	2.91E-05	
			Heptachlor Epoxide	2.88E-08	1.15E-09	--	4.70E-06	4.73E-06	Liver	1.18E-03	4.69E-05	--	1.92E-01	1.93E-01	
			Indeno(1,2,3-cd)pyrene	4.92E-07	2.55E-07	--	7.58E-08	8.23E-07	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	1.86E-01	7.42E-04	--	2.61E-02	2.13E-01	
			Isophorone	8.92E-11	3.56E-11	--	--	1.25E-10	No Observed Effect	1.37E-06	5.47E-07	--	--	1.92E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	1.89E-02	7.54E-05	--	1.33E-01	1.52E-01	
			Mercury	--	--	--	--	--	Immune System	1.41E-03	--	--	3.99E-02	4.14E-02	
			Methoxychlor	--	--	--	--	--	Developmental	3.29E-05	1.31E-06	--	4.02E-06	3.82E-05	
			Molybdenum	--	--	--	--	--	Blood	6.86E-04	2.74E-06	--	5.82E-03	6.51E-03	
			Naphthalene	--	--	--	--	--	Whole Body	8.90E-04	4.62E-04	--	--	1.35E-03	
			Nickel	--	--	--	--	--	Whole Body	2.68E-03	1.07E-05	--	2.27E-02	2.54E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	6.36E-05	2.54E-06	--	--	6.61E-05	
			Phenol	--	--	--	--	--	Whole Body	2.65E-06	1.06E-06	--	1.85E-03	1.85E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.51E-06	--	--	--	1.51E-06	
			Pyrene	--	--	--	--	--	Kidney	1.10E-03	5.72E-04	--	--	1.67E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	2.43E-06	--	--	--	2.43E-06	
			Selenium	--	--	--	--	--	Whole Body	6.15E-05	2.45E-07	--	2.17E-04	2.79E-04	
			Silver	--	--	--	--	--	Skin	3.18E-04	1.27E-06	--	4.49E-03	4.80E-03	
			Technical Chlordane	3.36E-07	5.37E-08	--	2.27E-07	6.17E-07	Liver	1.51E-03	2.41E-04	--	1.02E-03	2.77E-03	
			Thallium	--	--	--	--	--	Blood	8.51E-03	--	--	4.81E-04	8.99E-03	
			Toluene	--	--	--	--	--	Liver/Kidney	7.36E-09	2.94E-10	--	--	7.66E-09	
Vanadium	--	--	--	--	--	Kidney	4.68E-02	1.87E-04	--	1.98E-02	6.68E-02				

TABLE H-8.18  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	2.07E-03	8.26E-06	--	2.63E-01	2.65E-01
		Exposure Point Total	Chemical Total	4.91E-05	1.34E-05	0.00E+00	9.98E-05	1.62E-04		5.25E-01	9.27E-02	0.00E+00	2.06E+00	2.68E+00
Exposure Medium Total							1.62E-04							2.68E+00
Soil (0-2 ft bgs) (continued)	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.59E-02	--	2.59E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	8.81E-02	--	8.81E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.88E-02	--	1.88E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.55E-02	--	2.55E-02
			1,2-Dichloropropane	--	--	9.64E-09	--	9.64E-09	Nasal	--	--	6.85E-04	--	6.85E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.87E-03	--	5.87E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.48E-03	--	1.48E-03
			1,4-Dichlorobenzene	--	--	5.85E-06	--	5.85E-06	Liver	--	--	1.85E-03	--	1.85E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.17E-09	--	2.17E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.04E-04	--	4.04E-04
			4,4'-DDD	--	--	2.04E-14	--	2.04E-14	Liver	--	--	4.96E-10	--	4.96E-10
			4,4'-DDE	--	--	3.09E-10	--	3.09E-10	Liver	--	--	5.29E-06	--	5.29E-06
			4,4'-DDT	--	--	1.07E-12	--	1.07E-12	Liver	--	--	1.84E-08	--	1.84E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.12E-08	--	1.12E-08
			4-Nitroaniline	--	--	9.23E-13	--	9.23E-13	--	--	--	1.28E-07	--	1.28E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.52E-07	--	1.52E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.64E-04	--	2.64E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	6.50E-06	--	6.50E-06
			Aldrin	--	--	8.96E-09	--	8.96E-09	Liver	--	--	5.12E-05	--	5.12E-05
			alpha-BHC	--	--	9.19E-10	--	9.19E-10	Liver/ Kidney	--	--	1.99E-06	--	1.99E-06
			alpha-Chlordane	--	--	9.05E-10	--	9.05E-10	Liver	--	--	1.10E-05	--	1.10E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	1.28E-03	--	1.28E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.32E-05	--	1.32E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	1.70E-10	--	1.70E-10	Immune System/Eye/Finger and Toe nails	--	--	1.24E-05	--	1.24E-05
			Aroclor-1254	--	--	6.30E-11	--	6.30E-11	Immune System/Eye/Finger and Toe Nails	--	--	4.59E-06	--	4.59E-06
			Aroclor-1260	--	--	7.67E-11	--	7.67E-11	Immune System/Eye/Finger and Toe Nails	--	--	5.60E-06	--	5.60E-06
			Aroclor-1268	--	--	3.93E-12	--	3.93E-12	Immune System/Eye/Finger and Toe Nails	--	--	2.87E-07	--	2.87E-07
			Arsenic	--	--	5.24E-09	--	5.24E-09	Developmental	--	--	1.48E-04	--	1.48E-04
			Barium	--	--	--	--	--	Developmental	--	--	1.00E-04	--	1.00E-04
			Benzo(a)anthracene	--	--	1.38E-10	--	1.38E-10	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	4.60E-10	--	4.60E-10	--	--	--	--	--	--
Benzo(b)fluoranthene	--	--	6.46E-08	--	6.46E-08	--	--	--	--	--	--			
Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	5.26E-09	--	5.26E-09			
Benzo(k)fluoranthene	--	--	9.01E-11	--	9.01E-11	--	--	--	--	--	--			
Beryllium	--	--	1.42E-10	--	1.42E-10	Immune System/Lung	--	--	8.61E-06	--	8.61E-06			
Beta-BHC	--	--	2.34E-13	--	2.34E-13	Liver/Kidney	--	--	2.27E-09	--	2.27E-09			

TABLE H-8.18

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	4.66E-12	--	4.66E-12	Liver	--	--	8.10E-08	--	8.10E-08	
			Cadmium	--	--	1.01E-08	--	1.01E-08	Kidney/Respiratory System	--	--	3.43E-04	--	3.43E-04	
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.17E-07	--	6.17E-07	
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	4.94E-05	--	4.94E-05	
			Chromium	--	--	--	--	--	--	--	--	--	--	--	
			Chrysene	--	--	2.28E-08	--	2.28E-08	--	--	--	--	--	--	--
			Cobalt	--	--	5.26E-09	--	5.26E-09	Respiratory System	--	--	2.74E-04	--	2.74E-04	--
			Copper	--	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	5.87E-09	--	5.87E-09	Liver/Kidney	--	--	5.71E-05	--	5.71E-05	--
			Dibenzo(a,h)anthracene	--	--	9.23E-11	--	9.23E-11	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.12E-03	--	6.12E-03	--
			Dieldrin	--	--	1.11E-07	--	1.11E-07	Liver	--	--	4.05E-04	--	4.05E-04	--
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	9.82E-12	--	9.82E-12	--
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.55E-09	--	4.55E-09	--
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.66E-06	--	3.66E-06	--
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.79E-06	--	3.79E-06	--
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.85E-06	--	6.85E-06	--
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.90E-08	--	2.90E-08	--
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.89E-09	--	6.89E-09	--
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.17E-04	--	1.17E-04	--
			Fluorene	--	--	--	--	--	Blood	--	--	1.16E-04	--	1.16E-04	--
			gamma-BHC (Lindane)	--	--	1.64E-09	--	1.64E-09	Liver/Kidney	--	--	1.45E-05	--	1.45E-05	--
			gamma-Chlordane	--	--	1.46E-09	--	1.46E-09	Liver	--	--	1.77E-05	--	1.77E-05	--
			Heptachlor	--	--	1.30E-07	--	1.30E-07	Liver	--	--	1.84E-04	--	1.84E-04	--
			Heptachlor Epoxide	--	--	4.35E-12	--	4.35E-12	Liver	--	--	1.77E-07	--	1.77E-07	--
			Indeno(1,2,3-cd)pyrene	--	--	2.41E-11	--	2.41E-11	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.79E-03	--	4.79E-03	--
			Mercury	--	--	--	--	--	CNS	--	--	7.44E-07	--	7.44E-07	--
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.71E-06	--	4.71E-06	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	7.85E-06	--	7.85E-06	Nasal Epithelium	--	--	2.23E-01	--	2.23E-01	--
			Nickel	--	--	2.52E-09	--	2.52E-09	Respiratory System	--	--	5.78E-04	--	5.78E-04	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.74E-04	--	1.74E-04	--
			Phenol	--	--	--	--	--	Liver/CNS	--	--	2.10E-09	--	2.10E-09	--
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.75E-04	--	4.75E-04	--
			Pyrene	--	--	--	--	--	Kidney	--	--	1.68E-04	--	1.68E-04	--
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.92E-04	--	1.92E-04	--
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	8.14E-09	--	8.14E-09	--			
Silver	--	--	--	--	--	--	--	--	--	--	--	--			

**TABLE H-8.18**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	6.12E-08	--	6.12E-08	Liver	--	--	7.44E-04	--	7.44E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	5.96E-08	--	5.96E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			<b>Chemical Total</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>1.41E-05</b>	<b>0.00E+00</b>	<b>1.41E-05</b>		<b>0.00E+00</b>	<b>0.00E+00</b>	<b>4.08E-01</b>	<b>0.00E+00</b>	<b>4.08E-01</b>
			<b>Exposure Point Total</b>					<b>1.41E-05</b>				<b>4.08E-01</b>		<b>4.08E-01</b>
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.19E+00	--	2.19E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	7.43E+00	--	7.43E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.71E-01	--	4.71E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	7.31E-01	--	7.31E-01
			1,2-Dichloropropane	--	--	7.12E-08	--	7.12E-08	Nasal	--	--	5.06E-03	--	5.06E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.51E-01	--	1.51E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	5.88E-02	--	5.88E-02
			1,4-Dichlorobenzene	--	--	1.49E-04	--	1.49E-04	Liver	--	--	4.74E-02	--	4.74E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.65E-02	--	2.65E-02
			4,4'-DDE	--	--	1.93E-10	--	1.93E-10	Liver	--	--	3.31E-06	--	3.31E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.70E-03	--	7.70E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.99E-04	--	1.99E-04
			Aldrin	--	--	2.56E-08	--	2.56E-08	Liver	--	--	1.46E-04	--	1.46E-04
			alpha-BHC	--	--	2.72E-08	--	2.72E-08	Liver/ Kidney	--	--	5.87E-05	--	5.87E-05
			alpha-Chlordane	--	--	6.09E-09	--	6.09E-09	Liver	--	--	7.40E-05	--	7.40E-05
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	4.05E-04	--	4.05E-04
			Benzo(b)fluoranthene	--	--	1.15E-07	--	1.15E-07	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	1.92E-06	--	1.92E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	6.17E-04	--	6.17E-04
			Chrysene	--	--	6.48E-08	--	6.48E-08	--	--	--	--	--	--
			Delta-BHC	--	--	2.58E-07	--	2.58E-07	Liver/Kidney	--	--	2.51E-03	--	2.51E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	3.23E-03	--	3.23E-03
			Dioksin	--	--	7.85E-07	--	7.85E-07	Liver	--	--	2.86E-03	--	2.86E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	9.81E-05	--	9.81E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	9.98E-05	--	9.98E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.83E-04	--	1.83E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.35E-05	--	3.35E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.83E-03	--	1.83E-03
			gamma-BHC (Lindane)	--	--	5.86E-08	--	5.86E-08	Liver/Kidney	--	--	5.18E-04	--	5.18E-04
			gamma-Chlordane	--	--	1.11E-10	--	1.11E-10	Liver	--	--	1.35E-06	--	1.35E-06
			Heptachlor	--	--	4.17E-08	--	4.17E-08	Liver	--	--	5.93E-05	--	5.93E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.62E-05	--	1.62E-05
			Methylene Chloride	--	--	4.61E-09	--	4.61E-09	Blood	--	--	3.50E-05	--	3.50E-05
			Naphthalene	--	--	7.06E-04	--	7.06E-04	Nasal Epithelium	--	--	2.00E+01	--	2.00E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.19E-03	--	5.19E-03

TABLE H-8.18

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.60E-03	--	1.60E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	3.62E-04	--	3.62E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.56E-03	--	1.56E-03
			Technical Chlordane	--	--	4.72E-07	--	4.72E-07	Liver	--	--	5.74E-03	--	5.74E-03
			Toluene	--	--	--	--	--	CNS	--	--	4.82E-07	--	4.82E-07
			Chemical Total	0.00E+00	0.00E+00	8.58E-04	0.00E+00	8.58E-04		0.00E+00	0.00E+00	3.12E+01	0.00E+00	3.12E+01
			Exposure Point Total					8.58E-04						3.12E+01
			Exposure Medium Total					8.72E-04						3.16E+01
Medium Total								1.03E-03						3.43E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	2.26E-10	--	2.26E-10	No observed effect	--	--	8.25E-07	--	8.25E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.03E-05	--	2.03E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	3.96E-06	--	3.96E-06
			1,2-Dichloroethane	--	--	4.01E-09	--	4.01E-09	Liver/ Kidney/ CNS	--	--	1.16E-04	--	1.16E-04
			1,2-Dichloropropane	--	--	7.51E-10	--	7.51E-10	Nasal	--	--	5.34E-05	--	5.34E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.15E-05	--	1.15E-05
			1,4-Dichlorobenzene	--	--	1.05E-09	--	1.05E-09	Liver	--	--	3.34E-07	--	3.34E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.08E-09	--	2.08E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.28E-09	--	5.28E-09
			4,4'-DDE	--	--	4.12E-11	--	4.12E-11	Liver	--	--	7.06E-07	--	7.06E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.28E-09	--	1.28E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.76E-07	--	1.76E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.51E-09	--	7.51E-09
			Aldrin	--	--	3.56E-09	--	3.56E-09	Liver	--	--	2.03E-05	--	2.03E-05
			alpha-BHC	--	--	7.15E-11	--	7.15E-11	Liver/ Kidney	--	--	1.55E-07	--	1.55E-07
			alpha-Chlordane	--	--	7.52E-11	--	7.52E-11	Liver	--	--	9.14E-07	--	9.14E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.99E-09	--	2.99E-09
			Benzene	--	--	2.44E-09	--	2.44E-09	Blood	--	--	8.28E-06	--	8.28E-06
			Benzo(b)fluoranthene	--	--	1.77E-11	--	1.77E-11	--	--	--	--	--	--
			Bromoform	--	--	2.69E-12	--	2.69E-12	Liver	--	--	1.00E-07	--	1.00E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.15E-06	--	6.15E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	7.00E-08	--	7.00E-08
			Chloroform	--	--	3.67E-09	--	3.67E-09	GI Tract/ Kidney/ Development	--	--	6.58E-06	--	6.58E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	7.86E-06	--	7.86E-06
			Chrysene	--	--	4.80E-12	--	4.80E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.45E-05	--	1.45E-05
			Dieldrin	--	--	1.47E-09	--	1.47E-09	Liver	--	--	5.36E-06	--	5.36E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.02E-08	--	1.02E-08
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.67E-11	--	1.67E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.88E-07	--	1.88E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.45E-09	--	3.45E-09
Fluorene	--	--	--	--	--	Blood	--	--	6.82E-09	--	6.82E-09			
gamma-BHC (Lindane)	--	--	1.28E-13	--	1.28E-13	Liver/Kidney	--	--	1.13E-09	--	1.13E-09			

TABLE H-8.18  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	1.95E-10	--	1.95E-10	Liver	--	--	2.37E-06	--	2.37E-06
			Heptachlor	--	--	6.85E-09	--	6.85E-09	Liver	--	--	9.74E-06	--	9.74E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.50E-05	--	8.50E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	6.53E-06	--	6.53E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.78E-07	--	1.78E-07
			Naphthalene	--	--	6.10E-11	--	6.10E-11	Nasal Epithelium	--	--	1.73E-06	--	1.73E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.06E-05	--	8.06E-05
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	1.92E-06	--	1.92E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.38E-09	--	2.38E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.50E-05	--	8.50E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	4.19E-09	--	4.19E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	5.47E-06	--	5.47E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	6.19E-06	--	6.19E-06
			Toluene	--	--	--	--	--	CNS	--	--	7.26E-08	--	7.26E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.22E-05	--	1.22E-05
			Trichloroethene	--	--	6.10E-10	--	6.10E-10	CNS/Eye	--	--	1.50E-06	--	1.50E-06
			Vinyl chloride	--	--	4.87E-08	--	4.87E-08	Liver	--	--	1.84E-05	--	1.84E-05
			Chemical Total	0.00E+00	0.00E+00	7.38E-08	0.00E+00	7.38E-08		0.00E+00	0.00E+00	5.95E-04	0.00E+00	5.95E-04
			Exposure Point Total					7.38E-08						5.95E-04
			Exposure Medium Total					7.38E-08						5.95E-04
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	3.97E-08	--	3.97E-08	No observed effect	--	--	1.45E-04	--	1.45E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.24E-04	--	5.24E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.05E-04	--	1.05E-04
			1,2-Dichloroethane	--	--	1.20E-07	--	1.20E-07	Liver/ Kidney/ CNS	--	--	3.47E-03	--	3.47E-03
			1,2-Dichloropropane	--	--	2.22E-08	--	2.22E-08	Nasal	--	--	1.58E-03	--	1.58E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.00E-04	--	3.00E-04
			1,4-Dichlorobenzene	--	--	2.82E-08	--	2.82E-08	Liver	--	--	8.95E-06	--	8.95E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.07E-07	--	1.07E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.48E-07	--	1.48E-07
			4,4'-DDE	--	--	3.71E-12	--	3.71E-12	Liver	--	--	6.36E-08	--	6.36E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	5.28E-08	--	5.28E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.51E-06	--	7.51E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.20E-07	--	3.20E-07
			Aldrin	--	--	3.88E-10	--	3.88E-10	Liver	--	--	2.22E-06	--	2.22E-06
			alpha-BHC	--	--	9.18E-12	--	9.18E-12	Liver/ Kidney	--	--	1.98E-08	--	1.98E-08
			alpha-Chlordane	--	--	2.47E-11	--	2.47E-11	Liver	--	--	3.01E-07	--	3.01E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.27E-07	--	1.27E-07
			Benzene	--	--	7.17E-08	--	7.17E-08	Blood	--	--	2.43E-04	--	2.43E-04
			Benzo(b)fluoranthene	--	--	7.46E-10	--	7.46E-10	--	--	--	--	--	--
			Bromoform	--	--	1.44E-10	--	1.44E-10	Liver	--	--	5.39E-06	--	5.39E-06
Carbon disulfide	--	--	--	--	--	CNS	--	--	1.84E-04	--	1.84E-04			
Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.96E-06	--	1.96E-06			

TABLE H-8.18

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	--	--	1.09E-07	--	1.09E-07	GI Tract/ Kidney/ Development	--	--	1.95E-04	--	1.95E-04			
			Chloromethane	--	--	--	--	--	CNS	--	--	2.55E-04	--	2.55E-04			
			Chrysene	--	--	2.10E-10	--	2.10E-10	--	--	--	--	--	--			
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	9.38E-04	--	9.38E-04			
			Dieldrin	--	--	5.63E-11	--	5.63E-11	Liver	--	--	2.05E-07	--	2.05E-07			
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.21E-09	--	2.21E-09			
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	7.37E-10	--	7.37E-10			
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	5.07E-06	--	5.07E-06			
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.40E-07	--	1.40E-07			
			Fluorene	--	--	--	--	--	Blood	--	--	3.55E-07	--	3.55E-07			
			gamma-BHC (Lindane)	--	--	5.05E-12	--	5.05E-12	Liver/Kidney	--	--	4.46E-08	--	4.46E-08			
			gamma-Chlordane	--	--	1.20E-11	--	1.20E-11	Liver	--	--	1.45E-07	--	1.45E-07			
			Heptachlor	--	--	1.85E-10	--	1.85E-10	Liver	--	--	2.63E-07	--	2.63E-07			
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	4.46E-03	--	4.46E-03			
			m,p-Xylene	--	--	--	--	--	CNS	--	--	3.79E-04	--	3.79E-04			
			Methoxychlor	--	--	--	--	--	Developmental	--	--	7.73E-09	--	7.73E-09			
			Naphthalene	--	--	3.31E-09	--	3.31E-09	Nasal Epithelium	--	--	9.38E-05	--	9.38E-05			
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	4.51E-03	--	4.51E-03			
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	1.09E-04	--	1.09E-04			
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.32E-07	--	1.32E-07			
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.46E-03	--	4.46E-03			
			Pyrene	--	--	--	--	--	Kidney	--	--	1.75E-07	--	1.75E-07			
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.88E-06	--	3.88E-06			
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	3.88E-04	--	3.88E-04			
			Toluene	--	--	--	--	--	CNS	--	--	4.16E-07	--	4.16E-07			
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	8.23E-04	--	8.23E-04			
			Trichloroethene	--	--	3.74E-08	--	3.74E-08	CNS/Eye	--	--	9.16E-05	--	9.16E-05			
			Vinyl chloride	--	--	3.28E-06	--	3.28E-06	Liver	--	--	1.24E-03	--	1.24E-03			
						Chemical Total	0.00E+00	0.00E+00	3.71E-06	0.00E+00	3.71E-06		0.00E+00	0.00E+00	2.45E-02	0.00E+00	2.45E-02
						Exposure Point Total					3.71E-06						2.45E-02
			Exposure Medium Total					3.71E-06						2.45E-02			
Medium Total								3.78E-06						2.51E-02			
Receptor Total								Receptor Risk Total						Receptor HI Total	3.43E+01		

TABLE H-8.18

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.02E+00
Total Organ 2 (Kidney) HI Across All Media =	1.09E+01
Total Organ 3 (Reproductive System) HI Across All Media =	6.68E-04
Total Organ 4 (Nervous System) HI Across All Media =	8.71E-01
Total Organ 5 (Skin) HI Across All Media =	6.02E-02
Total Organ 6 (Blood) HI Across All Media =	1.33E+00
Total Organ 7 (Adrenal) HI Across All Media =	1.01E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	6.59E-03
Total Organ 9 (Brain) HI Across All Media =	9.82E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	7.21E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	3.37E-01
Total Organ 12 (Body Weight) HI Across All Media =	7.85E-01
Total Organ 13 (Developmental) HI Across All Media =	5.29E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	6.82E-01
Total Organ 15 (Whole Body) HI Across All Media =	1.24E-01
Total Organ 16 (Immune System) HI Across All Media =	3.78E-01
Total Organ 17 (Organ Weight) HI Across All Media =	7.19E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	3.37E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	2.03E+01

TABLE H-8.19

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	2.05E-04	8.20E-05	--	--	2.87E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	6.99E-04	2.79E-05	--	--	7.27E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.37E-05	5.47E-07	--	--	1.42E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	3.98E-04	1.58E-05	--	--	4.12E-04
			1,2-Dichloropropane	6.09E-11	2.43E-12	--	--	6.33E-11	Nasal	4.33E-06	1.73E-07	--	--	4.50E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.38E-06	1.75E-07	--	--	4.56E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	5.02E-05	2.00E-06	--	--	5.22E-05
			1,4-Dichlorobenzene	1.72E-08	--	--	--	1.72E-08	Organ weight	3.11E-04	--	--	--	3.11E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.44E-05	5.74E-07	--	1.58E-03	1.60E-03
			2-Methylphenol	--	--	--	--	--	Respiratory System	2.77E-05	1.11E-05	--	7.27E-03	7.31E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	3.97E-05	1.58E-06	--	--	4.13E-05
			4,4'-DDD	1.35E-10	5.40E-12	--	2.54E-11	1.66E-10	Liver	3.29E-06	1.31E-07	--	6.17E-07	4.04E-06
			4,4'-DDE	1.20E-08	4.78E-10	--	1.63E-09	1.41E-08	Liver	2.05E-04	8.20E-06	--	2.79E-05	2.42E-04
			4,4'-DDT	6.71E-09	8.03E-10	--	3.93E-09	1.14E-08	Liver	1.15E-04	1.38E-05	--	6.74E-05	1.96E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	7.40E-05	2.95E-05	--	1.99E-02	2.00E-02
			4-Nitroaniline	6.12E-09	2.44E-09	--	1.13E-06	1.14E-06	--	2.83E-04	1.13E-04	--	5.22E-02	5.26E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	1.15E-03	4.59E-04	--	3.18E-01	3.20E-01
			Acenaphthene	--	--	--	--	--	Liver	7.93E-05	4.11E-05	--	--	1.20E-04
			Acenaphthylene	--	--	--	--	--	Liver	2.05E-06	8.16E-08	--	--	2.13E-06
			Aldrin	1.04E-07	4.14E-08	--	3.19E-08	1.77E-07	Liver	5.94E-04	2.37E-04	--	1.82E-04	1.01E-03
			alpha-BHC	9.26E-10	3.69E-11	--	6.14E-08	6.23E-08	Liver/Kidney	2.00E-06	7.98E-08	--	1.33E-04	1.35E-04
			alpha-Chlordane	4.26E-09	--	--	2.87E-09	7.14E-09	Liver	1.91E-05	--	--	1.29E-05	3.20E-05
			Aluminum	--	--	--	--	--	CNS	1.24E-02	4.95E-05	--	1.14E-03	1.36E-02
			Anthracene	--	--	--	--	--	No Observed Effect	4.17E-06	2.16E-06	--	--	6.33E-06
			Antimony	--	--	--	--	--	Whole Body/Blood	9.33E-03	3.72E-05	--	3.95E-02	4.89E-02
			Aroclor-1248	1.13E-06	6.30E-07	--	2.12E-07	1.97E-06	Immune System/ Eye/Finger and Toe Nails	8.22E-02	4.59E-02	--	1.55E-02	1.44E-01
			Aroclor-1254	4.11E-07	2.30E-07	--	1.04E-06	1.68E-06	Immune System/ Eye/Finger and Toe Nails	3.00E-02	1.67E-02	--	7.55E-02	1.22E-01
			Aroclor-1260	4.59E-07	2.56E-07	--	4.13E-08	7.56E-07	Immune System/ Eye/Finger and Toe Nails	3.34E-02	1.87E-02	--	3.01E-03	5.51E-02
			Aroclor-1268	2.55E-08	1.43E-08	--	6.43E-08	1.04E-07	Immune System/ Eye/Finger and Toe Nails	1.86E-03	1.04E-03	--	4.69E-03	7.59E-03
			Arsenic	4.23E-05	5.06E-06	--	3.59E-05	8.32E-05	Skin	4.35E-02	5.21E-03	--	3.69E-02	8.56E-02
			Barium	--	--	--	--	--	Kidney	1.36E-03	5.42E-06	--	2.88E-03	4.24E-03
			Benzo(a)anthracene	2.37E-06	1.23E-06	--	8.61E-08	3.69E-06	--	--	--	--	--	--
			Benzo(a)pyrene	7.92E-06	4.11E-06	--	1.63E-07	1.22E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.34E-06	6.94E-07	--	2.75E-07	2.31E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	2.96E-05	1.53E-05	--	4.64E-06	4.96E-05
			Benzo(k)fluoranthene	1.59E-06	8.26E-07	--	3.28E-07	2.75E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.56E-04	6.23E-07	--	3.31E-05	1.90E-04
			Beta-BHC	1.55E-09	6.18E-11	--	1.03E-07	1.04E-07	Liver/Kidney	1.51E-05	6.01E-07	--	9.99E-04	1.01E-03
			bis(2-ethylhexyl)phthalate	7.46E-09	2.98E-10	--	3.64E-07	3.72E-07	Liver	3.63E-04	1.45E-05	--	1.77E-02	1.81E-02
			Cadmium	1.54E-06	6.16E-09	--	3.27E-05	3.43E-05	Kidney	2.37E-02	9.45E-05	--	5.02E-01	5.26E-01
			Carbon disulfide	--	--	--	--	--	Developmental	3.29E-09	3.28E-09	--	--	6.57E-09
			Chlorobenzene	--	--	--	--	--	Liver	7.53E-06	3.01E-07	--	--	7.83E-06

TABLE H-8.19

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	-	-	-	-	-	No Observed Effect	9.13E-05	3.64E-07	-	5.80E-05	1.50E-04
			Chrysene	2.70E-07	1.40E-07	-	6.88E-08	4.79E-07	-	-	-	-	-	-
			Cobalt	-	-	-	-	-	Blood	5.10E-04	2.03E-06	-	5.04E-04	1.02E-03
			Copper	-	-	-	-	-	GI Tract/Kidney	2.06E-03	8.21E-08	-	7.27E-02	7.47E-02
			Delta-BHC	5.92E-09	1.18E-09	-	3.20E-09	1.03E-08	Liver/Kidney	5.75E-05	1.15E-05	-	3.11E-05	1.00E-04
			Dibenzo(a,h)anthracene	5.31E-07	2.75E-07	-	6.75E-08	8.74E-07	-	-	-	-	-	-
			Dibenzofuran	-	-	-	-	-	Kidney	8.90E-03	3.55E-04	-	-	9.26E-03
			Dieldrin	3.68E-07	1.47E-08	-	2.75E-05	2.79E-05	Liver	1.34E-03	5.35E-05	-	1.00E-01	1.02E-01
			Dimethylphthalate	-	-	-	-	-	Developmental/Organ Weight	6.51E-08	2.60E-09	-	1.37E-05	1.38E-05
			di-n-Butylphthalate	-	-	-	-	-	Liver	1.58E-05	6.29E-07	-	4.64E-06	2.10E-05
			Endosulfan I	-	-	-	-	-	Body weight/Kidney/CNS	5.25E-06	1.05E-06	-	3.32E-04	3.39E-04
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	5.33E-06	1.06E-06	-	3.24E-04	3.30E-04
			Endosulfan Sulfate	-	-	-	-	-	Body Weight/Kidney/CNS	9.82E-06	1.96E-06	-	5.81E-04	5.93E-04
			Endrin aldehyde	-	-	-	-	-	Liver	2.88E-04	5.74E-05	-	6.74E-05	4.12E-04
			Endrin Ketone	-	-	-	-	-	Liver	4.57E-05	-	-	1.07E-05	5.64E-05
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	7.62E-04	3.95E-04	-	2.91E-04	1.45E-03
			Fluorene	-	-	-	-	-	Blood	8.66E-05	4.49E-05	-	-	1.31E-04
			gamma-BHC (Lindane)	1.34E-09	2.14E-10	-	3.13E-07	3.15E-07	Liver/Kidney	1.19E-05	1.89E-06	-	2.77E-03	2.78E-03
			gamma-Chlordane	7.75E-09	-	-	5.23E-09	1.30E-08	Liver	3.48E-05	-	-	2.35E-05	5.83E-05
			Heptachlor	1.33E-08	5.30E-10	-	6.66E-09	2.05E-08	Liver	1.89E-05	7.54E-07	-	9.48E-06	2.91E-05
			Heptachlor Epoxide	2.55E-08	1.02E-09	-	4.15E-06	4.18E-06	Liver	1.04E-03	4.14E-05	-	1.69E-01	1.70E-01
			Indeno(1,2,3-cd)pyrene	2.80E-07	1.45E-07	-	4.31E-08	4.69E-07	-	-	-	-	-	-
			Iron	-	-	-	-	-	Liver	1.68E-01	6.70E-04	-	2.36E-02	1.92E-01
			Isophorone	8.92E-11	3.56E-11	-	-	1.25E-10	No Observed Effect	1.37E-06	5.47E-07	-	-	1.92E-06
			Lead	-	-	-	-	-	-	-	-	-	-	-
			Manganese	-	-	-	-	-	CNS	1.74E-02	6.93E-05	-	1.23E-01	1.40E-01
			Mercury	-	-	-	-	-	Immune System	1.21E-03	-	-	3.42E-02	3.54E-02
			Methoxychlor	-	-	-	-	-	Developmental	3.29E-05	1.31E-06	-	4.02E-06	3.82E-05
			Methylene chloride	1.58E-11	6.30E-13	-	-	1.64E-11	Liver	5.48E-08	2.19E-09	-	-	5.70E-08
			Molybdenum	-	-	-	-	-	Blood	5.97E-04	2.38E-06	-	5.06E-03	5.66E-03
			Naphthalene	-	-	-	-	-	Whole Body	8.90E-04	4.62E-04	-	-	1.35E-03
			Nickel	-	-	-	-	-	Whole Body	2.67E-03	1.06E-05	-	2.26E-02	2.53E-02
			Phenanthrene	-	-	-	-	-	No Observed Effect	5.33E-05	2.13E-06	-	-	5.55E-05
			Phenol	-	-	-	-	-	Whole Body	2.65E-06	1.06E-06	-	1.85E-03	1.85E-03
			p-Isopropyltoluene	-	-	-	-	-	Kidney	1.51E-06	-	-	-	1.51E-06
			Pyrene	-	-	-	-	-	Kidney	9.29E-04	4.82E-04	-	-	1.41E-03
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	2.43E-06	-	-	-	2.43E-06
			Selenium	-	-	-	-	-	Whole Body	7.77E-05	3.10E-07	-	2.74E-04	3.52E-04
			Silver	-	-	-	-	-	Skin	2.68E-04	1.07E-06	-	3.79E-03	4.06E-03
			Technical Chlordane	3.30E-07	5.27E-08	-	2.23E-07	6.06E-07	Liver	1.48E-03	2.36E-04	-	9.99E-04	2.72E-03
Thallium	-	-	-	-	-	Blood	8.26E-03	-	-	4.67E-04	8.73E-03			
Toluene	-	-	-	-	-	Liver/Kidney	7.36E-09	2.94E-10	-	-	7.66E-09			

TABLE H-8.19  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	4.61E-02	1.84E-04	--	1.96E-02	6.59E-02
			Zinc	--	--	--	--	--	Blood	1.51E-03	6.04E-06	--	1.93E-01	1.94E-01
			Chemical Total	6.11E-05	1.37E-05	0.00E+00	1.05E-04	1.80E-04		5.07E-01	9.20E-02	0.00E+00	1.87E+00	2.47E+00
Exposure Point Total							1.80E-04						2.47E+00	
Exposure Medium Total							1.80E-04						2.47E+00	
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.59E-02	--	2.59E-02	
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	8.81E-02	--	8.81E-02	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.88E-02	--	1.88E-02	
		1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.55E-02	--	2.55E-02	
		1,2-Dichloropropane	--	--	9.64E-09	--	9.64E-09	Nasal	--	--	6.85E-04	--	6.85E-04	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.87E-03	--	5.87E-03	
		1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.48E-03	--	1.48E-03	
		1,4-Dichlorobenzene	--	--	5.85E-06	--	5.85E-06	Liver	--	--	1.85E-03	--	1.85E-03	
		2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.17E-09	--	2.17E-09	
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-04	--	3.50E-04	
		4,4'-DDD	--	--	2.04E-14	--	2.04E-14	Liver	--	--	4.96E-10	--	4.96E-10	
		4,4'-DDE	--	--	2.81E-10	--	2.81E-10	Liver	--	--	4.82E-06	--	4.82E-06	
		4,4'-DDT	--	--	1.01E-12	--	1.01E-12	Liver	--	--	1.74E-08	--	1.74E-08	
		4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.12E-08	--	1.12E-08	
		4-Nitroaniline	--	--	9.23E-13	--	9.23E-13	--	--	--	1.28E-07	--	1.28E-07	
		4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.52E-07	--	1.52E-07	
		Acenaphthene	--	--	--	--	--	Liver	--	--	2.17E-04	--	2.17E-04	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	5.59E-06	--	5.59E-06	
		Aldrin	--	--	8.96E-09	--	8.96E-09	Liver	--	--	5.12E-05	--	5.12E-05	
		alpha-BHC	--	--	9.19E-10	--	9.19E-10	Liver/ Kidney	--	--	1.99E-06	--	1.99E-06	
		alpha-Chlordane	--	--	7.76E-10	--	7.76E-10	Liver	--	--	9.43E-06	--	9.43E-06	
		Aluminum	--	--	--	--	--	Respiratory System	--	--	1.31E-03	--	1.31E-03	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.14E-05	--	1.14E-05	
		Antimony	--	--	--	--	--	--	--	--	--	--	--	
		Aroclor-1248	--	--	1.70E-10	--	1.70E-10	Immune System/Eye/Finger and Toe nails	--	--	1.24E-05	--	1.24E-05	
		Aroclor-1254	--	--	6.20E-11	--	6.20E-11	Immune System/Eye/Finger and Toe Nails	--	--	4.52E-06	--	4.52E-06	
		Aroclor-1260	--	--	6.92E-11	--	6.92E-11	Immune System/Eye/Finger and Toe Nails	--	--	5.05E-06	--	5.05E-06	
		Aroclor-1268	--	--	3.85E-12	--	3.85E-12	Immune System/Eye/Finger and Toe Nails	--	--	2.81E-07	--	2.81E-07	
		Arsenic	--	--	8.11E-09	--	8.11E-09	Developmental	--	--	2.29E-04	--	2.29E-04	
		Barium	--	--	--	--	--	Developmental	--	--	1.03E-04	--	1.03E-04	
		Benzo(a)anthracene	--	--	1.16E-10	--	1.16E-10	--	--	--	--	--	--	
		Benzo(a)pyrene	--	--	3.89E-10	--	3.89E-10	--	--	--	--	--	--	
Benzo(b)fluoranthene	--	--	5.60E-08	--	5.60E-08	--	--	--	--	--	--			
Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	4.46E-09	--	4.46E-09			
Benzo(k)fluoranthene	--	--	7.81E-11	--	7.81E-11	--	--	--	--	--	--			
Beryllium	--	--	1.36E-10	--	1.36E-10	Immune System/Lung	--	--	8.24E-06	--	8.24E-06			

TABLE H-8.19

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	2.34E-13	--	2.34E-13	Liver/Kidney	--	--	2.27E-09	--	2.27E-09
			bis(2-ethylhexyl)phthalate	--	--	3.15E-12	--	3.15E-12	Liver	--	--	5.47E-08	--	5.47E-08
			Cadmium	--	--	9.19E-09	--	9.19E-09	Kidney/Respiratory System	--	--	3.13E-04	--	3.13E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.17E-07	--	6.17E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	4.94E-05	--	4.94E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.92E-08	--	1.92E-08	--	--	--	--	--	--
			Cobalt	--	--	5.17E-09	--	5.17E-09	Respiratory System	--	--	2.69E-04	--	2.69E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	5.87E-09	--	5.87E-09	Liver/Kidney	--	--	5.71E-05	--	5.71E-05
			Dibenzo(a,h)anthracene	--	--	8.01E-11	--	8.01E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.12E-03	--	6.12E-03
			Dieldrin	--	--	9.85E-08	--	9.85E-08	Liver	--	--	3.59E-04	--	3.59E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	9.82E-12	--	9.82E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.75E-09	--	4.75E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.66E-06	--	3.66E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.72E-06	--	3.72E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.85E-06	--	6.85E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	4.34E-08	--	4.34E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.89E-09	--	6.89E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	9.81E-05	--	9.81E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.01E-04	--	1.01E-04
			gamma-BHC (Lindane)	--	--	1.64E-09	--	1.64E-09	Liver/Kidney	--	--	1.45E-05	--	1.45E-05
			gamma-Chlordane	--	--	1.41E-09	--	1.41E-09	Liver	--	--	1.72E-05	--	1.72E-05
			Heptachlor	--	--	1.30E-07	--	1.30E-07	Liver	--	--	1.84E-04	--	1.84E-04
			Heptachlor Epoxide	--	--	3.84E-12	--	3.84E-12	Liver	--	--	1.57E-07	--	1.57E-07
			Indeno(1,2,3-cd)pyrene	--	--	1.37E-11	--	1.37E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.40E-03	--	4.40E-03
			Mercury	--	--	--	--	--	CNS	--	--	6.38E-07	--	6.38E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.71E-06	--	4.71E-06
			Methylene chloride	--	--	--	--	--	Blood	--	--	--	--	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	7.85E-06	--	7.85E-06	Nasal Epithelium	--	--	2.23E-01	--	2.23E-01
			Nickel	--	--	2.51E-09	--	2.51E-09	Respiratory System	--	--	5.75E-04	--	5.75E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.46E-04	--	1.46E-04
			Phenol	--	--	--	--	--	Liver/CNS	--	--	2.10E-09	--	2.10E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.75E-04	--	4.75E-04
Pyrene	--	--	--	--	--	Kidney	--	--	1.42E-04	--	1.42E-04			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.92E-04	--	1.92E-04			

TABLE H-8.19

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	1.03E-08	--	1.03E-08
			Silver	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	6.01E-08	--	6.01E-08	Liver	--	--	7.30E-04	--	7.30E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	5.96E-08	--	5.96E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	1.41E-05	0.00E+00	1.41E-05		0.00E+00	0.00E+00	4.07E-01	0.00E+00	4.07E-01
		Exposure Point Total						1.41E-05				4.07E-01		4.07E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.19E+00	--	2.19E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	7.43E+00	--	7.43E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.71E-01	--	4.71E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	7.31E-01	--	7.31E-01
			1,2-Dichloropropane	--	--	7.12E-08	--	7.12E-08	Nasal	--	--	5.06E-03	--	5.06E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.51E-01	--	1.51E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	5.88E-02	--	5.88E-02
			1,4-Dichlorobenzene	--	--	1.49E-04	--	1.49E-04	Liver	--	--	4.74E-02	--	4.74E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.65E-02	--	2.65E-02
			4,4'-DDE	--	--	1.93E-10	--	1.93E-10	Liver	--	--	3.31E-06	--	3.31E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.70E-03	--	7.70E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.99E-04	--	1.99E-04
			Aldrin	--	--	2.56E-08	--	2.56E-08	Liver	--	--	1.46E-04	--	1.46E-04
			alpha-BHC	--	--	2.72E-08	--	2.72E-08	Liver/ Kidney	--	--	5.87E-05	--	5.87E-05
			alpha-Chlordane	--	--	6.09E-09	--	6.09E-09	Liver	--	--	7.40E-05	--	7.40E-05
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	4.05E-04	--	4.05E-04
			Benzo(b)fluoranthene	--	--	1.15E-07	--	1.15E-07	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	1.92E-06	--	1.92E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	6.17E-04	--	6.17E-04
			Chrysene	--	--	6.48E-08	--	6.48E-08	--	--	--	--	--	--
			Delta-BHC	--	--	2.58E-07	--	2.58E-07	Liver/Kidney	--	--	2.51E-03	--	2.51E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	3.23E-03	--	3.23E-03
			Dieldrin	--	--	7.85E-07	--	7.85E-07	Liver	--	--	2.86E-03	--	2.86E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	9.81E-05	--	9.81E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	9.98E-05	--	9.98E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.83E-04	--	1.83E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.35E-05	--	3.35E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.83E-03	--	1.83E-03
			gamma-BHC (Lindane)	--	--	5.86E-08	--	5.86E-08	Liver/Kidney	--	--	5.18E-04	--	5.18E-04
			gamma-Chlordane	--	--	1.11E-10	--	1.11E-10	Liver	--	--	1.35E-06	--	1.35E-06
			Heptachlor	--	--	4.17E-08	--	4.17E-08	Liver	--	--	5.93E-05	--	5.93E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.62E-05	--	1.62E-05
			Methylene Chloride	--	--	4.61E-09	--	4.61E-09	Blood	--	--	3.50E-05	--	3.50E-05

TABLE H-8.19

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	7.06E-04	--	7.06E-04	Nasal Epithelium	--	--	2.00E+01	--	2.00E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.19E-03	--	5.19E-03
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.60E-03	--	1.60E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	3.62E-04	--	3.62E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.56E-03	--	1.56E-03
			Technical Chlordane	--	--	4.72E-07	--	4.72E-07	Liver	--	--	5.74E-03	--	5.74E-03
			Toluene	--	--	--	--	--	CNS	--	--	4.82E-07	--	4.82E-07
		Chemical Total	0.00E+00	0.00E+00	8.58E-04	0.00E+00	8.58E-04		0.00E+00	0.00E+00	3.12E+01	0.00E+00	3.12E+01	
		Exposure Point Total					8.58E-04						3.12E+01	
		Exposure Medium Total					8.72E-04						3.16E+01	
Medium Total							1.05E-03						3.40E+01	
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	2.26E-10	--	2.26E-10	No observed effect	--	--	8.25E-07	--	8.25E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.03E-05	--	2.03E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	3.96E-06	--	3.96E-06
			1,2-Dichloroethane	--	--	4.01E-09	--	4.01E-09	Liver/ Kidney/ CNS	--	--	1.16E-04	--	1.16E-04
			1,2-Dichloropropane	--	--	7.51E-10	--	7.51E-10	Nasal	--	--	5.34E-05	--	5.34E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.15E-05	--	1.15E-05
			1,4-Dichlorobenzene	--	--	1.05E-09	--	1.05E-09	Liver	--	--	3.34E-07	--	3.34E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.08E-09	--	2.08E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.28E-09	--	5.28E-09
			4,4'-DDE	--	--	4.12E-11	--	4.12E-11	Liver	--	--	7.06E-07	--	7.06E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.28E-09	--	1.28E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.76E-07	--	1.76E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.51E-09	--	7.51E-09
			Aldrin	--	--	3.56E-09	--	3.56E-09	Liver	--	--	2.03E-05	--	2.03E-05
			alpha-BHC	--	--	7.15E-11	--	7.15E-11	Liver/ Kidney	--	--	1.55E-07	--	1.55E-07
			alpha-Chlordane	--	--	7.52E-11	--	7.52E-11	Liver	--	--	9.14E-07	--	9.14E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.99E-09	--	2.99E-09
			Benzene	--	--	2.44E-09	--	2.44E-09	Blood	--	--	8.28E-06	--	8.28E-06
			Benzo(b)fluoranthene	--	--	1.77E-11	--	1.77E-11	--	--	--	--	--	--
			Bromoform	--	--	2.69E-12	--	2.69E-12	Liver	--	--	1.00E-07	--	1.00E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.15E-06	--	6.15E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	7.00E-08	--	7.00E-08
			Chloroform	--	--	3.67E-09	--	3.67E-09	GI Tract/ Kidney/ Development	--	--	6.58E-06	--	6.58E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	7.86E-06	--	7.86E-06
			Chrysene	--	--	4.80E-12	--	4.80E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.45E-05	--	1.45E-05
			Dieldrin	--	--	1.47E-09	--	1.47E-09	Liver	--	--	5.36E-06	--	5.36E-06
Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.02E-08	--	1.02E-08			
Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.67E-11	--	1.67E-11			
Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.88E-07	--	1.88E-07			
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.45E-09	--	3.45E-09			

TABLE H-8.19

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	6.82E-09	--	6.82E-09
			gamma-BHC (Lindane)	--	--	1.28E-13	--	1.28E-13	Liver/Kidney	--	--	1.13E-09	--	1.13E-09
			gamma-Chlordane	--	--	1.95E-10	--	1.95E-10	Liver	--	--	2.37E-06	--	2.37E-06
			Heptachlor	--	--	6.85E-09	--	6.85E-09	Liver	--	--	9.74E-06	--	9.74E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.50E-05	--	8.50E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	6.53E-06	--	6.53E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.78E-07	--	1.78E-07
			Naphthalene	--	--	6.10E-11	--	6.10E-11	Nasal Epithelium	--	--	1.73E-06	--	1.73E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.06E-05	--	8.06E-05
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	1.92E-06	--	1.92E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.38E-09	--	2.38E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.50E-05	--	8.50E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	4.19E-09	--	4.19E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	5.47E-06	--	5.47E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	6.19E-06	--	6.19E-06
			Toluene	--	--	--	--	--	CNS	--	--	7.26E-08	--	7.26E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.22E-05	--	1.22E-05
			Trichloroethene	--	--	6.10E-10	--	6.10E-10	CNS/Eye	--	--	1.50E-06	--	1.50E-06
			Vinyl chloride	--	--	4.87E-08	--	4.87E-08	Liver	--	--	1.84E-05	--	1.84E-05
						Chemical Total	0.00E+00	0.00E+00	7.38E-08	0.00E+00	7.38E-08		0.00E+00	0.00E+00
			Exposure Point Total					7.38E-08						5.95E-04
			Exposure Medium Total					7.38E-08						5.95E-04
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	3.97E-08	--	3.97E-08	No observed effect	--	--	1.45E-04	--	1.45E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.24E-04	--	5.24E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.05E-04	--	1.05E-04
			1,2-Dichloroethane	--	--	1.20E-07	--	1.20E-07	Liver/ Kidney/ CNS	--	--	3.47E-03	--	3.47E-03
			1,2-Dichloropropane	--	--	2.22E-08	--	2.22E-08	Nasal	--	--	1.58E-03	--	1.58E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.00E-04	--	3.00E-04
			1,4-Dichlorobenzene	--	--	2.82E-08	--	2.82E-08	Liver	--	--	8.95E-06	--	8.95E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.07E-07	--	1.07E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.48E-07	--	1.48E-07
			4,4'-DDE	--	--	3.71E-12	--	3.71E-12	Liver	--	--	6.36E-08	--	6.36E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	5.28E-08	--	5.28E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.51E-06	--	7.51E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.20E-07	--	3.20E-07
			Aldrin	--	--	3.88E-10	--	3.88E-10	Liver	--	--	2.22E-06	--	2.22E-06
			alpha-BHC	--	--	9.18E-12	--	9.18E-12	Liver/ Kidney	--	--	1.98E-08	--	1.98E-08
			alpha-Chlordane	--	--	2.47E-11	--	2.47E-11	Liver	--	--	3.01E-07	--	3.01E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.27E-07	--	1.27E-07
			Benzene	--	--	7.17E-08	--	7.17E-08	Blood	--	--	2.43E-04	--	2.43E-04
			Benzo(b)fluoranthene	--	--	7.46E-10	--	7.46E-10	--	--	--	--	--	--
			Bromoform	--	--	1.44E-10	--	1.44E-10	Liver	--	--	5.39E-06	--	5.39E-06

TABLE H-8.19

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	-	-	-	-	-	CNS	-	-	1.84E-04	-	1.84E-04		
			Chlorobenzene	-	-	-	-	-	GI Tract/Kidney/Reproductive System	-	-	1.96E-06	-	1.96E-06		
			Chloroform	-	-	1.09E-07	-	1.09E-07	GI Tract/ Kidney/ Development	-	-	1.95E-04	-	1.95E-04		
			Chloromethane	-	-	-	-	-	CNS	-	-	2.55E-04	-	2.55E-04		
			Chrysene	-	-	2.10E-10	-	2.10E-10	-	-	-	-	-	-		
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	9.38E-04	-	9.38E-04		
			Dieldrin	-	-	5.63E-11	-	5.63E-11	Liver	-	-	2.05E-07	-	2.05E-07		
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	2.21E-09	-	2.21E-09		
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	7.37E-10	-	7.37E-10		
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	5.07E-06	-	5.07E-06		
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	1.40E-07	-	1.40E-07		
			Fluorene	-	-	-	-	-	Blood	-	-	3.55E-07	-	3.55E-07		
			gamma-BHC (Lindane)	-	-	5.05E-12	-	5.05E-12	Liver/Kidney	-	-	4.46E-08	-	4.46E-08		
			gamma-Chlordane	-	-	1.20E-11	-	1.20E-11	Liver	-	-	1.45E-07	-	1.45E-07		
			Heptachlor	-	-	1.85E-10	-	1.85E-10	Liver	-	-	2.63E-07	-	2.63E-07		
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	4.46E-03	-	4.46E-03		
			m,p-Xylene	-	-	-	-	-	CNS	-	-	3.79E-04	-	3.79E-04		
			Methoxychlor	-	-	-	-	-	Developmental	-	-	7.73E-09	-	7.73E-09		
			Naphthalene	-	-	3.31E-09	-	3.31E-09	Nasal Epithelium	-	-	9.38E-05	-	9.38E-05		
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	4.51E-03	-	4.51E-03		
			n-Propylbenzene	-	-	-	-	-	Liver/ Kidney	-	-	1.09E-04	-	1.09E-04		
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	1.32E-07	-	1.32E-07		
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	4.46E-03	-	4.46E-03		
			Pyrene	-	-	-	-	-	Kidney	-	-	1.75E-07	-	1.75E-07		
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	3.88E-06	-	3.88E-06		
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	3.88E-04	-	3.88E-04		
			Toluene	-	-	-	-	-	CNS	-	-	4.16E-07	-	4.16E-07		
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	8.23E-04	-	8.23E-04		
			Trichloroethene	-	-	3.74E-08	-	3.74E-08	CNS/Eye	-	-	9.16E-05	-	9.16E-05		
			Vinyl chloride	-	-	3.28E-06	-	3.28E-06	Liver	-	-	1.24E-03	-	1.24E-03		
						Chemical Total	0.00E+00	0.00E+00	3.71E-06	0.00E+00	3.71E-06		0.00E+00	0.00E+00	2.45E-02	2.45E-02
						Exposure Point Total										2.45E-02
						Exposure Medium Total					3.71E-06					2.45E-02
			Medium Total					3.78E-06					2.51E-02			
			Receptor Total					1.06E-03					3.41E+01			

TABLE H-8.19

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- COPC Chemicals of Potential Concern
- CNS Central nervous system
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- GI Gastrointestinal
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- RME Reasonable maximum exposure
- VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	9.51E-01
Total Organ 2 (Kidney) HI Across All Media =	1.08E+01
Total Organ 3 (Reproductive System) HI Across All Media =	6.68E-04
Total Organ 4 (Nervous System) HI Across All Media =	8.58E-01
Total Organ 5 (Skin) HI Across All Media =	8.97E-02
Total Organ 6 (Blood) HI Across All Media =	1.23E+00
Total Organ 7 (Adrenal) HI Across All Media =	1.01E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	6.53E-03
Total Organ 9 (Brain) HI Across All Media =	9.82E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	7.58E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	3.29E-01
Total Organ 12 (Body Weight) HI Across All Media =	7.85E-01
Total Organ 13 (Developmental) HI Across All Media =	6.12E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	6.82E-01
Total Organ 15 (Whole Body) HI Across All Media =	9.94E-02
Total Organ 16 (Immune System) HI Across All Media =	3.64E-01
Total Organ 17 (Organ Weight) HI Across All Media =	7.19E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	3.29E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	2.03E+01

TABLE H-8.20  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.92E-03	5.56E-04	--	--	2.47E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	6.52E-03	1.89E-04	--	--	6.71E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.28E-04	3.71E-06	--	--	1.32E-04
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	3.69E-03	1.07E-04	--	--	3.80E-03
			1,2-Dichloropropane	1.42E-10	4.12E-12	--	--	1.46E-10	Nasal	4.04E-05	1.17E-06	--	--	4.15E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.09E-05	1.19E-06	--	--	4.21E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	4.69E-04	1.36E-05	--	--	4.82E-04
			1,4-Dichlorobenzene	4.02E-08	--	--	--	4.02E-08	Organ weight	2.90E-03	--	--	--	2.90E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.34E-04	3.89E-06	--	1.58E-03	1.72E-03
			2-Methylphenol	--	--	--	--	--	Respiratory System	2.59E-04	7.51E-05	--	7.27E-03	7.60E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	4.28E-04	1.24E-05	--	--	4.40E-04
			4,4'-DDD	3.16E-10	9.15E-12	--	6.35E-12	3.31E-10	Liver	3.07E-05	8.90E-07	--	6.17E-07	3.22E-05
			4,4'-DDE	3.07E-08	8.89E-10	--	4.47E-10	3.20E-08	Liver	2.10E-03	7.66E-05	--	3.07E-05	3.20E-03
			4,4'-DDT	1.66E-08	1.44E-09	--	1.04E-09	1.91E-08	Liver	1.14E-03	9.90E-05	--	7.14E-05	1.31E-03
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	6.90E-04	2.00E-04	--	1.99E-02	2.08E-02
			4-Nitroaniline	1.43E-08	4.14E-09	--	2.82E-07	3.00E-07	--	2.64E-03	7.66E-04	--	5.22E-02	5.56E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	1.07E-02	3.11E-03	--	3.18E-01	3.32E-01
			Acenaphthene	--	--	--	--	--	Liver	9.02E-04	3.40E-04	--	--	1.24E-03
			Acenaphthylene	--	--	--	--	--	Liver	2.22E-05	6.44E-07	--	--	2.28E-05
			Aldrin	2.42E-07	7.02E-08	--	7.97E-09	3.20E-07	Liver	5.54E-03	1.61E-03	--	1.82E-04	7.33E-03
			alpha-BHC	2.16E-09	6.26E-11	--	1.53E-08	1.76E-08	Liver/Kidney	1.87E-05	5.41E-07	--	1.33E-04	1.52E-04
			alpha-Chlordane	1.16E-08	--	--	8.38E-10	1.24E-08	Liver	2.08E-04	--	--	1.50E-05	2.23E-04
			Aluminum	--	--	--	--	--	CNS	1.13E-01	3.27E-04	--	1.11E-03	1.14E-01
			Anthracene	--	--	--	--	--	No Observed Effect	4.50E-05	1.69E-05	--	--	6.19E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	1.30E-01	3.78E-04	--	5.92E-02	1.90E-01
			Aroclor-1248	2.63E-06	1.07E-06	--	5.30E-08	3.75E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00
			Aroclor-1254	9.73E-07	3.95E-07	--	2.63E-07	1.63E-06	Immune System/ Eye/Finger and Toe Nails	2.84E-01	1.15E-01	--	7.66E-02	4.76E-01
			Aroclor-1260	1.19E-06	4.82E-07	--	1.14E-08	1.68E-06	Immune System/ Eye/Finger and Toe Nails	3.46E-01	1.41E-01	--	3.34E-03	4.90E-01
			Aroclor-1268	6.08E-08	2.47E-08	--	1.64E-08	1.02E-07	Immune System/ Eye/Finger and Toe Nails	1.77E-02	7.20E-03	--	4.79E-03	2.97E-02
			Arsenic	6.39E-05	5.56E-06	--	5.80E-06	7.52E-05	Skin	2.63E-01	2.29E-02	--	2.39E-02	3.10E-01
			Barium	--	--	--	--	--	Kidney	1.24E-02	3.59E-05	--	2.81E-03	1.52E-02
			Benzo(a)anthracene	6.58E-06	2.48E-06	--	2.56E-08	9.09E-06	--	--	--	--	--	--
			Benzo(a)pyrene	2.19E-05	8.26E-06	--	4.83E-08	3.02E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	3.60E-06	1.36E-06	--	7.94E-08	5.04E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	3.25E-04	1.23E-04	--	5.47E-06	4.54E-04
			Benzo(k)fluoranthene	4.29E-06	1.62E-06	--	9.45E-08	6.00E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.52E-03	4.41E-06	--	3.46E-05	1.56E-03
			Beta-BHC	3.62E-09	1.05E-10	--	2.57E-08	2.94E-08	Liver/Kidney	1.41E-04	4.08E-06	--	9.99E-04	1.14E-03
			bis(2-ethylhexyl)phthalate	2.58E-08	7.47E-10	--	1.35E-07	1.61E-07	Liver	5.01E-03	1.45E-04	--	2.62E-02	3.14E-02
			Cadmium	3.95E-06	1.14E-08	--	8.96E-06	1.29E-05	Kidney	2.42E-01	7.02E-04	--	5.50E-01	7.93E-01
			Carbon disulfide	--	--	--	--	--	Developmental	3.07E-08	2.22E-08	--	--	5.29E-08
			Chlorobenzene	--	--	--	--	--	Liver	7.03E-05	2.04E-06	--	--	7.24E-05

TABLE H-8.20

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	9.48E-04	2.75E-06	--	6.46E-05	1.02E-03	
			Chrysene	7.47E-07	2.82E-07	--	2.04E-08	1.05E-06	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	4.84E-03	1.40E-05	--	5.13E-04	5.37E-03	
			Copper	--	--	--	--	--	GI Tract/Kidney	1.82E-02	5.29E-05	--	6.90E-02	8.73E-02	
			Delta-BHC	1.38E-08	2.00E-09	--	7.99E-10	1.66E-08	Liver/Kidney	5.37E-04	7.79E-05	--	3.11E-05	6.46E-04	
			Dibenzo(a,h)anthracene	1.43E-06	5.38E-07	--	1.94E-08	1.98E-06	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	8.31E-02	2.41E-03	--	--	8.55E-02	
			Dieldrin	9.67E-07	2.80E-08	--	7.76E-06	8.75E-06	Liver	1.41E-02	4.09E-04	--	1.13E-01	1.28E-01	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	6.07E-07	1.76E-08	--	1.37E-05	1.43E-05	
			di-n-Butylphthalate	--	--	--	--	--	Liver	1.41E-04	4.08E-06	--	4.43E-06	1.49E-04	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	4.90E-05	7.11E-06	--	3.32E-04	3.89E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	5.08E-05	7.36E-06	--	3.30E-04	3.88E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	9.16E-05	1.33E-05	--	5.81E-04	6.86E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.79E-03	2.60E-04	--	4.50E-05	2.10E-03	
			Endrin Ketone	--	--	--	--	--	Liver	4.26E-04	--	--	1.07E-05	4.37E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	8.47E-03	3.19E-03	--	3.47E-04	1.20E-02	
			Fluorene	--	--	--	--	--	Blood	9.32E-04	3.51E-04	--	--	1.28E-03	
			gamma-BHC (Lindane)	3.13E-09	3.64E-10	--	7.83E-08	8.18E-08	Liver/Kidney	1.11E-04	1.29E-05	--	2.77E-03	2.89E-03	
			gamma-Chlordane	1.87E-08	--	--	1.35E-09	2.00E-08	Liver	3.35E-04	--	--	2.42E-05	3.59E-04	
			Heptachlor	3.10E-08	8.99E-10	--	1.67E-09	3.36E-08	Liver	1.76E-04	5.12E-06	--	9.48E-06	1.91E-04	
			Heptachlor Epoxide	6.72E-08	1.95E-09	--	1.17E-06	1.24E-06	Liver	1.10E-02	3.18E-04	--	1.92E-01	2.03E-01	
			Indeno(1,2,3-cd)pyrene	1.15E-06	4.33E-07	--	1.89E-08	1.60E-06	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	1.74E+00	5.03E-03	--	2.61E-02	1.77E+00	
			Isophorone	2.08E-10	6.04E-11	--	--	2.69E-10	No Observed Effect	1.28E-05	3.71E-06	--	--	1.65E-05	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	1.76E-01	5.11E-04	--	1.33E-01	3.10E-01	
			Mercury	--	--	--	--	--	Immune System	1.32E-02	--	--	3.99E-02	5.31E-02	
			Methoxychlor	--	--	--	--	--	Developmental	3.07E-04	8.90E-06	--	4.02E-06	3.20E-04	
			Molybdenum	--	--	--	--	--	Blood	6.40E-03	1.86E-05	--	5.82E-03	1.22E-02	
			Naphthalene	--	--	--	--	--	Whole Body	8.31E-03	3.13E-03	--	--	1.14E-02	
			Nickel	--	--	--	--	--	Whole Body	2.50E-02	7.25E-05	--	2.27E-02	4.78E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	5.93E-04	1.72E-05	--	--	6.10E-04	
			Phenol	--	--	--	--	--	Whole Body	2.47E-05	7.17E-08	--	1.85E-03	1.88E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.41E-05	--	--	--	1.41E-05	
			Pyrene	--	--	--	--	--	Kidney	1.03E-02	3.88E-03	--	--	1.42E-02	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	2.27E-05	--	--	--	2.27E-05	
			Selenium	--	--	--	--	--	Whole Body	5.74E-04	1.66E-06	--	2.17E-04	7.93E-04	
			Silver	--	--	--	--	--	Skin	2.96E-03	8.59E-06	--	4.49E-03	7.46E-03	
			Technical Chlordane	7.85E-07	9.11E-08	--	5.67E-08	9.33E-07	Liver	1.41E-02	1.63E-03	--	1.02E-03	1.67E-02	
			Thallium	--	--	--	--	--	Blood	7.94E-02	--	--	4.81E-04	7.99E-02	
			Toluene	--	--	--	--	--	Liver/Kidney	6.87E-08	1.99E-09	--	--	7.07E-08	
Vanadium	--	--	--	--	--	Kidney	4.37E-01	1.27E-03	--	1.98E-02	4.58E-01				

TABLE H-8.20

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	1.93E-02	5.60E-05	--	2.63E-01	2.83E-01
		Exposure Point Total	Chemical Total	1.15E-04	2.27E-05	0.00E+00	2.49E-05	1.62E-04		4.90E+00	6.29E-01	0.00E+00	2.06E+00	7.59E+00
Exposure Medium Total				1.62E-04					7.59E+00					
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.12E-02	--	6.12E-02	
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.08E-01	--	2.08E-01	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.44E-02	--	4.44E-02	
		1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	6.02E-02	--	6.02E-02	
		1,2-Dichloropropane	--	--	5.69E-09	--	5.69E-09	Nasal	--	--	1.62E-03	--	1.62E-03	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.39E-02	--	1.39E-02	
		1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	3.50E-03	--	3.50E-03	
		1,4-Dichlorobenzene	--	--	3.45E-06	--	3.45E-06	Liver	--	--	4.38E-03	--	4.38E-03	
		2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	5.13E-09	--	5.13E-09	
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.53E-04	--	9.53E-04	
		4,4'-DDD	--	--	1.21E-14	--	1.21E-14	Liver	--	--	1.17E-09	--	1.17E-09	
		4,4'-DDE	--	--	1.82E-10	--	1.82E-10	Liver	--	--	1.25E-05	--	1.25E-05	
		4,4'-DDT	--	--	6.33E-13	--	6.33E-13	Liver	--	--	4.34E-08	--	4.34E-08	
		4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.64E-08	--	2.64E-08	
		4-Nitroaniline	--	--	5.45E-13	--	5.45E-13	--	--	--	3.03E-07	--	3.03E-07	
		4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	3.60E-07	--	3.60E-07	
		Acenaphthene	--	--	--	--	--	Liver	--	--	6.24E-04	--	6.24E-04	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	1.54E-05	--	1.54E-05	
		Aldrin	--	--	5.29E-09	--	5.29E-09	Liver	--	--	1.21E-04	--	1.21E-04	
		alpha-BHC	--	--	5.42E-10	--	5.42E-10	Liver/ Kidney	--	--	4.69E-06	--	4.69E-06	
		alpha-Chlordane	--	--	5.34E-10	--	5.34E-10	Liver	--	--	2.60E-05	--	2.60E-05	
		Aluminum	--	--	--	--	--	Respiratory System	--	--	3.01E-03	--	3.01E-03	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.11E-05	--	3.11E-05	
		Antimony	--	--	--	--	--	--	--	--	--	--	--	
		Aroclor-1248	--	--	1.00E-10	--	1.00E-10	Immune System/Eye/Finger and Toe nails	--	--	2.93E-05	--	2.93E-05	
		Aroclor-1254	--	--	3.72E-11	--	3.72E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.08E-05	--	1.08E-05	
		Aroclor-1260	--	--	4.53E-11	--	4.53E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.32E-05	--	1.32E-05	
		Aroclor-1268	--	--	2.32E-12	--	2.32E-12	Immune System/Eye/Finger and Toe Nails	--	--	6.78E-07	--	6.78E-07	
		Arsenic	--	--	3.10E-09	--	3.10E-09	Developmental	--	--	3.50E-04	--	3.50E-04	
		Barium	--	--	--	--	--	Developmental	--	--	2.36E-04	--	2.36E-04	
		Benzo(a)anthracene	--	--	8.17E-11	--	8.17E-11	--	--	--	--	--	--	
		Benzo(a)pyrene	--	--	2.72E-10	--	2.72E-10	--	--	--	--	--	--	
Benzo(b)fluoranthene	--	--	3.81E-08	--	3.81E-08	--	--	--	--	--	--			
Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.24E-08	--	1.24E-08			
Benzo(k)fluoranthene	--	--	5.32E-11	--	5.32E-11	--	--	--	--	--	--			
Beryllium	--	--	8.37E-11	--	8.37E-11	Immune System/Lung	--	--	2.03E-05	--	2.03E-05			
Beta-BHC	--	--	1.38E-13	--	1.38E-13	Liver/Kidney	--	--	5.37E-09	--	5.37E-09			

TABLE H-8.20

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	2.75E-12	--	2.75E-12	Liver	--	--	1.91E-07	--	1.91E-07
			Cadmium	--	--	5.95E-09	--	5.95E-09	Kidney/Respiratory System	--	--	8.09E-04	--	8.09E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.17E-04	--	1.17E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.35E-08	--	1.35E-08	--	--	--	--	--	--
			Cobalt	--	--	3.11E-09	--	3.11E-09	Respiratory System	--	--	6.48E-04	--	6.48E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	3.47E-09	--	3.47E-09	Liver/Kidney	--	--	1.35E-04	--	1.35E-04
			Dibenzo(a,h)anthracene	--	--	5.45E-11	--	5.45E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.45E-02	--	1.45E-02
			Dieldrin	--	--	6.56E-08	--	6.56E-08	Liver	--	--	9.56E-04	--	9.56E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	2.32E-11	--	2.32E-11
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.07E-08	--	1.07E-08
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	8.65E-06	--	8.65E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.96E-06	--	8.96E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.62E-05	--	1.62E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	6.85E-08	--	6.85E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.63E-08	--	1.63E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.76E-04	--	2.76E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.75E-04	--	2.75E-04
			gamma-BHC (Lindane)	--	--	9.69E-10	--	9.69E-10	Liver/Kidney	--	--	3.42E-05	--	3.42E-05
			gamma-Chlordane	--	--	8.60E-10	--	8.60E-10	Liver	--	--	4.18E-05	--	4.18E-05
			Heptachlor	--	--	7.65E-08	--	7.65E-08	Liver	--	--	4.36E-04	--	4.36E-04
			Heptachlor Epoxide	--	--	2.57E-12	--	2.57E-12	Liver	--	--	4.19E-07	--	4.19E-07
			Indeno(1,2,3-cd)pyrene	--	--	1.42E-11	--	1.42E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.13E-02	--	1.13E-02
			Mercury	--	--	--	--	--	CNS	--	--	1.76E-06	--	1.76E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.11E-05	--	1.11E-05
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	4.64E-06	--	4.64E-06	Nasal Epithelium	--	--	5.26E-01	--	5.26E-01
			Nickel	--	--	1.49E-09	--	1.49E-09	Respiratory System	--	--	1.36E-03	--	1.36E-03
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.10E-04	--	4.10E-04
			Phenol	--	--	--	--	--	Liver/CNS	--	--	4.95E-09	--	4.95E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.12E-03	--	1.12E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	3.97E-04	--	3.97E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.52E-04	--	4.52E-04
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	1.92E-08	--	1.92E-08			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.20  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	3.62E-08	--	3.62E-08	Liver	--	--	1.76E-03	--	1.76E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.41E-07	--	1.41E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	8.35E-06	0.00E+00	8.35E-06		0.00E+00	0.00E+00	9.63E-01	0.00E+00	9.63E-01
		Exposure Point Total						8.35E-06						9.63E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.11E+00	--	1.11E+00
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.73E+00	--	1.73E+00
			1,2-Dichloropropane	--	--	4.20E-08	--	4.20E-08	Nasal	--	--	1.19E-02	--	1.19E-02
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.56E-01	--	3.56E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.39E-01	--	1.39E-01
			1,4-Dichlorobenzene	--	--	8.82E-05	--	8.82E-05	Liver	--	--	1.12E-01	--	1.12E-01
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.25E-02	--	6.25E-02
			4,4'-DDE	--	--	1.14E-10	--	1.14E-10	Liver	--	--	7.82E-06	--	7.82E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.82E-02	--	1.82E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.70E-04	--	4.70E-04
			Aldrin	--	--	1.51E-08	--	1.51E-08	Liver	--	--	3.46E-04	--	3.46E-04
			alpha-BHC	--	--	1.61E-08	--	1.61E-08	Liver/ Kidney	--	--	1.39E-04	--	1.39E-04
			alpha-Chlordane	--	--	3.60E-09	--	3.60E-09	Liver	--	--	1.75E-04	--	1.75E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.57E-04	--	9.57E-04
			Benzo(b)fluoranthene	--	--	6.79E-08	--	6.79E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.54E-06	--	4.54E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.46E-03	--	1.46E-03
			Chrysene	--	--	3.83E-08	--	3.83E-08	--	--	--	--	--	--
			Delta-BHC	--	--	1.52E-07	--	1.52E-07	Liver/Kidney	--	--	5.92E-03	--	5.92E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	7.63E-03	--	7.63E-03
			Dieldrin	--	--	4.64E-07	--	4.64E-07	Liver	--	--	6.76E-03	--	6.76E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.32E-04	--	2.32E-04
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.36E-04	--	2.36E-04
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.33E-04	--	4.33E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.90E-05	--	7.90E-05
			Fluorene	--	--	--	--	--	Blood	--	--	4.32E-03	--	4.32E-03
			gamma-BHC (Lindane)	--	--	3.46E-08	--	3.46E-08	Liver/Kidney	--	--	1.22E-03	--	1.22E-03
			gamma-Chlordane	--	--	6.54E-11	--	6.54E-11	Liver	--	--	3.18E-06	--	3.18E-06
			Heptachlor	--	--	2.46E-08	--	2.46E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.82E-05	--	3.82E-05
			Methylene Chloride	--	--	2.72E-09	--	2.72E-09	Blood	--	--	8.26E-05	--	8.26E-05
			Naphthalene	--	--	4.17E-04	--	4.17E-04	Nasal Epithelium	--	--	4.73E+01	--	4.73E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.23E-02	--	1.23E-02

TABLE H-8.20

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.78E-03	--	3.78E-03	
			Pyrene	--	--	--	--	--		Kidney	--	--	8.54E-04	--	8.54E-04
			sec-Butylbenzene	--	--	--	--	--		Liver/Kidney	--	--	3.69E-03	--	3.69E-03
			Technical Chlordane	--	--	2.79E-07	--	2.79E-07		Liver	--	--	1.35E-02	--	1.35E-02
			Toluene	--	--	--	--	--		CNS	--	--	1.14E-06	--	1.14E-06
		Chemical Total	0.00E+00	0.00E+00	5.06E-04	0.00E+00	5.06E-04		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01		
		Exposure Point Total					5.06E-04						7.36E+01		
		Exposure Medium Total					5.15E-04						7.46E+01		
Medium Total							6.77E-04						8.21E+01		
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	1.33E-10	--	1.33E-10	No observed effect	--	--	1.95E-06	--	1.95E-06	
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.78E-05	--	4.78E-05	
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	9.35E-06	--	9.35E-06	
			1,2-Dichloroethane	--	--	2.37E-09	--	2.37E-09	Liver/ Kidney/ CNS	--	--	2.74E-04	--	2.74E-04	
			1,2-Dichloropropane	--	--	4.43E-10	--	4.43E-10	Nasal	--	--	1.26E-04	--	1.26E-04	
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.73E-05	--	2.73E-05	
			1,4-Dichlorobenzene	--	--	6.22E-10	--	6.22E-10	Liver	--	--	7.89E-07	--	7.89E-07	
			2-Hexanone	--	--	--	--	--	Developmental	--	--	4.91E-09	--	4.91E-09	
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.25E-08	--	1.25E-08	
			4,4'-DDE	--	--	2.43E-11	--	2.43E-11	Liver	--	--	1.67E-06	--	1.67E-06	
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.03E-09	--	3.03E-09	
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.16E-07	--	4.16E-07	
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.77E-08	--	1.77E-08	
			Aldrin	--	--	2.10E-09	--	2.10E-09	Liver	--	--	4.80E-05	--	4.80E-05	
			alpha-BHC	--	--	4.22E-11	--	4.22E-11	Liver/ Kidney	--	--	3.65E-07	--	3.65E-07	
			alpha-Chlordane	--	--	4.44E-11	--	4.44E-11	Liver	--	--	2.16E-06	--	2.16E-06	
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.06E-09	--	7.06E-09	
			Benzene	--	--	1.44E-09	--	1.44E-09	Blood	--	--	1.96E-05	--	1.96E-05	
			Benzo(b)fluoranthene	--	--	1.05E-11	--	1.05E-11	--	--	--	--	--	--	
			Bromoforn	--	--	1.59E-12	--	1.59E-12	Liver	--	--	2.37E-07	--	2.37E-07	
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.45E-05	--	1.45E-05	
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.65E-07	--	1.65E-07	
			Chloroforn	--	--	2.17E-09	--	2.17E-09	GI Tract/ Kidney/ Development	--	--	1.55E-05	--	1.55E-05	
			Chloromethane	--	--	--	--	--	CNS	--	--	1.86E-05	--	1.86E-05	
			Chrysene	--	--	2.83E-12	--	2.83E-12	--	--	--	--	--	--	
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.41E-05	--	3.41E-05	
			Diekdrin	--	--	8.68E-10	--	8.68E-10	Liver	--	--	1.27E-05	--	1.27E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.40E-08	--	2.40E-08	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.95E-11	--	3.95E-11	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	4.43E-07	--	4.43E-07	
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.14E-09	--	8.14E-09				
Fluorene	--	--	--	--	--	Blood	--	--	1.61E-08	--	1.61E-08				
gamma-BHC (Lindane)	--	--	7.55E-14	--	7.55E-14	Liver/Kidney	--	--	2.67E-09	--	2.67E-09				

TABLE H-8.20  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	1.15E-10	--	1.15E-10	Liver	--	--	5.61E-06	--	5.61E-06			
			Heptachlor	--	--	4.04E-09	--	4.04E-09	Liver	--	--	2.30E-05	--	2.30E-05			
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04			
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.54E-05	--	1.54E-05			
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.21E-07	--	4.21E-07			
			Naphthalene	--	--	3.60E-11	--	3.60E-11	Nasal Epithelium	--	--	4.08E-06	--	4.08E-06			
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.90E-04	--	1.90E-04			
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	4.54E-06	--	4.54E-06			
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.62E-09	--	5.62E-09			
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04			
			Pyrene	--	--	--	--	--	Kidney	--	--	9.90E-09	--	9.90E-09			
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.29E-05	--	1.29E-05			
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.46E-05	--	1.46E-05			
			Toluene	--	--	--	--	--	CNS	--	--	1.71E-07	--	1.71E-07			
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.89E-05	--	2.89E-05			
			Trichloroethene	--	--	3.60E-10	--	3.60E-10	CNS/Eye	--	--	3.53E-06	--	3.53E-06			
			Vinyl chloride	--	--	2.88E-08	--	2.88E-08	Liver	--	--	4.35E-05	--	4.35E-05			
						Chemical Total	0.00E+00	0.00E+00	4.36E-08	0.00E+00	4.36E-08		0.00E+00	0.00E+00	1.40E-03	0.00E+00	1.40E-03
						Exposure Point Total					4.36E-08						1.40E-03
						Exposure Medium Total					4.36E-08						1.40E-03
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	2.34E-08	--	2.34E-08	No observed effect	--	--	3.43E-04	--	3.43E-04			
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.24E-03	--	1.24E-03			
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.49E-04	--	2.49E-04			
			1,2-Dichloroethane	--	--	7.09E-08	--	7.09E-08	Liver/ Kidney/ CNS	--	--	8.20E-03	--	8.20E-03			
			1,2-Dichloropropane	--	--	1.31E-08	--	1.31E-08	Nasal	--	--	3.73E-03	--	3.73E-03			
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.09E-04	--	7.09E-04			
			1,4-Dichlorobenzene	--	--	1.67E-08	--	1.67E-08	Liver	--	--	2.11E-05	--	2.11E-05			
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.53E-07	--	2.53E-07			
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-07	--	3.50E-07			
			4,4'-DDE	--	--	2.19E-12	--	2.19E-12	Liver	--	--	1.50E-07	--	1.50E-07			
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.25E-07	--	1.25E-07			
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.77E-05	--	1.77E-05			
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.55E-07	--	7.55E-07			
			Aldrin	--	--	2.29E-10	--	2.29E-10	Liver	--	--	5.24E-06	--	5.24E-06			
			alpha-BHC	--	--	5.42E-12	--	5.42E-12	Liver/ Kidney	--	--	4.68E-08	--	4.68E-08			
			alpha-Chlordane	--	--	1.46E-11	--	1.46E-11	Liver	--	--	7.10E-07	--	7.10E-07			
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.00E-07	--	3.00E-07			
			Benzene	--	--	4.23E-08	--	4.23E-08	Blood	--	--	5.74E-04	--	5.74E-04			
			Benzo(b)fluoranthene	--	--	4.41E-10	--	4.41E-10	--	--	--	--	--	--			
			Bromoform	--	--	8.52E-11	--	8.52E-11	Liver	--	--	1.27E-05	--	1.27E-05			
Carbon disulfide	--	--	--	--	--	CNS	--	--	4.36E-04	--	4.36E-04						
Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	4.63E-08	--	4.63E-08						

TABLE H-8.20

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	--	--	6.43E-08	--	6.43E-08	GI Tract/ Kidney/ Development	--	--	4.61E-04	--	4.61E-04	
			Chloromethane	--	--	--	--	--	CNS	--	--	6.02E-04	--	6.02E-04	
			Chrysene	--	--	1.24E-10	--	1.24E-10	--	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.21E-03	--	2.21E-03	
			Dieckrin	--	--	3.33E-11	--	3.33E-11	Liver	--	--	4.85E-07	--	4.85E-07	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.21E-09	--	5.21E-09	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.74E-09	--	1.74E-09	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.20E-05	--	1.20E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.29E-07	--	3.29E-07	
			Fluorene	--	--	--	--	--	Blood	--	--	8.39E-07	--	8.39E-07	
			gamma-BHC (Lindane)	--	--	2.98E-12	--	2.98E-12	Liver/Kidney	--	--	1.05E-07	--	1.05E-07	
			gamma-Chlordane	--	--	7.07E-12	--	7.07E-12	Liver	--	--	3.44E-07	--	3.44E-07	
			Heptachlor	--	--	1.09E-10	--	1.09E-10	Liver	--	--	6.20E-07	--	6.20E-07	
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.05E-02	--	1.05E-02	
			m,p-Xylene	--	--	--	--	--	CNS	--	--	8.95E-04	--	8.95E-04	
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.83E-08	--	1.83E-08	
			Naphthalene	--	--	1.95E-09	--	1.95E-09	Nasal Epithelium	--	--	2.22E-04	--	2.22E-04	
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.07E-02	--	1.07E-02	
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	2.58E-04	--	2.58E-04	
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.12E-07	--	3.12E-07	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.05E-02	--	1.05E-02	
			Pyrene	--	--	--	--	--	Kidney	--	--	4.13E-07	--	4.13E-07	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	9.16E-06	--	9.16E-06	
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	9.17E-04	--	9.17E-04	
			Toluene	--	--	--	--	--	CNS	--	--	9.82E-07	--	9.82E-07	
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.94E-03	--	1.94E-03	
			Trichloroethene	--	--	2.21E-08	--	2.21E-08	CNS/Eye	--	--	2.16E-04	--	2.16E-04	
			Vinyl chloride	--	--	1.93E-06	--	1.93E-06	Liver	--	--	2.93E-03	--	2.93E-03	
			Chemical Total	0.00E+00	0.00E+00	2.19E-06	0.00E+00	2.19E-06		0.00E+00	0.00E+00	5.80E-02	0.00E+00	5.80E-02	
		Exposure Point Total						2.19E-06						5.80E-02	
	Exposure Medium Total							2.19E-06						5.80E-02	
Medium Total								2.23E-06						5.94E-02	
Receptor Total						Receptor Risk Total		6.79E-04				Receptor HI Total		8.22E+01	

**TABLE H-8.20**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	2.84E+00
Total Organ 2 (Kidney) HI Across All Media =	2.50E+01
Total Organ 3 (Reproductive System) HI Across All Media =	1.58E-03
Total Organ 4 (Nervous System) HI Across All Media =	2.06E+00
Total Organ 5 (Skin) HI Across All Media =	3.17E-01
Total Organ 6 (Blood) HI Across All Media =	2.46E+00
Total Organ 7 (Adrenal) HI Across All Media =	9.18E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.95E-02
Total Organ 9 (Brain) HI Across All Media =	2.32E-11
Total Organ 10 (Gastrointestinal System) HI Across All Media =	9.09E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	2.09E+00
Total Organ 12 (Body Weight) HI Across All Media =	1.85E+00
Total Organ 13 (Developmental) HI Across All Media =	1.46E-03
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.57E+00
Total Organ 15 (Whole Body) HI Across All Media =	2.75E-01
Total Organ 16 (Immune System) HI Across All Media =	2.14E+00
Total Organ 17 (Organ Weight) HI Across All Media =	3.84E-03
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.09E+00
Total Organ 19 (Nasal Tissue) HI Across All Media =	4.78E+01

TABLE H-8.21  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	-	-	-	-	-	Adrenal	1.92E-03	5.56E-04	-	-	2.47E-03
			1,2,4-Trichlorobenzene	-	-	-	-	-	Adrenal	6.52E-03	1.89E-04	-	-	6.71E-03
			1,2,4-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	1.28E-04	3.71E-06	-	-	1.32E-04
			1,2-Dichlorobenzene	-	-	-	-	-	No Observed Effect	3.69E-03	1.07E-04	-	-	3.80E-03
			1,2-Dichloropropane	1.42E-10	4.12E-12	-	-	1.46E-10	Nasal	4.04E-05	1.17E-06	-	-	4.15E-05
			1,3,5-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	4.09E-05	1.19E-06	-	-	4.21E-05
			1,3-Dichlorobenzene	-	-	-	-	-	Kidney/Liver	4.69E-04	1.36E-05	-	-	4.82E-04
			1,4-Dichlorobenzene	4.02E-08	-	-	-	4.02E-08	Organ weight	2.90E-03	-	-	-	2.90E-03
			2,4-Dimethylphenol	-	-	-	-	-	Blood/Whole Body	1.34E-04	3.89E-06	-	1.58E-03	1.72E-03
			2-Methylphenol	-	-	-	-	-	Respiratory System	2.59E-04	7.51E-05	-	7.27E-03	7.60E-03
			2-Methylnaphthalene	-	-	-	-	-	CNS/Body Weight	3.71E-04	1.07E-05	-	-	3.81E-04
			4,4'-DDD	3.16E-10	9.15E-12	-	6.35E-12	3.31E-10	Liver	3.07E-05	8.99E-07	-	6.17E-07	3.22E-05
			4,4'-DDE	2.79E-08	8.10E-10	-	4.07E-10	2.92E-08	Liver	1.92E-03	5.56E-05	-	2.79E-05	2.00E-03
			4,4'-DDT	1.56E-08	1.36E-09	-	9.82E-10	1.80E-08	Liver	1.07E-03	9.34E-05	-	6.74E-05	1.23E-03
			4-Methylphenol	-	-	-	-	-	Whole Body/CNS/Respiratory	6.90E-04	2.00E-04	-	1.99E-02	2.08E-02
			4-Nitroaniline	1.43E-08	4.14E-09	-	2.82E-07	3.00E-07	-	2.64E-03	7.66E-04	-	5.22E-02	5.56E-02
			4-Nitrophenol	-	-	-	-	-	Kidney/Liver/Blood	1.07E-02	3.11E-03	-	3.18E-01	3.32E-01
			Acenaphthene	-	-	-	-	-	Liver	7.40E-04	2.79E-04	-	-	1.02E-03
			Acenaphthylene	-	-	-	-	-	Liver	1.91E-05	5.54E-07	-	-	1.96E-05
			Aldrin	2.42E-07	7.02E-08	-	7.97E-09	3.20E-07	Liver	5.54E-03	1.61E-03	-	1.82E-04	7.33E-03
			alpha-BHC	2.16E-09	6.26E-11	-	1.53E-08	1.76E-08	Liver/Kidney	1.87E-05	5.41E-07	-	1.33E-04	1.52E-04
			alpha-Chlordane	9.95E-09	-	-	7.18E-10	1.07E-08	Liver	1.79E-04	-	-	1.29E-05	1.91E-04
			Aluminum	-	-	-	-	-	CNS	1.16E-01	3.36E-04	-	1.14E-03	1.17E-01
			Anthracene	-	-	-	-	-	No Observed Effect	3.89E-05	1.47E-05	-	-	5.36E-05
			Antimony	-	-	-	-	-	Whole Body/Blood	8.71E-02	2.52E-04	-	3.95E-02	1.27E-01
			Aroclor-1248	2.63E-06	1.07E-06	-	5.30E-08	3.75E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	-	1.55E-02	1.09E+00
			Aroclor-1254	9.59E-07	3.89E-07	-	2.59E-07	1.61E-06	Immune System/ Eye/Finger and Toe Nails	2.80E-01	1.14E-01	-	7.55E-02	4.69E-01
			Aroclor-1260	1.07E-06	4.34E-07	-	1.03E-08	1.51E-06	Immune System/ Eye/Finger and Toe Nails	3.12E-01	1.27E-01	-	3.01E-03	4.42E-01
			Aroclor-1268	5.96E-08	2.42E-08	-	1.61E-08	9.98E-08	Immune System/ Eye/Finger and Toe Nails	1.74E-02	7.05E-03	-	4.69E-03	2.91E-02
			Arsenic	9.87E-05	8.59E-06	-	8.97E-06	1.16E-04	Skin	4.06E-01	3.53E-02	-	3.69E-02	4.79E-01
			Barium	-	-	-	-	-	Kidney	1.27E-02	3.68E-05	-	2.88E-03	1.56E-02
			Benzo(a)anthracene	5.54E-06	2.09E-06	-	2.15E-08	7.65E-06	-	-	-	-	-	-
			Benzo(a)pyrene	1.85E-05	6.97E-06	-	4.08E-08	2.55E-05	-	-	-	-	-	-
			Benzo(b)fluoranthene	3.12E-06	1.18E-06	-	6.88E-08	4.37E-06	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	Kidney	2.76E-04	1.04E-04	-	4.64E-06	3.85E-04
			Benzo(k)fluoranthene	3.71E-06	1.40E-06	-	8.19E-08	5.20E-06	-	-	-	-	-	-
			Beryllium	-	-	-	-	-	GI Tract	1.46E-03	4.22E-06	-	3.31E-05	1.49E-03
			Beta-BHC	3.62E-09	1.05E-10	-	2.57E-08	2.94E-08	Liver/Kidney	1.41E-04	4.08E-06	-	9.99E-04	1.14E-03
			bis(2-ethylhexyl)phthalate	1.74E-08	5.05E-10	-	9.11E-08	1.09E-07	Liver	3.39E-03	9.82E-05	-	1.77E-02	2.12E-02
			Cadmium	3.60E-06	1.04E-08	-	8.18E-06	1.18E-05	Kidney	2.21E-01	6.41E-04	-	5.02E-01	7.24E-01
			Carbon disulfide	-	-	-	-	-	Developmental	3.07E-08	2.22E-08	-	-	5.29E-08
			Chlorobenzene	-	-	-	-	-	Liver	7.03E-05	2.04E-06	-	-	7.24E-05

TABLE H-8.21

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	8.52E-04	2.47E-06	--	5.80E-05	9.13E-04	
			Chrysene	6.31E-07	2.38E-07	--	1.72E-08	8.86E-07	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	4.76E-03	1.38E-05	--	5.04E-04	5.28E-03	
			Copper	--	--	--	--	--	GI Tract/Kidney	1.92E-02	5.57E-05	--	7.27E-02	9.19E-02	
			Delta-BHC	1.38E-08	2.00E-09	--	7.99E-10	1.66E-08	Liver/Kidney	5.37E-04	7.79E-05	--	3.11E-05	6.46E-04	
			Dibenzo(a,h)anthracene	1.24E-06	4.67E-07	--	1.69E-08	1.72E-06	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	8.31E-02	2.41E-03	--	--	8.55E-02	
			Dieldrin	8.58E-07	2.49E-08	--	6.88E-06	7.76E-06	Liver	1.25E-02	3.63E-04	--	1.00E-01	1.13E-01	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	6.07E-07	1.76E-08	--	--	1.37E-05	1.43E-05
			di-n-Butylphthalate	--	--	--	--	--	Liver	1.47E-04	4.26E-06	--	4.64E-06	1.56E-04	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	4.90E-05	7.11E-06	--	3.32E-04	3.89E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	4.98E-05	7.22E-06	--	3.24E-04	3.81E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	9.18E-05	1.33E-05	--	5.81E-04	6.88E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	2.68E-03	3.89E-04	--	6.74E-05	3.14E-03	
			Endrin Ketone	--	--	--	--	--	Liver	4.26E-04	--	--	1.07E-05	4.37E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	7.11E-03	2.68E-03	--	2.91E-04	1.01E-02	
			Fluorene	--	--	--	--	--	Blood	8.08E-04	3.05E-04	--	--	1.11E-03	
			gamma-BHC (Lindane)	3.13E-09	3.64E-10	--	7.83E-08	8.18E-08	Liver/Kidney	1.11E-04	1.29E-05	--	2.77E-03	2.89E-03	
			gamma-Chlordane	1.81E-08	--	--	1.31E-09	1.94E-08	Liver	3.25E-04	--	--	2.35E-05	3.48E-04	
			Heptachlor	3.10E-08	8.99E-10	--	1.67E-09	3.36E-08	Liver	1.76E-04	5.12E-06	--	9.48E-06	1.91E-04	
			Heptachlor Epoxide	5.94E-08	1.72E-09	--	1.04E-06	1.10E-06	Liver	9.69E-03	2.81E-04	--	1.69E-01	1.79E-01	
			Indeno(1,2,3-cd)pyrene	6.54E-07	2.46E-07	--	1.08E-08	9.11E-07	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	1.57E+00	4.54E-03	--	2.36E-02	1.59E+00	
			Isophorone	2.08E-10	6.04E-11	--	--	2.69E-10	No Observed Effect	1.28E-05	3.71E-06	--	--	1.65E-05	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	1.62E-01	4.70E-04	--	1.23E-01	2.85E-01	
			Mercury	--	--	--	--	--	Immune System	1.13E-02	--	--	3.42E-02	4.55E-02	
			Methoxychlor	--	--	--	--	--	Developmental	3.07E-04	8.90E-06	--	4.02E-06	3.20E-04	
			Methylene chloride	3.68E-11	1.07E-12	--	--	3.79E-11	Liver	5.11E-07	1.48E-08	--	--	5.26E-07	
			Molybdenum	--	--	--	--	--	Blood	5.57E-03	1.62E-05	--	5.06E-03	1.07E-02	
			Naphthalene	--	--	--	--	--	Whole Body	8.31E-03	3.13E-03	--	--	1.14E-02	
			Nickel	--	--	--	--	--	Whole Body	2.49E-02	7.22E-05	--	2.26E-02	4.76E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	4.98E-04	1.44E-05	--	--	5.12E-04	
			Phenol	--	--	--	--	--	Whole Body	2.47E-05	7.17E-06	--	1.85E-03	1.88E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.41E-05	--	--	--	1.41E-05	
			Pyrene	--	--	--	--	--	Kidney	8.67E-03	3.27E-03	--	--	1.19E-02	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	2.27E-05	--	--	--	2.27E-05	
			Selenium	--	--	--	--	--	Whole Body	7.25E-04	2.10E-06	--	2.74E-04	1.00E-03	
			Silver	--	--	--	--	--	Skin	2.51E-03	7.27E-06	--	3.79E-03	6.31E-03	
			Technical Chlordane	7.70E-07	8.94E-08	--	5.57E-08	9.15E-07	Liver	1.38E-02	1.60E-03	--	9.99E-04	1.64E-02	
Thallium	--	--	--	--	--	Blood	7.71E-02	--	--	4.67E-04	7.76E-02				
Toluene	--	--	--	--	--	Liver/Kidney	6.87E-08	1.99E-09	--	--	7.07E-08				

TABLE H-8.21  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	4.31E-01	1.25E-03	--	1.96E-02	4.51E-01
			Zinc	--	--	--	--	--	Blood	1.41E-02	4.10E-05	--	1.93E-01	2.07E-01
			Chemical Total	1.43E-04	2.33E-05	0.00E+00	2.62E-05	1.92E-04		4.73E+00	6.24E-01	0.00E+00	1.87E+00	7.23E+00
			Exposure Point Total					1.92E-04						7.23E+00
			Exposure Medium Total					1.92E-04						7.23E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.12E-02	--	6.12E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.08E-01	--	2.08E-01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.44E-02	--	4.44E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	6.02E-02	--	6.02E-02
			1,2-Dichloropropane	--	--	5.69E-09	--	5.69E-09	Nasal	--	--	1.62E-03	--	1.62E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.39E-02	--	1.39E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	3.50E-03	--	3.50E-03
			1,4-Dichlorobenzene	--	--	3.45E-06	--	3.45E-06	Liver	--	--	4.38E-03	--	4.38E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	5.13E-09	--	5.13E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	8.27E-04	--	8.27E-04
			4,4'-DDD	--	--	1.21E-14	--	1.21E-14	Liver	--	--	1.17E-09	--	1.17E-09
			4,4'-DDE	--	--	1.66E-10	--	1.66E-10	Liver	--	--	1.14E-05	--	1.14E-05
			4,4'-DDT	--	--	5.97E-13	--	5.97E-13	Liver	--	--	4.10E-08	--	4.10E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.64E-08	--	2.64E-08
			4-Nitroaniline	--	--	5.45E-13	--	5.45E-13	--	--	--	3.03E-07	--	3.03E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	3.60E-07	--	3.60E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.12E-04	--	5.12E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.32E-05	--	1.32E-05
			Aldrin	--	--	5.29E-09	--	5.29E-09	Liver	--	--	1.21E-04	--	1.21E-04
			alpha-BHC	--	--	5.42E-10	--	5.42E-10	Liver/ Kidney	--	--	4.69E-06	--	4.69E-06
			alpha-Chlordane	--	--	4.58E-10	--	4.58E-10	Liver	--	--	2.23E-05	--	2.23E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	3.09E-03	--	3.09E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.69E-05	--	2.69E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	1.00E-10	--	1.00E-10	Immune System/Eye/Finger and Toe nails	--	--	2.93E-05	--	2.93E-05
			Aroclor-1254	--	--	3.66E-11	--	3.66E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.07E-05	--	1.07E-05
			Aroclor-1260	--	--	4.09E-11	--	4.09E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.19E-05	--	1.19E-05
			Aroclor-1268	--	--	2.27E-12	--	2.27E-12	Immune System/Eye/Finger and Toe Nails	--	--	6.63E-07	--	6.63E-07
			Arsenic	--	--	4.79E-09	--	4.79E-09	Developmental	--	--	5.41E-04	--	5.41E-04
			Barium	--	--	--	--	--	Developmental	--	--	2.42E-04	--	2.42E-04
			Benzo(a)anthracene	--	--	6.87E-11	--	6.87E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	2.29E-10	--	2.29E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	3.30E-08	--	3.30E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.05E-08	--	1.05E-08
			Benzo(k)fluoranthene	--	--	4.61E-11	--	4.61E-11	--	--	--	--	--	--
			Beryllium	--	--	8.01E-11	--	8.01E-11	Immune System/Lung	--	--	1.95E-05	--	1.95E-05

TABLE H-8.21

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	1.38E-13	--	1.38E-13	Liver/Kidney	--	--	5.37E-09	--	5.37E-09
			bis(2-ethylhexyl)phthalate	--	--	1.86E-12	--	1.86E-12	Liver	--	--	1.29E-07	--	1.29E-07
			Cadmium	--	--	5.43E-09	--	5.43E-09	Kidney/Respiratory System	--	--	7.39E-04	--	7.39E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.17E-04	--	1.17E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.14E-08	--	1.14E-08	--	--	--	--	--	--
			Cobalt	--	--	3.05E-09	--	3.05E-09	Respiratory System	--	--	6.36E-04	--	6.36E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	3.47E-09	--	3.47E-09	Liver/Kidney	--	--	1.35E-04	--	1.35E-04
			Dibenzo(a,h)anthracene	--	--	4.73E-11	--	4.73E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.45E-02	--	1.45E-02
			Dieckrin	--	--	5.82E-08	--	5.82E-08	Liver	--	--	8.48E-04	--	8.48E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	2.32E-11	--	2.32E-11
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.12E-08	--	1.12E-08
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	8.65E-06	--	8.65E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.79E-06	--	8.79E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.62E-05	--	1.62E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.03E-07	--	1.03E-07
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.63E-08	--	1.63E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.32E-04	--	2.32E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.38E-04	--	2.38E-04
			gamma-BHC (Lindane)	--	--	9.69E-10	--	9.69E-10	Liver/Kidney	--	--	3.42E-05	--	3.42E-05
			gamma-Chlordane	--	--	8.33E-10	--	8.33E-10	Liver	--	--	4.05E-05	--	4.05E-05
			Heptachlor	--	--	7.65E-08	--	7.65E-08	Liver	--	--	4.36E-04	--	4.36E-04
			Heptachlor Epoxide	--	--	2.27E-12	--	2.27E-12	Liver	--	--	3.70E-07	--	3.70E-07
			Indeno(1,2,3-cd)pyrene	--	--	8.11E-12	--	8.11E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.04E-02	--	1.04E-02
			Mercury	--	--	--	--	--	CNS	--	--	1.51E-06	--	1.51E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.11E-05	--	1.11E-05
Methylene chloride	--	--	--	--	--	Blood	--	--	--	--	--			
Molybdenum	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	--	--	4.64E-06	--	4.64E-06	Nasal Epithelium	--	--	5.26E-01	--	5.26E-01			
Nickel	--	--	1.48E-09	--	1.48E-09	Respiratory System	--	--	1.36E-03	--	1.36E-03			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.44E-04	--	3.44E-04			
Phenol	--	--	--	--	--	Liver/CNS	--	--	4.95E-09	--	4.95E-09			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.12E-03	--	1.12E-03			
Pyrene	--	--	--	--	--	Kidney	--	--	3.34E-04	--	3.34E-04			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.52E-04	--	4.52E-04			

**TABLE H-8.21**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	2.43E-08	--	2.43E-08
			Silver	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	3.55E-08	--	3.55E-08	Liver	--	--	1.72E-03	--	1.72E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.41E-07	--	1.41E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	8.34E-06	0.00E+00	8.34E-06		0.00E+00	0.00E+00	9.62E-01	0.00E+00	9.62E-01
			Exposure Point Total					8.34E-06						9.62E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.11E+00	--	1.11E+00
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.73E+00	--	1.73E+00
			1,2-Dichloropropane	--	--	4.20E-08	--	4.20E-08	Nasal	--	--	1.19E-02	--	1.19E-02
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.56E-01	--	3.56E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.39E-01	--	1.39E-01
			1,4-Dichlorobenzene	--	--	8.82E-05	--	8.82E-05	Liver	--	--	1.12E-01	--	1.12E-01
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.25E-02	--	6.25E-02
			4,4'-DDE	--	--	1.14E-10	--	1.14E-10	Liver	--	--	7.82E-06	--	7.82E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.82E-02	--	1.82E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.70E-04	--	4.70E-04
			Aldrin	--	--	1.51E-08	--	1.51E-08	Liver	--	--	3.46E-04	--	3.46E-04
			alpha-BHC	--	--	1.61E-08	--	1.61E-08	Liver/ Kidney	--	--	1.39E-04	--	1.39E-04
			alpha-Chlordane	--	--	3.60E-09	--	3.60E-09	Liver	--	--	1.75E-04	--	1.75E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.57E-04	--	9.57E-04
			Benzo(b)fluoranthene	--	--	6.79E-08	--	6.79E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.54E-06	--	4.54E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.46E-03	--	1.46E-03
			Chrysene	--	--	3.83E-08	--	3.83E-08	--	--	--	--	--	--
			Delta-BHC	--	--	1.52E-07	--	1.52E-07	Liver/Kidney	--	--	5.92E-03	--	5.92E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	7.63E-03	--	7.63E-03
			Dieldrin	--	--	4.64E-07	--	4.64E-07	Liver	--	--	6.78E-03	--	6.78E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.32E-04	--	2.32E-04
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.36E-04	--	2.36E-04
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.33E-04	--	4.33E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.90E-05	--	7.90E-05
			Fluorene	--	--	--	--	--	Blood	--	--	4.32E-03	--	4.32E-03
			gamma-BHC (Lindane)	--	--	3.46E-08	--	3.46E-08	Liver/Kidney	--	--	1.22E-03	--	1.22E-03
			gamma-Chlordane	--	--	6.54E-11	--	6.54E-11	Liver	--	--	3.18E-06	--	3.18E-06
			Heptachlor	--	--	2.46E-08	--	2.46E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.82E-05	--	3.82E-05
			Methylene Chloride	--	--	2.72E-09	--	2.72E-09	Blood	--	--	8.26E-05	--	8.26E-05

TABLE H-8.21

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	4.17E-04	--	4.17E-04	Nasal Epithelium	--	--	4.73E+01	--	4.73E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.23E-02	--	1.23E-02
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.78E-03	--	3.78E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	8.54E-04	--	8.54E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.69E-03	--	3.69E-03
			Technical Chlordane	--	--	2.79E-07	--	2.79E-07	Liver	--	--	1.35E-02	--	1.35E-02
			Toluene	--	--	--	--	--	CNS	--	--	1.14E-08	--	1.14E-06
			Chemical Total	0.00E+00	0.00E+00	5.06E-04	0.00E+00	5.06E-04		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01
			Exposure Point Total					5.06E-04						7.36E+01
			Exposure Medium Total					5.15E-04						7.46E+01
Medium Total								7.07E-04						8.18E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	1.33E-10	--	1.33E-10	No observed effect	--	--	1.95E-06	--	1.95E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.78E-05	--	4.78E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	9.35E-06	--	9.35E-06
			1,2-Dichloroethane	--	--	2.37E-09	--	2.37E-09	Liver/ Kidney/ CNS	--	--	2.74E-04	--	2.74E-04
			1,2-Dichloropropane	--	--	4.43E-10	--	4.43E-10	Nasal	--	--	1.26E-04	--	1.26E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.73E-05	--	2.73E-05
			1,4-Dichlorobenzene	--	--	6.22E-10	--	6.22E-10	Liver	--	--	7.89E-07	--	7.89E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	4.91E-09	--	4.91E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.25E-08	--	1.25E-08
			4,4'-DDE	--	--	2.43E-11	--	2.43E-11	Liver	--	--	1.67E-06	--	1.67E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.03E-09	--	3.03E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.16E-07	--	4.16E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.77E-08	--	1.77E-08
			Aldrin	--	--	2.10E-09	--	2.10E-09	Liver	--	--	4.80E-05	--	4.80E-05
			alpha-BHC	--	--	4.22E-11	--	4.22E-11	Liver/ Kidney	--	--	3.65E-07	--	3.65E-07
			alpha-Chlordane	--	--	4.44E-11	--	4.44E-11	Liver	--	--	2.16E-06	--	2.16E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.06E-09	--	7.06E-09
			Benzene	--	--	1.44E-09	--	1.44E-09	Blood	--	--	1.96E-05	--	1.96E-05
			Benzo(b)fluoranthene	--	--	1.05E-11	--	1.05E-11	--	--	--	--	--	--
			Bromoform	--	--	1.59E-12	--	1.59E-12	Liver	--	--	2.37E-07	--	2.37E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.45E-05	--	1.45E-05
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.65E-07	--	1.65E-07
			Chloroform	--	--	2.17E-09	--	2.17E-09	GI Tract/ Kidney/ Development	--	--	1.55E-05	--	1.55E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.86E-05	--	1.86E-05
			Chrysene	--	--	2.83E-12	--	2.83E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.41E-05	--	3.41E-05
			Dieldrin	--	--	8.68E-10	--	8.68E-10	Liver	--	--	1.27E-05	--	1.27E-05
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.40E-08	--	2.40E-08
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.95E-11	--	3.95E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	4.43E-07	--	4.43E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.14E-09	--	8.14E-09

TABLE H-8.21  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	1.61E-08	--	1.61E-08
			gamma-BHC (Lindane)	--	--	7.55E-14	--	7.55E-14	Liver/Kidney	--	--	2.67E-09	--	2.67E-09
			gamma-Chlordane	--	--	1.15E-10	--	1.15E-10	Liver	--	--	5.61E-06	--	5.61E-06
			Heptachlor	--	--	4.04E-09	--	4.04E-09	Liver	--	--	2.30E-05	--	2.30E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.54E-05	--	1.54E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.21E-07	--	4.21E-07
			Naphthalene	--	--	3.60E-11	--	3.60E-11	Nasal Epithelium	--	--	4.08E-06	--	4.08E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.90E-04	--	1.90E-04
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	4.54E-06	--	4.54E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.62E-09	--	5.62E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	9.90E-09	--	9.90E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.29E-05	--	1.29E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.46E-05	--	1.46E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.71E-07	--	1.71E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.89E-05	--	2.89E-05
			Trichloroethene	--	--	3.60E-10	--	3.60E-10	CNS/Eye	--	--	3.53E-06	--	3.53E-06
			Vinyl chloride	--	--	2.88E-08	--	2.88E-08	Liver	--	--	4.35E-05	--	4.35E-05
						Chemical Total	0.00E+00	0.00E+00	4.36E-08	0.00E+00	4.36E-08		0.00E+00	0.00E+00
			Exposure Point Total					4.36E-08						1.40E-03
			Exposure Medium Total					4.36E-08						1.40E-03
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	2.34E-08	--	2.34E-08	No observed effect	--	--	3.43E-04	--	3.43E-04	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.24E-03	--	1.24E-03	
		1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.49E-04	--	2.49E-04	
		1,2-Dichloroethane	--	--	7.09E-08	--	7.09E-08	Liver/ Kidney/ CNS	--	--	8.20E-03	--	8.20E-03	
		1,2-Dichloropropane	--	--	1.31E-08	--	1.31E-08	Nasal	--	--	3.73E-03	--	3.73E-03	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.09E-04	--	7.09E-04	
		1,4-Dichlorobenzene	--	--	1.67E-08	--	1.67E-08	Liver	--	--	2.11E-05	--	2.11E-05	
		2-Hexanone	--	--	--	--	--	Developmental	--	--	2.53E-07	--	2.53E-07	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-07	--	3.50E-07	
		4,4'-DDE	--	--	2.19E-12	--	2.19E-12	Liver	--	--	1.50E-07	--	1.50E-07	
		4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.25E-07	--	1.25E-07	
		Acenaphthene	--	--	--	--	--	Liver	--	--	1.77E-05	--	1.77E-05	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	7.55E-07	--	7.55E-07	
		Aldrin	--	--	2.29E-10	--	2.29E-10	Liver	--	--	5.24E-06	--	5.24E-06	
		alpha-BHC	--	--	5.42E-12	--	5.42E-12	Liver/ Kidney	--	--	4.68E-08	--	4.68E-08	
		alpha-Chlordane	--	--	1.46E-11	--	1.46E-11	Liver	--	--	7.10E-07	--	7.10E-07	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.00E-07	--	3.00E-07	
		Benzene	--	--	4.23E-08	--	4.23E-08	Blood	--	--	5.74E-04	--	5.74E-04	
		Benzo(b)fluoranthene	--	--	4.41E-10	--	4.41E-10	--	--	--	--	--	--	
		Bromoform	--	--	8.52E-11	--	8.52E-11	Liver	--	--	1.27E-05	--	1.27E-05	

TABLE H-8.21

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	-	-	-	-	-	CNS	-	-	4.36E-04	-	4.36E-04			
			Chlorobenzene	-	-	-	-	-	GI Tract/Kidney/Reproductive System	-	-	4.63E-06	-	4.63E-06			
			Chloroform	-	-	6.43E-08	-	6.43E-08	GI Tract/ Kidney/ Development	-	-	4.61E-04	-	4.61E-04			
			Chloromethane	-	-	-	-	-	CNS	-	-	6.02E-04	-	6.02E-04			
			Chrysene	-	-	1.24E-10	-	1.24E-10	-	-	-	-	-	-			
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	2.21E-03	-	2.21E-03			
			Diakrin	-	-	3.33E-11	-	3.33E-11	Liver	-	-	4.85E-07	-	4.85E-07			
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	5.21E-09	-	5.21E-09			
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	1.74E-09	-	1.74E-09			
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	1.20E-05	-	1.20E-05			
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	3.29E-07	-	3.29E-07			
			Fluorene	-	-	-	-	-	Blood	-	-	8.39E-07	-	8.39E-07			
			gamma-BHC (Lindane)	-	-	2.98E-12	-	2.98E-12	Liver/Kidney	-	-	1.05E-07	-	1.05E-07			
			gamma-Chlordane	-	-	7.07E-12	-	7.07E-12	Liver	-	-	3.44E-07	-	3.44E-07			
			Heptachlor	-	-	1.09E-10	-	1.09E-10	Liver	-	-	6.20E-07	-	6.20E-07			
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	1.05E-02	-	1.05E-02			
			m,p-Xylene	-	-	-	-	-	CNS	-	-	8.95E-04	-	8.95E-04			
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.83E-08	-	1.83E-08			
			Naphthalene	-	-	1.95E-09	-	1.95E-09	Nasal Epithelium	-	-	2.22E-04	-	2.22E-04			
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	1.07E-02	-	1.07E-02			
			n-Propylbenzene	-	-	-	-	-	Liver/ Kidney	-	-	2.58E-04	-	2.58E-04			
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	3.12E-07	-	3.12E-07			
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	1.05E-02	-	1.05E-02			
			Pyrene	-	-	-	-	-	Kidney	-	-	4.13E-07	-	4.13E-07			
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	9.16E-06	-	9.16E-06			
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	9.17E-04	-	9.17E-04			
			Toluene	-	-	-	-	-	CNS	-	-	9.82E-07	-	9.82E-07			
			trans-1,2-Dichloroethene	-	-	2.21E-08	-	2.21E-08	Blood	-	-	1.94E-03	-	1.94E-03			
			Trichloroethene	-	-	1.93E-06	-	1.93E-06	CNS/Eye	-	-	2.16E-04	-	2.16E-04			
			Vinyl chloride	-	-	-	-	-	Liver	-	-	2.93E-03	-	2.93E-03			
						Chemical Total	0.00E+00	0.00E+00	2.19E-06	0.00E+00	2.19E-06		0.00E+00	0.00E+00	5.80E-02	0.00E+00	5.80E-02
						Exposure Point Total											
						Exposure Medium Total					2.19E-06						5.80E-02
			Medium Total					2.23E-06						5.94E-02			
			Receptor Total					7.09E-04						8.18E+01			

**TABLE H-8.21**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

--	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	2.61E+00
Total Organ 2 (Kidney) HI Across All Media =	2.49E+01
Total Organ 3 (Reproductive System) HI Across All Media =	1.58E-03
Total Organ 4 (Nervous System) HI Across All Media =	2.04E+00
Total Organ 5 (Skin) HI Across All Media =	4.85E-01
Total Organ 6 (Blood) HI Across All Media =	2.31E+00
Total Organ 7 (Adrenal) HI Across All Media =	9.18E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.92E-02
Total Organ 9 (Brain) HI Across All Media =	2.32E-11
Total Organ 10 (Gastrointestinal System) HI Across All Media =	9.55E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	2.03E+00
Total Organ 12 (Body Weight) HI Across All Media =	1.85E+00
Total Organ 13 (Developmental) HI Across All Media =	1.66E-03
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.57E+00
Total Organ 15 (Whole Body) HI Across All Media =	2.11E-01
Total Organ 16 (Immune System) HI Across All Media =	2.08E+00
Total Organ 17 (Organ Weight) HI Across All Media =	3.84E-03
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.03E+00
Total Organ 19 (Nasal Tissue) HI Across All Media =	4.78E+01

TABLE H-8.22

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.92E-03	5.56E-04	--	--	2.47E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	6.52E-03	1.89E-04	--	--	6.71E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.28E-04	3.71E-06	--	--	1.32E-04
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	3.69E-03	1.07E-04	--	--	3.80E-03
			1,2-Dichloropropane	2.03E-10	6.55E-12	--	--	2.09E-10	Nasal	4.04E-05	1.17E-06	--	--	4.15E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.09E-05	1.19E-06	--	--	4.21E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	4.69E-04	1.36E-05	--	--	4.82E-04
			1,4-Dichlorobenzene	5.75E-08	--	--	--	5.75E-08	Organ weight	2.90E-03	--	--	--	2.90E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.34E-04	3.89E-06	--	1.58E-03	1.72E-03
			2-Methylphenol	--	--	--	--	--	Respiratory System	2.59E-04	7.51E-05	--	7.27E-03	7.60E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	4.28E-04	1.24E-05	--	--	4.40E-04
			4,4'-DDD	4.51E-10	1.45E-11	--	3.17E-11	4.97E-10	Liver	3.07E-05	8.90E-07	--	6.17E-07	3.22E-05
			4,4'-DDE	4.38E-08	1.41E-09	--	2.23E-09	4.75E-08	Liver	2.10E-03	6.10E-05	--	3.07E-05	2.20E-03
			4,4'-DDT	2.37E-08	2.29E-09	--	5.20E-09	3.12E-08	Liver	1.14E-03	9.90E-05	--	7.14E-05	1.31E-03
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	6.90E-04	2.00E-04	--	1.99E-02	2.08E-02
			4-Nitroaniline	2.04E-08	6.58E-09	--	1.41E-06	1.44E-06	--	2.64E-03	7.66E-04	--	5.22E-02	5.56E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	1.07E-02	3.11E-03	--	3.18E-01	3.32E-01
			Acenaphthene	--	--	--	--	--	Liver	9.02E-04	3.40E-04	--	--	1.24E-03
			Acenaphthylene	--	--	--	--	--	Liver	2.22E-05	6.44E-07	--	--	2.28E-05
			Aldrin	3.46E-07	1.12E-07	--	3.98E-08	4.97E-07	Liver	5.54E-03	1.61E-03	--	1.82E-04	7.33E-03
			alpha-BHC	3.09E-09	9.96E-11	--	7.67E-08	7.99E-08	Liver/Kidney	1.87E-05	5.41E-07	--	1.33E-04	1.52E-04
			alpha-Chlordane	1.66E-08	--	--	4.19E-09	2.08E-08	Liver	2.08E-04	--	--	1.50E-05	2.23E-04
			Aluminum	--	--	--	--	--	CNS	1.13E-01	3.27E-04	--	1.11E-03	1.14E-01
			Anthracene	--	--	--	--	--	No Observed Effect	4.50E-05	1.69E-05	--	--	6.19E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	1.30E-01	3.78E-04	--	5.92E-02	1.90E-01
			Aroclor-1248	3.76E-06	1.70E-06	--	2.65E-07	5.72E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00
			Aroclor-1254	1.39E-06	6.28E-07	--	1.31E-06	3.33E-06	Immune System/ Eye/Finger and Toe Nails	2.84E-01	1.15E-01	--	7.66E-02	4.76E-01
			Aroclor-1260	1.70E-06	7.66E-07	--	5.72E-08	2.52E-06	Immune System/ Eye/Finger and Toe Nails	3.48E-01	1.41E-01	--	3.34E-03	4.90E-01
			Aroclor-1268	8.69E-08	3.93E-08	--	8.21E-08	2.08E-07	Immune System/ Eye/Finger and Toe Nails	1.77E-02	7.20E-03	--	4.79E-03	2.97E-02
			Arsenic	9.12E-05	8.83E-06	--	2.90E-05	1.29E-04	Skin	2.63E-01	2.29E-02	--	2.39E-02	3.10E-01
			Barium	--	--	--	--	--	Kidney	1.24E-02	3.59E-05	--	2.81E-03	1.52E-02
			Benzo(a)anthracene	9.40E-06	3.94E-06	--	1.28E-07	1.35E-05	--	--	--	--	--	--
			Benzo(a)pyrene	3.13E-05	1.31E-05	--	2.41E-07	4.47E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	5.14E-06	2.16E-06	--	3.97E-07	7.70E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	3.25E-04	1.23E-04	--	5.47E-06	4.54E-04
			Benzo(k)fluoranthene	6.12E-06	2.57E-06	--	4.73E-07	9.17E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.52E-03	4.41E-06	--	3.46E-05	1.56E-03
			Beta-BHC	5.17E-09	1.67E-10	--	1.28E-07	1.34E-07	Liver/Kidney	1.41E-04	4.08E-06	--	9.99E-04	1.14E-03
			bis(2-ethylhexyl)phthalate	3.68E-08	1.19E-09	--	6.74E-07	7.12E-07	Liver	5.01E-03	1.45E-04	--	2.62E-02	3.14E-02
			Cadmium	5.64E-06	1.82E-08	--	4.48E-05	5.04E-05	Kidney	2.42E-01	7.02E-04	--	5.50E-01	7.93E-01
			Carbon disulfide	--	--	--	--	--	Developmental	3.07E-08	2.22E-08	--	--	5.29E-08
			Chlorobenzene	--	--	--	--	--	Liver	7.03E-05	2.04E-06	--	--	7.24E-05

TABLE H-8.22

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	9.48E-04	2.75E-06	--	6.46E-05	1.02E-03	
			Chrysene	1.07E-06	4.48E-07	--	1.02E-07	1.62E-06	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	4.84E-03	1.40E-05	--	5.13E-04	5.37E-03	
			Copper	--	--	--	--	--	GI Tract/Kidney	1.82E-02	5.29E-05	--	6.90E-02	8.73E-02	
			Delta-BHC	1.97E-08	3.18E-09	--	4.00E-09	2.69E-08	Liver/Kidney	5.37E-04	7.79E-05	--	3.11E-05	6.46E-04	
			Dibenzo(a,h)anthracene	2.04E-06	8.55E-07	--	9.72E-08	2.99E-06	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	8.31E-02	2.41E-03	--	--	8.55E-02	
			Dieckrin	1.38E-06	4.46E-08	--	3.88E-05	4.02E-05	Liver	1.41E-02	4.09E-04	--	1.13E-01	1.28E-01	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	6.07E-07	1.76E-08	--	1.37E-05	1.43E-05	
			di-n-Butylphthalate	--	--	--	--	--	Liver	1.41E-04	4.08E-06	--	4.43E-06	1.49E-04	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	4.90E-05	7.11E-06	--	3.32E-04	3.89E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	5.08E-05	7.36E-06	--	3.30E-04	3.88E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	9.16E-05	1.33E-05	--	5.81E-04	6.86E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.79E-03	2.60E-04	--	4.50E-05	2.10E-03	
			Endrin Ketone	--	--	--	--	--	Liver	4.26E-04	--	--	1.07E-05	4.37E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	8.47E-03	3.19E-03	--	3.47E-04	1.20E-02	
			Fluorene	--	--	--	--	--	Blood	9.32E-04	3.51E-04	--	1.28E-03	--	
			gamma-BHC (Lindane)	4.48E-09	5.78E-10	--	3.92E-07	3.97E-07	Liver/Kidney	1.11E-04	1.29E-05	--	2.77E-03	2.89E-03	
			gamma-Chlordane	2.67E-08	--	--	6.74E-09	3.34E-08	Liver	3.35E-04	--	--	2.42E-05	3.59E-04	
			Heptachlor	4.43E-08	1.43E-09	--	8.33E-09	5.40E-08	Liver	1.76E-04	5.12E-06	--	9.48E-06	1.91E-04	
			Heptachlor Epoxide	9.60E-08	3.10E-09	--	5.87E-06	5.97E-06	Liver	1.10E-02	3.18E-04	--	1.92E-01	2.03E-01	
			Indeno(1,2,3-cd)pyrene	1.64E-06	6.88E-07	--	9.47E-08	2.42E-06	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	1.74E+00	5.03E-03	--	2.61E-02	1.77E+00	
			Isophorone	2.97E-10	9.60E-11	--	--	3.93E-10	No Observed Effect	1.28E-05	3.71E-06	--	--	1.65E-05	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	1.76E-01	5.11E-04	--	1.33E-01	3.10E-01	
			Mercury	--	--	--	--	--	Immune System	1.32E-02	--	--	3.99E-02	5.31E-02	
			Methoxychlor	--	--	--	--	--	Developmental	3.07E-04	8.90E-06	--	4.02E-06	3.20E-04	
			Molybdenum	--	--	--	--	--	Blood	6.40E-03	1.86E-05	--	5.82E-03	1.22E-02	
			Naphthalene	--	--	--	--	--	Whole Body	8.31E-03	3.13E-03	--	--	1.14E-02	
			Nickel	--	--	--	--	--	Whole Body	2.50E-02	7.25E-05	--	2.27E-02	4.78E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	5.93E-04	1.72E-05	--	--	6.10E-04	
			Phenol	--	--	--	--	--	Whole Body	2.47E-05	7.17E-06	--	1.85E-03	1.88E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.41E-05	--	--	--	1.41E-05	
			Pyrene	--	--	--	--	--	Kidney	1.03E-02	3.88E-03	--	--	1.42E-02	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	2.27E-05	--	--	--	2.27E-05	
			Selenium	--	--	--	--	--	Whole Body	5.74E-04	1.66E-06	--	2.17E-04	7.93E-04	
			Silver	--	--	--	--	--	Skin	2.96E-03	8.59E-06	--	4.49E-03	7.46E-03	
			Technical Chlordane	1.12E-06	1.45E-07	--	2.84E-07	1.55E-06	Liver	1.41E-02	1.63E-03	--	1.02E-03	1.67E-02	
			Thallium	--	--	--	--	--	Blood	7.94E-02	--	--	4.81E-04	7.99E-02	
Toluene	--	--	--	--	--	Liver/Kidney	6.87E-08	1.99E-09	--	--	7.07E-08				
Vanadium	--	--	--	--	--	Kidney	4.37E-01	1.27E-03	--	1.98E-02	4.58E-01				

TABLE H-8.22

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	1.93E-02	5.60E-05	--	2.63E-01	2.83E-01
		Exposure Point Total	Chemical Total	1.64E-04	3.61E-05	0.00E+00	1.25E-04	3.25E-04		4.90E+00	6.29E-01	0.00E+00	2.06E+00	7.59E+00
Exposure Medium Total							3.25E-04							7.59E+00
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.12E-02	--	--	6.12E-02
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.08E-01	--	--	2.08E-01
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.44E-02	--	--	4.44E-02
		1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	6.02E-02	--	--	6.02E-02
		1,2-Dichloropropane	--	--	1.53E-08	--	1.53E-08	Nasal	--	--	1.62E-03	--	--	1.62E-03
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.39E-02	--	--	1.39E-02
		1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	3.50E-03	--	--	3.50E-03
		1,4-Dichlorobenzene	--	--	9.30E-06	--	9.30E-06	Liver	--	--	4.38E-03	--	--	4.38E-03
		2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	5.13E-09	--	--	5.13E-09
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.53E-04	--	--	9.53E-04
		4,4'-DDD	--	--	3.25E-14	--	3.25E-14	Liver	--	--	1.17E-09	--	--	1.17E-09
		4,4'-DDE	--	--	4.91E-10	--	4.91E-10	Liver	--	--	1.25E-05	--	--	1.25E-05
		4,4'-DDT	--	--	1.71E-12	--	1.71E-12	Liver	--	--	4.34E-08	--	--	4.34E-08
		4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.64E-08	--	--	2.64E-08
		4-Nitroaniline	--	--	1.47E-12	--	1.47E-12	--	--	--	3.03E-07	--	--	3.03E-07
		4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	3.60E-07	--	--	3.60E-07
		Acenaphthene	--	--	--	--	--	Liver	--	--	6.24E-04	--	--	6.24E-04
		Acenaphthylene	--	--	--	--	--	Liver	--	--	1.54E-05	--	--	1.54E-05
		Aldrin	--	--	1.42E-08	--	1.42E-08	Liver	--	--	1.21E-04	--	--	1.21E-04
		alpha-BHC	--	--	1.46E-09	--	1.46E-09	Liver/ Kidney	--	--	4.69E-06	--	--	4.69E-06
		alpha-Chlordane	--	--	1.44E-09	--	1.44E-09	Liver	--	--	2.60E-05	--	--	2.60E-05
		Aluminum	--	--	--	--	--	Respiratory System	--	--	3.01E-03	--	--	3.01E-03
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.11E-05	--	--	3.11E-05
		Antimony	--	--	--	--	--	--	--	--	--	--	--	--
		Aroclor-1248	--	--	2.71E-10	--	2.71E-10	Immune System/Eye/Finger and Toe nails	--	--	2.93E-05	--	--	2.93E-05
		Aroclor-1254	--	--	1.00E-10	--	1.00E-10	Immune System/Eye/Finger and Toe Nails	--	--	1.08E-05	--	--	1.08E-05
		Aroclor-1260	--	--	1.22E-10	--	1.22E-10	Immune System/Eye/Finger and Toe Nails	--	--	1.32E-05	--	--	1.32E-05
		Aroclor-1268	--	--	6.26E-12	--	6.26E-12	Immune System/Eye/Finger and Toe Nails	--	--	6.78E-07	--	--	6.78E-07
		Arsenic	--	--	8.34E-09	--	8.34E-09	Developmental	--	--	3.50E-04	--	--	3.50E-04
		Barium	--	--	--	--	--	Developmental	--	--	2.36E-04	--	--	2.36E-04
		Benzo(a)anthracene	--	--	2.20E-10	--	2.20E-10	--	--	--	--	--	--	--
		Benzo(a)pyrene	--	--	7.32E-10	--	7.32E-10	--	--	--	--	--	--	--
Benzo(b)fluoranthene	--	--	1.03E-07	--	1.03E-07	--	--	--	--	--	--	--		
Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.24E-08	--	--	1.24E-08		
Benzo(k)fluoranthene	--	--	1.43E-10	--	1.43E-10	--	--	--	--	--	--	--		
Beryllium	--	--	2.25E-10	--	2.25E-10	Immune System/Lung	--	--	2.03E-05	--	--	2.03E-05		
Beta-BHC	--	--	3.72E-13	--	3.72E-13	Liver/Kidney	--	--	5.37E-09	--	--	5.37E-09		

TABLE H-8.22

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	7.42E-12	--	7.42E-12	Liver	--	--	1.91E-07	--	1.91E-07
			Cadmium	--	--	1.60E-08	--	1.60E-08	Kidney/Respiratory System	--	--	8.09E-04	--	8.09E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.17E-04	--	1.17E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	3.62E-08	--	3.62E-08	--	--	--	--	--	--
			Cobalt	--	--	8.37E-09	--	8.37E-09	Respiratory System	--	--	6.48E-04	--	6.48E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	9.34E-09	--	9.34E-09	Liver/Kidney	--	--	1.35E-04	--	1.35E-04
			Dibenzo(a,h)anthracene	--	--	1.47E-10	--	1.47E-10	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.45E-02	--	1.45E-02
			Dieldrin	--	--	1.77E-07	--	1.77E-07	Liver	--	--	9.56E-04	--	9.56E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	2.32E-11	--	2.32E-11
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.07E-08	--	1.07E-08
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	8.65E-06	--	8.65E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.96E-06	--	8.96E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.62E-05	--	1.62E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	6.85E-08	--	6.85E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.63E-08	--	1.63E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.76E-04	--	2.76E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.75E-04	--	2.75E-04
			gamma-BHC (Lindane)	--	--	2.61E-09	--	2.61E-09	Liver/Kidney	--	--	3.42E-05	--	3.42E-05
			gamma-Chlordane	--	--	2.32E-09	--	2.32E-09	Liver	--	--	4.18E-05	--	4.18E-05
			Heptachlor	--	--	2.06E-07	--	2.06E-07	Liver	--	--	4.36E-04	--	4.36E-04
			Heptachlor Epoxide	--	--	6.92E-12	--	6.92E-12	Liver	--	--	4.19E-07	--	4.19E-07
			Indeno(1,2,3-cd)pyrene	--	--	3.84E-11	--	3.84E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.13E-02	--	1.13E-02
			Mercury	--	--	--	--	--	CNS	--	--	1.76E-06	--	1.76E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.11E-05	--	1.11E-05
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	1.25E-05	--	1.25E-05	Nasal Epithelium	--	--	5.26E-01	--	5.26E-01
			Nickel	--	--	4.01E-09	--	4.01E-09	Respiratory System	--	--	1.36E-03	--	1.36E-03
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.10E-04	--	4.10E-04
			Phenol	--	--	--	--	--	Liver/CNS	--	--	4.95E-09	--	4.95E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.12E-03	--	1.12E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	3.97E-04	--	3.97E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.52E-04	--	4.52E-04
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	1.92E-08	--	1.92E-08			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.22

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	9.74E-08	--	9.74E-08	Liver	--	--	1.76E-03	--	1.76E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.41E-07	--	1.41E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.25E-05	0.00E+00	2.25E-05		0.00E+00	0.00E+00	9.63E-01	0.00E+00	9.63E-01
		Exposure Point Total						2.25E-05						9.63E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.11E+00	--	1.11E+00
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.73E+00	--	1.73E+00
			1,2-Dichloropropane	--	--	1.13E-07	--	1.13E-07	Nasal	--	--	1.19E-02	--	1.19E-02
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.56E-01	--	3.56E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.39E-01	--	1.39E-01
			1,4-Dichlorobenzene	--	--	2.38E-04	--	2.38E-04	Liver	--	--	1.12E-01	--	1.12E-01
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.25E-02	--	6.25E-02
			4,4'-DDE	--	--	3.07E-10	--	3.07E-10	Liver	--	--	7.82E-06	--	7.82E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.82E-02	--	1.82E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.70E-04	--	4.70E-04
			Aldrin	--	--	4.07E-08	--	4.07E-08	Liver	--	--	3.46E-04	--	3.46E-04
			alpha-BHC	--	--	4.32E-08	--	4.32E-08	Liver/ Kidney	--	--	1.39E-04	--	1.39E-04
			alpha-Chlordane	--	--	9.69E-09	--	9.69E-09	Liver	--	--	1.75E-04	--	1.75E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.57E-04	--	9.57E-04
			Benzo(b)fluoranthene	--	--	1.83E-07	--	1.83E-07	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.54E-06	--	4.54E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.46E-03	--	1.46E-03
			Chrysene	--	--	1.03E-07	--	1.03E-07	--	--	--	--	--	--
			Delta-BHC	--	--	4.10E-07	--	4.10E-07	Liver/Kidney	--	--	5.92E-03	--	5.92E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	7.63E-03	--	7.63E-03
			Dieldrin	--	--	1.25E-06	--	1.25E-06	Liver	--	--	6.76E-03	--	6.76E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.32E-04	--	2.32E-04
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.36E-04	--	2.36E-04
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.33E-04	--	4.33E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.90E-05	--	7.90E-05
			Fluorene	--	--	--	--	--	Blood	--	--	4.32E-03	--	4.32E-03
			gamma-BHC (Lindane)	--	--	9.32E-08	--	9.32E-08	Liver/Kidney	--	--	1.22E-03	--	1.22E-03
			gamma-Chlordane	--	--	1.76E-10	--	1.76E-10	Liver	--	--	3.18E-06	--	3.18E-06
			Heptachlor	--	--	6.63E-08	--	6.63E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.82E-05	--	3.82E-05
			Methylene Chloride	--	--	7.34E-09	--	7.34E-09	Blood	--	--	8.26E-05	--	8.26E-05
			Naphthalene	--	--	1.12E-03	--	1.12E-03	Nasal Epithelium	--	--	4.73E+01	--	4.73E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.23E-02	--	1.23E-02

TABLE H-8.22

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--	--	Kidney	--	--	3.78E-03	--	3.78E-03
			Pyrene	--	--	--	--	--	--	Kidney	--	--	8.54E-04	--	8.54E-04
			sec-Butylbenzene	--	--	--	--	--	--	Liver/Kidney	--	--	3.69E-03	--	3.69E-03
			Technical Chlordane	--	--	7.51E-07	--	7.51E-07	--	Liver	--	--	1.35E-02	--	1.35E-02
			Toluene	--	--	--	--	--	--	CNS	--	--	1.14E-06	--	1.14E-06
			<b>Chemical Total</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>1.36E-03</b>	<b>0.00E+00</b>	<b>1.36E-03</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>7.36E+01</b>
<b>Exposure Point Total</b>															
<b>Exposure Medium Total</b>															
<b>Medium Total</b>															
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichlorethane	--	--	3.59E-10	--	3.59E-10	No observed effect	--	--	1.95E-06	--	1.95E-06	
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.78E-05	--	4.78E-05	
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	9.35E-06	--	9.35E-06	
			1,2-Dichloroethane	--	--	6.38E-09	--	6.38E-09	Liver/ Kidney/ CNS	--	--	2.74E-04	--	2.74E-04	
			1,2-Dichloropropane	--	--	1.19E-09	--	1.19E-09	Nasal	--	--	1.26E-04	--	1.26E-04	
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.73E-05	--	2.73E-05	
			1,4-Dichlorobenzene	--	--	1.68E-09	--	1.68E-09	Liver	--	--	7.89E-07	--	7.89E-07	
			2-Hexanone	--	--	--	--	--	Developmental	--	--	4.91E-09	--	4.91E-09	
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.25E-08	--	1.25E-08	
			4,4'-DDE	--	--	6.55E-11	--	6.55E-11	Liver	--	--	1.67E-06	--	1.67E-06	
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.03E-09	--	3.03E-09	
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.16E-07	--	4.16E-07	
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.77E-08	--	1.77E-08	
			Aldrin	--	--	5.65E-09	--	5.65E-09	Liver	--	--	4.80E-05	--	4.80E-05	
			alpha-BHC	--	--	1.14E-10	--	1.14E-10	Liver/ Kidney	--	--	3.65E-07	--	3.65E-07	
			alpha-Chlordane	--	--	1.20E-10	--	1.20E-10	Liver	--	--	2.16E-06	--	2.16E-06	
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.06E-09	--	7.06E-09	
			Benzene	--	--	3.88E-09	--	3.88E-09	Blood	--	--	1.96E-05	--	1.96E-05	
			Benzo(b)fluoranthene	--	--	2.82E-11	--	2.82E-11	--	--	--	--	--	--	
			Bromoform	--	--	4.27E-12	--	4.27E-12	Liver	--	--	2.37E-07	--	2.37E-07	
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.45E-05	--	1.45E-05	
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.65E-07	--	1.65E-07	
			Chloroform	--	--	5.84E-09	--	5.84E-09	GI Tract/ Kidney/ Development	--	--	1.55E-05	--	1.55E-05	
			Chloromethane	--	--	--	--	--	CNS	--	--	1.86E-05	--	1.86E-05	
			Chrysene	--	--	7.64E-12	--	7.64E-12	--	--	--	--	--	--	
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.41E-05	--	3.41E-05	
			Dieldrin	--	--	2.34E-09	--	2.34E-09	Liver	--	--	1.27E-05	--	1.27E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.40E-08	--	2.40E-08	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.95E-11	--	3.95E-11	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	4.43E-07	--	4.43E-07	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.14E-09	--	8.14E-09	
			Fluorene	--	--	--	--	--	Blood	--	--	1.61E-08	--	1.61E-08	
			gamma-BHC (Lindane)	--	--	2.03E-13	--	2.03E-13	Liver/Kidney	--	--	2.67E-09	--	2.67E-09	

TABLE H-8.22

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	3.11E-10	--	3.11E-10	Liver	--	--	5.61E-06	--	5.61E-06
			Heptachlor	--	--	1.09E-08	--	1.09E-08	Liver	--	--	2.30E-05	--	2.30E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.54E-05	--	1.54E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.21E-07	--	4.21E-07
			Naphthalene	--	--	9.70E-11	--	9.70E-11	Nasal Epithelium	--	--	4.08E-06	--	4.08E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.90E-04	--	1.90E-04
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	4.54E-06	--	4.54E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.62E-09	--	5.62E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	9.90E-09	--	9.90E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.29E-05	--	1.29E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.46E-05	--	1.46E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.71E-07	--	1.71E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.89E-05	--	2.89E-05
Trichloroethene	--	--	9.71E-10	--	9.71E-10	CNS/Eye	--	--	3.53E-06	--	3.53E-06			
Vinyl chloride	--	--	7.75E-08	--	7.75E-08	Liver	--	--	4.35E-05	--	4.35E-05			
			Chemical Total	0.00E+00	0.00E+00	1.17E-07	0.00E+00	1.17E-07		0.00E+00	0.00E+00	1.40E-03	0.00E+00	1.40E-03
			Exposure Point Total					1.17E-07						1.40E-03
			Exposure Medium Total					1.17E-07						1.40E-03
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	6.32E-08	--	6.32E-08	No observed effect	--	--	3.43E-04	--	3.43E-04	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.24E-03	--	1.24E-03	
		1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.49E-04	--	2.49E-04	
		1,2-Dichloroethane	--	--	1.91E-07	--	1.91E-07	Liver/ Kidney/ CNS	--	--	8.20E-03	--	8.20E-03	
		1,2-Dichloropropane	--	--	3.54E-08	--	3.54E-08	Nasal	--	--	3.73E-03	--	3.73E-03	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.09E-04	--	7.09E-04	
		1,4-Dichlorobenzene	--	--	4.49E-08	--	4.49E-08	Liver	--	--	2.11E-05	--	2.11E-05	
		2-Hexanone	--	--	--	--	--	Developmental	--	--	2.53E-07	--	2.53E-07	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-07	--	3.50E-07	
		4,4'-DDE	--	--	5.89E-12	--	5.89E-12	Liver	--	--	1.50E-07	--	1.50E-07	
		4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.25E-07	--	1.25E-07	
		Acenaphthene	--	--	--	--	--	Liver	--	--	1.77E-05	--	1.77E-05	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	7.55E-07	--	7.55E-07	
		Aldrin	--	--	6.17E-10	--	6.17E-10	Liver	--	--	5.24E-06	--	5.24E-06	
		alpha-BHC	--	--	1.46E-11	--	1.46E-11	Liver/ Kidney	--	--	4.68E-08	--	4.68E-08	
		alpha-Chlordane	--	--	3.93E-11	--	3.93E-11	Liver	--	--	7.10E-07	--	7.10E-07	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.00E-07	--	3.00E-07	
		Benzene	--	--	1.14E-07	--	1.14E-07	Blood	--	--	5.74E-04	--	5.74E-04	
		Benzo(b)fluoranthene	--	--	1.19E-09	--	1.19E-09	--	--	--	--	--	--	
		Bromoform	--	--	2.29E-10	--	2.29E-10	Liver	--	--	1.27E-05	--	1.27E-05	
		Carbon disulfide	--	--	--	--	--	CNS	--	--	4.36E-04	--	4.36E-04	
Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	4.63E-06	--	4.63E-06			

TABLE H-8.22

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	-	-	1.73E-07	-	1.73E-07	GI Tract/ Kidney/ Development	-	-	4.61E-04	-	4.61E-04
			Chloromethane	-	-	-	-	-	CNS	-	-	6.02E-04	-	6.02E-04
			Chrysene	-	-	3.34E-10	-	3.34E-10	-	-	-	-	-	-
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	2.21E-03	-	2.21E-03
			Dieldrin	-	-	8.96E-11	-	8.96E-11	Liver	-	-	4.85E-07	-	4.85E-07
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	5.21E-09	-	5.21E-09
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	1.74E-09	-	1.74E-09
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	1.20E-05	-	1.20E-05
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	3.29E-07	-	3.29E-07
			Fluorene	-	-	-	-	-	Blood	-	-	8.39E-07	-	8.39E-07
			gamma-BHC (Lindane)	-	-	8.03E-12	-	8.03E-12	Liver/Kidney	-	-	1.05E-07	-	1.05E-07
			gamma-Chlordane	-	-	1.90E-11	-	1.90E-11	Liver	-	-	3.44E-07	-	3.44E-07
			Heptachlor	-	-	2.94E-10	-	2.94E-10	Liver	-	-	6.20E-07	-	6.20E-07
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	1.05E-02	-	1.05E-02
			m,p-Xylene	-	-	-	-	-	CNS	-	-	8.95E-04	-	8.95E-04
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.83E-08	-	1.83E-08
			Naphthalene	-	-	5.26E-09	-	5.26E-09	Nasal Epithelium	-	-	2.22E-04	-	2.22E-04
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	1.07E-02	-	1.07E-02
			n-Propylbenzene	-	-	-	-	-	Liver/ Kidney	-	-	2.58E-04	-	2.58E-04
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	3.12E-07	-	3.12E-07
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	1.05E-02	-	1.05E-02
			Pyrene	-	-	-	-	-	Kidney	-	-	4.13E-07	-	4.13E-07
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	9.16E-06	-	9.16E-06
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	9.17E-04	-	9.17E-04
			Toluene	-	-	-	-	-	CNS	-	-	9.82E-07	-	9.82E-07
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.94E-03	-	1.94E-03
			Trichloroethene	-	-	5.94E-08	-	5.94E-08	CNS/Eye	-	-	2.16E-04	-	2.16E-04
			Vinyl chloride	-	-	5.21E-06	-	5.21E-06	Liver	-	-	2.93E-03	-	2.93E-03
			Chemical Total	0.00E+00	0.00E+00	5.90E-06	0.00E+00	5.90E-06		0.00E+00	0.00E+00	5.80E-02	0.00E+00	5.80E-02
			Exposure Point Total					5.90E-06						5.80E-02
			Exposure Medium Total					5.90E-06						5.80E-02
			Medium Total					6.02E-06						5.94E-02
			Receptor Total				Receptor Risk Total	1.72E-03					Receptor HI Total	8.22E+01

TABLE H-8.22

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-8.23

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.92E-03	5.56E-04	--	--	2.47E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	6.52E-03	1.89E-04	--	--	6.71E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.28E-04	3.71E-06	--	--	1.32E-04
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	3.69E-03	1.07E-04	--	--	3.80E-03
			1,2-Dichloropropane	2.03E-10	6.55E-12	--	--	2.09E-10	Nasal	4.04E-05	1.17E-06	--	--	4.15E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.09E-05	1.19E-06	--	--	4.21E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	4.69E-04	1.36E-05	--	--	4.82E-04
			1,4-Dichlorobenzene	5.75E-08	--	--	--	5.75E-08	Organ weight	2.90E-03	--	--	--	2.90E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	1.34E-04	3.89E-06	--	1.58E-03	1.72E-03
			2-Methylphenol	--	--	--	--	--	Respiratory System	2.59E-04	7.51E-05	--	7.27E-03	7.60E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	3.71E-04	1.07E-05	--	--	3.81E-04
			4,4'-DDD	4.51E-10	1.45E-11	--	3.17E-11	4.97E-10	Liver	3.07E-05	8.90E-07	--	6.17E-07	3.22E-05
			4,4'-DDE	3.99E-08	1.29E-09	--	2.03E-09	4.32E-08	Liver	1.92E-03	5.56E-05	--	2.79E-05	2.00E-03
			4,4'-DDT	2.24E-08	2.16E-09	--	4.91E-09	2.94E-08	Liver	1.07E-03	9.34E-05	--	6.74E-05	1.23E-03
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	6.90E-04	2.00E-04	--	1.99E-02	2.08E-02
			4-Nitroaniline	2.04E-08	6.58E-09	--	1.41E-06	1.44E-06	--	2.64E-03	7.66E-04	--	5.22E-02	5.56E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	1.07E-02	3.11E-03	--	3.18E-01	3.32E-01
			Acenaphthene	--	--	--	--	--	Liver	7.40E-04	2.79E-04	--	--	1.02E-03
			Acenaphthylene	--	--	--	--	--	Liver	1.91E-05	5.54E-07	--	--	1.96E-05
			Aldrin	3.46E-07	1.12E-07	--	3.98E-08	4.97E-07	Liver	5.54E-03	1.61E-03	--	1.82E-04	7.33E-03
			alpha-BHC	3.09E-09	9.96E-11	--	7.67E-08	7.99E-08	Liver/Kidney	1.87E-05	5.41E-07	--	1.33E-04	1.52E-04
			alpha-Chlordane	1.42E-08	--	--	3.59E-09	1.78E-08	Liver	1.79E-04	--	--	1.29E-05	1.91E-04
			Aluminum	--	--	--	--	--	CNS	1.16E-01	3.36E-04	--	1.14E-03	1.17E-01
			Anthracene	--	--	--	--	--	No Observed Effect	3.89E-05	1.47E-05	--	--	5.36E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	8.71E-02	2.52E-04	--	3.95E-02	1.27E-01
			Aroclor-1248	3.76E-06	1.70E-06	--	2.85E-07	5.72E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00
			Aroclor-1254	1.37E-06	6.19E-07	--	1.29E-06	3.28E-06	Immune System/ Eye/Finger and Toe Nails	2.80E-01	1.14E-01	--	7.55E-02	4.69E-01
			Aroclor-1260	1.53E-06	6.91E-07	--	5.16E-08	2.27E-06	Immune System/ Eye/Finger and Toe Nails	3.12E-01	1.27E-01	--	3.01E-03	4.42E-01
			Aroclor-1268	8.51E-08	3.85E-08	--	8.04E-08	2.04E-07	Immune System/ Eye/Finger and Toe Nails	1.74E-02	7.05E-03	--	4.69E-03	2.91E-02
			Arsenic	1.41E-04	1.37E-05	--	4.48E-05	2.00E-04	Skin	4.06E-01	3.53E-02	--	3.69E-02	4.79E-01
			Barium	--	--	--	--	--	Kidney	1.27E-02	3.68E-05	--	2.88E-03	1.56E-02
			Benzo(a)anthracene	7.91E-06	3.32E-06	--	1.08E-07	1.13E-05	--	--	--	--	--	--
			Benzo(a)pyrene	2.64E-05	1.11E-05	--	2.04E-07	3.77E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	4.46E-06	1.87E-06	--	3.44E-07	6.67E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	2.76E-04	1.04E-04	--	4.64E-06	3.85E-04
			Benzo(k)fluoranthene	5.31E-06	2.23E-06	--	4.09E-07	7.94E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	1.46E-03	4.22E-06	--	3.31E-05	1.49E-03
			Beta-BHC	5.17E-09	1.67E-10	--	1.28E-07	1.34E-07	Liver/Kidney	1.41E-04	4.08E-06	--	9.99E-04	1.14E-03
			bis(2-ethylhexyl)phthalate	2.49E-08	8.03E-10	--	4.56E-07	4.81E-07	Liver	3.39E-03	9.82E-05	--	1.77E-02	2.12E-02
			Cadmium	5.14E-06	1.66E-08	--	4.09E-05	4.60E-05	Kidney	2.21E-01	6.41E-04	--	5.02E-01	7.24E-01
			Carbon disulfide	--	--	--	--	--	Developmental	3.07E-08	2.22E-08	--	--	5.29E-08
			Chlorobenzene	--	--	--	--	--	Liver	7.03E-05	2.04E-06	--	--	7.24E-05

TABLE H-8.23

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	8.52E-04	2.47E-06	--	5.80E-05	9.13E-04	
			Chrysene	9.01E-07	3.78E-07	--	8.60E-08	1.36E-06	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	4.76E-03	1.38E-05	--	5.04E-04	5.28E-03	
			Copper	--	--	--	--	--	GI Tract/Kidney	1.92E-02	5.57E-05	--	7.27E-02	9.19E-02	
			Delta-BHC	1.97E-08	3.18E-09	--	4.00E-09	2.69E-08	Liver/Kidney	5.37E-04	7.79E-05	--	3.11E-05	6.46E-04	
			Dibenzo(a,h)anthracene	1.77E-06	7.42E-07	--	8.43E-08	2.60E-06	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	8.31E-02	2.41E-03	--	--	8.55E-02	
			Dieldrin	1.23E-06	3.95E-08	--	3.44E-05	3.57E-05	Liver	1.25E-02	3.63E-04	--	1.00E-01	1.13E-01	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	6.07E-07	1.76E-08	--	1.37E-05	1.43E-05	
			di-n-Butylphthalate	--	--	--	--	--	Liver	1.47E-04	4.26E-06	--	4.64E-06	1.56E-04	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	4.90E-05	7.11E-06	--	3.32E-04	3.89E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	4.98E-05	7.22E-06	--	3.24E-04	3.81E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	9.16E-05	1.33E-05	--	5.81E-04	6.86E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	2.68E-03	3.89E-04	--	6.74E-05	3.14E-03	
			Endrin Ketone	--	--	--	--	--	Liver	4.26E-04	--	--	1.07E-05	4.37E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	7.11E-03	2.68E-03	--	2.91E-04	1.01E-02	
			Fluorene	--	--	--	--	--	Blood	8.08E-04	3.05E-04	--	--	1.11E-03	
			gamma-BHC (Lindane)	4.48E-09	5.78E-10	--	3.92E-07	3.97E-07	Liver/Kidney	1.11E-04	1.29E-05	--	2.77E-03	2.89E-03	
			gamma-Chlordane	2.58E-08	--	--	6.54E-09	3.24E-08	Liver	3.25E-04	--	--	2.35E-05	3.48E-04	
			Heptachlor	4.43E-08	1.43E-09	--	8.33E-09	5.40E-08	Liver	1.76E-04	5.12E-06	--	9.48E-06	1.91E-04	
			Heptachlor Epoxide	8.49E-08	2.74E-09	--	5.19E-06	5.28E-06	Liver	9.89E-03	2.81E-04	--	1.69E-01	1.79E-01	
			Indeno(1,2,3-cd)pyrene	9.34E-07	3.92E-07	--	5.39E-08	1.38E-06	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	1.57E+00	4.54E-03	--	2.36E-02	1.59E+00	
			Isophorone	2.97E-10	9.60E-11	--	--	3.93E-10	No Observed Effect	1.28E-05	3.71E-06	--	--	1.65E-05	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	1.62E-01	4.70E-04	--	1.23E-01	2.85E-01	
			Mercury	--	--	--	--	--	Immune System	1.13E-02	--	--	3.42E-02	4.55E-02	
			Methoxychlor	--	--	--	--	--	Developmental	3.07E-04	8.90E-06	--	4.02E-06	3.20E-04	
			Methylene chloride	5.26E-11	1.70E-12	--	--	5.43E-11	Liver	5.11E-07	1.48E-08	--	--	5.26E-07	
			Molybdenum	--	--	--	--	--	Blood	5.57E-03	1.62E-05	--	5.06E-03	1.07E-02	
			Naphthalene	--	--	--	--	--	Whole Body	8.31E-03	3.13E-03	--	--	1.14E-02	
			Nickel	--	--	--	--	--	Whole Body	2.49E-02	7.22E-05	--	2.26E-02	4.76E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	4.98E-04	1.44E-05	--	--	5.12E-04	
			Phenol	--	--	--	--	--	Whole Body	2.47E-05	7.17E-06	--	1.85E-03	1.88E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	1.41E-05	--	--	--	1.41E-05	
			Pyrene	--	--	--	--	--	Kidney	8.67E-03	3.27E-03	--	--	1.19E-02	
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	2.27E-05	--	--	--	2.27E-05				
Selenium	--	--	--	--	--	Whole Body	7.25E-04	2.10E-06	--	2.74E-04	1.00E-03				
Silver	--	--	--	--	--	Skin	2.51E-03	7.27E-06	--	3.79E-03	6.31E-03				
Technical Chlordane	1.10E-06	1.42E-07	--	2.78E-07	1.52E-06	Liver	1.38E-02	1.60E-03	--	9.99E-04	1.64E-02				
Thallium	--	--	--	--	--	Blood	7.71E-02	--	--	4.67E-04	7.76E-02				
Toluene	--	--	--	--	--	Liver/Kidney	6.87E-08	1.99E-09	--	--	7.07E-08				

TABLE H-8.23

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	4.31E-01	1.25E-03	--	1.96E-02	4.51E-01
			Zinc	--	--	--	--	--	Blood	1.41E-02	4.10E-05	--	1.93E-01	2.07E-01
			Chemical Total	2.04E-04	3.70E-05	0.00E+00	1.31E-04	3.72E-04		4.73E+00	6.24E-01	0.00E+00	1.87E+00	7.23E+00
			Exposure Point Total					3.72E-04						7.23E+00
	Exposure Medium Total							3.72E-04						7.23E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.12E-02	--	6.12E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.08E-01	--	2.08E-01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.44E-02	--	4.44E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	6.02E-02	--	6.02E-02
			1,2-Dichloropropane	--	--	1.53E-08	--	1.53E-08	Nasal	--	--	1.62E-03	--	1.62E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.39E-02	--	1.39E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	3.50E-03	--	3.50E-03
			1,4-Dichlorobenzene	--	--	9.30E-06	--	9.30E-06	Liver	--	--	4.38E-03	--	4.38E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	5.13E-09	--	5.13E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	8.27E-04	--	8.27E-04
			4,4'-DDD	--	--	3.25E-14	--	3.25E-14	Liver	--	--	1.17E-09	--	1.17E-09
			4,4'-DDE	--	--	4.47E-10	--	4.47E-10	Liver	--	--	1.14E-05	--	1.14E-05
			4,4'-DDT	--	--	1.61E-12	--	1.61E-12	Liver	--	--	4.10E-08	--	4.10E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.64E-08	--	2.64E-08
			4-Nitroaniline	--	--	1.47E-12	--	1.47E-12	--	--	--	3.03E-07	--	3.03E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	3.60E-07	--	3.60E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.12E-04	--	5.12E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.32E-05	--	1.32E-05
			Aldrin	--	--	1.42E-08	--	1.42E-08	Liver	--	--	1.21E-04	--	1.21E-04
			alpha-BHC	--	--	1.46E-09	--	1.46E-09	Liver/ Kidney	--	--	4.69E-06	--	4.69E-06
			alpha-Chlordane	--	--	1.23E-09	--	1.23E-09	Liver	--	--	2.23E-05	--	2.23E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	3.09E-03	--	3.09E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.69E-05	--	2.69E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	2.71E-10	--	2.71E-10	Immune System/Eye/Finger and Toe nails	--	--	2.93E-05	--	2.93E-05
			Aroclor-1254	--	--	9.87E-11	--	9.87E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.07E-05	--	1.07E-05
			Aroclor-1260	--	--	1.10E-10	--	1.10E-10	Immune System/Eye/Finger and Toe Nails	--	--	1.19E-05	--	1.19E-05
			Aroclor-1268	--	--	6.13E-12	--	6.13E-12	Immune System/Eye/Finger and Toe Nails	--	--	6.63E-07	--	6.63E-07
			Arsenic	--	--	1.29E-08	--	1.29E-08	Developmental	--	--	5.41E-04	--	5.41E-04
			Barium	--	--	--	--	--	Developmental	--	--	2.42E-04	--	2.42E-04
			Benzo(a)anthracene	--	--	1.85E-10	--	1.85E-10	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	6.18E-10	--	6.18E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	8.90E-08	--	8.90E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.05E-08	--	1.05E-08
			Benzo(k)fluoranthene	--	--	1.24E-10	--	1.24E-10	--	--	--	--	--	--
			Beryllium	--	--	2.16E-10	--	2.16E-10	Immune System/Lung	--	--	1.95E-05	--	1.95E-05

TABLE H-8.23

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	3.72E-13	--	3.72E-13	Liver/Kidney	--	--	5.37E-09	--	5.37E-09
			bis(2-ethylhexyl)phthalate	--	--	5.01E-12	--	5.01E-12	Liver	--	--	1.29E-07	--	1.29E-07
			Cadmium	--	--	1.48E-08	--	1.48E-08	Kidney/Respiratory System	--	--	7.39E-04	--	7.39E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.17E-04	--	1.17E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	3.06E-08	--	3.06E-08	--	--	--	--	--	--
			Cobalt	--	--	8.22E-09	--	8.22E-09	Respiratory System	--	--	6.36E-04	--	6.36E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	9.34E-09	--	9.34E-09	Liver/Kidney	--	--	1.35E-04	--	1.35E-04
			Dibenzo(a,h)anthracene	--	--	1.27E-10	--	1.27E-10	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.45E-02	--	1.45E-02
			Dieldrin	--	--	1.57E-07	--	1.57E-07	Liver	--	--	8.48E-04	--	8.48E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	2.32E-11	--	2.32E-11
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.12E-08	--	1.12E-08
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	8.65E-06	--	8.65E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	8.79E-06	--	8.79E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.62E-05	--	1.62E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.03E-07	--	1.03E-07
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.63E-08	--	1.63E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.32E-04	--	2.32E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.38E-04	--	2.38E-04
			gamma-BHC (Lindane)	--	--	2.61E-09	--	2.61E-09	Liver/Kidney	--	--	3.42E-05	--	3.42E-05
			gamma-Chlordane	--	--	2.24E-09	--	2.24E-09	Liver	--	--	4.05E-05	--	4.05E-05
			Heptachlor	--	--	2.06E-07	--	2.06E-07	Liver	--	--	4.36E-04	--	4.36E-04
			Heptachlor Epoxide	--	--	6.11E-12	--	6.11E-12	Liver	--	--	3.70E-07	--	3.70E-07
			Indeno(1,2,3-cd)pyrene	--	--	2.19E-11	--	2.19E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.04E-02	--	1.04E-02
			Mercury	--	--	--	--	--	CNS	--	--	1.51E-06	--	1.51E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.11E-05	--	1.11E-05
Methylene chloride	--	--	--	--	--	Blood	--	--	--	--	--			
Molybdenum	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	--	--	1.25E-05	--	1.25E-05	Nasal Epithelium	--	--	5.26E-01	--	5.26E-01			
Nickel	--	--	3.99E-09	--	3.99E-09	Respiratory System	--	--	1.36E-03	--	1.36E-03			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.44E-04	--	3.44E-04			
Phenol	--	--	--	--	--	Liver/CNS	--	--	4.95E-09	--	4.95E-09			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.12E-03	--	1.12E-03			
Pyrene	--	--	--	--	--	Kidney	--	--	3.34E-04	--	3.34E-04			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.52E-04	--	4.52E-04			

TABLE H-8.23

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	2.43E-08	--	2.43E-08
			Silver	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	9.56E-08	--	9.56E-08	Liver	--	--	1.72E-03	--	1.72E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.41E-07	--	1.41E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.25E-05	0.00E+00	2.25E-05		0.00E+00	0.00E+00	9.62E-01	0.00E+00	9.62E-01
			Exposure Point Total					2.25E-05						9.62E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.11E+00	--	1.11E+00
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.73E+00	--	1.73E+00
			1,2-Dichloropropane	--	--	1.13E-07	--	1.13E-07	Nasal	--	--	1.19E-02	--	1.19E-02
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.56E-01	--	3.56E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.39E-01	--	1.39E-01
			1,4-Dichlorobenzene	--	--	2.38E-04	--	2.38E-04	Liver	--	--	1.12E-01	--	1.12E-01
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.25E-02	--	6.25E-02
			4,4'-DDE	--	--	3.07E-10	--	3.07E-10	Liver	--	--	7.82E-06	--	7.82E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.82E-02	--	1.82E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.70E-04	--	4.70E-04
			Aldrin	--	--	4.07E-08	--	4.07E-08	Liver	--	--	3.46E-04	--	3.46E-04
			alpha-BHC	--	--	4.32E-08	--	4.32E-08	Liver/ Kidney	--	--	1.39E-04	--	1.39E-04
			alpha-Chlordane	--	--	9.69E-09	--	9.69E-09	Liver	--	--	1.75E-04	--	1.75E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.57E-04	--	9.57E-04
			Benzo(b)fluoranthene	--	--	1.83E-07	--	1.83E-07	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	4.54E-06	--	4.54E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.46E-03	--	1.46E-03
			Chrysene	--	--	1.03E-07	--	1.03E-07	--	--	--	--	--	--
			Delta-BHC	--	--	4.10E-07	--	4.10E-07	Liver/Kidney	--	--	5.92E-03	--	5.92E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	7.63E-03	--	7.63E-03
			Dieldrin	--	--	1.25E-06	--	1.25E-06	Liver	--	--	6.76E-03	--	6.76E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.32E-04	--	2.32E-04
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.36E-04	--	2.36E-04
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.33E-04	--	4.33E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.90E-05	--	7.90E-05
			Fluorene	--	--	--	--	--	Blood	--	--	4.32E-03	--	4.32E-03
			gamma-BHC (Lindane)	--	--	9.32E-08	--	9.32E-08	Liver/Kidney	--	--	1.22E-03	--	1.22E-03
			gamma-Chlordane	--	--	1.76E-10	--	1.76E-10	Liver	--	--	3.18E-06	--	3.18E-06
			Heptachlor	--	--	6.63E-08	--	6.63E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.82E-05	--	3.82E-05
			Methylene Chloride	--	--	7.34E-09	--	7.34E-09	Blood	--	--	8.26E-05	--	8.26E-05

TABLE H-8.23

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	1.12E-03	--	1.12E-03	Nasal Epithelium	--	--	4.73E+01	--	4.73E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.23E-02	--	1.23E-02
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.78E-03	--	3.78E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	8.54E-04	--	8.54E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.69E-03	--	3.69E-03
			Technical Chlordane	--	--	7.51E-07	--	7.51E-07	Liver	--	--	1.35E-02	--	1.35E-02
			Toluene	--	--	--	--	--	CNS	--	--	1.14E-06	--	1.14E-06
			Chemical Total	0.00E+00	0.00E+00	1.36E-03	0.00E+00	1.36E-03		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01
Exposure Point Total					1.36E-03						7.36E+01			
Exposure Medium Total					1.39E-03						7.46E+01			
Medium Total					1.76E-03						8.18E+01			
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	3.59E-10	--	3.59E-10	No observed effect	--	--	1.95E-06	--	1.95E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.78E-05	--	4.78E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	9.35E-06	--	9.35E-06
			1,2-Dichloroethane	--	--	6.38E-09	--	6.38E-09	Liver/ Kidney/ CNS	--	--	2.74E-04	--	2.74E-04
			1,2-Dichloropropane	--	--	1.19E-09	--	1.19E-09	Nasal	--	--	1.26E-04	--	1.26E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.73E-05	--	2.73E-05
			1,4-Dichlorobenzene	--	--	1.68E-09	--	1.68E-09	Liver	--	--	7.89E-07	--	7.89E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	4.91E-09	--	4.91E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.25E-08	--	1.25E-08
			4,4'-DDE	--	--	6.55E-11	--	6.55E-11	Liver	--	--	1.67E-06	--	1.67E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.03E-09	--	3.03E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.16E-07	--	4.16E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.77E-08	--	1.77E-08
			Aldrin	--	--	5.65E-09	--	5.65E-09	Liver	--	--	4.80E-05	--	4.80E-05
			alpha-BHC	--	--	1.14E-10	--	1.14E-10	Liver/ Kidney	--	--	3.65E-07	--	3.65E-07
			alpha-Chlordane	--	--	1.20E-10	--	1.20E-10	Liver	--	--	2.16E-06	--	2.16E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.06E-09	--	7.06E-09
			Benzene	--	--	3.88E-09	--	3.88E-09	Blood	--	--	1.96E-05	--	1.96E-05
			Benzo(b)fluoranthene	--	--	2.82E-11	--	2.82E-11	--	--	--	--	--	--
			Bromoform	--	--	4.27E-12	--	4.27E-12	Liver	--	--	2.37E-07	--	2.37E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.45E-05	--	1.45E-05
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.65E-07	--	1.65E-07
			Chloroform	--	--	5.84E-09	--	5.84E-09	GI Tract/ Kidney/ Development	--	--	1.55E-05	--	1.55E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.86E-05	--	1.86E-05
			Chrysene	--	--	7.64E-12	--	7.64E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.41E-05	--	3.41E-05
			Dieldrin	--	--	2.34E-09	--	2.34E-09	Liver	--	--	1.27E-05	--	1.27E-05
Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.40E-08	--	2.40E-08			
Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.95E-11	--	3.95E-11			
Ethylbenzene	--	--	--	--	--	Developmental	--	--	4.43E-07	--	4.43E-07			
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.14E-09	--	8.14E-09			

TABLE H-8.23

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	1.61E-08	--	1.61E-08
			gamma-BHC (Lindane)	--	--	2.03E-13	--	2.03E-13	Liver/Kidney	--	--	2.67E-09	--	2.67E-09
			gamma-Chlordane	--	--	3.11E-10	--	3.11E-10	Liver	--	--	5.61E-06	--	5.61E-06
			Heptachlor	--	--	1.09E-08	--	1.09E-08	Liver	--	--	2.30E-05	--	2.30E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.54E-05	--	1.54E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.21E-07	--	4.21E-07
			Naphthalene	--	--	9.70E-11	--	9.70E-11	Nasal Epithelium	--	--	4.08E-06	--	4.08E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.90E-04	--	1.90E-04
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	4.54E-06	--	4.54E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.62E-09	--	5.62E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.01E-04	--	2.01E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	9.90E-09	--	9.90E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.29E-05	--	1.29E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.46E-05	--	1.46E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.71E-07	--	1.71E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.89E-05	--	2.89E-05
			Trichloroethene	--	--	9.71E-10	--	9.71E-10	CNS/Eye	--	--	3.53E-06	--	3.53E-06
Vinyl chloride	--	--	7.75E-08	--	7.75E-08	Liver	--	--	4.35E-05	--	4.35E-05			
			Chemical Total	0.00E+00	0.00E+00	1.17E-07	0.00E+00	1.17E-07		0.00E+00	0.00E+00	1.40E-03	0.00E+00	1.40E-03
			Exposure Point Total					1.17E-07						1.40E-03
			Exposure Medium Total					1.17E-07						1.40E-03
Groundwater Vapor Intrusion	Indoor Air (Inhalation)	Indoor Air (Inhalation)	1,1-Dichloroethane	--	--	6.32E-08	--	6.32E-08	No observed effect	--	--	3.43E-04	--	3.43E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.24E-03	--	1.24E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.49E-04	--	2.49E-04
			1,2-Dichloroethane	--	--	1.91E-07	--	1.91E-07	Liver/ Kidney/ CNS	--	--	8.20E-03	--	8.20E-03
			1,2-Dichloropropane	--	--	3.54E-08	--	3.54E-08	Nasal	--	--	3.73E-03	--	3.73E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.09E-04	--	7.09E-04
			1,4-Dichlorobenzene	--	--	4.49E-08	--	4.49E-08	Liver	--	--	2.11E-05	--	2.11E-05
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.53E-07	--	2.53E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-07	--	3.50E-07
			4,4'-DDE	--	--	5.89E-12	--	5.89E-12	Liver	--	--	1.50E-07	--	1.50E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.25E-07	--	1.25E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.77E-05	--	1.77E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.55E-07	--	7.55E-07
			Aldrin	--	--	6.17E-10	--	6.17E-10	Liver	--	--	5.24E-06	--	5.24E-06
			alpha-BHC	--	--	1.46E-11	--	1.46E-11	Liver/ Kidney	--	--	4.68E-08	--	4.68E-08
			alpha-Chlordane	--	--	3.93E-11	--	3.93E-11	Liver	--	--	7.10E-07	--	7.10E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.00E-07	--	3.00E-07
			Benzene	--	--	1.14E-07	--	1.14E-07	Blood	--	--	5.74E-04	--	5.74E-04
Benzo(b)fluoranthene	--	--	1.19E-09	--	1.19E-09	--	--	--	--	--	--			
Bromoform	--	--	2.29E-10	--	2.29E-10	Liver	--	--	1.27E-05	--	1.27E-05			

TABLE H-8.23

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	--	--	--	--	--	CNS	--	--	4.36E-04	--	4.36E-04		
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	4.63E-06	--	4.63E-06		
			Chloroform	--	--	1.73E-07	--	1.73E-07	GI Tract/ Kidney/ Development	--	--	4.61E-04	--	4.61E-04		
			Chloromethane	--	--	--	--	--	CNS	--	--	6.02E-04	--	6.02E-04		
			Chrysene	--	--	3.34E-10	--	3.34E-10	--	--	--	--	--	--		
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.21E-03	--	2.21E-03		
			Dieckm	--	--	8.96E-11	--	8.96E-11	Liver	--	--	4.85E-07	--	4.85E-07		
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.21E-09	--	5.21E-09		
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.74E-09	--	1.74E-09		
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.20E-05	--	1.20E-05		
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.29E-07	--	3.29E-07		
			Fluorene	--	--	--	--	--	Blood	--	--	8.39E-07	--	8.39E-07		
			gamma-BHC (Lindane)	--	--	8.03E-12	--	8.03E-12	Liver/Kidney	--	--	1.05E-07	--	1.05E-07		
			gamma-Chlordane	--	--	1.90E-11	--	1.90E-11	Liver	--	--	3.44E-07	--	3.44E-07		
			Heptachlor	--	--	2.94E-10	--	2.94E-10	Liver	--	--	6.20E-07	--	6.20E-07		
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.05E-02	--	1.05E-02		
			m,p-Xylene	--	--	--	--	--	CNS	--	--	8.95E-04	--	8.95E-04		
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.83E-08	--	1.83E-08		
			Naphthalene	--	--	5.26E-09	--	5.26E-09	Nasal Epithelium	--	--	2.22E-04	--	2.22E-04		
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.07E-02	--	1.07E-02		
			n-Propylbenzene	--	--	--	--	--	Liver/ Kidney	--	--	2.58E-04	--	2.58E-04		
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.12E-07	--	3.12E-07		
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.05E-02	--	1.05E-02		
			Pyrene	--	--	--	--	--	Kidney	--	--	4.13E-07	--	4.13E-07		
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	9.16E-06	--	9.16E-06		
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	9.17E-04	--	9.17E-04		
			Toluene	--	--	--	--	--	CNS	--	--	9.82E-07	--	9.82E-07		
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.94E-03	--	1.94E-03		
			Trichloroethene	--	--	5.94E-08	--	5.94E-08	CNS/Eye	--	--	2.16E-04	--	2.16E-04		
			Vinyl chloride	--	--	5.21E-06	--	5.21E-06	Liver	--	--	2.93E-03	--	2.93E-03		
						Chemical Total	0.00E+00	0.00E+00	5.90E-06	0.00E+00	5.90E-06		0.00E+00	0.00E+00	5.80E-02	5.80E-02
					Exposure Point Total											
				Exposure Medium Total							5.90E-06					5.80E-02
Medium Total								6.02E-06					5.94E-02			
Receptor Total								1.76E-03					8.18E+01			

TABLE H-8.23

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard Index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- RME Reasonable maximum exposure
- VOC Volatile organic compound

**TABLE H-8.24**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	4.40E-05	8.20E-05	--	--	1.26E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.50E-04	2.79E-05	--	--	1.78E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.94E-06	5.47E-07	--	--	3.48E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	8.48E-05	1.58E-05	--	--	1.01E-04
			1,2-Dichloropropane	1.30E-11	2.43E-12	--	--	1.55E-11	Nasal	9.27E-07	1.73E-07	--	--	1.10E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	9.39E-07	1.75E-07	--	--	1.11E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.08E-05	2.00E-06	--	--	1.28E-05
			1,4-Dichlorobenzene	3.70E-09	--	--	--	3.70E-09	Organ weight	6.65E-05	--	--	--	6.65E-05
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	3.08E-06	5.74E-07	--	--	3.66E-06
			2-Methylphenol	--	--	--	--	--	Respiratory System	5.94E-06	1.11E-05	--	--	1.70E-05
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	9.82E-06	1.83E-06	--	--	1.16E-05
			4,4'-DDD	2.90E-11	5.40E-12	--	--	3.44E-11	Liver	7.05E-07	1.31E-07	--	--	8.36E-07
			4,4'-DDE	2.82E-09	5.24E-10	--	--	3.34E-09	Liver	4.83E-05	9.00E-06	--	--	5.73E-05
			4,4'-DDT	1.52E-09	8.50E-10	--	--	2.37E-09	Liver	2.61E-05	1.46E-05	--	--	4.07E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.59E-05	2.95E-05	--	--	4.54E-05
			4-Nitroaniline	1.31E-09	2.44E-09	--	--	3.75E-09	--	6.07E-05	1.13E-04	--	--	1.74E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.47E-04	4.59E-04	--	--	7.06E-04
			Acenaphthene	--	--	--	--	--	Liver	2.07E-05	5.01E-05	--	--	7.09E-05
			Acenaphthylene	--	--	--	--	--	Liver	5.10E-07	9.49E-08	--	--	6.05E-07
			Aldrin	2.22E-08	4.14E-08	--	--	6.37E-08	Liver	1.27E-04	2.37E-04	--	--	3.64E-04
			alpha-BHC	1.98E-10	3.69E-11	--	--	2.35E-10	Liver/Kidney	4.29E-07	7.98E-08	--	--	5.08E-07
			alpha-Chlordane	1.07E-09	--	--	--	1.07E-09	Liver	4.78E-06	--	--	--	4.78E-06
			Aluminum	--	--	--	--	--	CNS	2.59E-03	4.82E-05	--	--	2.64E-03
			Anthracene	--	--	--	--	--	No Observed Effect	1.03E-06	2.50E-06	--	--	3.53E-06
			Antimony	--	--	--	--	--	Whole Body/Blood	2.99E-03	5.57E-05	--	--	3.05E-03
			Aroclor-1248	2.42E-07	6.30E-07	--	--	8.71E-07	Immune System/ Eye/Finger and Toe Nails	1.76E-02	4.59E-02	--	--	6.35E-02
			Aroclor-1254	8.94E-08	2.33E-07	--	--	3.22E-07	Immune System/ Eye/Finger and Toe Nails	6.52E-03	1.70E-02	--	--	2.35E-02
			Aroclor-1260	1.09E-07	2.84E-07	--	--	3.93E-07	Immune System/ Eye/Finger and Toe Nails	7.95E-03	2.07E-02	--	--	2.87E-02
			Aroclor-1268	5.59E-09	1.46E-08	--	--	2.02E-08	Immune System/ Eye/Finger and Toe Nails	4.07E-04	1.06E-03	--	--	1.47E-03
			Arsenic	5.86E-06	3.28E-06	--	--	9.14E-06	Skin	6.03E-03	3.37E-03	--	--	9.40E-03
			Barium	--	--	--	--	--	Kidney	2.84E-04	5.30E-06	--	--	2.90E-04
			Benzo(a)anthracene	6.04E-07	1.46E-06	--	--	2.07E-06	--	--	--	--	--	--
			Benzo(a)pyrene	2.01E-06	4.87E-06	--	--	6.88E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	3.31E-07	8.01E-07	--	--	1.13E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	7.47E-06	1.81E-05	--	--	2.56E-05
			Benzo(k)fluoranthene	3.94E-07	9.53E-07	--	--	1.35E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	3.50E-05	6.51E-07	--	--	3.56E-05
			Beta-BHC	3.32E-10	6.18E-11	--	--	3.94E-10	Liver/Kidney	3.23E-06	6.01E-07	--	--	3.83E-06
			bis(2-ethylhexyl)phthalate	2.36E-09	4.40E-10	--	--	2.81E-09	Liver	1.15E-04	2.14E-05	--	--	1.36E-04
			Cadmium	3.62E-07	6.75E-09	--	--	3.69E-07	Kidney	5.56E-03	1.04E-04	--	--	5.67E-03
Carbon disulfide	--	--	--	--	--	Developmental	7.05E-10	3.28E-09	--	--	3.98E-09			
Chlorobenzene	--	--	--	--	--	Liver	1.61E-06	3.01E-07	--	--	1.92E-06			

TABLE H-8.24

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	2.18E-05	4.05E-07	--	--	2.22E-05
			Chrysene	6.86E-08	1.66E-07	--	--	2.35E-07	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	1.11E-04	2.07E-06	--	--	1.13E-04
			Copper	--	--	--	--	--	GI Tract/Kidney	4.19E-04	7.80E-06	--	--	4.27E-04
			Delta-BHC	1.27E-09	1.18E-09	--	--	2.45E-09	Liver/Kidney	1.23E-05	1.15E-05	--	--	2.38E-05
			Dibenzo(a,h)anthracene	1.31E-07	3.17E-07	--	--	4.48E-07	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	1.91E-03	3.55E-04	--	--	2.26E-03
			Dieldrin	8.88E-08	1.65E-08	--	--	1.05E-07	Liver	3.24E-04	6.03E-05	--	--	3.84E-04
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	1.39E-08	2.60E-09	--	--	1.65E-08
			di-n-Butylphthalate	--	--	--	--	--	Liver	3.23E-06	6.01E-07	--	--	3.83E-06
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	1.13E-06	1.05E-06	--	--	2.17E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	1.17E-06	1.08E-06	--	--	2.25E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	2.10E-06	1.96E-06	--	--	4.06E-06
			Endrin aldehyde	--	--	--	--	--	Liver	4.12E-05	3.83E-05	--	--	7.95E-05
			Endrin Ketone	--	--	--	--	--	Liver	9.78E-06	--	--	--	9.78E-06
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	1.95E-04	4.71E-04	--	--	6.65E-04
			Fluorene	--	--	--	--	--	Blood	2.14E-05	5.18E-05	--	--	7.32E-05
			gamma-BHC (Lindane)	2.88E-10	2.14E-10	--	--	5.02E-10	Liver/Kidney	2.54E-06	1.89E-06	--	--	4.44E-06
			gamma-Chlordane	1.71E-09	--	--	--	1.71E-09	Liver	7.69E-06	--	--	--	7.69E-06
			Heptachlor	2.85E-09	5.30E-10	--	--	3.38E-09	Liver	4.05E-06	7.54E-07	--	--	4.81E-06
			Heptachlor Epoxide	6.17E-09	1.15E-09	--	--	7.32E-09	Liver	2.52E-04	4.69E-05	--	--	2.99E-04
			Indeno(1,2,3-cd)pyrene	1.05E-07	2.55E-07	--	--	3.61E-07	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	3.99E-02	7.42E-04	--	--	4.06E-02
			Isophorone	1.91E-11	3.56E-11	--	--	5.47E-11	No Observed Effect	2.94E-07	5.47E-07	--	--	8.40E-07
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	4.05E-03	7.54E-05	--	--	4.12E-03
			Mercury	--	--	--	--	--	Immune System	3.03E-04	--	--	--	3.03E-04
			Methoxychlor	--	--	--	--	--	Developmental	7.05E-06	1.31E-06	--	--	8.36E-06
			Molybdenum	--	--	--	--	--	Blood	1.47E-04	2.74E-06	--	--	1.50E-04
			Naphthalene	--	--	--	--	--	Whole Body	1.91E-04	4.62E-04	--	--	6.53E-04
			Nickel	--	--	--	--	--	Whole Body	5.74E-04	1.07E-05	--	--	5.85E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.36E-05	2.54E-06	--	--	1.62E-05
			Phenol	--	--	--	--	--	Whole Body	5.68E-07	1.06E-06	--	--	1.62E-06
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.23E-07	--	--	--	3.23E-07
			Pyrene	--	--	--	--	--	Kidney	2.36E-04	5.72E-04	--	--	8.08E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	5.21E-07	--	--	--	5.21E-07
			Selenium	--	--	--	--	--	Whole Body	1.32E-05	2.45E-07	--	--	1.34E-05
			Silver	--	--	--	--	--	Skin	6.80E-05	1.27E-06	--	--	6.93E-05
			Technical Chlordane	7.21E-08	5.37E-08	--	--	1.26E-07	Liver	3.24E-04	2.41E-04	--	--	5.64E-04
			Thallium	--	--	--	--	--	Blood	1.82E-03	--	--	--	1.82E-03
Toluene	--	--	--	--	--	Liver/Kidney	1.58E-09	2.94E-10	--	--	1.87E-09			
Vanadium	--	--	--	--	--	Kidney	1.00E-02	1.87E-04	--	--	1.02E-02			

TABLE H-8.24  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	4.44E-04	8.26E-06	--	--	4.52E-04
			Chemical Total	1.05E-05	1.34E-05	0.00E+00	0.00E+00	2.39E-05		1.12E-01	9.27E-02	0.00E+00	0.00E+00	2.05E-01
		Exposure Point Total												2.05E-01
		Exposure Medium Total						2.39E-05						2.05E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.43E-03	--	4.43E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.50E-02	--	1.50E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.21E-03	--	3.21E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	4.35E-03	--	4.35E-03
			1,2-Dichloropropane	--	--	1.65E-09	--	1.65E-09	Nasal	--	--	1.17E-04	--	1.17E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.00E-03	--	1.00E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	2.53E-04	--	2.53E-04
			1,4-Dichlorobenzene	--	--	9.99E-07	--	9.99E-07	Liver	--	--	3.17E-04	--	3.17E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	3.71E-10	--	3.71E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.90E-05	--	6.90E-05
			4,4'-DDD	--	--	3.49E-15	--	3.49E-15	Liver	--	--	8.48E-11	--	8.48E-11
			4,4'-DDE	--	--	5.27E-11	--	5.27E-11	Liver	--	--	9.04E-07	--	9.04E-07
			4,4'-DDT	--	--	1.83E-13	--	1.83E-13	Liver	--	--	3.14E-09	--	3.14E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.91E-09	--	1.91E-09
			4-Nitroaniline	--	--	1.58E-13	--	1.58E-13	--	--	--	2.19E-08	--	2.19E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	2.60E-08	--	2.60E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.52E-05	--	4.52E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.11E-06	--	1.11E-06
			Aldrin	--	--	1.53E-09	--	1.53E-09	Liver	--	--	8.75E-06	--	8.75E-06
			alpha-BHC	--	--	1.57E-10	--	1.57E-10	Liver/ Kidney	--	--	3.39E-07	--	3.39E-07
			alpha-Chlordane	--	--	1.55E-10	--	1.55E-10	Liver	--	--	1.88E-06	--	1.88E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	2.18E-04	--	2.18E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.25E-06	--	2.25E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	2.91E-11	--	2.91E-11	Immune System/Eye/Finger and Toe nails	--	--	2.12E-06	--	2.12E-06
			Aroclor-1254	--	--	1.08E-11	--	1.08E-11	Immune System/Eye/Finger and Toe Nails	--	--	7.84E-07	--	7.84E-07
			Aroclor-1260	--	--	1.31E-11	--	1.31E-11	Immune System/Eye/Finger and Toe Nails	--	--	9.56E-07	--	9.56E-07
			Aroclor-1268	--	--	6.72E-13	--	6.72E-13	Immune System/Eye/Finger and Toe Nails	--	--	4.90E-08	--	4.90E-08
			Arsenic	--	--	8.96E-10	--	8.96E-10	Developmental	--	--	2.53E-05	--	2.53E-05
			Barium	--	--	--	--	--	Developmental	--	--	1.71E-05	--	1.71E-05
			Benzo(a)anthracene	--	--	2.36E-11	--	2.36E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	7.86E-11	--	7.86E-11	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.10E-08	--	1.10E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	8.99E-10	--	8.99E-10
			Benzo(k)fluoranthene	--	--	1.54E-11	--	1.54E-11	--	--	--	--	--	--
			Beryllium	--	--	2.42E-11	--	2.42E-11	Immune System/Lung	--	--	1.47E-06	--	1.47E-06
			Beta-BHC	--	--	4.00E-14	--	4.00E-14	Liver/Kidney	--	--	3.88E-10	--	3.88E-10

TABLE H-8.24

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	7.97E-13	--	7.97E-13	Liver	--	--	1.38E-08	--	1.38E-08
			Cadmium	--	--	1.72E-09	--	1.72E-09	Kidney/Respiratory System	--	--	5.85E-05	--	5.85E-05
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.05E-07	--	1.05E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	8.45E-06	--	8.45E-06
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	3.89E-09	--	3.89E-09	--	--	--	--	--	--
			Cobalt	--	--	8.99E-10	--	8.99E-10	Respiratory System	--	--	4.68E-05	--	4.68E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.00E-09	--	1.00E-09	Liver/Kidney	--	--	9.76E-06	--	9.76E-06
			Dibenzo(a,h)anthracene	--	--	1.58E-11	--	1.58E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.05E-03	--	1.05E-03
			Dieldrin	--	--	1.90E-08	--	1.90E-08	Liver	--	--	6.92E-05	--	6.92E-05
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	1.68E-12	--	1.68E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	7.77E-10	--	7.77E-10
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.26E-07	--	6.26E-07
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	6.48E-07	--	6.48E-07
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.17E-06	--	1.17E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	4.95E-09	--	4.95E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.18E-09	--	1.18E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.00E-05	--	2.00E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.99E-05	--	1.99E-05
			gamma-BHC (Lindane)	--	--	2.80E-10	--	2.80E-10	Liver/Kidney	--	--	2.48E-06	--	2.48E-06
			gamma-Chlordane	--	--	2.49E-10	--	2.49E-10	Liver	--	--	3.02E-06	--	3.02E-06
			Heptachlor	--	--	2.21E-08	--	2.21E-08	Liver	--	--	3.15E-05	--	3.15E-05
			Heptachlor Epoxide	--	--	7.43E-13	--	7.43E-13	Liver	--	--	3.03E-08	--	3.03E-08
			Indeno(1,2,3-cd)pyrene	--	--	4.12E-12	--	4.12E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	8.18E-04	--	8.18E-04
			Mercury	--	--	--	--	--	CNS	--	--	1.27E-07	--	1.27E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.05E-07	--	8.05E-07
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	1.34E-06	--	1.34E-06	Nasal Epithelium	--	--	3.80E-02	--	3.80E-02
			Nickel	--	--	4.31E-10	--	4.31E-10	Respiratory System	--	--	9.87E-05	--	9.87E-05
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.97E-05	--	2.97E-05
			Phenol	--	--	--	--	--	Liver/CNS	--	--	3.58E-10	--	3.58E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.12E-05	--	8.12E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	2.87E-05	--	2.87E-05
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.27E-05	--	3.27E-05
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	1.39E-09	--	1.39E-09			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.24  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	1.05E-08	--	1.05E-08	Liver	--	--	1.27E-04	--	1.27E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.02E-08	--	1.02E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.42E-06	0.00E+00	2.42E-06		0.00E+00	0.00E+00	6.97E-02	0.00E+00	6.97E-02
			Exposure Point Total					2.42E-06						6.97E-02
			Exposure Medium Total					2.42E-06						6.97E-02
			Medium Total					2.63E-05						2.75E-01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	3.86E-11	--	3.86E-11	No observed effect	--	--	1.41E-07	--	1.41E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.46E-06	--	3.46E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	6.76E-07	--	6.76E-07
			1,2-Dichloroethane	--	--	6.85E-10	--	6.85E-10	Liver/ Kidney/ CNS	--	--	1.98E-05	--	1.98E-05
			1,2-Dichloropropane	--	--	1.28E-10	--	1.28E-10	Nasal	--	--	9.12E-06	--	9.12E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.97E-06	--	1.97E-06
			1,4-Dichlorobenzene	--	--	1.80E-10	--	1.80E-10	Liver	--	--	5.71E-08	--	5.71E-08
			2-Hexanone	--	--	--	--	--	Developmental	--	--	3.55E-10	--	3.55E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.02E-10	--	9.02E-10
			4,4'-DDE	--	--	7.03E-12	--	7.03E-12	Liver	--	--	1.21E-07	--	1.21E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	2.19E-10	--	2.19E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.01E-08	--	3.01E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.28E-09	--	1.28E-09
			Aldrin	--	--	6.07E-10	--	6.07E-10	Liver	--	--	3.47E-06	--	3.47E-06
			alpha-BHC	--	--	1.22E-11	--	1.22E-11	Liver/ Kidney	--	--	2.64E-08	--	2.64E-08
			alpha-Chlordane	--	--	1.28E-11	--	1.28E-11	Liver	--	--	1.56E-07	--	1.56E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.11E-10	--	5.11E-10
			Benzene	--	--	4.17E-10	--	4.17E-10	Blood	--	--	1.41E-06	--	1.41E-06
			Benzo(b)fluoranthene	--	--	3.03E-12	--	3.03E-12	--	--	--	--	--	--
			Bromoform	--	--	4.59E-13	--	4.59E-13	Liver	--	--	1.72E-08	--	1.72E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.05E-06	--	1.05E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.20E-08	--	1.20E-08
			Chloroform	--	--	6.28E-10	--	6.28E-10	GI Tract/ Kidney/ Development	--	--	1.12E-06	--	1.12E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	1.34E-06	--	1.34E-06
			Chrysene	--	--	8.20E-13	--	8.20E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.47E-06	--	2.47E-06
			Dieldrin	--	--	2.51E-10	--	2.51E-10	Liver	--	--	9.16E-07	--	9.16E-07
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.74E-09	--	1.74E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.86E-12	--	2.86E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.21E-08	--	3.21E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	5.89E-10	--	5.89E-10
Fluorene	--	--	--	--	--	Blood	--	--	1.16E-09	--	1.16E-09			
gamma-BHC (Lindane)	--	--	2.18E-14	--	2.18E-14	Liver/Kidney	--	--	1.93E-10	--	1.93E-10			

TABLE H-8.24  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	3.34E-11	-	3.34E-11	Liver	-	-	4.06E-07	-	4.06E-07		
			Heptachlor	-	-	1.17E-09	-	1.17E-09	Liver	-	-	1.66E-06	-	1.66E-06		
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	1.45E-05	-	1.45E-05		
			m,p-Xylene	-	-	-	-	-	CNS	-	-	1.12E-06	-	1.12E-06		
			Methoxychlor	-	-	-	-	-	Developmental	-	-	3.05E-08	-	3.05E-08		
			Naphthalene	-	-	1.04E-11	-	1.04E-11	Nasal Epithelium	-	-	2.95E-07	-	2.95E-07		
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	1.38E-05	-	1.38E-05		
			n-Propylbenzene	-	-	-	-	-	Liver/ Kidney	-	-	3.28E-07	-	3.28E-07		
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	4.07E-10	-	4.07E-10		
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	1.45E-05	-	1.45E-05		
			Pyrene	-	-	-	-	-	Kidney	-	-	7.16E-10	-	7.16E-10		
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	9.34E-07	-	9.34E-07		
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	1.06E-06	-	1.06E-06		
			Toluene	-	-	-	-	-	CNS	-	-	1.24E-08	-	1.24E-08		
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	2.09E-06	-	2.09E-06		
			Trichloroethene	-	-	1.04E-10	-	1.04E-10	CNS/Eye	-	-	2.56E-07	-	2.56E-07		
			Vinyl chloride	-	-	8.32E-09	-	8.32E-09	Liver	-	-	3.15E-06	-	3.15E-06		
						Chemical Total	0.00E+00	0.00E+00	1.26E-08	0.00E+00	1.26E-08		0.00E+00	0.00E+00	1.02E-04	1.02E-04
						Exposure Point Total										1.02E-04
						Exposure Medium Total					1.26E-08					1.02E-04
Medium Total								1.26E-08					1.02E-04			
Receptor Total								2.63E-05					2.75E-01			

- Notes:
- Not applicable or not available
  - COPC Chemicals of Potential Concern
  - CNS Central nervous system
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.50E-02
Total Organ 2 (Kidney) HI Across All Media =	4.22E-02
Total Organ 3 (Reproductive System) HI Across All Media =	8.46E-06
Total Organ 4 (Nervous System) HI Across All Media =	1.20E-02
Total Organ 5 (Skin) HI Across All Media =	9.47E-03
Total Organ 6 (Blood) HI Across All Media =	1.13E-02
Total Organ 7 (Adrenal) HI Across All Media =	3.04E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.75E-04
Total Organ 9 (Brain) HI Across All Media =	1.68E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	4.72E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	1.17E-01
Total Organ 12 (Body Weight) HI Across All Media =	4.45E-03
Total Organ 13 (Developmental) HI Across All Media =	5.28E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	4.72E-03
Total Organ 15 (Whole Body) HI Across All Media =	4.36E-03
Total Organ 16 (Immune System) HI Across All Media =	1.17E-01
Total Organ 17 (Organ Weight) HI Across All Media =	6.76E-05
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	1.17E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	3.82E-02

TABLE H-8.25  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	4.11E-04	5.56E-04	--	--	9.67E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.40E-03	1.89E-04	--	--	1.59E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.74E-05	3.71E-06	--	--	3.11E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	7.91E-04	1.07E-04	--	--	8.99E-04
			1,2-Dichloropropane	3.04E-11	4.12E-12	--	--	3.46E-11	Nasal	8.65E-06	1.17E-06	--	--	9.82E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	8.77E-06	1.19E-06	--	--	9.95E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.00E-04	1.36E-05	--	--	1.14E-04
			1,4-Dichlorobenzene	8.62E-09	--	--	--	8.62E-09	Organ weight	6.21E-04	--	--	--	6.21E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	2.88E-05	3.89E-06	--	--	3.27E-05
			2-Methylphenol	--	--	--	--	--	Respiratory System	5.55E-05	7.51E-05	--	--	1.31E-04
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	9.16E-05	1.24E-05	--	--	1.04E-04
			4,4'-DDD	6.76E-11	9.15E-12	--	--	7.68E-11	Liver	6.58E-06	8.90E-07	--	--	7.47E-06
			4,4'-DDE	6.57E-09	8.89E-10	--	--	7.46E-09	Liver	4.51E-04	6.10E-05	--	--	5.12E-04
			4,4'-DDT	3.55E-09	1.44E-09	--	--	4.99E-09	Liver	2.44E-04	9.90E-05	--	--	3.43E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.48E-04	2.00E-04	--	--	3.48E-04
			4-Nitroaniline	3.06E-09	4.14E-09	--	--	7.20E-09	--	5.66E-04	7.66E-04	--	--	1.33E-03
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.30E-03	3.11E-03	--	--	5.42E-03
			Acenaphthene	--	--	--	--	--	Liver	1.93E-04	3.40E-04	--	--	5.34E-04
			Acenaphthylene	--	--	--	--	--	Liver	4.76E-06	6.44E-07	--	--	5.40E-06
			Aldrin	5.19E-08	7.02E-08	--	--	1.22E-07	Liver	1.19E-03	1.61E-03	--	--	2.79E-03
			alpha-BHC	4.63E-10	6.26E-11	--	--	5.25E-10	Liver/Kidney	4.00E-06	5.41E-07	--	--	4.54E-06
			alpha-Chlordane	2.49E-09	--	--	--	2.49E-09	Liver	4.46E-05	--	--	--	4.46E-05
			Aluminum	--	--	--	--	--	CNS	2.42E-02	3.27E-04	--	--	2.45E-02
			Anthracene	--	--	--	--	--	No Observed Effect	9.63E-06	1.69E-05	--	--	2.66E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	2.79E-02	3.78E-04	--	--	2.83E-02
			Aroclor-1248	5.64E-07	1.07E-06	--	--	1.63E-06	Immune System/ Eye/Finger and Toe Nails	1.64E-01	3.11E-01	--	--	4.76E-01
			Aroclor-1254	2.09E-07	3.95E-07	--	--	6.04E-07	Immune System/ Eye/Finger and Toe Nails	6.08E-02	1.15E-01	--	--	1.76E-01
			Aroclor-1260	2.54E-07	4.82E-07	--	--	7.36E-07	Immune System/ Eye/Finger and Toe Nails	7.42E-02	1.41E-01	--	--	2.15E-01
			Aroclor-1268	1.30E-08	2.47E-08	--	--	3.77E-08	Immune System/ Eye/Finger and Toe Nails	3.80E-03	7.20E-03	--	--	1.10E-02
			Arsenic	1.37E-05	5.56E-06	--	--	1.92E-05	Skin	5.63E-02	2.29E-02	--	--	7.92E-02
			Barium	--	--	--	--	--	Kidney	2.65E-03	3.59E-05	--	--	2.69E-03
			Benzo(a)anthracene	1.41E-06	2.48E-06	--	--	3.89E-06	--	--	--	--	--	--
			Benzo(a)pyrene	4.69E-06	8.26E-06	--	--	1.29E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	7.72E-07	1.36E-06	--	--	2.13E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	6.97E-05	1.23E-04	--	--	1.92E-04
			Benzo(k)fluoranthene	9.19E-07	1.62E-06	--	--	2.54E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	3.26E-04	4.41E-06	--	--	3.31E-04
			Beta-BHC	7.75E-10	1.05E-10	--	--	8.80E-10	Liver/Kidney	3.01E-05	4.08E-06	--	--	3.42E-05
			bis(2-ethylhexyl)phthalate	5.52E-09	7.47E-10	--	--	6.26E-09	Liver	1.07E-03	1.45E-04	--	--	1.22E-03
			Cadmium	8.45E-07	1.14E-08	--	--	8.57E-07	Kidney	5.19E-02	7.02E-04	--	--	5.26E-02
			Carbon disulfide	--	--	--	--	--	Developmental	6.58E-09	2.22E-08	--	--	2.88E-08
			Chlorobenzene	--	--	--	--	--	Liver	1.51E-05	2.04E-06	--	--	1.71E-05

TABLE H-8.25

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	2.03E-04	2.75E-06	--	--	2.06E-04		
			Chrysene	1.60E-07	2.82E-07	--	--	4.42E-07	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.04E-03	1.40E-05	--	--	--	1.05E-03	
			Copper	--	--	--	--	--	GI Tract/Kidney	3.91E-03	5.29E-05	--	--	--	3.96E-03	
			Delta-BHC	2.96E-09	2.00E-09	--	--	4.96E-09	Liver/Kidney	1.15E-04	7.79E-05	--	--	--	1.93E-04	
			Dibenzo(a,h)anthracene	3.06E-07	5.38E-07	--	--	8.44E-07	--	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	1.78E-02	2.41E-03	--	--	--	2.02E-02	
			Dieldrin	2.07E-07	2.80E-08	--	--	2.35E-07	Liver	3.02E-03	4.09E-04	--	--	--	3.43E-03	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	1.30E-07	1.76E-08	--	--	--	1.48E-07	
			di-n-Butylphthalate	--	--	--	--	--	Liver	3.01E-05	4.08E-06	--	--	--	3.42E-05	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	1.05E-05	7.11E-06	--	--	--	1.76E-05	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	1.09E-05	7.36E-06	--	--	--	1.82E-05	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	1.96E-05	1.33E-05	--	--	--	3.29E-05	
			Endrin aldehyde	--	--	--	--	--	Liver	3.84E-04	2.60E-04	--	--	--	6.44E-04	
			Endrin Ketone	--	--	--	--	--	Liver	9.13E-05	--	--	--	--	9.13E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	1.82E-03	3.19E-03	--	--	--	5.01E-03	
			Fluorene	--	--	--	--	--	Blood	2.00E-04	3.51E-04	--	--	--	5.51E-04	
			gamma-BHC (Lindane)	6.72E-10	3.64E-10	--	--	1.04E-09	Liver/Kidney	2.37E-05	1.29E-05	--	--	--	3.66E-05	
			gamma-Chlordane	4.00E-09	--	--	--	4.00E-09	Liver	7.18E-05	--	--	--	--	7.18E-05	
			Heptachlor	6.64E-09	8.99E-10	--	--	7.54E-09	Liver	3.78E-05	5.12E-06	--	--	--	4.29E-05	
			Heptachlor Epoxide	1.44E-08	1.95E-09	--	--	1.64E-08	Liver	2.35E-03	3.18E-04	--	--	--	2.67E-03	
			Indeno(1,2,3-cd)pyrene	2.46E-07	4.33E-07	--	--	6.79E-07	--	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	3.72E-01	5.03E-03	--	--	--	3.77E-01	
			Isophorone	4.46E-11	6.04E-11	--	--	1.05E-10	No Observed Effect	2.74E-06	3.71E-06	--	--	--	6.45E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	3.78E-02	5.11E-04	--	--	--	3.83E-02	
			Mercury	--	--	--	--	--	Immune System	2.83E-03	--	--	--	--	2.83E-03	
			Methoxychlor	--	--	--	--	--	Developmental	6.58E-05	8.90E-06	--	--	--	7.47E-05	
			Molybdenum	--	--	--	--	--	Blood	1.37E-03	1.86E-05	--	--	--	1.39E-03	
			Naphthalene	--	--	--	--	--	Whole Body	1.78E-03	3.13E-03	--	--	--	4.91E-03	
			Nickel	--	--	--	--	--	Whole Body	5.36E-03	7.25E-05	--	--	--	5.43E-03	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.27E-04	1.72E-05	--	--	--	1.44E-04	
			Phenol	--	--	--	--	--	Whole Body	5.30E-06	7.17E-06	--	--	--	1.25E-05	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.01E-06	--	--	--	--	3.01E-06	
			Pyrene	--	--	--	--	--	Kidney	2.21E-03	3.88E-03	--	--	--	6.09E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	4.86E-06	--	--	--	--	4.86E-06	
			Selenium	--	--	--	--	--	Whole Body	1.23E-04	1.66E-06	--	--	--	1.25E-04	
			Silver	--	--	--	--	--	Skin	6.35E-04	8.59E-06	--	--	--	6.44E-04	
			Technical Chlordane	1.68E-07	9.11E-08	--	--	2.59E-07	Liver	3.02E-03	1.63E-03	--	--	--	4.65E-03	
			Thallium	--	--	--	--	--	Blood	1.70E-02	--	--	--	--	1.70E-02	
Toluene	--	--	--	--	--	Liver/Kidney	1.47E-08	1.99E-09	--	--	--	1.67E-08				
Vanadium	--	--	--	--	--	Kidney	9.36E-02	1.27E-03	--	--	--	9.48E-02				

TABLE H-8.25  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	4.14E-03	5.60E-05	--	--	4.20E-03
		Exposure Point Total	Chemical Total	2.46E-05	2.27E-05	0.00E+00	0.00E+00	4.73E-05		1.05E+00	6.29E-01	0.00E+00	0.00E+00	1.68E+00
		Exposure Medium Total					4.73E-05							1.68E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.55E-03	--	2.55E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	8.67E-03	--	8.67E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.85E-03	--	1.85E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.51E-03	--	2.51E-03
			1,2-Dichloropropane	--	--	2.37E-10	--	2.37E-10	Nasal	--	--	6.74E-05	--	6.74E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.77E-04	--	5.77E-04
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.46E-04	--	1.46E-04
			1,4-Dichlorobenzene	--	--	1.44E-07	--	1.44E-07	Liver	--	--	1.82E-04	--	1.82E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.14E-10	--	2.14E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.97E-05	--	3.97E-05
			4,4'-DDD	--	--	5.02E-16	--	5.02E-16	Liver	--	--	4.88E-11	--	4.88E-11
			4,4'-DDE	--	--	7.59E-12	--	7.59E-12	Liver	--	--	5.21E-07	--	5.21E-07
			4,4'-DDT	--	--	2.64E-14	--	2.64E-14	Liver	--	--	1.81E-09	--	1.81E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.10E-09	--	1.10E-09
			4-Nitroaniline	--	--	2.27E-14	--	2.27E-14	--	--	--	1.26E-08	--	1.26E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.50E-08	--	1.50E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.60E-05	--	2.60E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	6.40E-07	--	6.40E-07
			Aldrin	--	--	2.20E-10	--	2.20E-10	Liver	--	--	5.04E-06	--	5.04E-06
			alpha-BHC	--	--	2.26E-11	--	2.26E-11	Liver/ Kidney	--	--	1.95E-07	--	1.95E-07
			alpha-Chlordane	--	--	2.23E-11	--	2.23E-11	Liver	--	--	1.08E-06	--	1.08E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	1.26E-04	--	1.26E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.30E-06	--	1.30E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	4.18E-12	--	4.18E-12	Immune System/Eye/Finger and Toe nails	--	--	1.22E-06	--	1.22E-06
			Aroclor-1254	--	--	1.55E-12	--	1.55E-12	Immune System/Eye/Finger and Toe Nails	--	--	4.52E-07	--	4.52E-07
			Aroclor-1260	--	--	1.89E-12	--	1.89E-12	Immune System/Eye/Finger and Toe Nails	--	--	5.51E-07	--	5.51E-07
			Aroclor-1268	--	--	9.68E-14	--	9.68E-14	Immune System/Eye/Finger and Toe Nails	--	--	2.82E-08	--	2.82E-08
			Arsenic	--	--	1.29E-10	--	1.29E-10	Developmental	--	--	1.46E-05	--	1.46E-05
			Barium	--	--	--	--	--	Developmental	--	--	9.85E-06	--	9.85E-06
			Benzo(a)anthracene	--	--	3.40E-12	--	3.40E-12	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	1.13E-11	--	1.13E-11	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.59E-09	--	1.59E-09	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--
			Benzo(k)fluoranthene	--	--	2.22E-12	--	2.22E-12	Kidney	--	--	5.18E-10	--	5.18E-10
			Beryllium	--	--	3.49E-12	--	3.49E-12	Immune System/Lung	--	--	8.48E-07	--	8.48E-07
			Beta-BHC	--	--	5.75E-15	--	5.75E-15	Liver/Kidney	--	--	2.24E-10	--	2.24E-10

TABLE H-8.25

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.15E-13	--	1.15E-13	Liver	--	--	7.97E-09	--	7.97E-09
			Cadmium	--	--	2.48E-10	--	2.48E-10	Kidney/Respiratory System	--	--	3.37E-05	--	3.37E-05
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.07E-08	--	6.07E-08
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	4.87E-06	--	4.87E-06
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	5.61E-10	--	5.61E-10	--	--	--	--	--	--
			Cobalt	--	--	1.29E-10	--	1.29E-10	Respiratory System	--	--	2.70E-05	--	2.70E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.44E-10	--	1.44E-10	Liver/Kidney	--	--	5.62E-06	--	5.62E-06
			Dibenzo(a,h)anthracene	--	--	2.27E-12	--	2.27E-12	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.02E-04	--	6.02E-04
			Dieldrin	--	--	2.73E-09	--	2.73E-09	Liver	--	--	3.98E-05	--	3.98E-05
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	9.66E-13	--	9.66E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	4.47E-10	--	4.47E-10
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.61E-07	--	3.61E-07
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.73E-07	--	3.73E-07
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.74E-07	--	6.74E-07
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.85E-09	--	2.85E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	6.78E-10	--	6.78E-10
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.15E-05	--	1.15E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.15E-05	--	1.15E-05
			gamma-BHC (Lindane)	--	--	4.04E-11	--	4.04E-11	Liver/Kidney	--	--	1.43E-06	--	1.43E-06
			gamma-Chlordane	--	--	3.58E-11	--	3.58E-11	Liver	--	--	1.74E-06	--	1.74E-06
			Heptachlor	--	--	3.19E-09	--	3.19E-09	Liver	--	--	1.82E-05	--	1.82E-05
			Heptachlor Epoxide	--	--	1.07E-13	--	1.07E-13	Liver	--	--	1.75E-08	--	1.75E-08
			Indeno(1,2,3-cd)pyrene	--	--	5.94E-13	--	5.94E-13	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	4.71E-04	--	4.71E-04
			Mercury	--	--	--	--	--	CNS	--	--	7.32E-08	--	7.32E-08
			Methoxychlor	--	--	--	--	--	Developmental	--	--	4.64E-07	--	4.64E-07
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	1.93E-07	--	1.93E-07	Nasal Epithelium	--	--	2.19E-02	--	2.19E-02			
Nickel	--	--	6.21E-11	--	6.21E-11	Respiratory System	--	--	5.68E-05	--	5.68E-05			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.71E-05	--	1.71E-05			
Phenol	--	--	--	--	--	Liver/CNS	--	--	2.06E-10	--	2.06E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.68E-05	--	4.68E-05			
Pyrene	--	--	--	--	--	Kidney	--	--	1.65E-05	--	1.65E-05			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.88E-05	--	1.88E-05			
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	8.01E-10	--	8.01E-10			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H-8.25

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	1.51E-09	--	1.51E-09	Liver	--	--	7.32E-05	--	7.32E-05	
			Thallium	--	--	--	--	--		--	--	--	--	--	--
			Toluene	--	--	--	--	--		CNS	--	--	5.87E-09	--	5.87E-09
			Vanadium	--	--	--	--	--			--	--	--	--	--
			Zinc	--	--	--	--	--			--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	3.48E-07	0.00E+00	3.48E-07			0.00E+00	0.00E+00	4.01E-02	0.00E+00	4.01E-02
Exposure Point Total					3.48E-07						4.01E-02				
Exposure Medium Total						3.48E-07						4.01E-02			
Medium Total								4.76E-05					1.72E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	5.55E-12	--	5.55E-12	No observed effect	--	--	8.12E-08	--	8.12E-08	
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.99E-06	--	1.99E-06	
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	3.90E-07	--	3.90E-07	
			1,2-Dichloroethane	--	--	9.86E-11	--	9.86E-11	Liver/ Kidney/ CNS	--	--	1.14E-05	--	1.14E-05	
			1,2-Dichloropropane	--	--	1.85E-11	--	1.85E-11	Nasal	--	--	5.25E-06	--	5.25E-06	
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.14E-06	--	1.14E-06	
			1,4-Dichlorobenzene	--	--	2.59E-11	--	2.59E-11	Liver	--	--	3.29E-08	--	3.29E-08	
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.05E-10	--	2.05E-10	
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.19E-10	--	5.19E-10	
			4,4'-DDE	--	--	1.01E-12	--	1.01E-12	Liver	--	--	6.95E-08	--	6.95E-08	
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.26E-10	--	1.26E-10	
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.73E-08	--	1.73E-08	
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.39E-10	--	7.39E-10	
			Aldrin	--	--	8.74E-11	--	8.74E-11	Liver	--	--	2.00E-06	--	2.00E-06	
			alpha-BHC	--	--	1.76E-12	--	1.76E-12	Liver/ Kidney	--	--	1.52E-08	--	1.52E-08	
			alpha-Chlordane	--	--	1.85E-12	--	1.85E-12	Liver	--	--	8.99E-08	--	8.99E-08	
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.94E-10	--	2.94E-10	
			Benzene	--	--	6.01E-11	--	6.01E-11	Blood	--	--	8.15E-07	--	8.15E-07	
			Benzo(b)fluoranthene	--	--	4.37E-13	--	4.37E-13	--	--	--	--	--	--	
			Bromoform	--	--	6.61E-14	--	6.61E-14	Liver	--	--	9.88E-09	--	9.88E-09	
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.05E-07	--	6.05E-07	
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	6.88E-09	--	6.88E-09	
			Chloroform	--	--	9.04E-11	--	9.04E-11	GI Tract/ Kidney/ Development	--	--	6.48E-07	--	6.48E-07	
			Chloromethane	--	--	--	--	--	CNS	--	--	7.73E-07	--	7.73E-07	
			Chrysene	--	--	1.18E-13	--	1.18E-13	--	--	--	--	--	--	
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.42E-06	--	1.42E-06	
			Dieldrin	--	--	3.62E-11	--	3.62E-11	Liver	--	--	5.27E-07	--	5.27E-07	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.00E-09	--	1.00E-09	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.65E-12	--	1.65E-12	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.85E-08	--	1.85E-08	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.39E-10	--	3.39E-10	
			Fluorene	--	--	--	--	--	Blood	--	--	6.71E-10	--	6.71E-10	
gamma-BHC (Lindane)	--	--	3.15E-15	--	3.15E-15	Liver/Kidney	--	--	1.11E-10	--	1.11E-10				

TABLE H-8.25

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	4.81E-12	-	4.81E-12	Liver	-	-	2.34E-07	-	2.34E-07
			Heptachlor	-	-	1.68E-10	-	1.68E-10	Liver	-	-	9.59E-07	-	9.59E-07
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	8.36E-06	-	8.36E-06
			m,p-Xylene	-	-	-	-	-	CNS	-	-	6.43E-07	-	6.43E-07
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.75E-08	-	1.75E-08
			Naphthalene	-	-	1.50E-12	-	1.50E-12	Nasal Epithelium	-	-	1.70E-07	-	1.70E-07
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	7.93E-08	-	7.93E-08
			n-Propylbenzene	-	-	-	-	-	Liver/ Kidney	-	-	1.89E-07	-	1.89E-07
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	2.34E-10	-	2.34E-10
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	8.36E-06	-	8.36E-06
			Pyrene	-	-	-	-	-	Kidney	-	-	4.13E-10	-	4.13E-10
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	5.38E-07	-	5.38E-07
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	6.09E-07	-	6.09E-07
			Toluene	-	-	-	-	-	CNS	-	-	7.14E-09	-	7.14E-09
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.20E-06	-	1.20E-06
			Trichloroethene	-	-	1.50E-11	-	1.50E-11	CNS/Eye	-	-	1.47E-07	-	1.47E-07
			Vinyl chloride	-	-	1.20E-09	-	1.20E-09	Liver	-	-	1.81E-06	-	1.81E-06
			Chemical Total	0.00E+00	0.00E+00	1.82E-09	0.00E+00	1.82E-09		0.00E+00	0.00E+00	5.85E-05	5.85E-05	
		Exposure Point Total						1.82E-09				5.85E-05	5.85E-05	
	Exposure Medium Total							1.82E-09				5.85E-05	5.85E-05	
Medium Total								1.82E-09				5.85E-05	5.85E-05	
Receptor Total								4.76E-05				1.72E+00	1.72E+00	

- Notes:  
 - Not applicable or not available  
 COPC Chemicals of Potential Concern  
 CNS Central nervous system  
 EPA U.S. Environmental Protection Agency  
 ft bgs Feet below ground surface  
 GI Gastrointestinal  
 HI Hazard index  
 RAGS Risk Assessment Guidelines for Superfund  
 RI Remedial Investigation  
 RME Reasonable maximum exposure  
 VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.06E-01
Total Organ 2 (Kidney) HI Across All Media =	2.04E-01
Total Organ 3 (Reproductive System) HI Across All Media =	4.87E-06
Total Organ 4 (Nervous System) HI Across All Media =	6.63E-02
Total Organ 5 (Skin) HI Across All Media =	7.98E-02
Total Organ 6 (Blood) HI Across All Media =	6.54E-02
Total Organ 7 (Adrenal) HI Across All Media =	2.55E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.30E-03
Total Organ 9 (Brain) HI Across All Media =	9.68E-13
Total Organ 10 (Gastrointestinal System) HI Across All Media =	4.30E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	8.78E-01
Total Organ 12 (Body Weight) HI Across All Media =	2.72E-03
Total Organ 13 (Developmental) HI Across All Media =	1.00E-04
Total Organ 14 (Respiratory/Lung) HI Across All Media =	3.16E-03
Total Organ 15 (Whole Body) HI Across All Media =	3.92E-02
Total Organ 16 (Immune System) HI Across All Media =	8.80E-01
Total Organ 17 (Organ Weight) HI Across All Media =	6.22E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	8.78E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	2.20E-02

TABLE H-8.26

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	4.11E-04	5.56E-04	--	--	9.67E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.40E-03	1.89E-04	--	--	1.59E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.74E-05	3.71E-06	--	--	3.11E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	7.91E-04	1.07E-04	--	--	8.99E-04
			1,2-Dichloropropane	4.35E-11	6.55E-12	--	--	5.00E-11	Nasal	8.65E-06	1.17E-06	--	--	9.82E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	8.77E-06	1.19E-06	--	--	9.95E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.00E-04	1.36E-05	--	--	1.14E-04
			1,4-Dichlorobenzene	1.23E-08	--	--	--	1.23E-08	Organ weight	6.21E-04	--	--	--	6.21E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	2.88E-05	3.89E-06	--	--	3.27E-05
			2-Methylphenol	--	--	--	--	--	Respiratory System	5.55E-05	7.51E-05	--	--	1.31E-04
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	9.16E-05	1.24E-05	--	--	1.04E-04
			4,4'-DDD	9.66E-11	1.45E-11	--	--	1.11E-10	Liver	6.58E-06	8.90E-07	--	--	7.47E-06
			4,4'-DDE	9.99E-09	1.41E-09	--	--	1.08E-08	Liver	4.51E-04	6.10E-05	--	--	5.12E-04
			4,4'-DDT	5.07E-09	2.29E-09	--	--	7.37E-09	Liver	2.44E-04	9.90E-05	--	--	3.43E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.48E-04	2.00E-04	--	--	3.48E-04
			4-Nitroaniline	4.37E-09	6.58E-09	--	--	1.09E-08	--	5.66E-04	7.66E-04	--	--	1.33E-03
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.30E-03	3.11E-03	--	--	5.42E-03
			Acenaphthene	--	--	--	--	--	Liver	1.93E-04	3.40E-04	--	--	5.34E-04
			Acenaphthylene	--	--	--	--	--	Liver	4.76E-06	6.44E-07	--	--	5.40E-06
			Aldrin	7.41E-08	1.12E-07	--	--	1.86E-07	Liver	1.19E-03	1.61E-03	--	--	2.79E-03
			alpha-BHC	6.61E-10	9.98E-11	--	--	7.61E-10	Liver/Kidney	4.00E-06	5.41E-07	--	--	4.54E-06
			alpha-Chlordane	3.55E-09	--	--	--	3.55E-09	Liver	4.46E-05	--	--	--	4.46E-05
			Aluminum	--	--	--	--	--	CNS	2.42E-02	3.27E-04	--	--	2.45E-02
			Anthracene	--	--	--	--	--	No Observed Effect	9.63E-06	1.69E-05	--	--	2.66E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	2.79E-02	3.78E-04	--	--	2.83E-02
			Aroclor-1248	8.05E-07	1.70E-06	--	--	2.50E-06	Immune System/ Eye/Finger and Toe Nails	1.64E-01	3.11E-01	--	--	4.76E-01
			Aroclor-1254	2.98E-07	6.28E-07	--	--	9.26E-07	Immune System/ Eye/Finger and Toe Nails	6.08E-02	1.15E-01	--	--	1.76E-01
			Aroclor-1260	3.63E-07	7.66E-07	--	--	1.13E-06	Immune System/ Eye/Finger and Toe Nails	7.42E-02	1.41E-01	--	--	2.15E-01
			Aroclor-1268	1.86E-08	3.93E-08	--	--	5.79E-08	Immune System/ Eye/Finger and Toe Nails	3.80E-03	7.20E-03	--	--	1.10E-02
			Arsenic	1.95E-05	8.83E-06	--	--	2.84E-05	Skin	5.63E-02	2.29E-02	--	--	7.92E-02
			Barium	--	--	--	--	--	Kidney	2.65E-03	3.59E-05	--	--	2.69E-03
			Benzo(a)anthracene	2.01E-06	3.94E-06	--	--	5.96E-06	--	--	--	--	--	--
			Benzo(a)pyrene	6.70E-06	1.31E-05	--	--	1.98E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.10E-06	2.16E-06	--	--	3.26E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	6.97E-05	1.23E-04	--	--	1.92E-04
			Benzo(k)fluoranthene	1.31E-06	2.57E-06	--	--	3.88E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	3.26E-04	4.41E-06	--	--	3.31E-04
			Beta-BHC	1.11E-09	1.67E-10	--	--	1.27E-09	Liver/Kidney	3.01E-05	4.08E-06	--	--	3.42E-05
			bis(2-ethylhexyl)phthalate	7.88E-09	1.19E-09	--	--	9.07E-09	Liver	1.07E-03	1.45E-04	--	--	1.22E-03
			Cadmium	1.21E-06	1.82E-08	--	--	1.23E-06	Kidney	5.19E-02	7.02E-04	--	--	5.26E-02
			Carbon disulfide	--	--	--	--	--	Developmental	6.58E-09	2.22E-08	--	--	2.88E-08
			Chlorobenzene	--	--	--	--	--	Liver	1.51E-05	2.04E-06	--	--	1.71E-05

TABLE H-8.26

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	2.03E-04	2.75E-06	--	--	2.06E-04	
			Chrysene	2.29E-07	4.48E-07	--	--	6.77E-07	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	1.04E-03	1.40E-05	--	--	--	1.05E-03
			Copper	--	--	--	--	--	GI Tract/Kidney	3.91E-03	5.29E-05	--	--	--	3.96E-03
			Delta-BHC	4.23E-09	3.18E-09	--	--	7.41E-09	Liver/Kidney	1.15E-04	7.79E-05	--	--	--	1.93E-04
			Dibenzo(a,h)anthracene	4.37E-07	8.55E-07	--	--	1.29E-06	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	1.78E-02	2.41E-03	--	--	--	2.02E-02
			Dieldrin	2.96E-07	4.46E-08	--	--	3.41E-07	Liver	3.02E-03	4.09E-04	--	--	--	3.43E-03
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	1.30E-07	1.76E-08	--	--	--	1.48E-07
			di-n-Butylphthalate	--	--	--	--	--	Liver	3.01E-05	4.08E-06	--	--	--	3.42E-05
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	1.05E-05	7.11E-06	--	--	--	1.76E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	1.09E-05	7.36E-06	--	--	--	1.82E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	1.96E-05	1.33E-05	--	--	--	3.29E-05
			Endrin aldehyde	--	--	--	--	--	Liver	3.84E-04	2.60E-04	--	--	--	6.44E-04
			Endrin Ketone	--	--	--	--	--	Liver	9.13E-05	--	--	--	--	9.13E-05
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	1.82E-03	3.19E-03	--	--	--	5.01E-03
			Fluorene	--	--	--	--	--	Blood	2.00E-04	3.51E-04	--	--	--	5.51E-04
			gamma-BHC (Lindane)	9.59E-10	5.78E-10	--	--	1.54E-09	Liver/Kidney	2.37E-05	1.29E-05	--	--	--	3.66E-05
			gamma-Chlordane	5.71E-09	--	--	--	5.71E-09	Liver	7.18E-05	--	--	--	--	7.18E-05
			Heptachlor	9.49E-09	1.43E-09	--	--	1.09E-08	Liver	3.78E-05	5.12E-06	--	--	--	4.29E-05
			Heptachlor Epoxide	2.06E-08	3.10E-09	--	--	2.37E-08	Liver	2.35E-03	3.18E-04	--	--	--	2.67E-03
			Indeno(1,2,3-cd)pyrene	3.51E-07	6.88E-07	--	--	1.04E-06	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	3.72E-01	5.03E-03	--	--	--	3.77E-01
			Isophorone	6.37E-11	9.60E-11	--	--	1.60E-10	No Observed Effect	2.74E-06	3.71E-06	--	--	--	6.45E-06
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	3.78E-02	5.11E-04	--	--	--	3.83E-02
			Mercury	--	--	--	--	--	Immune System	2.83E-03	--	--	--	--	2.83E-03
			Methoxychlor	--	--	--	--	--	Developmental	6.58E-05	8.90E-06	--	--	--	7.47E-05
			Molybdenum	--	--	--	--	--	Blood	1.37E-03	1.86E-05	--	--	--	1.39E-03
			Naphthalene	--	--	--	--	--	Whole Body	1.78E-03	3.13E-03	--	--	--	4.91E-03
			Nickel	--	--	--	--	--	Whole Body	5.36E-03	7.25E-05	--	--	--	5.43E-03
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.27E-04	1.72E-05	--	--	--	1.44E-04
			Phenol	--	--	--	--	--	Whole Body	5.30E-06	7.17E-06	--	--	--	1.25E-05
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.01E-06	--	--	--	--	3.01E-06
			Pyrene	--	--	--	--	--	Kidney	2.21E-03	3.88E-03	--	--	--	6.09E-03
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	4.86E-06	--	--	--	--	4.86E-06
			Selenium	--	--	--	--	--	Whole Body	1.23E-04	1.66E-06	--	--	--	1.25E-04
			Silver	--	--	--	--	--	Skin	6.35E-04	8.59E-06	--	--	--	6.44E-04
			Technical Chlordane	2.40E-07	1.45E-07	--	--	3.85E-07	Liver	3.02E-03	1.63E-03	--	--	--	4.65E-03
			Thallium	--	--	--	--	--	Blood	1.70E-02	--	--	--	--	1.70E-02
Toluene	--	--	--	--	--	Liver/Kidney	1.47E-08	1.99E-09	--	--	--	1.67E-08			
Vanadium	--	--	--	--	--	Kidney	9.36E-02	1.27E-03	--	--	--	9.48E-02			

TABLE H-8.26

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	4.14E-03	5.60E-05	--	--	4.20E-03
		Exposure Point Total	Chemical Total	3.51E-05	3.61E-05	0.00E+00	0.00E+00	7.12E-05		1.05E+00	6.29E-01	0.00E+00	0.00E+00	1.68E+00
Exposure Medium Total								7.12E-05						1.68E+00
Air	Outdoor Air (Particulates and VOCs)		1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.55E-03	--	2.55E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	8.67E-03	--	8.67E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.85E-03	--	1.85E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.51E-03	--	2.51E-03
			1,2-Dichloropropane	--	--	1.88E-09	--	1.88E-09	Nasal	--	--	6.74E-05	--	6.74E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.77E-04	--	5.77E-04
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.46E-04	--	1.46E-04
			1,4-Dichlorobenzene	--	--	1.14E-06	--	1.14E-06	Liver	--	--	1.82E-04	--	1.82E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	2.14E-10	--	2.14E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.97E-05	--	3.97E-05
			4,4'-DDD	--	--	3.99E-15	--	3.99E-15	Liver	--	--	4.88E-11	--	4.88E-11
			4,4'-DDE	--	--	6.03E-11	--	6.03E-11	Liver	--	--	5.21E-07	--	5.21E-07
			4,4'-DDT	--	--	2.10E-13	--	2.10E-13	Liver	--	--	1.81E-09	--	1.81E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	1.10E-09	--	1.10E-09
			4-Nitroaniline	--	--	1.80E-13	--	1.80E-13	--	--	--	1.26E-08	--	1.26E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.50E-08	--	1.50E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.60E-05	--	2.60E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	6.40E-07	--	6.40E-07
			Aldrin	--	--	1.75E-09	--	1.75E-09	Liver	--	--	5.04E-06	--	5.04E-06
			alpha-BHC	--	--	1.80E-10	--	1.80E-10	Liver/ Kidney	--	--	1.95E-07	--	1.95E-07
			alpha-Chlordane	--	--	1.77E-10	--	1.77E-10	Liver	--	--	1.08E-06	--	1.08E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	1.26E-04	--	1.26E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.30E-06	--	1.30E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	3.32E-11	--	3.32E-11	Immune System/Eye/Finger and Toe nails	--	--	1.22E-06	--	1.22E-06
			Aroclor-1254	--	--	1.23E-11	--	1.23E-11	Immune System/Eye/Finger and Toe Nails	--	--	4.52E-07	--	4.52E-07
			Aroclor-1260	--	--	1.50E-11	--	1.50E-11	Immune System/Eye/Finger and Toe Nails	--	--	5.51E-07	--	5.51E-07
			Aroclor-1268	--	--	7.69E-13	--	7.69E-13	Immune System/Eye/Finger and Toe Nails	--	--	2.82E-08	--	2.82E-08
			Arsenic	--	--	1.02E-09	--	1.02E-09	Developmental	--	--	1.46E-05	--	1.46E-05
			Barium	--	--	--	--	--	Developmental	--	--	9.85E-06	--	9.85E-06
			Benzo(a)anthracene	--	--	2.70E-11	--	2.70E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	9.00E-11	--	9.00E-11	--	--	--	--	--	--
	Benzo(b)fluoranthene	--	--	1.26E-08	--	1.26E-08	--	--	--	--	--	--		
	Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	5.18E-10	--	5.18E-10		
	Benzo(k)fluoranthene	--	--	1.76E-11	--	1.76E-11	--	--	--	--	--	--		
	Beryllium	--	--	2.77E-11	--	2.77E-11	Immune System/Lung	--	--	8.48E-07	--	8.48E-07		
	Beta-BHC	--	--	4.57E-14	--	4.57E-14	Liver/Kidney	--	--	2.24E-10	--	2.24E-10		

TABLE H-8.26

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	-	-	9.11E-13	-	9.11E-13	Liver	-	-	7.97E-09	-	7.97E-09
			Cadmium	-	-	1.97E-09	-	1.97E-09	Kidney/Respiratory System	-	-	3.37E-05	-	3.37E-05
			Carbon disulfide	-	-	-	-	-	CNS	-	-	6.07E-08	-	6.07E-08
			Chlorobenzene	-	-	-	-	-	GI Tract/Kidney/Reproductive System	-	-	4.87E-06	-	4.87E-06
			Chromium	-	-	-	-	-	-	-	-	-	-	-
			Chrysene	-	-	4.45E-09	-	4.45E-09	-	-	-	-	-	-
			Cobalt	-	-	1.03E-09	-	1.03E-09	Respiratory System	-	-	2.70E-05	-	2.70E-05
			Copper	-	-	-	-	-	-	-	-	-	-	-
			Delta-BHC	-	-	1.15E-09	-	1.15E-09	Liver/Kidney	-	-	5.62E-06	-	5.62E-06
			Dibenzo(a,h)anthracene	-	-	1.80E-11	-	1.80E-11	-	-	-	-	-	-
			Dibenzofuran	-	-	-	-	-	Kidney	-	-	6.02E-04	-	6.02E-04
			Dieldrin	-	-	2.17E-08	-	2.17E-08	Liver	-	-	3.98E-05	-	3.98E-05
			Dimethylphthalate	-	-	-	-	-	Brain/Liver/Kidney/GI Tract	-	-	9.66E-13	-	9.66E-13
			di-n-Butylphthalate	-	-	-	-	-	Whole body	-	-	4.47E-10	-	4.47E-10
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	3.61E-07	-	3.61E-07
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	3.73E-07	-	3.73E-07
			Endosulfan Sulfate	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	6.74E-07	-	6.74E-07
			Endrin aldehyde	-	-	-	-	-	Liver	-	-	2.85E-09	-	2.85E-09
			Endrin Ketone	-	-	-	-	-	Liver	-	-	6.78E-10	-	6.78E-10
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	1.15E-05	-	1.15E-05
			Fluorene	-	-	-	-	-	Blood	-	-	1.15E-05	-	1.15E-05
			gamma-BHC (Lindane)	-	-	3.21E-10	-	3.21E-10	Liver/Kidney	-	-	1.43E-06	-	1.43E-06
			gamma-Chlordane	-	-	2.85E-10	-	2.85E-10	Liver	-	-	1.74E-06	-	1.74E-06
			Heptachlor	-	-	2.53E-08	-	2.53E-08	Liver	-	-	1.82E-05	-	1.82E-05
			Heptachlor Epoxide	-	-	8.50E-13	-	8.50E-13	Liver	-	-	1.75E-08	-	1.75E-08
			Indeno(1,2,3-cd)pyrene	-	-	4.72E-12	-	4.72E-12	-	-	-	-	-	-
			Iron	-	-	-	-	-	-	-	-	-	-	-
			Isophorone	-	-	-	-	-	-	-	-	-	-	-
			Lead	-	-	-	-	-	-	-	-	-	-	-
			Manganese	-	-	-	-	-	CNS	-	-	4.71E-04	-	4.71E-04
			Mercury	-	-	-	-	-	CNS	-	-	7.32E-08	-	7.32E-08
			Methoxychlor	-	-	-	-	-	Developmental	-	-	4.64E-07	-	4.64E-07
			Molybdenum	-	-	-	-	-	-	-	-	-	-	-
			Naphthalene	-	-	1.53E-06	-	1.53E-06	Nasal Epithelium	-	-	2.19E-02	-	2.19E-02
			Nickel	-	-	4.93E-10	-	4.93E-10	Respiratory System	-	-	5.68E-05	-	5.68E-05
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	1.71E-05	-	1.71E-05
			Phenol	-	-	-	-	-	Liver/CNS	-	-	2.06E-10	-	2.06E-10
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	4.68E-05	-	4.68E-05
			Pyrene	-	-	-	-	-	Kidney	-	-	1.65E-05	-	1.65E-05
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	1.88E-05	-	1.88E-05
Selenium	-	-	-	-	-	Liver/Blood/Skin/CNS	-	-	8.01E-10	-	8.01E-10			
Silver	-	-	-	-	-	-	-	-	-	-	-			

TABLE H-8.26

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	1.20E-08	--	1.20E-08	Liver	--	--	7.32E-05	--	7.32E-05
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	5.87E-09	--	5.87E-09
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
		Chemical Total	0.00E+00	0.00E+00	2.76E-06	0.00E+00	2.76E-06		0.00E+00	0.00E+00	4.01E-02	0.00E+00	4.01E-02	
		Exposure Point Total					2.76E-06						4.01E-02	
	Exposure Medium Total						2.76E-06						4.01E-02	
Medium Total							7.39E-05						1.72E+00	
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	4.41E-11	--	4.41E-11	No observed effect	--	--	8.12E-08	--	8.12E-08
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.99E-06	--	1.99E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	3.90E-07	--	3.90E-07
			1,2-Dichloroethane	--	--	7.83E-10	--	7.83E-10	Liver/ Kidney/ CNS	--	--	1.14E-05	--	1.14E-05
			1,2-Dichloropropane	--	--	1.47E-10	--	1.47E-10	Nasal	--	--	5.25E-06	--	5.25E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.14E-06	--	1.14E-06
			1,4-Dichlorobenzene	--	--	2.06E-10	--	2.06E-10	Liver	--	--	3.29E-08	--	3.29E-08
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.05E-10	--	2.05E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.19E-10	--	5.19E-10
			4,4'-DDE	--	--	8.04E-12	--	8.04E-12	Liver	--	--	6.95E-08	--	6.95E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.26E-10	--	1.26E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.73E-08	--	1.73E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.39E-10	--	7.39E-10
			Aldrin	--	--	6.95E-10	--	6.95E-10	Liver	--	--	2.00E-06	--	2.00E-06
			alpha-BHC	--	--	1.40E-11	--	1.40E-11	Liver/ Kidney	--	--	1.52E-08	--	1.52E-08
			alpha-Chlordane	--	--	1.47E-11	--	1.47E-11	Liver	--	--	8.99E-08	--	8.99E-08
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.94E-10	--	2.94E-10
			Benzene	--	--	4.77E-10	--	4.77E-10	Blood	--	--	8.15E-07	--	8.15E-07
			Benzo(b)fluoranthene	--	--	3.47E-12	--	3.47E-12	--	--	--	--	--	--
			Bromoform	--	--	5.25E-13	--	5.25E-13	Liver	--	--	9.88E-09	--	9.88E-09
			Carbon disulfide	--	--	--	--	--	CNS	--	--	6.05E-07	--	6.05E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	6.88E-09	--	6.88E-09
			Chloroform	--	--	7.18E-10	--	7.18E-10	GI Tract/ Kidney/ Development	--	--	6.48E-07	--	6.48E-07
			Chloromethane	--	--	--	--	--	CNS	--	--	7.73E-07	--	7.73E-07
			Chrysene	--	--	9.38E-13	--	9.38E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethane	--	--	--	--	--	Blood	--	--	1.42E-06	--	1.42E-06
			Dieldrin	--	--	2.87E-10	--	2.87E-10	Liver	--	--	5.27E-07	--	5.27E-07
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.00E-09	--	1.00E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.65E-12	--	1.65E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.85E-08	--	1.85E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.39E-10	--	3.39E-10
			Fluorene	--	--	--	--	--	Blood	--	--	6.71E-10	--	6.71E-10
			gamma-BHC (Lindane)	--	--	2.50E-14	--	2.50E-14	Liver/Kidney	--	--	1.11E-10	--	1.11E-10

TABLE H-8.26

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	3.82E-11	-	3.82E-11	Liver	-	-	2.34E-07	-	2.34E-07
			Heptachlor	-	-	1.34E-09	-	1.34E-09	Liver	-	-	9.59E-07	-	9.59E-07
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	8.36E-06	-	8.36E-06
			m,p-Xylene	-	-	-	-	-	CNS	-	-	6.43E-07	-	6.43E-07
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.75E-08	-	1.75E-08
			Naphthalene	-	-	1.19E-11	-	1.19E-11	Nasal Epithelium	-	-	1.70E-07	-	1.70E-07
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	7.93E-06	-	7.93E-06
			n-Propylbenzene	-	-	-	-	-	Liver/ Kidney	-	-	1.89E-07	-	1.89E-07
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	2.34E-10	-	2.34E-10
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	8.36E-06	-	8.36E-06
			Pyrene	-	-	-	-	-	Kidney	-	-	4.13E-10	-	4.13E-10
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	5.38E-07	-	5.38E-07
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	6.09E-07	-	6.09E-07
			Toluene	-	-	-	-	-	CNS	-	-	7.14E-09	-	7.14E-09
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.20E-06	-	1.20E-06
			Trichloroethene	-	-	1.19E-10	-	1.19E-10	CNS/Eye	-	-	1.47E-07	-	1.47E-07
			Vinyl chloride	-	-	9.52E-09	-	9.52E-09	Liver	-	-	1.81E-06	-	1.81E-06
			Chemical Total	0.00E+00	0.00E+00	1.44E-08	0.00E+00	1.44E-08		0.00E+00	0.00E+00	5.85E-05	5.85E-05	
			Exposure Point Total										5.85E-05	
			Exposure Medium Total					1.44E-08					5.85E-05	
Medium Total								1.44E-08					5.85E-05	
Receptor Total								7.40E-05					1.72E+00	

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.1**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	Aroclor-1248	8.39E-07	1.34E-06	--	--	2.18E-06	Immune System/ Eye/Finger and Toe Nails Skin	5.87E-02	9.37E-02	--	--	1.52E-01
			Arsenic	3.23E-06	1.11E-06	--	--	4.34E-06		2.01E-02	6.88E-03	--	--	2.70E-02
			Benzo(a)anthracene	1.28E-06	1.89E-06	--	--	3.17E-06		--	--	--	--	--
			Benzo(a)pyrene	4.25E-06	6.30E-06	--	--	1.05E-05		--	--	--	--	--
			Benzo(b)fluoranthene	6.99E-07	1.04E-06	--	--	1.73E-06		--	--	--	--	--
			Dibenzo(a,h)anthracene	8.10E-07	1.20E-06	--	--	2.01E-06		--	--	--	--	--
			Chemical Total	1.28E-05	1.46E-05	0.00E+00	0.00E+00	2.74E-05		--	--	3.77E-01	1.89E-01	0.00E+00
	Exposure Point Total						2.74E-05						5.66E-01	
	Exposure Medium Total						2.74E-05						5.66E-01	
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	1.68E-06	--	1.68E-06	Liver	--	--	9.31E-04	--	9.31E-04
			--	--	--	--	--	--		--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	1.91E-06	0.00E+00	1.91E-06		0.00E+00	0.00E+00	2.05E-01	0.00E+00	2.05E-01
		Exposure Point Total						1.91E-06						2.05E-01
		Indoor Air (Vapor Intrusion)	1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney Liver Respiratory System	--	--	1.69E+00	--	1.69E+00
	1,4-Dichlorobenzene	--	--	1.95E-05	--	1.95E-05	--	--		1.08E-02	--	1.08E-02		
Naphthalene	--	--	--	--	--	--	--	4.08E+00		--	4.08E+00			
Chemical Total	0.00E+00	0.00E+00	1.98E-05	0.00E+00	1.98E-05	0.00E+00	0.00E+00	0.00E+00	6.61E+00	0.00E+00	6.61E+00			
Exposure Point Total						1.98E-05						6.61E+00		
Exposure Medium Total						2.17E-05						6.81E+00		
Medium Total						4.91E-05						7.38E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--		--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	4.01E-08	0.00E+00		4.01E-08	0.00E+00	0.00E+00	3.28E-04	0.00E+00	3.28E-04
	Exposure Point Total						4.01E-08						3.28E-04	
	Exposure Medium Total						4.01E-08						3.28E-04	
Groundwater Vapor Intrusion Indoor Air	Indoor Air (Inhalation)	--	--	--	--	--	--	--	--	--	--	--		
		--	--	--	--	--		--	--	--	--			
		Chemical Total	0.00E+00	0.00E+00	7.80E-07	0.00E+00		7.80E-07	0.00E+00	0.00E+00	6.74E-03	0.00E+00	6.74E-03	
Exposure Point Total						7.80E-07						6.74E-03		
Exposure Medium Total						7.80E-07						6.74E-03		
Medium Total						8.20E-07						7.08E-03		
Receptor Total						Receptor Risk Total	5.00E-05						Receptor HI Total	7.38E+00

TABLE H-9.1  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard Index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-9.2  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	Aroclor-1248	8.39E-07	1.34E-06	--	--	2.18E-06	Immune System/ Eye/Finger and Toe Nails Skin	5.87E-02	9.37E-02	--	--	1.52E-01
			Arsenic	5.00E-06	1.71E-06	--	--	6.71E-06		3.11E-02	1.06E-02	--	--	4.17E-02
			Benzo(a)anthracene	1.07E-06	1.59E-06	--	--	2.67E-06		--	--	--	--	--
			Benzo(a)pyrene	3.59E-06	5.32E-06	--	--	8.90E-06		--	--	--	--	--
			Benzo(b)fluoranthene	6.05E-07	8.97E-07	--	--	1.50E-06		--	--	--	--	--
			Dibenzo(a,h)anthracene	7.03E-07	1.04E-06	--	--	1.75E-06		--	--	--	--	--
			Chemical Total	1.33E-05	1.34E-05	0.00E+00	0.00E+00	2.67E-05		--	--	3.64E-01	1.88E-01	0.00E+00
	Exposure Point Total					2.67E-05							5.52E-01	
	Exposure Medium Total					2.67E-05							5.52E-01	
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	1.68E-06	--	1.68E-06	Liver	--	--	9.31E-04	--	9.31E-04
			--	--	--	--	--	--		--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	1.90E-06	0.00E+00	1.90E-06		0.00E+00	0.00E+00	2.04E-01	0.00E+00	2.04E-01
		Exposure Point Total					1.90E-06							2.04E-01
		Indoor Air (Vapor Intrusion)	1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney Liver Respiratory System	--	--	1.69E+00	--	1.69E+00
			1,4-Dichlorobenzene	--	--	1.95E-05	--	1.95E-05		--	--	1.08E-02	--	1.08E-02
Naphthalene			--	--	--	--	--	--		--	4.08E+00	--	4.08E+00	
Chemical Total	0.00E+00	0.00E+00	1.98E-05	0.00E+00	1.98E-05	0.00E+00	0.00E+00	6.61E+00	0.00E+00	6.61E+00				
Exposure Point Total					1.98E-05							6.61E+00		
Exposure Medium Total					2.17E-05							6.81E+00		
Medium Total					4.84E-05							7.38E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--		--	--	--	--	--	
			--	--	--	--	--		--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	4.01E-08	0.00E+00		4.01E-08	0.00E+00	0.00E+00	3.28E-04	0.00E+00	3.28E-04
	Exposure Point Total					4.01E-08						3.28E-04		
	Exposure Medium Total					4.01E-08						3.28E-04		
Groundwater Vapor Intrusion Indoor Air	Indoor Air (Inhalation)	--	--	--	--	--		--	--	--	--	--		
		--	--	--	--	--		--	--	--	--			
		Chemical Total	0.00E+00	0.00E+00	7.80E-07	0.00E+00		7.80E-07	0.00E+00	0.00E+00	6.74E-03	0.00E+00	6.74E-03	
Exposure Point Total					7.80E-07						6.74E-03			
Exposure Medium Total					7.80E-07						6.74E-03			
Medium Total					8.20E-07							7.06E-03		
Receptor Total					4.92E-05							7.37E+00		

**TABLE H-9.2**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:**
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.3**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Benzo(a)pyrene	5.61E-07	1.01E-06	--	--	1.57E-06	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	1.68E-06	2.34E-06	0.00E+00	0.00E+00	4.03E-06	--	--	1.24E+00	7.57E-01	0.00E+00	0.00E+00	2.00E+00
			Exposure Point Total											2.00E+00	
		Exposure Medium Total												2.00E+00	
														2.00E+00	
		Air	Outdoor Air (Particulates and VOCs)	Aluminum	--	--	--	--	--	Respiratory System	--	--	1.21E+00	--	1.21E+00
	Manganese			--	--	--	--	--	CNS	--	--	4.54E+00	--	4.54E+00	
	Chemical Total			0.00E+00	0.00E+00	8.13E-07	0.00E+00	8.13E-07	--	--	0.00E+00	0.00E+00	6.42E+00	0.00E+00	6.42E+00
			Exposure Point Total											6.42E+00	
		Exposure Medium Total											6.42E+00		
													6.42E+00		
Medium Total													8.42E+00		
	Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	
--				--	--	--	--	--	--	--	--	--	--		
Chemical Total				0.00E+00	0.00E+00	2.29E-09	0.00E+00	2.29E-09	--	--	0.00E+00	0.00E+00	4.68E-04	0.00E+00	4.68E-04
		Exposure Point Total											4.68E-04		
		Exposure Medium Total											4.68E-04		
													4.68E-04		
Medium Total													4.68E-04		
Receptor Total								Receptor Risk Total	4.84E-06				Receptor HI Total	8.42E+00	

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.4**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	Benzo(a)pyrene	4.73E-07	8.50E-07	--	--	1.32E-06	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	1.75E-06	2.15E-06	0.00E+00	0.00E+00	3.90E-06	--	1.20E+00	7.51E-01	0.00E+00	0.00E+00	1.95E+00	
	Exposure Point Total						3.90E-06						1.95E+00		
	Exposure Medium Total						3.90E-06						1.95E+00		
	Air	Outdoor Air (Particulates and VOCs)		Aluminum	--	--	--	--	--	Respiratory System	--	--	1.24E+00	--	1.24E+00
				Manganese	--	--	--	--	--	CNS	--	--	4.17E+00	--	4.17E+00
				--	--	--	--	--	--	--	--	--	--	--	--
				Chemical Total	0.00E+00	0.00E+00	9.26E-07	0.00E+00	9.26E-07	--	0.00E+00	0.00E+00	6.08E+00	0.00E+00	6.08E+00
	Exposure Point Total						9.26E-07						6.08E+00		
Exposure Medium Total						9.26E-07						6.08E+00			
Medium Total						4.83E-06						8.03E+00			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	2.29E-09	0.00E+00	2.29E-09	--	0.00E+00	0.00E+00	4.68E-04	0.00E+00	4.68E-04	
			Exposure Point Total						2.29E-09						4.68E-04
Exposure Medium Total						2.29E-09						4.68E-04			
Medium Total						2.29E-09						4.68E-04			
Receptor Total								4.83E-06					8.03E+00		
								Receptor Risk Total					Receptor HI Total	8.03E+00	

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.5**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	4-Nitroaniline	6.12E-09	2.44E-09	--	1.13E-06	1.14E-06	--	2.83E-04	1.13E-04	--	5.22E-02	5.26E-02	
			Aroclor-1248	1.13E-06	6.30E-07	--	2.12E-07	1.97E-06	Immune System/ Eye/Finger and Toe Nails	8.22E-02	4.59E-02	--	1.55E-02	1.44E-01	
			Aroclor-1254	4.17E-07	2.33E-07	--	1.05E-06	1.70E-06	Immune System/ Eye/Finger and Toe Nails	3.04E-02	1.70E-02	--	7.66E-02	1.24E-01	
			Arsenic	4.34E-06	5.20E-07	--	3.68E-06	8.55E-06	Skin	2.82E-02	3.37E-03	--	2.39E-02	5.54E-02	
			Benzo(a)anthracene	1.72E-06	8.90E-07	--	6.22E-08	2.67E-06	--	--	--	--	--	--	
			Benzo(a)pyrene	5.71E-06	2.96E-06	--	1.17E-07	8.79E-06	--	--	--	--	--	--	
			Benzo(b)fluoranthene	9.39E-07	4.87E-07	--	1.93E-07	1.62E-06	--	--	--	--	--	--	
			bis(2-ethylhexyl)phthalate	5.15E-08	2.05E-09	--	2.52E-06	2.57E-06	Liver	5.36E-04	2.14E-05	--	2.62E-02	2.68E-02	
			Dibenzo(a,h)anthracene	1.09E-06	5.65E-07	--	1.38E-07	1.79E-06	--	--	--	--	--	--	
			Dieldrin	4.14E-07	1.65E-08	--	3.10E-05	3.15E-05	Liver	1.51E-03	6.03E-05	--	1.13E-01	1.15E-01	
	Heptachlor Epoxide	4.77E-08	1.90E-09	--	7.77E-06	7.82E-06	Liver	1.18E-03	4.69E-05	--	1.92E-01	1.93E-01			
	Chemical Total	1.71E-05	6.89E-06	0.00E+00	4.88E-05	7.28E-05		5.27E-01	9.27E-02	0.00E+00	2.06E+00	2.68E+00			
	Exposure Point Total					7.28E-05						2.68E+00			
	Exposure Medium Total					7.28E-05						2.68E+00			
	Air	Outdoor Air (Particulates and VOCs)		1,4-Dichlorobenzene	--	--	3.22E-06	--	3.22E-06	Liver	--	--	1.85E-03	--	1.85E-03
				--	--	--	--	--	--	--	--	--	--	--	
				--	--	--	--	--	--	--	--	--	--	--	
				--	--	--	--	--	--	--	--	--	--	--	
				Chemical Total	0.00E+00	0.00E+00	3.65E-06	0.00E+00	3.65E-06		0.00E+00	0.00E+00	4.07E-01	0.00E+00	4.07E-01
		Exposure Point Total					3.65E-06						4.07E-01		
Indoor Air (Vapor Intrusion)				1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.19E+00	--	2.19E+00
				1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	7.43E+00	--	7.43E+00
				1,4-Dichlorobenzene	--	--	8.22E-05	--	8.22E-05	Liver	--	--	4.74E-02	--	4.74E-02
				Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.00E+01	--	2.00E+01
	Chemical Total			0.00E+00	0.00E+00	8.39E-05	0.00E+00	8.39E-05		0.00E+00	0.00E+00	3.12E+01	0.00E+00	3.12E+01	
Exposure Point Total					8.39E-05						3.12E+01				
Exposure Medium Total					8.75E-05						3.16E+01				
Medium Total					1.60E-04						3.43E+01				
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	7.67E-08	0.00E+00	7.67E-08		0.00E+00	0.00E+00	6.53E-04	0.00E+00	6.53E-04	
	Exposure Point Total					7.67E-08						6.53E-04			
	Exposure Medium Total					7.67E-08						6.53E-04			
Groundwater Vapor Intrusion Indoor Air	Indoor Air (Inhalation)		Trichloroethene	--	--	2.14E-06	--	2.14E-06	CNS/Liver/Endocrine	--	--	1.56E-03	--	1.56E-03	
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	3.20E-06	0.00E+00	3.20E-06		0.00E+00	0.00E+00	2.70E-02	0.00E+00	2.70E-02	
Exposure Point Total					3.20E-06						2.70E-02				
Exposure Medium Total					3.20E-06						2.70E-02				
Medium Total					3.28E-06						2.77E-02				
Receptor Total					1.64E-04						3.43E+01				

TABLE H-9.5  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-9.6  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	4-Nitroaniline	6.12E-09	2.44E-09	--	1.13E-08	1.14E-06	--	2.83E-04	1.13E-04	--	5.22E-02	5.26E-02
			Aroclor-1248	1.13E-06	6.30E-07	--	2.12E-07	1.97E-06	Immune System/ Eye/Finger and Toe Nails	8.22E-02	4.59E-02	--	1.55E-02	1.44E-01
			Aroclor-1254	4.11E-07	2.30E-07	--	1.04E-08	1.68E-06	Immune System/ Eye/Finger and Toe Nails	3.00E-02	1.67E-02	--	7.55E-02	1.22E-01
			Arsenic	6.72E-06	8.04E-07	--	5.69E-06	1.32E-05	Skin	4.35E-02	5.21E-03	--	3.69E-02	8.56E-02
			Benzo(a)anthracene	1.44E-06	7.49E-07	--	5.24E-08	2.25E-06	--	--	--	--	--	--
			Benzo(a)pyrene	4.82E-06	2.50E-06	--	9.92E-08	7.42E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	8.14E-07	4.22E-07	--	1.67E-07	1.40E-06	--	--	--	--	--	--
			bis(2-ethylhexyl)phthalate	3.48E-08	1.39E-09	--	1.70E-06	1.74E-06	Liver	3.63E-04	1.45E-05	--	1.77E-02	1.81E-02
			Dibenzo(a,h)anthracene	9.45E-07	4.90E-07	--	1.20E-07	1.56E-06	--	--	--	--	--	--
			Dieldrin	3.68E-07	1.47E-08	--	2.75E-05	2.79E-05	Liver	1.34E-03	5.35E-05	--	1.00E-01	1.02E-01
	Heptachlor Epoxide	4.21E-08	1.68E-09	--	6.87E-06	6.91E-06	Liver	1.04E-03	4.14E-05	--	1.69E-01	1.70E-01		
	Chemical Total	1.78E-05	6.32E-06	0.00E+00	4.54E-05	6.96E-05		5.10E-01	9.20E-02	0.00E+00	1.87E+00	2.47E+00		
	Exposure Point Total					6.96E-05						2.47E+00		
	Exposure Medium Total					6.96E-05						2.47E+00		
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	3.22E-06	--	3.22E-06	Liver	--	--	1.85E-03	--	1.85E-03
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	3.63E-06	0.00E+00	3.63E-06		0.00E+00	0.00E+00	4.07E-01	0.00E+00	4.07E-01
		Exposure Point Total					3.63E-06						4.07E-01	
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.19E+00	--	2.19E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	7.43E+00	--	7.43E+00
1,4-Dichlorobenzene	--		--	8.22E-05	--	8.22E-05	Liver	--	--	4.74E-02	--	4.74E-02		
Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.00E+01	--	2.00E+01			
Chemical Total	0.00E+00	0.00E+00	8.39E-05	0.00E+00	8.39E-05		0.00E+00	0.00E+00	3.12E+01	0.00E+00	3.12E+01			
Exposure Point Total					8.39E-05						3.12E+01			
Exposure Medium Total					8.39E-05						3.12E+01			
Medium Total					1.57E-04						3.41E+01			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	7.67E-08	0.00E+00	7.67E-08		0.00E+00	0.00E+00	6.53E-04	0.00E+00	6.53E-04
	Exposure Point Total					7.67E-08						6.53E-04		
	Exposure Medium Total					7.67E-08						6.53E-04		
	Groundwater Vapor Intrusion Indoor Air	Indoor Air (Inhalation)	Trichloroethene	--	--	2.14E-06	--	2.14E-06	CNS/Liver/Endocrine	--	--	1.56E-03	--	1.56E-03
--			--	--	--	--	--	--	--	--	--	--		
Chemical Total			0.00E+00	0.00E+00	3.20E-06	0.00E+00	3.20E-06		0.00E+00	0.00E+00	2.70E-02	0.00E+00	2.70E-02	
Exposure Point Total					3.20E-06						2.70E-02			
Exposure Medium Total					3.20E-06						2.70E-02			
Medium Total					3.28E-06						2.77E-02			
Receptor Total					1.60E-04						3.41E+01			

TABLE H-9.6  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.7**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	Aroclor-1248	2.63E-06	1.07E-06	--	5.30E-08	3.75E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00
			Aroclor-1254	9.73E-07	3.95E-07	--	2.63E-07	1.63E-06	Immune System/ Eye/Finger and Toe Nails	2.84E-01	1.15E-01	--	7.66E-02	4.76E-01
			Aroclor-1260	1.19E-06	4.82E-07	--	1.14E-08	1.68E-06	Immune System/ Eye/Finger and Toe Nails	3.46E-01	1.41E-01	--	3.34E-03	4.90E-01
			Arsenic	1.01E-05	8.82E-07	--	9.21E-07	1.19E-05	Skin	2.63E-01	2.29E-02	--	2.39E-02	3.10E-01
			Benzo(a)anthracene	4.00E-06	1.51E-06	--	1.55E-08	5.53E-06	--	--	--	--	--	--
			Benzo(a)pyrene	1.33E-05	5.02E-06	--	2.94E-08	1.84E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	2.19E-06	8.26E-07	--	4.83E-08	3.06E-06	--	--	--	--	--	--
			Dibenzo(a,h)anthracene	2.54E-06	9.58E-07	--	3.46E-08	3.53E-06	--	--	--	--	--	--
			Dieldrin	9.67E-07	2.80E-08	--	7.76E-06	8.75E-06	Liver	1.41E-02	4.09E-04	--	1.13E-01	1.28E-01
			Heptachlor Epoxide	1.11E-07	3.23E-09	--	1.94E-06	2.06E-06	Liver	1.10E-02	3.18E-04	--	1.92E-01	2.03E-01
			Iron	--	--	--	--	--	Liver	1.74E+00	5.03E-03	--	2.61E-02	1.77E+00
			Chemical Total	4.00E-05	1.17E-05	0.00E+00	1.22E-05	6.39E-05		4.92E+00	6.29E-01	0.00E+00	2.06E+00	7.61E+00
			Exposure Point Total					6.39E-05						
	Exposure Medium Total					6.39E-05								7.61E+00
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	1.90E-06	--	1.90E-06	Liver	--	--	4.38E-03	--	4.38E-03
			--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	2.16E-06	0.00E+00	2.16E-06		0.00E+00	0.00E+00	9.62E-01	0.00E+00	9.62E-01
		Exposure Point Total					2.16E-06							9.62E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.10E+00	--	1.10E+00
1,2-Dichlorobenzene			--	--	--	--	--	Body Weight	--	--	1.73E+00	--	1.73E+00	
1,4-Dichlorobenzene	--		--	4.85E-05	--	4.85E-05	Liver	--	--	1.12E-01	--	1.12E-01		
Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.73E+01	--	4.73E+01			
Chemical Total	0.00E+00	0.00E+00	4.95E-05	0.00E+00	4.95E-05		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01			
Exposure Point Total					4.95E-05							7.36E+01		
Exposure Medium Total					5.17E-05							7.46E+01		
Medium Total					1.16E-04							8.22E+01		

TABLE H-9.7  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--
			--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	4.53E-08	0.00E+00	4.53E-08		0.00E+00	0.00E+00	1.54E-03	0.00E+00	1.54E-03
		Exposure Point Total					4.53E-08						1.54E-03	
		Exposure Medium Total					4.53E-08						1.54E-03	
	Groundwater Vapor Intrusion	Indoor Air (inhalation)	Trichloroethene	--	--	1.26E-06	--	1.26E-06	CNS/Liver/Endocrine	--	--	3.68E-03	--	3.68E-03
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	1.89E-06	0.00E+00	1.89E-06		0.00E+00	0.00E+00	6.38E-02	0.00E+00	6.38E-02
		Exposure Point Total					1.89E-06						6.38E-02	
		Exposure Medium Total					1.89E-06						6.38E-02	
Medium Total						1.94E-06						6.54E-02		
Receptor Total						1.17E-04						8.22E+01		

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.8**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	Aroclor-1248	2.63E-06	1.07E-06	--	5.30E-08	3.75E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00
			Aroclor-1254	9.59E-07	3.89E-07	--	2.59E-07	1.61E-06	Immune System/ Eye/Finger and Toe Nails	2.80E-01	1.14E-01	--	7.55E-02	4.69E-01
			Aroclor-1260	1.07E-06	4.34E-07	--	1.03E-08	1.51E-06	Immune System/ Eye/Finger and Toe Nails	3.12E-01	1.27E-01	--	3.01E-03	4.42E-01
			Arsenic	1.57E-05	1.36E-06	--	1.42E-06	1.85E-05	Skin	4.06E-01	3.53E-02	--	3.69E-02	4.79E-01
			Benzo(a)anthracene	3.37E-06	1.27E-06	--	1.31E-08	4.65E-06	--	--	--	--	--	--
			Benzo(a)pyrene	1.12E-05	4.24E-06	--	2.48E-08	1.55E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.90E-06	7.16E-07	--	4.18E-08	2.66E-06	--	--	--	--	--	--
			Dibenzo(a,h)anthracene	2.21E-06	8.31E-07	--	3.00E-08	3.07E-06	--	--	--	--	--	--
			Dieldrin	8.58E-07	2.49E-08	--	6.88E-08	7.76E-06	Liver	1.25E-02	3.63E-04	--	1.00E-01	1.13E-01
			Heptachlor Epoxide	9.83E-08	2.85E-09	--	1.72E-06	1.82E-06	Liver	9.69E-03	2.81E-04	--	1.69E-01	1.79E-01
	Iron	--	--	--	--	--	Liver	1.57E+00	4.54E-03	--	2.36E-02	1.59E+00		
	Chemical Total	4.16E-05	1.07E-05	0.00E+00	1.14E-05	6.37E-05		4.76E+00	6.24E-01	0.00E+00	1.87E+00	7.25E+00		
	Exposure Point Total					6.37E-05							7.25E+00	
	Exposure Medium Total					6.37E-05								7.25E+00
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	1.90E-06	--	1.90E-06	Liver	--	--	4.38E-03	--	4.38E-03
			--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	2.14E-06	0.00E+00	2.14E-06		0.00E+00	0.00E+00	9.61E-01	0.00E+00	9.61E-01
			Exposure Point Total					2.14E-06						
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
1,2,4-Trichlorobenzene			--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01	
1,2,4-Trimethylbenzene			--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.10E+00	--	1.10E+00	
1,2-Dichlorobenzene			--	--	--	--	--	Body Weight	--	--	1.73E+00	--	1.73E+00	
1,4-Dichlorobenzene			--	--	4.85E-05	--	4.85E-05	Liver	--	--	1.12E-01	--	1.12E-01	
Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.73E+01	--	4.73E+01			
Chemical Total	0.00E+00	0.00E+00	4.95E-05	0.00E+00	4.95E-05		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01			
Exposure Point Total					4.95E-05							7.36E+01		
Exposure Medium Total					5.17E-05							7.48E+01		
Medium Total					1.15E-04							8.18E+01		

**TABLE H-9.8**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	4.53E-08	0.00E+00	4.53E-08	--	0.00E+00	0.00E+00	1.54E-03	0.00E+00	1.54E-03	
		Exposure Point Total					4.53E-08						1.54E-03		
		Exposure Medium Total					4.53E-08						1.54E-03		
	Groundwater Vapor Intrusion	Indoor Air (inhalation)	Trichloroethene	--	--	1.26E-06	--	1.26E-06	CNS/Liver/Endocrine	--	--	3.68E-03	--	3.68E-03	
				--	--	--	--	--	--	--	--	--	--	--	
				Chemical Total	0.00E+00	0.00E+00	1.89E-06	0.00E+00	1.89E-06	--	0.00E+00	0.00E+00	6.38E-02	0.00E+00	6.38E-02
				Exposure Point Total					1.89E-06						6.38E-02
		Exposure Medium Total					1.89E-06						6.38E-02		
Medium Total						1.94E-06						6.54E-02			
Receptor Total						1.17E-04						8.19E+01			

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-9.9  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	4-Nitroaniline	2.04E-08	6.58E-09	--	1.41E-06	1.44E-06	--	2.64E-03	7.66E-04	--	5.22E-02	5.56E-02	
			Aroclor-1248	3.76E-06	1.70E-06	--	2.65E-07	5.72E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00	
			Aroclor-1254	1.39E-06	6.28E-07	--	1.31E-06	3.33E-06	Immune System/ Eye/Finger and Toe Nails	2.84E-01	1.15E-01	--	7.66E-02	4.76E-01	
			Aroclor-1260	1.70E-06	7.66E-07	--	5.72E-08	2.52E-06	Immune System/ Eye/Finger and Toe Nails	3.46E-01	1.41E-01	--	3.34E-03	4.90E-01	
			Arsenic	1.45E-05	1.40E-06	--	4.60E-06	2.05E-05	Skin	2.63E-01	2.29E-02	--	2.39E-02	3.10E-01	
			Benzo(a)anthracene	5.72E-06	2.40E-06	--	7.77E-08	8.20E-06	--	--	--	--	--	--	--
			Benzo(a)pyrene	1.90E-05	7.98E-06	--	1.47E-07	2.72E-05	--	--	--	--	--	--	--
			Benzo(b)fluoranthene	3.13E-06	1.31E-06	--	2.41E-07	4.68E-06	--	--	--	--	--	--	--
			bis(2-ethylhexyl)phthalate	1.72E-07	5.54E-09	--	3.14E-06	3.32E-06	Liver	5.01E-03	1.45E-04	--	2.62E-02	3.14E-02	
			Dibenzo(a,h)anthracene	3.63E-06	1.52E-06	--	1.73E-07	5.32E-06	--	--	--	--	--	--	--
			Dieldrin	1.38E-06	4.46E-08	--	3.88E-05	4.02E-05	Liver	1.41E-02	4.09E-04	--	1.13E-01	1.28E-01	
			Heptachlor Epoxide	1.59E-07	5.13E-09	--	9.72E-06	9.88E-06	Liver	1.10E-02	3.18E-04	--	1.92E-01	2.03E-01	
			Indeno(1,2,3-cd)pyrene	9.98E-07	4.19E-07	--	5.76E-08	1.47E-06	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	1.74E+00	5.03E-03	--	2.61E-02	1.77E+00	
	Chemical Total	5.72E-05	1.86E-05	0.00E+00	6.10E-05	1.37E-04		4.92E+00	6.29E-01	0.00E+00	2.06E+00	7.61E+00			
	Exposure Point Total					1.37E-04						7.61E+00			
	Exposure Medium Total					1.37E-04						7.61E+00			
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	5.12E-06	--	5.12E-06	Liver	--	--	4.38E-03	--	4.38E-03	
			--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	5.81E-06	0.00E+00	5.81E-06		0.00E+00	0.00E+00	9.62E-01	0.00E+00	9.62E-01	
Exposure Point Total						5.81E-06						9.62E-01			
Indoor Air (Vapor Intrusion)		1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00		
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01		
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.10E+00	--	1.10E+00		
		1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.73E+00	--	1.73E+00		
		1,4-Dichlorobenzene	--	--	1.31E-04	--	1.31E-04	Liver	--	--	1.12E-01	--	1.12E-01		
	Dieldrin	--	--	1.25E-06	--	1.25E-06	Liver	--	--	6.76E-03	--	6.76E-03			
Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.73E+01	--	4.73E+01				
Chemical Total	0.00E+00	0.00E+00	1.33E-04	0.00E+00	1.33E-04		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01				
Exposure Point Total					1.33E-04						7.36E+01				
Exposure Medium Total					1.39E-04						7.46E+01				
Medium Total					2.76E-04						8.22E+01				

TABLE H-9.9  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--
			--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	1.22E-07	0.00E+00	1.22E-07		0.00E+00	0.00E+00	1.54E-03	0.00E+00	1.54E-03
		Exposure Point Total					1.22E-07						1.54E-03	
		Exposure Medium Total					1.22E-07						1.54E-03	
	Groundwater Vapor Intrusion	Indoor Air (Inhalation)	Trichloroethene	--	--	3.40E-06	--	3.40E-06	CNS/Liver/Endocrine	--	--	3.68E-03	--	3.68E-03
--				--	--	--	--	--	--	--	--	--	--	
--				--	--	--	--	--	--	--	--	--	--	--
Chemical Total				0.00E+00	0.00E+00	5.10E-06	0.00E+00	5.10E-06		0.00E+00	0.00E+00	6.38E-02	0.00E+00	6.38E-02
	Exposure Point Total					5.10E-06						6.38E-02		
	Exposure Medium Total					5.10E-06						6.38E-02		
Medium Total						5.22E-06						6.54E-02		
Receptor Total						2.81E-04						8.22E+01		

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-9.10  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	4-Nitroaniline	2.04E-08	6.58E-09	--	1.41E-06	1.44E-06	--	2.64E-03	7.66E-04	--	5.22E-02	5.56E-02
			Aroclor-1248	3.76E-06	1.70E-06	--	2.65E-07	5.72E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00
			Aroclor-1254	1.37E-06	6.19E-07	--	1.29E-06	3.28E-06	Immune System/ Eye/Finger and Toe Nails	2.80E-01	1.14E-01	--	7.55E-02	4.69E-01
			Aroclor-1260	1.53E-06	6.91E-07	--	5.16E-08	2.27E-06	Immune System/ Eye/Finger and Toe Nails	3.12E-01	1.27E-01	--	3.01E-03	4.42E-01
			Arsenic	2.24E-05	2.17E-06	--	7.12E-06	3.17E-05	Skin	4.06E-01	3.53E-02	--	3.69E-02	4.79E-01
			Benzo(a)anthracene	4.81E-06	2.02E-06	--	6.54E-08	6.90E-06	--	--	--	--	--	--
			Benzo(a)pyrene	1.61E-05	6.74E-06	--	1.24E-07	2.29E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	2.71E-06	1.14E-06	--	2.09E-07	4.06E-06	--	--	--	--	--	--
			bis(2-ethylhexyl)phthalate	1.16E-07	3.75E-09	--	2.13E-06	2.25E-06	Liver	3.39E-03	9.82E-05	--	1.77E-02	2.12E-02
			Dibenzo(a,h)anthracene	3.15E-06	1.32E-06	--	1.50E-07	4.62E-06	--	--	--	--	--	--
			Dieldrin	1.23E-06	3.95E-08	--	3.44E-05	3.57E-05	Liver	1.25E-02	3.63E-04	--	1.00E-01	1.13E-01
			Heptachlor Epoxide	1.40E-07	4.53E-09	--	8.59E-06	8.73E-06	Liver	9.69E-03	2.81E-04	--	1.69E-01	1.79E-01
			Iron	--	--	--	--	--	Liver	1.57E+00	4.54E-03	--	2.36E-02	1.59E+00
			Chemical Total	5.94E-05	1.70E-05	0.00E+00	5.68E-05	1.33E-04		4.76E+00	6.24E-01	0.00E+00	1.87E+00	7.25E+00
	Exposure Point Total					1.33E-04						7.25E+00		
	Exposure Medium Total					1.33E-04						7.25E+00		
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	5.12E-06	--	5.12E-06	Liver	--	--	4.38E-03	--	4.38E-03
			--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	5.77E-06	0.00E+00	5.77E-06		0.00E+00	0.00E+00	9.61E-01	0.00E+00	9.61E-01
		Exposure Point Total					5.77E-06						9.61E-01	
Indoor Air (Vapor Intrusion)		1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00	
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.10E+00	--	1.10E+00	
		1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.73E+00	--	1.73E+00	
		1,4-Dichlorobenzene	--	--	1.31E-04	--	1.31E-04	Liver	--	--	1.12E-01	--	1.12E-01	
		Dieldrin	--	--	1.25E-05	--	1.25E-06	Liver	--	--	6.76E-03	--	6.76E-03	
		Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.73E+01	--	4.73E+01	
Chemical Total		0.00E+00	0.00E+00	1.33E-04	0.00E+00	1.33E-04		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01		
Exposure Point Total						1.33E-04						7.36E+01		
Exposure Medium Total					1.39E-04						7.46E+01			
Medium Total					2.72E-04						8.18E+01			

TABLE H-9.10  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	1.22E-07	0.00E+00	1.22E-07	--	0.00E+00	0.00E+00	1.54E-03	0.00E+00	1.54E-03
		Exposure Point Total					1.22E-07						1.54E-03	
		Exposure Medium Total					1.22E-07						1.54E-03	
	Groundwater Vapor Intrusion	Indoor Air (Inhalation)	Trichloroethene	--	--	3.40E-06	--	3.40E-06	CNS/Liver/Endocrine	--	--	3.68E-03	--	3.68E-03
				--	--	--	--	--	--	--	--	--	--	
				--	--	--	--	--	--	--	--	--	--	
				Chemical Total	0.00E+00	0.00E+00	5.10E-06	0.00E+00	5.10E-06	--	0.00E+00	0.00E+00	6.38E-02	0.00E+00
		Exposure Point Total					5.10E-06						6.38E-02	
	Exposure Medium Total					5.10E-06						6.38E-02		
Medium Total						5.22E-06						6.54E-02		
Receptor Total						2.78E-04						8.19E+01		

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard Index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.11**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	9.31E-07	5.20E-07	--	--	1.45E-06	Skin	6.03E-03	3.37E-03	--	--	9.40E-03	
			Benzo(a)anthracene	3.68E-07	8.90E-07	--	--	1.26E-06		--	--	--	--	--	--
			Benzo(a)pyrene	1.22E-06	2.96E-06	--	--	4.19E-06		--	--	--	--	--	--
			Chemical Total	3.67E-06	6.89E-06	0.00E+00	0.00E+00	1.06E-05		--	1.13E-01	9.27E-02	0.00E+00	0.00E+00	2.06E-01
	Exposure Point Total						1.06E-05						2.06E-01		
	Exposure Medium Total						1.06E-05						2.06E-01		
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	6.24E-07	0.00E+00	6.24E-07	--	0.00E+00	0.00E+00	6.96E-02	0.00E+00	6.96E-02	
Exposure Point Total						6.24E-07						6.96E-02			
Exposure Medium Total						6.24E-07						6.96E-02			
Medium Total						1.12E-05						2.75E-01			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.31E-08	0.00E+00	1.31E-08	--	0.00E+00	0.00E+00	1.12E-04	0.00E+00	1.12E-04	
Exposure Point Total						1.31E-08						1.12E-04			
Exposure Medium Total						1.31E-08						1.12E-04			
Medium Total						1.31E-08						1.12E-04			
Receptor Total				Receptor Risk Total				1.12E-05	Receptor HI Total				2.75E-01		

- Notes:
- Not applicable or not available
  - COPC Chemicals of Potential Concern
  - CNS Central nervous system
  - EPA U.S. Environmental Protection Agency
  - ft. bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-9.12  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Aroclor-1248	5.64E-07	1.07E-06	--	--	1.63E-06	Immune System/ Eye/Finger and Toe Nails Skin	1.64E-01	3.11E-01	--	--	4.76E-01	
			Arsenic	2.17E-06	8.82E-07	--	--	3.05E-06		5.63E-02	2.29E-02	--	--	7.92E-02	
			Benzo(a)anthracene	8.58E-07	1.51E-06	--	--	2.37E-06		--	--	--	--	--	
			Benzo(a)pyrene	2.85E-06	5.02E-06	--	--	7.88E-06		--	--	--	--	--	
			Benzo(b)fluoranthene	4.69E-07	8.26E-07	--	--	1.30E-06		--	--	--	--	--	
			Dibenzo(a,h)anthracene	5.44E-07	9.58E-07	--	--	1.50E-06		--	--	--	--	--	
		Chemical Total		8.57E-06	1.17E-05	0.00E+00	0.00E+00	2.03E-05		1.05E+00	6.29E-01	0.00E+00	0.00E+00	1.68E+00	
		Exposure Point Total													
		Exposure Medium Total													1.68E+00
		Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--
	Chemical Total			0.00E+00	0.00E+00	8.99E-08	0.00E+00	8.99E-08		0.00E+00	0.00E+00	4.01E-02	0.00E+00	4.01E-02	
	Exposure Point Total														4.01E-02
	Exposure Medium Total													4.01E-02	
	Exposure Medium Total													8.99E-08	
	Exposure Medium Total													2.03E-05	
Medium Total														1.72E+00	
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--	
				Chemical Total	0.00E+00	0.00E+00	1.89E-09	0.00E+00	1.89E-09		0.00E+00	0.00E+00	6.43E-05	0.00E+00	6.43E-05
				Exposure Point Total											
	Exposure Medium Total													6.43E-05	
Medium Total														6.43E-05	
Receptor Total														2.04E-05	
														Receptor HI Total	1.72E+00

- Notes:
- Not applicable or not available
  - COPC Chemicals of Potential Concern
  - CNS Central nervous system
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.13**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	Aroclor-1248	8.05E-07	1.70E-06	--	--	2.50E-06	Immune System/ Eye/Finger and Toe Nails	1.64E-01	3.11E-01	--	--	4.76E-01
			Aroclor-1260	3.63E-07	7.66E-07	--	--	1.13E-06	Immune System/ Eye/Finger and Toe Nails	7.42E-02	1.41E-01	--	--	2.15E-01
			Arsenic	3.10E-06	1.40E-06	--	--	4.50E-06	Skin	5.63E-02	2.29E-02	--	--	7.92E-02
			Benzo(a)anthracene	1.23E-06	2.40E-06	--	--	3.63E-06	--	--	--	--	--	--
			Benzo(a)pyrene	4.08E-06	7.98E-06	--	--	1.21E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	6.71E-07	1.31E-06	--	--	1.98E-06	--	--	--	--	--	--
			Dibenzo(a,h)anthracene	7.78E-07	1.52E-06	--	--	2.30E-06	--	--	--	--	--	--
	Chemical Total	1.22E-05	1.86E-05	0.00E+00	0.00E+00	3.08E-05		1.05E+00	6.29E-01	0.00E+00	0.00E+00	1.68E+00		
	Exposure Point Total					3.08E-05						1.68E+00		
	Exposure Medium Total					3.08E-05						1.68E+00		
Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--	--	--	--	--	--	--	--	
		Chemical Total	0.00E+00	0.00E+00	7.14E-07	0.00E+00	7.14E-07		0.00E+00	0.00E+00	4.01E-02	0.00E+00	4.01E-02	
Exposure Point Total					7.14E-07						4.01E-02			
Exposure Medium Total					7.14E-07						4.01E-02			
Medium Total					3.15E-05							1.72E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	1.50E-08	0.00E+00	1.50E-08		0.00E+00	0.00E+00	6.43E-05	0.00E+00	6.43E-05
Exposure Point Total					1.50E-08						6.43E-05			
Exposure Medium Total					1.50E-08						6.43E-05			
Medium Total					1.50E-08							6.43E-05		
Receptor Total					3.16E-05							1.72E+00		

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-9.14  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs)	Soil	Site Soil	Aroclor-1248	8.39E-07	1.34E-06	--	--	2.18E-06	Immune System/ Eye/Finger and Toe Nails Skin Kidney	5.87E-02	9.37E-02	--	--	1.52E-01		
			Arsenic	2.04E-05	6.96E-06	--	--	2.73E-05		2.01E-02	6.88E-03	--	--	2.70E-02		
			Benzo(a)anthracene	2.10E-06	3.11E-06	--	--	5.21E-06		--	--	--	--	--		
			Benzo(a)pyrene	6.98E-06	1.03E-05	--	--	1.73E-05		--	--	--	--	--		
			Benzo(b)fluoranthene	1.15E-06	1.70E-06	--	--	2.85E-06		--	--	--	--	--		
			Benzo(k)fluoranthene	1.37E-06	2.03E-06	--	--	3.39E-06		--	--	--	--	--		
			Cadmium	1.26E-06	1.43E-08	--	--	1.27E-06		--	--	--	--	--		
			Dibenzo(a,h)anthracene	4.55E-07	6.74E-07	--	--	1.13E-06		--	--	--	--	--		
			Chemical Total	3.65E-05	2.85E-05	0.00E+00	0.00E+00	6.50E-05		--	--	3.75E-01	1.89E-01	0.00E+00	0.00E+00	5.64E-01
			Exposure Point Total					6.50E-05								5.64E-01
	Exposure Medium Total					6.50E-05							5.64E-01			
	Air	Outdoor Air (Particulates and VOCs)		1,4-Dichlorobenzene	--	--	3.06E-06	--	3.06E-06	Liver Nasal Epithelium	--	--	9.31E-04	--	9.31E-04	
				Naphthalene	--	--	4.11E-06	--	4.11E-06		--	--	1.12E-01	--	1.12E-01	
				Chemical Total	0.00E+00	0.00E+00	7.40E-06	0.00E+00	7.40E-06		0.00E+00	0.00E+00	2.05E-01	0.00E+00	2.05E-01	
				Exposure Point Total			7.40E-06		7.40E-06				2.05E-01		2.05E-01	
		Indoor Air (Vapor Intrusion)			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney Liver Nasal Epithelium	--	--	1.69E+00	--	1.69E+00
					1,4-Dichlorobenzene	--	--	3.54E-05	--	3.54E-05		--	--	1.08E-02	--	1.08E-02
					Naphthalene	--	--	1.50E-04	--	1.50E-04		--	--	4.08E+00	--	4.08E+00
					Chemical Total	0.00E+00	0.00E+00	1.86E-04	0.00E+00	1.86E-04		0.00E+00	0.00E+00	6.61E+00	0.00E+00	6.61E+00
	Exposure Point Total			1.86E-04		1.86E-04			6.61E+00		6.61E+00					
Exposure Medium Total			1.93E-04		1.93E-04			6.61E+00		6.61E+00						
Medium Total					2.58E-04							7.38E+00				
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--			
			--	--	--	--	--	--	--	--	--	--				
			Chemical Total	0.00E+00	0.00E+00	3.86E-08	0.00E+00	3.86E-08	0.00E+00	0.00E+00	2.98E-04	0.00E+00	2.98E-04			
	Exposure Point Total			3.86E-08		3.86E-08			2.98E-04		2.98E-04					
	Exposure Medium Total			3.86E-08		3.86E-08			2.98E-04		2.98E-04					
	Groundwater Vapor Intrusion	Indoor Air (Inhalation)		--	--	--	--	--	--	--	--	--	--	--		
--				--	--	--	--	--	--	--	--	--				
Chemical Total				0.00E+00	0.00E+00	8.24E-07	0.00E+00	8.24E-07	0.00E+00	0.00E+00	6.06E-03	0.00E+00	6.06E-03			
Exposure Point Total			8.24E-07		8.24E-07			6.06E-03		6.06E-03						
Exposure Medium Total			8.24E-07		8.24E-07			6.06E-03		6.06E-03						
Medium Total					8.62E-07		8.62E-07					6.36E-03				
Receptor Total					2.59E-04		2.59E-04					7.38E+00				

TABLE H-9.14

EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-9.15  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	Aroclor-1248	8.39E-07	1.34E-06	--	--	2.18E-06	Immune System/ Eye/Finger and Toe Nails Skin Kidney	5.87E-02	9.37E-02	--	--	1.52E-01	
			Arsenic	3.15E-05	1.08E-05	--	--	4.22E-05		3.11E-02	1.06E-02	--	--	4.17E-02	
			Benzo(a)anthracene	1.77E-06	2.62E-06	--	--	4.38E-06		--	--	--	--	--	--
			Benzo(a)pyrene	5.90E-06	8.74E-06	--	--	1.46E-05		--	--	--	--	--	--
			Benzo(b)fluoranthene	9.95E-07	1.47E-06	--	--	2.47E-06		--	--	--	--	--	--
			Benzo(k)fluoranthene	1.18E-06	1.78E-06	--	--	2.94E-06		--	--	--	--	--	--
			Cadmium	1.15E-06	1.31E-08	--	--	1.16E-06		--	1.69E-02	1.93E-04	--	--	1.71E-02
			Chemical Total	4.55E-05	2.92E-05	0.00E+00	0.00E+00	7.47E-05		--	3.62E-01	1.88E-01	0.00E+00	0.00E+00	5.50E-01
	Exposure Point Total					7.47E-05							5.50E-01		
	Exposure Medium Total					7.47E-05							5.50E-01		
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	3.06E-06	--	3.06E-06	Liver Nasal Epithelium	--	--	9.31E-04	--	9.31E-04	
			Naphthalene	--	--	4.11E-06	--	4.11E-06		--	--	1.12E-01	--	1.12E-01	
			Chemical Total	0.00E+00	0.00E+00	7.38E-06	0.00E+00	7.38E-06		--	--	2.05E-01	0.00E+00	2.05E-01	
			Exposure Point Total					7.38E-06							2.05E-01
		Indoor Air (Vapor Intrusion)	1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney Liver Nasal Epithelium	--	--	1.69E+00	--	1.69E+00	
			1,4-Dichlorobenzene	--	--	3.54E-05	--	3.54E-05		--	--	1.08E-02	--	1.08E-02	
			Naphthalene	--	--	1.50E-04	--	1.50E-04		--	--	4.08E+00	--	4.08E+00	
			Chemical Total	0.00E+00	0.00E+00	1.86E-04	0.00E+00	1.86E-04		0.00E+00	0.00E+00	6.61E+00	0.00E+00	6.61E+00	
	Exposure Point Total					1.86E-04							6.61E+00		
	Exposure Medium Total					1.86E-04							6.61E+00		
Medium Total					2.68E-04							7.36E+00			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	3.86E-08	0.00E+00	3.86E-08	0.00E+00	0.00E+00	2.98E-04	0.00E+00	2.98E-04		
			Exposure Point Total					3.86E-08						2.98E-04	
	Exposure Medium Total					3.86E-08							2.98E-04		
	Groundwater Vapor Intrusion Indoor Air	Indoor Air (Inhalation)	--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	8.24E-07	0.00E+00	8.24E-07	0.00E+00	0.00E+00	6.06E-03	0.00E+00	6.06E-03		
Exposure Point Total							8.24E-07						6.06E-03		
Exposure Medium Total					8.24E-07							6.06E-03			
Medium Total					8.62E-07							6.36E-03			
Receptor Total					2.68E-04							7.37E+00			

TABLE H-9.15

EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- RME Reasonable maximum exposure
- VOC Volatile organic compound

**TABLE H-9.16**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	2.69E-06	1.11E-06	--	--	3.80E-06	Skin	6.64E-02	2.75E-02	--	--	9.39E-02	
			Benzo(a)pyrene	9.22E-07	1.66E-06	--	--	2.58E-06		--	--	--	--	--	--
			Chemical Total	4.82E-06	4.55E-06	0.00E+00	0.00E+00	9.38E-06		--	1.24E+00	7.57E-01	0.00E+00	0.00E+00	1.99E+00
			Exposure Point Total											9.38E-06	1.99E+00
		Exposure Medium Total													1.99E+00
	Air	Outdoor Air	Aluminum	--	--	--	--	--	Respiratory System CNS	--	--	1.21E+00	--	--	1.21E+00
			Manganese	--	--	--	--	--		--	4.54E+00	--	--	--	4.54E+00
			Chemical Total	0.00E+00	0.00E+00	1.38E-06	0.00E+00	1.38E-06		--	0.00E+00	0.00E+00	7.43E+00	0.00E+00	7.43E+00
			Exposure Point Total											1.38E-06	7.43E+00
		Exposure Medium Total												1.38E-06	7.43E+00
Medium Total													1.08E-05	9.42E+00	
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--		--	--	--	--	--	--	
			--	--	--	--	--		--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	2.21E-09	0.00E+00		2.21E-09	--	0.00E+00	0.00E+00	4.26E-04	0.00E+00	4.26E-04
		Exposure Point Total											2.21E-09	4.26E-04	
	Exposure Medium Total												2.21E-09	4.26E-04	
Medium Total													2.21E-09	4.26E-04	
Receptor Total							Receptor Risk Total						1.08E-05	Receptor HI Total	9.42E+00

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.17**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	Arsenic	4.16E-06	1.72E-06	--	--	5.88E-06	Skin	1.03E-01	4.25E-02	--	--	1.45E-01	
			Benzo(a)pyrene	7.78E-07	1.40E-06	--	--	2.18E-06		--	--	--	--	--	--
			Chemical Total	6.00E-06	4.67E-06	0.00E+00	0.00E+00	1.07E-05		--	1.20E+00	7.51E-01	0.00E+00	0.00E+00	1.95E+00
	Exposure Point Total						1.07E-05						1.95E+00		
	Exposure Medium Total						1.07E-05						1.95E+00		
	Air	Outdoor Air		Aluminum	--	--	--	--	--	Respiratory System CNS	--	--	1.24E+00	--	1.24E+00
				Manganese	--	--	--	--	--		--	--	4.17E+00	--	4.17E+00
				Chemical Total	0.00E+00	0.00E+00	1.45E-06	0.00E+00	1.45E-06		0.00E+00	0.00E+00	7.13E+00	0.00E+00	7.13E+00
	Exposure Point Total						1.45E-06						7.13E+00		
	Exposure Medium Total						1.45E-06						7.13E+00		
Medium Total						1.21E-05						9.08E+00			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	2.21E-09	0.00E+00	2.21E-09	0.00E+00	0.00E+00	4.26E-04	0.00E+00	4.26E-04		
Exposure Point Total						2.21E-09						4.26E-04			
Exposure Medium Total						2.21E-09						4.26E-04			
Medium Total						2.21E-09						4.26E-04			
Receptor Total								1.21E-05					Receptor HI Total	9.08E+00	

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard Index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.18**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	4-Nitroaniline	6.12E-09	2.44E-09	--	1.13E-06	1.14E-06	--	2.83E-04	1.13E-04	--	5.22E-02	5.26E-02	
			Aroclor-1248	1.13E-06	6.30E-07	--	2.12E-07	1.97E-06	Immune System/ Eye/Finger and Toe Nails	8.22E-02	4.59E-02	--	1.55E-02	1.44E-01	
			Aroclor-1254	4.17E-07	2.33E-07	--	1.05E-06	1.70E-08	Immune System/ Eye/Finger and Toe Nails	3.04E-02	1.70E-02	--	7.66E-02	1.24E-01	
			Arsenic	2.74E-05	3.28E-06	--	2.32E-05	5.38E-05	Skin	2.82E-02	3.37E-03	--	2.39E-02	5.54E-02	
			Benzo(a)anthracene	2.82E-06	1.46E-06	--	1.02E-07	4.39E-06	--	--	--	--	--	--	
			Benzo(a)pyrene	9.39E-06	4.87E-06	--	1.93E-07	1.44E-05	--	--	--	--	--	--	
			Benzo(b)fluoranthene	1.54E-06	8.01E-07	--	3.18E-07	2.66E-06	--	--	--	--	--	--	
			Benzo(k)fluoranthene	1.84E-06	9.53E-07	--	3.78E-07	3.17E-06	--	--	--	--	--	--	
			Cadmium	1.69E-06	6.75E-09	--	3.58E-05	3.75E-05	Kidney	2.60E-02	1.04E-04	--	5.50E-01	5.76E-01	
			Dibenzo(a,h)anthracene	6.11E-07	3.17E-07	--	7.77E-08	1.01E-06	--	--	--	--	--	--	
			Dieldrin	4.14E-07	1.65E-08	--	3.10E-05	3.15E-05	Liver	1.51E-03	6.03E-05	--	1.13E-01	1.15E-01	
			Heptachlor Epoxide	2.88E-08	1.15E-09	--	4.70E-06	4.73E-06	Liver	1.18E-03	4.69E-05	--	1.92E-01	1.93E-01	
			Chemical Total	4.91E-05	1.34E-05	0.00E+00	9.98E-05	1.62E-04		5.25E-01	9.27E-02	0.00E+00	2.06E+00	2.68E+00	
	Exposure Point Total					1.62E-04						2.68E+00			
	Exposure Medium Total					1.62E-04						2.68E+00			
	Air	Outdoor Air		1,4-Dichlorobenzene	--	--	5.85E-06	--	5.85E-06	Liver	--	--	1.85E-03	--	1.85E-03
				Naphthalene	--	--	7.85E-06	--	7.85E-06	Nasal Epithelium	--	--	2.23E-01	--	2.23E-01
				Chemical Total	0.00E+00	0.00E+00	1.41E-05	0.00E+00	1.41E-05		0.00E+00	0.00E+00	4.08E-01	0.00E+00	4.08E-01
				Exposure Point Total					1.41E-05					4.08E-01	
				Exposure Medium Total					1.41E-05					4.08E-01	
Indoor Air (Vapor Intrusion)				1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.19E+00	--	2.19E+00
				1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	7.43E+00	--	7.43E+00
				1,4-Dichlorobenzene	--	--	1.49E-04	--	1.49E-04	Liver	--	--	4.74E-02	--	4.74E-02
				Naphthalene	--	--	7.06E-04	--	7.06E-04	Nasal Epithelium	--	--	2.00E+01	--	2.00E+01
				Chemical Total	0.00E+00	0.00E+00	8.58E-04	0.00E+00	8.58E-04		0.00E+00	0.00E+00	3.12E+01	0.00E+00	3.12E+01
Exposure Point Total					8.58E-04					3.12E+01					
Exposure Medium Total					8.72E-04					3.16E+01					
Medium Total					1.03E-03						3.43E+01				
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	7.38E-08	0.00E+00	7.38E-08		0.00E+00	0.00E+00	5.95E-04	0.00E+00	5.95E-04	
			Exposure Point Total					7.38E-08					5.95E-04		
			Exposure Medium Total					7.38E-08					5.95E-04		
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Vinyl chloride	--	--	3.28E-06	--	3.28E-06	Liver	--	--	1.24E-03	--	1.24E-03		
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	3.71E-06	0.00E+00	3.71E-06		0.00E+00	0.00E+00	2.45E-02	0.00E+00	2.45E-02	
			Exposure Point Total					3.71E-06					2.45E-02		
			Exposure Medium Total					3.71E-06					2.45E-02		
Medium Total					3.78E-06						2.51E-02				
Receptor Total					1.04E-03						3.43E+01				

TABLE H-9.18

EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- RME Reasonable maximum exposure
- VOC Volatile organic compound

**TABLE H-9.19**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BG)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	4-Nitroaniline	6.12E-09	2.44E-09	--	1.13E-06	1.14E-06	--	2.83E-04	1.13E-04	--	5.22E-02	5.26E-02
			Aroclor-1248	1.13E-06	6.30E-07	--	2.12E-07	1.97E-06	Immune System/ Eye/Finger and Toe Nails	8.22E-02	4.59E-02	--	1.55E-02	1.44E-01
			Aroclor-1254	4.11E-07	2.30E-07	--	1.04E-06	1.68E-06	Immune System/ Eye/Finger and Toe Nails	3.00E-02	1.67E-02	--	7.55E-02	1.22E-01
			Arsenic	4.23E-05	5.06E-06	--	3.59E-05	8.32E-05	Skin	4.35E-02	5.21E-03	--	3.69E-02	8.56E-02
			Benzo(a)anthracene	2.37E-06	1.23E-06	--	8.61E-08	3.69E-06	--	--	--	--	--	--
			Benzo(a)pyrene	7.92E-06	4.11E-06	--	1.63E-07	1.22E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.34E-06	6.94E-07	--	2.75E-07	2.31E-06	--	--	--	--	--	--
			Benzo(k)fluoranthene	1.59E-06	8.26E-07	--	3.28E-07	2.75E-06	--	--	--	--	--	--
			Cadmium	1.54E-06	6.16E-09	--	3.27E-05	3.43E-05	Kidney	2.37E-02	9.45E-05	--	5.02E-01	5.26E-01
			Dieldrin	3.68E-07	1.47E-08	--	2.75E-05	2.79E-05	Liver	1.34E-03	5.35E-05	--	1.00E-01	1.02E-01
			Heptachlor Epoxide	2.55E-08	1.02E-09	--	4.15E-06	4.18E-06	Liver	1.04E-03	4.14E-05	--	1.69E-01	1.70E-01
			Chemical Total	6.11E-05	1.37E-05	0.00E+00	1.05E-04	1.80E-04		5.07E-01	9.20E-02	0.00E+00	1.87E+00	2.47E+00
	Exposure Point Total					1.80E-04						2.47E+00		
	Exposure Medium Total					1.80E-04						2.47E+00		
	Air	Outdoor Air		1,4-Dichlorobenzene	--	--	5.85E-06	--	5.85E-06	Liver	--	--	1.85E-03	1.85E-03
				Naphthalene	--	--	7.85E-06	--	7.85E-06	Nasal Epithelium	--	--	2.23E-01	2.23E-01
				Chemical Total	0.00E+00	0.00E+00	1.41E-05	0.00E+00	1.41E-05		0.00E+00	0.00E+00	4.07E-01	4.07E-01
				Exposure Point Total					1.41E-05					4.07E-01
				Exposure Medium Total					1.41E-05					4.07E-01
		Indoor Air (Vapor Intrusion)			1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.19E+00
1,2,4-Trichlorobenzene					--	--	--	--	--	Kidney	--	--	7.43E+00	7.43E+00
1,4-Dichlorobenzene					--	--	1.49E-04	--	1.49E-04	Liver	--	--	4.74E-02	4.74E-02
Naphthalene					--	--	7.06E-04	--	7.06E-04	Nasal Epithelium	--	--	2.00E+01	2.00E+01
Chemical Total					0.00E+00	0.00E+00	8.58E-04	0.00E+00	8.58E-04		0.00E+00	0.00E+00	3.12E+01	3.12E+01
Exposure Point Total					8.58E-04					3.12E+01				
Exposure Medium Total					8.58E-04					3.12E+01				
Medium Total					1.05E-03						3.40E+01			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	7.38E-08	0.00E+00	7.38E-08		0.00E+00	0.00E+00	5.95E-04	5.95E-04	
			Exposure Point Total					7.38E-08					5.95E-04	
			Exposure Medium Total					7.38E-08					5.95E-04	
	Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)		Vinyl chloride	--	--	3.28E-06	--	3.28E-06	Liver	--	--	1.24E-03	1.24E-03
				--	--	--	--	--	--	--	--	--	--	
				Chemical Total	0.00E+00	0.00E+00	3.71E-06	0.00E+00	3.71E-06		0.00E+00	0.00E+00	2.45E-02	2.45E-02
				Exposure Point Total					3.71E-06					2.45E-02
				Exposure Medium Total					3.71E-06					2.45E-02
Medium Total					3.78E-06						2.51E-02			
Receptor Total					1.06E-03						3.41E+01			

TABLE H-9.19

EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- RME Reasonable maximum exposure
- VOC Volatile organic compound

TABLE H-9.20  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Aroclor-1248	2.63E-06	1.07E-06	--	5.30E-08	3.75E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00	
			Aroclor-1254	9.73E-07	3.95E-07	--	2.63E-07	1.63E-06	Immune System/ Eye/Finger and Toe Nails	2.84E-01	1.15E-01	--	7.66E-02	4.76E-01	
			Aroclor-1260	1.19E-06	4.82E-07	--	1.14E-08	1.68E-06	Immune System/ Eye/Finger and Toe Nails	3.46E-01	1.41E-01	--	3.34E-03	4.90E-01	
			Arsenic	6.39E-05	5.56E-06	--	5.80E-06	7.52E-05	Skin	2.63E-01	2.29E-02	--	2.39E-02	3.10E-01	
			Benzo(a)anthracene	6.58E-06	2.48E-06	--	2.56E-08	9.09E-06	--	--	--	--	--	--	--
			Benzo(a)pyrene	2.19E-05	8.26E-06	--	4.83E-08	3.02E-05	--	--	--	--	--	--	--
			Benzo(b)fluoranthene	3.60E-06	1.36E-06	--	7.94E-08	5.04E-06	--	--	--	--	--	--	--
			Benzo(k)fluoranthene	4.29E-06	1.62E-06	--	9.45E-08	6.00E-06	--	--	--	--	--	--	--
			Cadmium	3.95E-06	1.14E-08	--	8.96E-06	1.29E-05	Kidney	2.42E-01	7.02E-04	--	5.50E-01	7.93E-01	
			Chrysene	7.47E-07	2.82E-07	--	2.04E-08	1.05E-06	--	--	--	--	--	--	--
			Dibenzo(a,h)anthracene	1.43E-06	5.38E-07	--	1.94E-08	1.98E-06	--	--	--	--	--	--	--
			Dieldrin	9.67E-07	2.80E-08	--	7.76E-06	8.75E-06	Liver	1.41E-02	4.09E-04	--	1.13E-01	1.28E-01	
			Heptachlor Epoxide	6.72E-08	1.95E-09	--	1.17E-06	1.24E-06	Liver	1.10E-02	3.18E-04	--	1.92E-01	2.03E-01	
			Indeno(1,2,3-cd)pyrene	1.15E-06	4.33E-07	--	1.89E-08	1.60E-06	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	1.74E+00	5.03E-03	--	2.61E-02	1.77E+00	
	Chemical Total	1.15E-04	2.27E-05	0.00E+00	2.49E-05	1.62E-04		4.90E+00	6.29E-01	0.00E+00	2.06E+00	7.59E+00			
	Exposure Point Total					1.62E-04						7.59E+00			
	Exposure Medium Total					1.62E-04						7.59E+00			
	Air	Outdoor Air (Particulates and VOCs)		1,4-Dichlorobenzene	--	--	3.45E-06	--	3.45E-06	Liver	--	--	4.38E-03	--	4.38E-03
				Naphthalene	--	--	4.64E-06	--	4.64E-06	Nasal Epithelium	--	--	5.26E-01	--	5.26E-01
				Chemical Total	0.00E+00	0.00E+00	8.35E-06	0.00E+00	8.35E-06		0.00E+00	0.00E+00	9.63E-01	0.00E+00	9.63E-01
				Exposure Point Total					8.35E-06					9.63E-01	
		Indoor Air (Vapor Intrusion)		1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
1,2,4-Trichlorobenzene				--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01	
1,2,4-Trimethylbenzene				--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.11E+00	--	1.11E+00	
1,2-Dichlorobenzene				--	--	--	--	--	Body weight	--	--	1.73E+00	--	1.73E+00	
1,4-Dichlorobenzene				--	--	8.82E-05	--	8.82E-05	Liver	--	--	1.12E-01	--	1.12E-01	
Naphthalene				--	--	4.17E-04	--	4.17E-04	Nasal Epithelium	--	--	4.73E+01	--	4.73E+01	
Chemical Total	0.00E+00	0.00E+00	5.06E-04	0.00E+00	5.06E-04		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01				
Exposure Point Total					5.06E-04						7.36E+01				
Exposure Medium Total					5.15E-04						7.46E+01				
Medium Total					6.77E-04						8.21E+01				

TABLE H-9.20

EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	4.36E-08	0.00E+00	4.36E-08	--	0.00E+00	0.00E+00	1.40E-03	0.00E+00	1.40E-03
		Exposure Point Total					4.36E-08							1.40E-03
		Exposure Medium Total					4.36E-08							1.40E-03
	Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	Vinyl chloride	--	--	1.93E-06	--	1.93E-06	Liver	--	--	2.93E-03	--	2.93E-03
				--	--	--	--	--	--	--	--	--	--	
				--	--	--	--	--	--	--	--	--	--	
				Chemical Total	0.00E+00	0.00E+00	2.19E-06	0.00E+00	2.19E-06	--	0.00E+00	0.00E+00	5.80E-02	0.00E+00
		Exposure Point Total					2.19E-06							5.80E-02
	Exposure Medium Total					2.19E-06							5.80E-02	
Medium Total						2.23E-06							5.94E-02	
Receptor Total						6.79E-04							8.22E+01	

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-9.21  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	Aroclor-1248	2.63E-06	1.07E-06	--	5.30E-08	3.75E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00
			Aroclor-1254	9.59E-07	3.89E-07	--	2.59E-07	1.61E-06	Immune System/ Eye/Finger and Toe Nails	2.80E-01	1.14E-01	--	7.55E-02	4.69E-01
			Aroclor-1260	1.07E-06	4.34E-07	--	1.03E-08	1.51E-06	Immune System/ Eye/Finger and Toe Nails	3.12E-01	1.27E-01	--	3.01E-03	4.42E-01
			Arsenic	9.87E-05	8.59E-06	--	8.97E-06	1.16E-04	Skin	4.06E-01	3.53E-02	--	3.69E-02	4.79E-01
			Benzo(a)anthracene	5.54E-06	2.09E-06	--	2.15E-08	7.65E-06	--	--	--	--	--	--
			Benzo(a)pyrene	1.85E-05	6.97E-06	--	4.08E-08	2.55E-05	--	--	--	--	--	--
			Benzo(b)fluoranthene	3.12E-06	1.18E-06	--	6.88E-08	4.37E-06	--	--	--	--	--	--
			Benzo(k)fluoranthene	3.71E-06	1.40E-06	--	8.19E-08	5.20E-06	--	--	--	--	--	--
			Cadmium	3.60E-06	1.04E-08	--	8.18E-06	1.18E-05	Kidney	2.21E-01	6.41E-04	--	5.02E-01	7.24E-01
			Dibenzo(a,h)anthracene	1.24E-06	4.67E-07	--	1.69E-08	1.72E-06	--	--	--	--	--	--
			Dieldrin	8.58E-07	2.49E-08	--	6.88E-06	7.76E-06	Liver	1.25E-02	3.63E-04	--	1.00E-01	1.13E-01
			Heptachlor Epoxide	5.94E-08	1.72E-09	--	1.04E-06	1.10E-06	Liver	9.69E-03	2.81E-04	--	1.69E-01	1.79E-01
			Iron	--	--	--	--	--	Liver	1.57E+00	4.54E-03	--	2.36E-02	1.59E+00
	Chemical Total	1.43E-04	2.33E-05	0.00E+00	2.62E-05	1.92E-04		4.73E+00	6.24E-01	0.00E+00	1.87E+00	7.23E+00		
	Exposure Point Total					1.92E-04						7.23E+00		
	Exposure Medium Total					1.92E-04							7.23E+00	
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	3.45E-06	--	3.45E-06	Liver	--	--	4.38E-03	--	4.38E-03
			Naphthalene	--	--	4.64E-06	--	4.64E-06	Nasal Epithelium	--	--	5.26E-01	--	5.26E-01
			Chemical Total	0.00E+00	0.00E+00	8.34E-06	0.00E+00	8.34E-06		0.00E+00	0.00E+00	9.62E-01	0.00E+00	9.62E-01
			Exposure Point Total					8.34E-06						9.62E-01
Indoor Air (Vapor Intrusion)		1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00	
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.11E+00	--	1.11E+00	
		1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.73E+00	--	1.73E+00	
		1,4-Dichlorobenzene	--	--	8.82E-05	--	8.82E-05	Liver	--	--	1.12E-01	--	1.12E-01	
Naphthalene		--	--	4.17E-04	--	4.17E-04	Nasal Epithelium	--	--	4.73E+01	--	4.73E+01		
Chemical Total		0.00E+00	0.00E+00	5.06E-04	0.00E+00	5.06E-04		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01		
Exposure Point Total						5.06E-04						7.36E+01		
Exposure Medium Total						5.15E-04						7.48E+01		
Medium Total					7.07E-04						8.18E+01			

TABLE H-9.21  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	4.36E-08	0.00E+00	4.36E-08	--	0.00E+00	0.00E+00	1.40E-03	0.00E+00	1.40E-03
		Exposure Point Total					4.36E-08							1.40E-03
		Exposure Medium Total					4.36E-08							1.40E-03
		Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	--	--	1.93E-06	--	1.93E-06	Liver	--	--	2.93E-03	--	2.93E-03
	--			--	--	--	--	--	--	--	--	--		
	Chemical Total			0.00E+00	0.00E+00	2.19E-06	0.00E+00	2.19E-06	--	0.00E+00	0.00E+00	5.80E-02	0.00E+00	5.80E-02
			Exposure Point Total					2.19E-06						5.80E-02
			Exposure Medium Total					2.19E-06						5.80E-02
	Medium Total						2.23E-06						5.94E-02	
	Receptor Total						7.09E-04						8.18E+01	
														Receptor HI Total

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-9.22  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Soil (0-2 ft bgs)	Soil	Site Soil	4-Nitroaniline	2.04E-08	6.58E-09	--	1.41E-06	1.44E-06	--	2.64E-03	7.66E-04	--	5.22E-02	5.56E-02			
			Aroclor-1248	3.76E-06	1.70E-06	--	2.65E-07	5.72E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00			
			Aroclor-1254	1.39E-06	6.28E-07	--	1.31E-06	3.33E-06	Immune System/ Eye/Finger and Toe Nails	2.84E-01	1.15E-01	--	7.66E-02	4.76E-01			
			Aroclor-1260	1.70E-06	7.66E-07	--	5.72E-08	2.52E-06	Immune System/ Eye/Finger and Toe Nails	3.46E-01	1.41E-01	--	3.34E-03	4.90E-01			
			Arsenic	9.12E-05	8.83E-06	--	2.90E-05	1.29E-04	Skin	2.63E-01	2.29E-02	--	2.39E-02	3.10E-01			
			Benzo(a)anthracene	9.40E-06	3.94E-06	--	1.28E-07	1.35E-05	--	--	--	--	--	--	--		
			Benzo(a)pyrene	3.13E-05	1.31E-05	--	2.41E-07	4.47E-05	--	--	--	--	--	--	--		
			Benzo(b)fluoranthene	5.14E-06	2.16E-06	--	3.97E-07	7.70E-06	--	--	--	--	--	--	--		
			Benzo(k)fluoranthene	6.12E-06	2.57E-06	--	4.73E-07	9.17E-06	--	--	--	--	--	--	--		
			Cadmium	5.64E-06	1.82E-08	--	4.48E-05	5.04E-05	Kidney	2.42E-01	7.02E-04	--	5.50E-01	7.93E-01			
			Chrysene	1.07E-06	4.48E-07	--	1.02E-07	1.62E-06	--	--	--	--	--	--	--		
			Dibenzo(a,h)anthracene	2.04E-06	8.55E-07	--	9.72E-08	2.99E-06	--	--	--	--	--	--	--		
			Dieldrin	1.38E-06	4.46E-08	--	3.88E-05	4.02E-05	Liver	1.41E-02	4.09E-04	--	1.13E-01	1.28E-01			
			Heptachlor Epoxide	9.60E-08	3.10E-09	--	5.87E-06	5.97E-06	Liver	1.10E-02	3.18E-04	--	1.92E-01	2.03E-01			
			Indeno(1,2,3-cd)pyrene	1.64E-06	6.88E-07	--	9.47E-08	2.42E-06	--	--	--	--	--	--	--		
			Iron	--	--	--	--	--	Liver	1.74E+00	5.03E-03	--	2.61E-02	1.77E+00			
			Technical Chlordane	1.12E-06	1.45E-07	--	2.84E-07	1.55E-06	Liver	1.41E-02	1.63E-03	--	1.02E-03	1.67E-02			
			Chemical Total	1.64E-04	3.61E-05	0.00E+00	1.25E-04	3.25E-04		4.90E+00	6.29E-01	0.00E+00	2.06E+00	7.59E+00			
			Exposure Point Total					3.25E-04						7.59E+00			
			Exposure Medium Total					3.25E-04						7.59E+00			
			Air	Outdoor Air		1,4-Dichlorobenzene	--	--	9.30E-06	--	9.30E-06	Liver	--	--	4.38E-03	--	4.38E-03
Naphthalene	--	--				1.25E-05	--	1.25E-05	Nasal Epithelium	--	--	5.26E-01	--	5.26E-01			
Chemical Total	0.00E+00	0.00E+00				2.25E-05	0.00E+00	2.25E-05		0.00E+00	0.00E+00	9.63E-01	0.00E+00	9.63E-01			
Exposure Point Total								2.25E-05					9.63E-01				
Indoor Air (Vapor Intrusion)						1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
						1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01
						1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.11E+00	--	1.11E+00
						1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.73E+00	--	1.73E+00
						1,4-Dichlorobenzene	--	--	2.38E-04	--	2.38E-04	Liver	--	--	1.12E-01	--	1.12E-01
						Dieldrin	--	--	1.25E-06	--	1.25E-06	Liver	--	--	6.76E-03	--	6.76E-03
						Heptachlor	--	--	6.63E-08	--	6.63E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Naphthalene	--	--	1.12E-03	--	1.12E-03	Nasal Epithelium	--	--	4.73E+01	--	4.73E+01			
Chemical Total	0.00E+00	0.00E+00	1.36E-03	0.00E+00	1.36E-03		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01						
Exposure Point Total					1.36E-03					7.36E+01							
Exposure Medium Total					1.36E-03					7.46E+01							
Medium Total					1.71E-03					8.21E+01							

TABLE H-9.22  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	1.17E-07	0.00E+00	1.17E-07	--	0.00E+00	0.00E+00	1.40E-03	0.00E+00	1.40E-03	
		Exposure Point Total					1.17E-07						1.40E-03		
		Exposure Medium Total					1.17E-07						1.40E-03		
		Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	Vinyl chloride	--	--	5.21E-06	--	5.21E-06	Liver	--	--	2.93E-03	--	2.93E-03
	--			--	--	--	--	--	--	--	--	--	--		
	Chemical Total			0.00E+00	0.00E+00	5.90E-06	0.00E+00	5.90E-06	--	0.00E+00	0.00E+00	5.80E-02	0.00E+00	5.80E-02	
		Exposure Point Total					5.90E-06						5.80E-02		
		Exposure Medium Total					5.90E-06						5.80E-02		
	Medium Total					6.02E-06						5.94E-02			
	Receptor Total					1.72E-03						8.22E+01			

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.23**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	4-Nitroaniline	2.04E-08	6.58E-09	--	1.41E-06	1.44E-06	--	2.64E-03	7.66E-04	--	5.22E-02	5.56E-02	
			Aroclor-1248	3.76E-06	1.70E-06	--	2.65E-07	5.72E-06	Immune System/ Eye/Finger and Toe Nails	7.67E-01	3.11E-01	--	1.55E-02	1.09E+00	
			Aroclor-1254	1.37E-06	6.19E-07	--	1.29E-06	3.28E-06	Immune System/ Eye/Finger and Toe Nails	2.80E-01	1.14E-01	--	7.55E-02	4.69E-01	
			Aroclor-1260	1.53E-06	6.91E-07	--	5.16E-08	2.27E-06	Immune System/ Eye/Finger and Toe Nails	3.12E-01	1.27E-01	--	3.01E-03	4.42E-01	
			Arsenic	1.41E-04	1.37E-05	--	4.48E-05	2.00E-04	Skin	4.06E-01	3.53E-02	--	3.69E-02	4.79E-01	
			Benzo(a)anthracene	7.91E-06	3.32E-06	--	1.08E-07	1.13E-05	--	--	--	--	--	--	
			Benzo(a)pyrene	2.64E-05	1.11E-05	--	2.04E-07	3.77E-05	--	--	--	--	--	--	
			Benzo(b)fluoranthene	4.46E-06	1.87E-06	--	3.44E-07	6.67E-06	--	--	--	--	--	--	
			Benzo(k)fluoranthene	5.31E-06	2.23E-06	--	4.09E-07	7.94E-06	--	--	--	--	--	--	
			Cadmium	5.14E-06	1.66E-08	--	4.09E-05	4.60E-05	Kidney	2.21E-01	6.41E-04	--	5.02E-01	7.24E-01	
			Chrysene	9.01E-07	3.78E-07	--	8.60E-08	1.36E-06	--	--	--	--	--	--	
			Dibenzo(a,h)anthracene	1.77E-06	7.42E-07	--	8.43E-08	2.60E-06	--	--	--	--	--	--	
			Dieldrin	1.23E-06	3.95E-08	--	3.44E-05	3.57E-05	Liver	1.25E-02	3.63E-04	--	1.00E-01	1.13E-01	
			Heptachlor Epoxide	8.49E-08	2.74E-09	--	5.19E-06	5.28E-06	Liver	9.69E-03	2.81E-04	--	1.69E-01	1.79E-01	
			Indeno(1,2,3-cd)pyrene	9.34E-07	3.92E-07	--	5.39E-08	1.38E-06	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	1.57E+00	4.54E-03	--	2.36E-02	1.59E+00	
			Technical Chlordane	1.10E-06	1.42E-07	--	2.78E-07	1.52E-06	Liver	1.38E-02	1.60E-03	--	9.99E-04	1.64E-02	
	Chemical Total	2.04E-04	3.70E-05	0.00E+00	1.31E-04	3.72E-04		4.73E+00	6.24E-01	0.00E+00	1.87E+00	7.23E+00			
	Exposure Point Total					3.72E-04						7.23E+00			
	Exposure Medium Total					3.72E-04						7.23E+00			
	Air	Outdoor Air	Outdoor Air	1,4-Dichlorobenzene	--	--	9.30E-06	--	9.30E-06	Liver	--	--	4.38E-03	--	4.38E-03
				Naphthalene	--	--	1.25E-05	--	1.25E-05	Nasal Epithelium	--	--	5.26E-01	--	5.26E-01
				Chemical Total	0.00E+00	0.00E+00	2.25E-05	0.00E+00	2.25E-05		0.00E+00	0.00E+00	9.62E-01	0.00E+00	9.62E-01
Exposure Point Total						2.25E-05					9.62E-01				
Indoor Air (Vapor Intrusion)		Indoor Air (Vapor Intrusion)	Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.16E+00	--	5.16E+00
				1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.75E+01	--	1.75E+01
				1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.11E+00	--	1.11E+00
				1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.73E+00	--	1.73E+00
				1,4-Dichlorobenzene	--	--	2.38E-04	--	2.38E-04	Liver	--	--	1.12E-01	--	1.12E-01
				Dieldrin	--	--	1.25E-06	--	1.25E-06	Liver	--	--	6.76E-03	--	6.76E-03
Naphthalene	--	--	1.12E-03	--	1.12E-03	Nasal Epithelium	--	--	4.73E+01	--	4.73E+01				
Chemical Total	0.00E+00	0.00E+00	1.36E-03	0.00E+00	1.36E-03		0.00E+00	0.00E+00	7.36E+01	0.00E+00	7.36E+01				
Exposure Point Total					1.36E-03						7.36E+01				
Exposure Medium Total					1.39E-03						7.46E+01				
Medium Total					1.76E-03						8.18E+01				

TABLE H-9.23  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.17E-07	0.00E+00	1.17E-07	--	0.00E+00	0.00E+00	1.40E-03	0.00E+00	1.40E-03		
			Exposure Point Total						1.17E-07						1.40E-03	
	Exposure Medium Total		Exposure Point Total							1.17E-07						1.40E-03
	Groundwater Vapor Intrusion	Indoor Air (inhalation)	Vinyl chloride	--	--	5.21E-06	--	5.21E-06	--	Liver	--	--	2.93E-03	--	2.93E-03	
				Chemical Total	0.00E+00	0.00E+00	5.90E-06	0.00E+00	5.90E-06	--	0.00E+00	0.00E+00	5.80E-02	0.00E+00	5.80E-02	
				Exposure Point Total						5.90E-06						5.80E-02
	Exposure Medium Total		Exposure Point Total							5.90E-06						5.80E-02
	Medium Total									6.02E-06						5.94E-02
	Receptor Total				Receptor Risk Total					1.76E-03	Receptor HI Total					8.18E+01

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.24**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	5.86E-06	3.28E-06	--	--	9.14E-06	Skin	6.03E-03	3.37E-03	--	--	9.40E-03
			Benzo(a)anthracene	6.04E-07	1.46E-06	--	--	2.07E-06						
			Benzo(a)pyrene	2.01E-06	4.87E-06	--	--	6.88E-06						
			Benzo(k)fluoranthene	3.94E-07	9.53E-07	--	--	1.35E-06						
			Chemical Total	1.05E-05	1.34E-05	0.00E+00	0.00E+00	2.39E-05						
	Exposure Point Total					2.39E-05						2.05E-01		
	Exposure Medium Total					2.39E-05							2.05E-01	
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--
			--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.42E-06	0.00E+00	2.42E-06			0.00E+00	0.00E+00	6.97E-02	0.00E+00
Exposure Point Total					2.42E-06							6.97E-02		
Exposure Medium Total					2.42E-06							6.97E-02		
Medium Total					2.63E-05								2.75E-01	
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	1.26E-08	0.00E+00	1.26E-08			0.00E+00	0.00E+00	1.02E-04	0.00E+00
Exposure Point Total					1.26E-08							1.02E-04		
Exposure Medium Total					1.26E-08							1.02E-04		
Medium Total					1.26E-08								1.02E-04	
Receptor Total					2.63E-05								2.75E-01	

- Notes:
- Not applicable or not available
  - COPC Chemicals of Potential Concern
  - CNS Central nervous system
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-9.25**  
**EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	Aroclor-1248	5.64E-07	1.07E-06	--	--	1.63E-06	Immune System/ Eye/Finger and Toe Nails Skin	1.64E-01	3.11E-01	--	--	4.76E-01	
			Arsenic	1.37E-05	5.56E-06	--	--	1.92E-05		5.63E-02	2.29E-02	--	--	7.92E-02	
			Benzo(a)anthracene	1.41E-06	2.48E-06	--	--	3.89E-06		--	--	--	--	--	
			Benzo(a)pyrene	4.69E-06	8.26E-06	--	--	1.29E-05		--	--	--	--	--	
			Benzo(b)fluoranthene	7.72E-07	1.36E-06	--	--	2.13E-06		--	--	--	--	--	
			Benzo(k)fluoranthene	9.19E-07	1.62E-06	--	--	2.54E-06		--	--	--	--	--	
		Chemical Total	2.46E-05	2.27E-05	0.00E+00	0.00E+00	4.73E-05		1.05E+00	6.29E-01	0.00E+00	0.00E+00	1.68E+00		
		Exposure Point Total					4.73E-05						1.68E+00		
		Exposure Medium Total					4.73E-05						1.68E+00		
		Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	
	Chemical Total			0.00E+00	0.00E+00	3.48E-07	0.00E+00	3.48E-07		0.00E+00	0.00E+00	4.01E-02	0.00E+00	4.01E-02	
		Exposure Point Total					3.48E-07						4.01E-02		
		Exposure Medium Total					3.48E-07						4.01E-02		
Medium Total							4.76E-05						1.72E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
				Chemical Total	0.00E+00	0.00E+00	1.82E-09	0.00E+00	1.82E-09		0.00E+00	0.00E+00	5.85E-05	0.00E+00	5.85E-05
				Exposure Point Total					1.82E-09						5.85E-05
		Exposure Medium Total					1.82E-09						5.85E-05		
Medium Total							1.82E-09						5.85E-05		
Receptor Total							Receptor Risk Total	4.76E-05				Receptor HI Total	1.72E+00		

- Notes:
- Not applicable or not available
  - COPC Chemicals of Potential Concern
  - CNS Central nervous system
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

TABLE H-9.26  
 EPA RAGS PART D TABLE 10, RME RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	Aroclor-1248	8.05E-07	1.70E-06	--	--	2.50E-06	Immune System/ Eye/Finger and Toe Nails Immune System/ Eye/Finger and Toe Nails Skin -- -- -- Kidney -- --	1.64E-01	3.11E-01	--	--	4.76E-01
			Aroclor-1260	3.63E-07	7.66E-07	--	--	1.13E-06		7.42E-02	1.41E-01	--	--	2.15E-01
			Arsenic	1.95E-05	8.83E-06	--	--	2.84E-05		5.63E-02	2.29E-02	--	--	7.92E-02
			Benzo(a)anthracene	2.01E-06	3.94E-06	--	--	5.96E-06		--	--	--	--	--
			Benzo(a)pyrene	6.70E-06	1.31E-05	--	--	1.98E-05		--	--	--	--	--
			Benzo(b)fluoranthene	1.10E-06	2.16E-06	--	--	3.26E-06		--	--	--	--	--
			Benzo(k)fluoranthene	1.31E-06	2.57E-06	--	--	3.88E-06		--	--	--	--	--
			Cadmium	1.21E-06	1.82E-08	--	--	1.23E-06		5.19E-02	7.02E-04	--	--	5.26E-02
			Dibenzo(a,h)anthracene	4.37E-07	8.55E-07	--	--	1.29E-06		--	--	--	--	--
			Indeno(1,2,3-cd)pyrene	3.51E-07	6.88E-07	--	--	1.04E-06		--	--	--	--	--
	Chemical Total	3.51E-05	3.81E-05	0.00E+00	0.00E+00	7.12E-05		1.05E+00	6.29E-01	0.00E+00	0.00E+00	1.68E+00		
	Exposure Point Total					7.12E-05						1.68E+00		
	Exposure Medium Total					7.12E-05						1.68E+00		
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	1.14E-06	--	1.14E-06	Liver Nasal Epithelium	--	--	1.82E-04	--	1.82E-04
			Naphthalene	--	--	1.53E-06	--	1.53E-06		--	--	2.19E-02	--	2.19E-02
Chemical Total			0.00E+00	0.00E+00	2.76E-06	0.00E+00	2.76E-06	0.00E+00		0.00E+00	4.01E-02	0.00E+00	4.01E-02	
Exposure Point Total					2.76E-06						4.01E-02			
Exposure Medium Total					2.76E-06						4.01E-02			
Medium Total					7.39E-05						1.72E+00			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	-- -- --	--	--	--	--	--	
			--	--	--	--	--		--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.44E-08	0.00E+00		1.44E-08	0.00E+00	0.00E+00	5.85E-05	0.00E+00	5.85E-05
Exposure Point Total					1.44E-08						5.85E-05			
Exposure Medium Total					1.44E-08						5.85E-05			
Medium Total					1.44E-08						5.85E-05			
Receptor Total					7.40E-05						1.72E+00			

- Notes:
- Not applicable or not available
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - RME Reasonable maximum exposure
  - VOC Volatile organic compound

**TABLE H-10.1: LEAD RISK ASSESSMENT RESULTS USING LEADSPREAD, RESIDENTS, SURFACE SOIL (0 TO 2 FEET BGS)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

INPUT	
MEDIUM	LEVEL
Lead in Air (ug/m <sup>3</sup> )	0.028
Lead in Soil/Dust (ug/g)	2,900.0
Lead in Water (ug/l)	0.15
% Home-grown Produce	7%
Respirable Dust (ug/m <sup>3</sup> )	1.5

OUTPUT							
	Percentile Estimate of Blood Pb (ug/dl)					PRG-99	PRG-95
	50th	90th	95th	98th	99th	(ug/g)	(ug/g)
BLOOD Pb, ADULT	9.9	18.1	21.4	26.0	29.5	927	1314
BLOOD Pb, CHILD	37.2	68.0	80.4	97.8	111.2	221	323
BLOOD Pb, PICA CHILD	57.6	105.3	124.6	151.4	172.3	142	207
BLOOD Pb, OCCUPATIONAL	2.1	3.9	4.6	5.6	6.4	4766	6755

EXPOSURE PARAMETERS			
	units	adults	children
Days per week	days/wk	7	
Days per week, occupational		5	
Geometric Standard Deviation		1.6	
Blood lead level of concern (ug/dl)		10	
Skin area, residential	cm <sup>2</sup>	5700	2900
Skin area occupational	cm <sup>2</sup>	2900	
Soil adherence	ug/cm <sup>2</sup>	70	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001	
Soil ingestion	mg/day	50	100
Soil ingestion, pica	mg/day		200
Ingestion constant	(ug/dl)/(ug/day)	0.04	0.16
Bioavailability	unitless	0.44	
Breathing rate	m <sup>3</sup> /day	20	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.08	0.192
Water ingestion	l/day	1.4	0.4
Food ingestion	kg/day	1.9	1.1
Lead in market basket	ug/kg	3.1	
Lead in home-grown produce	ug/kg	1305.0	

PATHWAYS						
ADULTS	Residential			Occupational		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	3.8E-5	0.11	1%	1.4E-5	0.04	2%
Soil Ingestion	8.8E-4	2.55	26%	6.3E-4	1.82	85%
Inhalation, bkgnd		0.05	0%		0.03	2%
Inhalation	2.5E-6	0.01	0%	1.8E-6	0.01	0%
Water Ingestion		0.01	0%		0.01	0%
Food Ingestion, bkgnd		0.22	2%		0.23	11%
Food Ingestion	2.4E-3	6.94	70%			0%

CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.6E-5	0.16	0%		0.16	0%
Soil Ingestion	7.0E-3	20.42	55%	1.4E-2	40.83	71%
Inhalation	2.0E-6	0.01	0%		0.01	0%
Inhalation, bkgnd		0.04	0%		0.04	0%
Water Ingestion		0.01	0%		0.01	0%
Food Ingestion, bkgnd		0.50	1%		0.50	1%
Food Ingestion	5.5E-3	16.08	43%		16.08	28%

Notes:

The leadspread model was taken directly from the California Department of Toxic Substance Control webpage (2005).  
<http://www.dtsc.ca.gov/ScienceTechnology/leadspread.html>

µg/cm <sup>2</sup>	Microgram per square centimeter
µg/day	Microgram per day
µg/dL	Microgram per deciliter
µg/g	Microgram per gram
µg/kg	Microgram per kilogram
µg/L	Microgram per liter
µg/m <sup>3</sup>	Microgram per cubic meter
bgs	Below ground surface
cm <sup>2</sup>	Square centimeter
days/wk	Days per week
DTSC	Department of Toxic Substances Control
kg/day	Kilogram per day
L/day	Liter per day
m <sup>3</sup> /day	Cubic meter per day
mg/day	Milligram per day
PEF	Pathway exposure factor
PRG	Preliminary remediation goal

**TABLE H-10.2: LEAD RISK ASSESSMENT RESULTS USING LEADSPREAD, RESIDENTS, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

INPUT	
MEDIUM	LEVEL
Lead in Air (ug/m <sup>3</sup> )	0.028
Lead in Soil/Dust (ug/g)	2,390.0
Lead in Water (ug/l)	0.15
% Home-grown Produce	7%
Respirable Dust (ug/m <sup>3</sup> )	1.5

OUTPUT								
	Percentile Estimate of Blood Pb (ug/dl)					PRG-99	PRG-95	
	50th	90th	95th	98th	99th	(ug/g)	(ug/g)	
BLOOD Pb, ADULT	8.2	15.0	17.7	21.5	24.5	927	1314	
BLOOD Pb, CHILD	30.8	56.2	66.5	80.8	92.0	221	323	
BLOOD Pb, PICA CHILD	47.6	86.9	102.9	125.0	142.3	142	207	
BLOOD Pb, OCCUPATIONAL	1.8	3.3	3.9	4.8	5.4	4766	6755	

EXPOSURE PARAMETERS			
	units	adults	children
Days per week	days/wk	7	
Days per week, occupational		5	
Geometric Standard Deviation		1.6	
Blood lead level of concern (ug/dl)		10	
Skin area, residential	cm <sup>2</sup>	5700	2900
Skin area occupational	cm <sup>2</sup>	2900	
Soil adherence	ug/cm <sup>2</sup>	70	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001	
Soil ingestion	mg/day	50	100
Soil ingestion, pica	mg/day		200
Ingestion constant	(ug/dl)/(ug/day)	0.04	0.16
Bioavailability	unitless	0.44	
Breathing rate	m <sup>3</sup> /day	20	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.08	0.192
Water ingestion	l/day	1.4	0.4
Food ingestion	kg/day	1.9	1.1
Lead in market basket	ug/kg	3.1	
Lead in home-grown produce	ug/kg	1075.5	

PATHWAYS						
ADULTS	Residential			Occupational		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	3.8E-5	0.09	1%	1.4E-5	0.03	2%
Soil Ingestion	8.8E-4	2.10	26%	6.3E-4	1.50	83%
Inhalation, bkgnd		0.05	1%		0.03	2%
Inhalation	2.5E-6	0.01	0%	1.8E-6	0.00	0%
Water Ingestion		0.01	0%		0.01	0%
Food Ingestion, bkgnd		0.22	3%		0.23	13%
Food Ingestion	2.4E-3	5.72	70%			0%

CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.6E-5	0.13	0%		0.13	0%
Soil Ingestion	7.0E-3	16.83	55%	1.4E-2	33.65	71%
Inhalation	2.0E-6	0.00	0%		0.00	0%
Inhalation, bkgnd		0.04	0%		0.04	0%
Water Ingestion		0.01	0%		0.01	0%
Food Ingestion, bkgnd		0.50	2%		0.50	1%
Food Ingestion	5.5E-3	13.25	43%		13.25	28%

Notes: The leadspread model was taken directly from the California Department of Toxic Substance Control webpage (2005).  
<http://www.dtsc.ca.gov/ScienceTechnology/leadspread.html>

- µg/cm<sup>2</sup> Microgram per square centimeter
- µg/day Microgram per day
- µg/dL Microgram per deciliter
- µg/g Microgram per gram
- µg/kg Microgram per kilogram
- µg/L Microgram per liter
- µg/m<sup>3</sup> Microgram per cubic meter
- bgs Below ground surface
- cm<sup>2</sup> Square centimeter
- days/wk Days per week
- DTSC Department of Toxic Substances Control
- kg/day Kilogram per day
- L/day Liter per day
- m<sup>3</sup>/day Cubic meter per day
- mg/day Milligram per day
- PEF Pathway exposure factor
- PRG Preliminary remediation goal

**ATTACHMENT H1**  
**INDOOR AIR VAPOR INTRUSION MODELING CALCULATIONS**

## **TABLES**

---

H1-1	Summary of Input Parameters for the Vapor Intrusion Model
H1-2	Exposure Point Concentration Summary, Indoor Air, Soil (Soil Vapor)
H1-3	Exposure Point Concentration Summary, Indoor Air, Groundwater
H1-4	Data Entry Sheet, Vapor Intrusion model files, Modeling Soil Concentrations into Indoor Air Concentrations for a Commercial/Industrial Building
H1-5	Chemical Properties Sheet, Vapor Intrusion model files, Modeling Soil Concentrations into Indoor Air Concentrations for a Commercial/Industrial Building
H1-6	Intermediate Calculations Sheet, Vapor Intrusion model files, Modeling Soil Concentrations into Indoor Air Concentrations for a Commercial/Industrial Building
H1-7	Data Entry Sheet, Vapor Intrusion model files, Modeling Groundwater Concentrations into Indoor Air Concentrations for a Commercial/Industrial Building
H1-8	Chemical Properties Sheet, Vapor Intrusion model files, Modeling Groundwater Concentrations into Indoor Air Concentrations for a Commercial/Industrial Building
H1-9	Intermediate Calculations Sheet, Vapor Intrusion model files, Modeling Groundwater Concentrations into Indoor Air Concentrations for a Commercial/Industrial Building
H1-10	Data Entry Sheet, Vapor Intrusion model files, Modeling Soil Concentrations into Indoor Air Concentrations for a Residence
H1-11	Chemical Properties Sheet, Vapor Intrusion model files, Modeling Soil Concentrations into Indoor Air Concentrations for a Residence
H1-12	Intermediate Calculations Sheet, Vapor Intrusion model files, Modeling Soil Concentrations into Indoor Air Concentrations for a Residence
H1-13	Data Entry Sheet, Vapor Intrusion model files, Modeling Groundwater Concentrations into Indoor Air Concentrations for a Residence
H1-14	Chemical Properties Sheet, Vapor Intrusion model files, Modeling Groundwater Concentrations into Indoor Air Concentrations for a Residence
H1-15	Intermediate Calculations Sheet, Vapor Intrusion model files, Modeling Groundwater Concentrations into Indoor Air Concentrations for a Residence

**TABLE H1-1: SUMMARY OF INPUT PARAMETERS FOR THE VAPOR INTRUSION MODEL**

Appendix H, RI Report, Site 34, Alameda Point

Parameter	Units	Basis	Site 34
<b>Properties of Soil and Groundwater</b>			
Average soil/groundwater temperature	Celsius	Footnote 5	16.7
Depth below grade to bottom of enclosed space floor	cm	Footnote 1	15
Depth below grade to water table	cm	Footnote 3	122
Thickness of soil stratum A	cm	Footnote 3	122
Depth below grade to top of contamination	cm	Footnote 3	15
Depth below grade to bottom of contamination	cm	Footnote 3	122
Soil stratum directly above the Water Table (A, B, or C)	unitless	no Footnote	A
Soil stratum A SCS soil type	unitless	Footnote 4	Poorly graded sand (S)
Soil Fraction Organic Carbon	cm <sup>3</sup> /cm <sup>3</sup>	Footnote 2	0.002
Vadose zone soil dry bulk density - Stratum A	cm	Footnote 2	1.66
Vadose zone soil total porosity - Stratum A	unitless	Footnote 2	0.375
Vadose zone soil water-filled porosity - Stratum A	cm <sup>3</sup> /cm <sup>3</sup>	Footnote 2	0.054
<b>Hypothetical Future Industrial Properties</b>			
Thickness of enclosed space floor	cm	Footnote 6	15
Soil-building pressure differential	g/cm-s <sup>2</sup>	Footnote 1 and 7	40
Enclosed space floor length	cm	Footnote 8	1414
Enclosed space floor width	cm	Footnote 8	1414
Enclosed space height	cm	Footnote 8	305
Floor-wall seam crack width	cm	Footnote 1	0.1
Indoor air exchange rate	1/hour	Footnote 9	1
Soil gas advection rate	L/min	Footnote 7	10
<b>Hypothetical Future Residence Properties</b>			
Thickness of enclosed space floor	cm	Footnote 6	10
Soil-building pressure differential	g/cm-s <sup>2</sup>	Footnote 1 and 7	40
Enclosed space floor length	cm	Footnote 8	1000
Enclosed space floor width	cm	Footnote 8	1000
Enclosed space height	cm	Footnote 8	244
Floor-wall seam crack width	cm	Footnote 1	0.1
Indoor air exchange rate	1/hour	Footnote 9	0.5
Soil gas advection rate	L/min	Footnote 7	5

## Notes:

- 1 Default value from EPA 2002a and DTSC 2005.
- 2 Default values from the DTSC's 2003 Vapor Intrusion Model (DTSC 2003) for Sand.
- 3 The soil depth below grade to top of contamination is assumed to be directly under the asphalt because the shallowest detected concentration is 0-feet. The soil depth below grade to bottom of contamination is set to 122cm to assume the deepest detected soil concentration possible is at the soil-groundwater interface. The depth to groundwater is based on the average recorded depth to groundwater from the soil borings taken at Site 34.
- 4 Based on field logs for Site 34, the soil strata at Site 34 consisted of poorly graded sand. Sand (S) was used as the soil type input for modeling.
- 5 Average soil and groundwater temperature were determined from Figure A-1 of DTSC 2005.
- 6 The building foundation slab thickness for a residence was based upon the EPA 2002a and DTSC 2005 default value of 10 cm (approximately 4 inches); the default value for the building foundation thickness for a commercial/industrial building is 15 cm (approximately 6 inches) because commercial/industrial buildings have thicker foundation slabs.
- 7 Default value from DTSC 2005.
- 8 Default typical or mean value established in EPA 2002a for residential structures (see values in Appendix G - Table G-3 of EPA 2002). Default value of the hypothetical future commercial/industrial building is from the upper range of values for a residential structure (EPA 2002). Hypothetical future commercial/industrial structures is assumed to be a larger structure than the residential structure.
- 9 The default indoor air exchange rate is 0.5 hr-1 for residential structures and 1.0 hr-1 for industrial structures (DTSC 2005).

## TABLE H1-1: SUMMARY OF INPUT PARAMETERS FOR THE VAPOR INTRUSION MODEL (CONTINUED)

Appendix H, RI Report, Site 34, Alameda Point

### Definitions:

A	one soil stratum
Bd	Bulk density
bgs	Below ground surface
°C	Celcius
cm	Centimeters
cm <sup>3</sup> /cm <sup>3</sup>	Cubic centimeter-water per cubic centimeter-air
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
ft	Feet
g	Grams
g/cm <sup>3</sup>	Grams per cubic centimeter
g/cm-s <sup>2</sup>	Grams per centimeter per second squared
gw	Ground water
HHRA	Human Health Risk Assessment
hr	Hours
L/m	Liters per minute
Ps	Soil porosity
S	Sand
SCS	Soil Conservation Service

### Sources:

Department of Toxic Substances Control (DTSC). 2003. "Johnson and Ettinger (1991) Model for Vapor Intrusion Into Buildings. Version 3.0-Modification 1." July.

DTSC. 2005. "Guidance for the Evaluation and Migration of Subsurface Vapor Intrusion to Indoor Air." Interim Final. California Environmental Protection Agency. February 7. On-Line Address: [http://www.dtsc.ca.gov/AssessingRisk/upload/HERD\\_POL\\_Eval\\_Subsurface\\_Vapor\\_Intrusion\\_interim\\_final.pdf](http://www.dtsc.ca.gov/AssessingRisk/upload/HERD_POL_Eval_Subsurface_Vapor_Intrusion_interim_final.pdf)

U.S. Environmental Protection Agency (EPA). 2002a. "Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)." Draft Federal Register. November 29. On-Line Address: <http://www.epa.gov/correctiveaction/eis/vapor/complete.pdf>

**TABLE H1-2: EXPOSURE POINT CONCENTRATION SUMMARY  
INDOOR AIR, SOIL (SOIL VAPOR)**

Appendix H, RI Report, Site 34, Alameda Point

Scenario Timeframe: Future
Medium: Soil (soil vapor)
Exposure Medium: Indoor Air from Soil (0-4 feet)

CAS Number	Chemical of Potential Concern in Soil	Soil Modeled Concentration (µg/kg)	Indoor Air Concentration for Maximum Detected Concentration (µg/m <sup>3</sup> ) (a,b)	
			Hypothetical Future Residence	Hypothetical Future Commercial/Industrial Building
120821	1,2,3-Trichlorobenzene	1.50E+03	8.81E+00	3.99E+00
120821	1,2,4-Trichlorobenzene	5.10E+03	2.99E+01	1.36E+01
95636	1,2,4-Trimethylbenzene	5.00E+02	2.94E+00	1.33E+00
95501	1,2-Dichlorobenzene	2.60E+04	1.53E+02	6.91E+01
78875	1,2-Dichloropropane	3.60E+02	2.11E-02	9.57E-03
108678	1,3,5-Trimethylbenzene	1.60E+02	9.40E-01	4.25E-01
541731	1,3-Dichlorobenzene	1.10E+03	6.46E+00	2.93E+00
106467	1,4-Dichlorobenzene	6.80E+03	3.99E+01	1.81E+01
91576	2-Methylnaphthalene	1.45E+03	4.85E+00	1.96E+00
72559	4,4'-DDE	7.50E+01	6.07E-06	2.42E-06
83329	Acenaphthene	3.47E+03	1.69E+00	6.79E-01
83329	Acenaphthylene	8.96E+01	4.37E-02	1.75E-02
309002	Aldrin	1.30E+01	1.61E-05	6.43E-06
319846	alpha-BHC	7.30E-01	1.08E-04	4.31E-05
57749	alpha-Chlordane	6.98E+00	5.43E-05	2.17E-05
83329	Anthracene	9.13E+02	4.46E-01	1.79E-01
205992	Benzo(b)fluoranthene	2.37E+03	3.15E-03	1.26E-03
75150	Carbon Disulfide	2.40E-01	1.41E-03	6.38E-04
108907	Chlorobenzene	1.10E+02	6.46E-01	2.93E-01
218019	Chrysene	4.80E+03	1.78E-02	7.10E-03
58899	Delta-BHC	8.40E+00	1.84E-03	7.37E-04
132649	Dibenzofuran	1.30E+04	2.37E-02	9.47E-03
60571	Dieldrin	4.89E+01	5.25E-04	2.09E-04
115297	Endosulfan I	2.30E+01	2.16E-03	8.63E-04
115297	Endosulfan II	2.34E+01	2.19E-03	8.78E-04
115297	Endosulfan Sulfate	4.30E+01	4.03E-03	1.61E-03
205992	fluoranthene	2.23E+04	4.91E-03	1.96E-03
86737	Fluorene	2.53E+03	2.68E-01	1.07E-01
58899	gamma-BHC (Lindane)	2.60E+00	5.69E-04	2.28E-04
57749	gamma-Chlordane	1.27E-01	9.87E-07	3.94E-07
76448	Heptachlor	6.90E+00	1.09E-04	4.34E-05
72435	Methoxychlor	1.20E+02	2.97E-04	1.18E-04
75092	Methylene Chloride	2.40E+00	1.41E-02	6.38E-03
91203	Naphthalene	1.30E+04	6.29E+01	2.55E+01
83329	Phenanthrene	1.17E+04	5.71E+00	2.29E+00
98828	p-isopropyltoluene	1.10E+02	6.46E-01	2.93E-01
129000	Pyrene	2.03E+04	3.98E-02	1.59E-02
135988	sec-Butylbenzene	7.10E+01	2.29E-01	9.25E-02
57749	Technical Chlordane	5.41E+02	4.21E-03	1.68E-03
108883	Toluene	4.30E-01	2.53E-03	1.14E-03

Notes:

- (a) Indoor air concentration was calculated using the DTSC's 2003 Vapor Intrusion Model (DTSC 2003), which is based upon Johnson and Ettinger (1991).
- (b) Surrogates used in the DTSC's 2003 Vapor Intrusion Model (DTSC 2003) included 1,2,4-Trichlorobenzene for 1,2,3-Trichlorobenzene, Acenaphthene for Acenaphthylene, Anthracene, and Phenanthrene; Cumene for p-isopropyltoluene; gamma-HCH for Delta-BHC; Endosulfan for Endosulfan I & II and for Endosulfan sulfate; benzo(b)fluoranthene for fluoranthene; chlordane for Technical chlordane, alpha and gamma-chlordane; alpha-HCH for alpha-BHC; gamma-HCH for gamma-BHC.

µg/kg Micrograms per kilogram  
µg/m<sup>3</sup> Microgram per cubic meter

Sources:

Department of Toxic Substances Control (DTSC). 2003. "Johnson and Ettinger (1991) Model for Vapor Intrusion Into Buildings. Version 3.0-Modification 1." July.  
Johnson, P.C. and R.A. Ettinger. 1991. "Heuristic Model for Predicting the Intrusion Rate of Contaminant Vapors into Buildings." Environ. Sci. Technol. Volume 25. Pages 1445 through 1452.

**TABLE H1-3: EXPOSURE POINT CONCENTRATION SUMMARY  
INDOOR AIR, GROUNDWATER**

Appendix H, RI Report, Site 34, Alameda Point

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Indoor Air from Groundwater

CAS Number	Chemical of Potential Concern in Soil	Groundwater Modeled Concentration (µg/L)	Indoor Air Concentration for Maximum Detected Concentration (µg/m <sup>3</sup> ) (a,b)	
			Hypothetical Future Residence	Hypothetical Future Commercial/Industrial Building
75354	1,1-Dichloroethane	3.00E-01	7.45E-02	5.98E-02
95636	1,2,4-Trimethylbenzene	1.00E-01	3.27E-03	2.69E-03
95501	1,2-Dichlorobenzene	1.85E+00	2.20E-02	1.72E-02
107062	1,2-Dichloroethane	1.70E+00	1.78E-02	1.31E-02
78875	1,2-Dichloropropane	3.00E-01	6.60E-03	5.23E-03
108678	1,3,5-Trimethylbenzene	6.00E-02	1.87E-03	1.54E-03
106467	1,4-Dichlorobenzene	5.00E-01	7.55E-03	5.99E-03
78933	2-Hexanone	5.00E-01	5.60E-04	2.54E-04
91576	2-Methylnaphthalene	1.00E-02	2.71E-05	1.77E-05
72559	4,4'-DDE	8.50E-04	1.17E-07	4.94E-08
108101	4-Methyl-2-pentanone	1.00E-01	1.66E-04	9.24E-05
83329	Acenaphthene	1.42E+00	1.65E-03	8.04E-04
83329	Acenaphthylene	6.04E-02	7.03E-05	3.42E-05
309002	Aldrin	4.52E-04	2.44E-07	1.05E-07
319846	alpha-BHC	4.07E-04	3.63E-08	1.39E-08
57749	alpha-Chlordane	8.47E-04	2.20E-07	8.38E-08
83329	Anthracene	1.20E-01	1.40E-04	6.79E-05
71432	Benzene	1.58E-01	7.66E-03	6.09E-03
205992	Benzo(b)fluoranthene	4.00E-02	2.05E-05	8.57E-06
75252	Bromoform	2.00E-01	3.95E-04	2.09E-04
75150	Carbon disulfide	4.20E-01	1.35E-01	1.07E-01
108907	Chlorobenzene	8.00E-02	2.05E-03	1.65E-03
67663	Chloroform	1.60E+00	6.13E-02	4.74E-02
74873	Chloromethane	2.00E-01	2.43E-02	1.86E-02
218019	Chrysene	1.10E-01	5.75E-05	2.39E-05
156592	cis-1,2-Dichloroethene	5.20E-01	3.44E-02	1.31E-02
60571	Dieldrin	4.60E-04	3.76E-08	1.62E-08
115297	Endosulfan I	6.89E-04	4.85E-08	2.10E-08
115297	Endosulfan II	2.30E-04	1.62E-08	7.00E-09
100414	Ethylbenzene	1.00E-01	5.39E-03	4.38E-03
205992	Fluoranthene	4.00E-02	2.05E-05	8.57E-06
86737	Fluorene	7.77E-02	5.21E-05	2.18E-05
58899	gamma-BHC (Lindane)	4.28E-04	4.91E-08	1.87E-08
57749	gamma-Chlordane	4.10E-04	1.07E-07	4.05E-08
76448	Heptachlor	3.20E-04	4.81E-07	2.94E-07
98828	Isopropylbenzene	1.35E-01	1.80E+00	6.87E-01
108383	m,p-Xylene	4.00E-01	4.03E-02	1.54E-02
72435	Methoxychlor	1.30E-03	1.42E-07	5.41E-08
91203	Naphthalene	5.36E-02	2.95E-04	1.13E-04
104518	n-Butylbenzene	1.00E-01	1.42E-02	5.41E-03
103651	n-Propylbenzene	1.30E-01	1.60E-02	6.10E-03
83329	Phenanthrene	9.80E-02	1.45E-04	5.55E-05
98828	p-Isopropyltoluene	1.35E-01	1.80E+00	6.87E-01
129000	Pyrene	1.38E-01	1.92E-05	7.39E-06
135988	sec-Butylbenzene	3.00E-01	5.69E-04	2.17E-04
98066	Tert-Butylbenzene	4.00E-01	5.69E-02	2.17E-02
108883	Toluene	1.92E-02	2.18E-03	8.34E-04
156605	trans-1,2-Dichloroethene	4.00E-01	6.03E-02	2.31E-02
79016	Trichloroethene	3.39E-01	5.71E-02	2.18E-02
75014	Vinyl chloride	2.00E-01	1.30E-01	4.98E-02

**TABLE H1-3: EXPOSURE POINT CONCENTRATION SUMMARY (continued)**  
**INDOOR AIR, INDUSTRIAL SCENARIO**

Appendix H, RI Report, Site 34, Alameda Point

Notes:

- (a) Indoor air concentration was calculated using the DTSC's 2003 Vapor Intrusion Model (DTSC 2003), which is based upon Johnson and Ettinger (1991).
- (b) Surrogates used in the DTSC's 2003 Vapor Intrusion Model (DTSC 2003) included 1,1-Dichloroethylene for 1,1-Dichloroethane; 2-Butanone for 2-Hexanone; Acenaphthene for Acenaphthylene and Phenanthrene; Acenaphthene for Anthracene; Endosulfan for Endosulfan I and II; benzo(b)fluoranthene for fluoranthene; alpha-HCH for alpha-BHC; Chlordane for alpha-Chlordane and gamma-Chlordane; gamma-HCH for gamma-BHC; m-xylene for m,p-xylene; cumene for p-isopropyltoluene.

µg/L                      Micrograms per liter  
µg/m<sup>3</sup>                    Microgram per cubic meter

Sources:

Department of Toxic Substances Control (DTSC). 2003. "Johnson and Ettinger (1991) Model for Vapor Intrusion Into Buildings. Version 3.0-Modification 1." July.  
Johnson, P.C. and R.A. Ettinger. 1991. "Heuristic Model for Predicting the Intrusion Rate of Contaminant Vapors into Buildings." Environ. Sci. Technol. Volume 25. Pages 14- through 1452.

**TABLE H1-4  
DATA ENTRY SHEET  
VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

SL-ADV  
Version 3.0; 02/03

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES  OR

Reset to Defaults

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES  X

MORE  
↓

ENTER Average soil temperature, $T_s$ (°C)	ENTER Depth below grade to bottom of enclosed space floor, $L_f$ (cm)	ENTER Depth below grade to top of contamination, $L_t$ (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) $L_b$ (cm)	ENTER Thickness of soil stratum A, $h_a$ (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) $h_b$ (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) $h_c$ (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, $k_v$ (cm <sup>2</sup> )
16.7	15	15	122	122			S		

MORE  
↓

ENTER Stratum A SCS soil type  Lookup Soil Parameters	ENTER Stratum A soil dry bulk density, $\rho_b^A$ (g/cm <sup>3</sup> )	ENTER Stratum A soil total porosity, $n^A$ (unitless)	ENTER Stratum A soil water-filled porosity, $\theta_w^A$ (cm <sup>3</sup> /cm <sup>3</sup> )	ENTER Stratum A soil organic carbon fraction, $f_{oc}^A$ (unitless)	ENTER Stratum B SCS soil type  Lookup Soil Parameters	ENTER Stratum B soil dry bulk density, $\rho_b^B$ (g/cm <sup>3</sup> )	ENTER Stratum B soil total porosity, $n^B$ (unitless)	ENTER Stratum B soil water-filled porosity, $\theta_w^B$ (cm <sup>3</sup> /cm <sup>3</sup> )	ENTER Stratum B soil organic carbon fraction, $f_{oc}^B$ (unitless)
S	1.66	0.375	0.054	0.002					

MORE  
↓

ENTER Enclosed space floor thickness, $L_{crack}$ (cm)	ENTER Soil-bldg. pressure differential, $\Delta P$ (g/cm-s <sup>2</sup> )	ENTER Enclosed space floor length, $L_B$ (cm)	ENTER Enclosed space floor width, $W_B$ (cm)	ENTER Enclosed space height, $H_B$ (cm)	ENTER Floor-wall seam crack width, $w$ (cm)	ENTER Indoor air exchange rate, $ER$ (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate $Q_{soil}$ (L/m)
15	40	1414	1414	305	0.1	1	10

ENTER Averaging time for carcinogens, $AT_c$ (yrs)	ENTER Averaging time for noncarcinogens, $AT_{nc}$ (yrs)	ENTER Exposure duration, $ED$ (yrs)	ENTER Exposure frequency, $EF$ (days/yr)	ENTER Target risk for carcinogens, $TR$ (unitless)	ENTER Target hazard quotient for noncarcinogens, $THQ$ (unitless)
70	30	25	250	1.0E-06	1

END

Used to calculate risk-based  
soil concentration.

**TABLE H1-4**

**DATA ENTRY SHEET (continued)**

**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

	ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C <sub>R</sub> (µg/kg)	Modeled Chemical	Chemical of Potential Concern
1	120821	1.50E+03	1,2,4-Trichlorobenzene	1,2,3-Trichlorobenzene
2	120821	5.10E+03	1,2,4-Trichlorobenzene	1,2,4-Trichlorobenzene
3	95636	5.00E+02	1,2,4-Trimethylbenzene	1,2,4-Trimethylbenzene
4	95501	2.60E+04	1,2-Dichlorobenzene	1,2-Dichlorobenzene
5	78875	3.60E+00	1,2-Dichloropropane	1,2-Dichloropropane
6	108678	1.60E+02	1,3,5-Trimethylbenzene	1,3,5-Trimethylbenzene
7	541731	1.10E+03	1,3-Dichlorobenzene	1,3-Dichlorobenzene
8	106467	6.80E+03	1,4-Dichlorobenzene	1,4-Dichlorobenzene
9	91576	1.45E+03	2-Methylnaphthalene	2-Methylnaphthalene
10	83329	3.47E+03	Acenaphthene	Acenaphthene
11	83329	8.96E+01	Acenaphthene	Acenaphthylene
12	83329	9.13E+02	Acenaphthene	Anthracene
13	108907	1.10E+02	Chlorobenzene	Chlorobenzene
14	218019	4.80E+03	Chrysene	Chrysene
15	132649	1.30E+04	Dibenzofuran	Dibenzofuran
16	86737	2.53E+03	Fluorene	Fluorene
17	91203	1.30E+04	Naphthalene	Naphthalene
18	83329	1.17E+04	Acenaphthene	Phenanthrene
19	129000	2.03E+04	Pyrene	Pyrene
20	108883	4.30E-01	Toluene	Toluene
21	98828	1.10E+02	Cumene	p-isopropyltoluene
22	135988	7.10E+01	sec-Butylbenzene	sec-Butylbenzene
23	75150	2.40E-01	Carbon disulfide	Carbon disulfide
24	75092	2.40E+00	Methylene chloride	Methylene Chloride
25	72559	7.50E+01	DDE	4,4'-DDE
26	309002	1.30E+01	Aldrin	Aldrin
27	205992	2.37E+03	Benzo(b)fluoranthene	Benzo(b)fluoranthene
28	58899	8.40E+00	gamma-HCH (Lindane)	Delta-BHC
29	60571	4.89E+01	Dieldrin	Dieldrin
30	115297	2.30E+01	Endosulfan	Endosulfan 1

TABLE H1-4

DATA ENTRY SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

	ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C <sub>R</sub> (µg/kg)	Modeled Chemical	Chemical of Potential Concern
31	115297	2.34E+01	Endosulfan	Endosulfan II
32	115297	4.30E+01	Endosulfan	Endosulfan Sulfate
33	205992	2.23E+04	Benzo(b)fluoranthene	fluoranthene
34	76448	6.90E+00	Heptachlor	Heptachlor
35	57749	5.41E+02	Chlordane	Technical Chlordane
36	319846	7.30E-01	alpha-HCH (alpha-BHC)	alpha-BHC
37	57749	6.98E+00	Chlordane	alpha-Chlordane
38	58899	2.60E+00	gamma-HCH (Lindane)	gamma-BHC
39	57749	1.27E-01	Chlordane	gamma-Chlordane
40	72435	1.20E+02	Methoxychlor	Methoxychlor

**TABLE H1-5  
CHEMICAL PROPERTIES SHEET  
VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Diffusivity in air, $D_a$ (cm <sup>2</sup> /s)	Diffusivity in water, $D_w$ (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm·m <sup>3</sup> /mol)	Henry's law constant reference temperature, $T_R$ (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, $T_B$ (°K)	Critical temperature, $T_C$ (°K)	Organic carbon partition coefficient, $K_{oc}$ (cm <sup>3</sup> /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3\text{-d}$ )	Reference conc., RFC (mg/m <sup>3</sup> )	Physical state at soil temperature, (S,L,G)
3.00E-02	8.23E-06	1.42E-03	25	10,471	486.15	725.00	1.78E+03	4.88E+01	0.0E+00	2.0E-01	L
3.00E-02	8.23E-06	1.42E-03	25	10,471	486.15	725.00	1.78E+03	4.88E+01	0.0E+00	2.0E-01	L
6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	1.35E+03	5.70E+01	0.0E+00	6.0E-03	L
6.90E-02	7.90E-06	1.90E-03	25	9,700	453.57	705.00	6.17E+02	1.56E+02	0.0E+00	2.0E-01	L
7.82E-02	8.73E-06	2.79E-03	25	7,590	369.52	572.00	4.37E+01	2.80E+03	1.9E-05	4.0E-03	L
6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	1.35E+03	2.00E+00	0.0E+00	6.0E-03	L
6.92E-02	7.88E-06	3.09E-03	25	9,230	446.00	684.00	1.98E+03	1.34E+02	0.0E+00	1.1E-01	L
6.90E-02	7.90E-06	2.39E-03	25	9,271	447.21	684.75	6.17E+02	7.90E+01	0.0E+00	8.0E-01	S
5.22E-02	7.75E-06	5.17E-04	25	12,600	514.26	761.00	2.81E+03	2.46E+01	0.0E+00	7.0E-02	S
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01	S
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01	S
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01	S
7.30E-02	8.70E-06	3.69E-03	25	8,410	404.87	632.40	2.19E+02	4.72E+02	0.0E+00	6.0E-02	L
2.48E-02	6.21E-06	9.44E-05	25	16,455	714.15	979.00	3.98E+05	6.30E-03	2.1E-06	0.0E+00	S
2.38E-02	6.00E-06	1.26E-05	25	66,400	560.00	824.00	5.15E+03	3.10E+00	0.0E+00	1.4E-02	S
3.63E-02	7.88E-06	6.34E-05	25	12,666	570.44	870.00	1.38E+04	1.98E+00	0.0E+00	1.4E-01	S
5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	2.00E+03	3.10E+01	0.0E+00	3.0E-03	S
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01	S
2.72E-02	7.24E-06	1.10E-05	25	14,370	667.95	936.00	1.05E+05	1.35E+00	0.0E+00	1.1E-01	S
8.70E-02	8.60E-06	6.82E-03	25	7,930	383.78	591.79	1.82E+02	5.26E+02	0.0E+00	4.0E-01	L
6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01	L
5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	9.66E+02	3.94E+00	0.0E+00	1.4E-01	L
1.04E-01	1.00E-05	3.02E-02	25	6,391	319.00	552.00	4.57E+01	1.19E+03	0.0E+00	7.0E-01	L
1.01E-01	1.17E-05	2.18E-03	25	6,708	313.00	510.00	1.17E+01	1.30E+04	4.7E-07	3.0E+00	L
1.44E-02	5.87E-06	2.09E-05	25	15,000	636.44	860.38	4.47E+06	1.20E-01	9.7E-05	0.0E+00	S
1.32E-02	4.86E-06	1.70E-04	25	15,000	603.01	839.37	2.45E+08	1.70E-02	4.9E-03	1.1E-04	S
2.26E-02	5.56E-06	1.11E-04	25	17,000	715.90	969.27	1.23E+06	1.50E-03	2.1E-04	0.0E+00	S
1.42E-02	7.34E-06	1.40E-05	25	15,000	596.55	839.36	1.07E+03	7.30E+00	3.7E-04	1.1E-03	S
1.25E-02	4.74E-06	1.51E-05	25	17,000	613.32	842.25	2.14E+04	1.95E-01	4.6E-03	1.8E-04	S
1.15E-02	4.55E-06	1.12E-05	25	14,000	674.43	942.94	2.14E+03	5.10E-01	0.0E+00	2.1E-02	S

Chemical of Potential Concern
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Chlorobenzene
Chrysene
Dibenzofuran
Fluorene
Naphthalene
Phenanthrene
Pyrene
Toluene
p-isopropyltoluene
sec-Butylbenzene
Carbon disulfide
Methylene Chloride
4,4'-DDE
Aldrin
Benzo(b)fluoranthene
Delta-BHC
Dieldrin
Endosulfan 1

TABLE H1-5

CHEMICAL PROPERTIES SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Diffusivity in air, $D_a$ (cm <sup>2</sup> /s)	Diffusivity in water, $D_w$ (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m <sup>3</sup> /mol)	Henry's law constant reference temperature, $T_R$ (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, $T_B$ (°K)	Critical temperature, $T_C$ (°K)	Organic carbon partition coefficient, $K_{oc}$ (cm <sup>3</sup> /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3\text{-}^{-1}$ )	Reference conc., RfC (mg/m <sup>3</sup> )	Physical state at soil temperature, (S,L,G)
1.15E-02	4.55E-06	1.12E-05	25	14,000	674.43	942.94	2.14E+03	5.10E-01	0.0E+00	2.1E-02	S
1.15E-02	4.55E-06	1.12E-05	25	14,000	674.43	942.94	2.14E+03	5.10E-01	0.0E+00	2.1E-02	S
2.26E-02	5.56E-06	1.11E-04	25	17,000	715.90	969.27	1.23E+06	1.50E-03	2.1E-04	0.0E+00	S
1.12E-02	5.69E-06	1.09E-03	25	13,000	603.69	846.31	1.41E+06	1.80E-01	1.3E-03	1.8E-03	S
1.18E-02	4.37E-06	4.85E-05	25	14,000	624.24	885.73	1.20E+05	5.60E-02	1.0E-04	7.0E-04	S
1.42E-02	7.34E-06	1.06E-05	25	15,000	596.55	839.36	1.23E+03	2.00E+00	1.8E-03	0.0E+00	S
1.18E-02	4.37E-06	4.85E-05	25	14,000	624.24	885.73	1.20E+05	5.60E-02	1.0E-04	7.0E-04	S
1.42E-02	7.34E-06	1.40E-05	25	15,000	596.55	839.36	1.07E+03	7.30E+00	3.7E-04	1.1E-03	S
1.18E-02	4.37E-06	4.85E-05	25	14,000	624.24	885.73	1.20E+05	5.60E-02	1.0E-04	7.0E-04	S
1.56E-02	4.46E-06	1.58E-05	25	16,000	651.02	848.49	9.77E+04	1.00E-01	0.0E+00	1.8E-02	S

END

Chemical of Potential Concern

31	Endosulfan II
32	Endosulfan Sulfate
33	fluoranthene
34	Heptachlor
35	Technical Chlordane
36	alpha-BHC
37	alpha-Chlordane
38	gamma-BHC
39	gamma-Chlordane
40	Methoxychlor

**TABLE H1-6**  
**INTERMEDIATE CALCULATIONS SHEET**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Exposure duration, $\tau$ (sec)	Source-building separation, $L_T$ (cm)	Stratum A soil air-filled porosity, $\theta_s^A$ ( $\text{cm}^3/\text{cm}^3$ )	Stratum B soil air-filled porosity, $\theta_s^B$ ( $\text{cm}^3/\text{cm}^3$ )	Stratum C soil air-filled porosity, $\theta_s^C$ ( $\text{cm}^3/\text{cm}^3$ )	Stratum A effective total fluid saturation, $S_{fe}$ ( $\text{cm}^3/\text{cm}^3$ )	Stratum A soil intrinsic permeability, $k_i$ ( $\text{cm}^2$ )	Stratum A soil relative air permeability, $k_{rg}$ ( $\text{cm}^2$ )	Stratum A soil effective vapor permeability, $k_v$ ( $\text{cm}^2$ )	Floor-wall seam perimeter, $X_{crack}$ (cm)	Initial soil concentration used, $C_R$ ( $\mu\text{g}/\text{kg}$ )	Bldg. ventilation rate, $Q_{building}$ ( $\text{cm}^3/\text{s}$ )
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.50E+03	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	5.10E+03	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	5.00E+02	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	2.60E+04	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	3.60E+00	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.60E+02	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.10E+03	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	6.80E+03	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.45E+03	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	3.47E+03	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	8.96E+01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	9.13E+02	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.10E+02	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	4.80E+03	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.30E+04	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	2.53E+03	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.30E+04	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.17E+04	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	2.03E+04	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	4.30E-01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.10E+02	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	7.10E+01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	2.40E-01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	2.40E+00	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	7.50E+01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.30E+01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	2.37E+03	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	8.40E+00	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	4.89E+01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	2.30E+01	1.69E+05

Chemical of Potential Concern
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Chlorobenzene
Chrysene
Dibenzofuran
Fluorene
Naphthalene
Phenanthrene
Pyrene
Toluene
p-isopropyltoluene
sec-Butylbenzene
Carbon disulfide
Methylene Chloride
4,4'-DDE
Aldrin
Benzo(b)fluoranthene
Delta-BHC
Dieldrin
Endosulfan 1

TABLE H1-6

INTERMEDIATE CALCULATIONS SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Area of enclosed space below grade, $A_g$ (cm <sup>2</sup> )	Crack-to-total area ratio, $\eta$ (unitless)	Crack depth below grade, $Z_{crack}$ (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,Ts}$ (cal/mol)	Henry's law constant at ave. soil temperature, $H_{Ts}$ (atm·m <sup>3</sup> /mol)	Henry's law constant at ave. soil temperature, $H'_{Ts}$ (unitless)	Vapor viscosity at ave. soil temperature, $\mu_{Ts}$ (g/cm·s)	Stratum A effective diffusion coefficient, $D_A^{eff}$ (cm <sup>2</sup> /s)	Stratum B effective diffusion coefficient, $D_B^{eff}$ (cm <sup>2</sup> /s)	Stratum C effective diffusion coefficient, $D_C^{eff}$ (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, $D_T^{eff}$ (cm <sup>2</sup> /s)	Diffusion path length, $L_d$ (cm)	Convection path length, $L_p$ (cm)
2.00E+06	2.83E-04	15	13,153	7.50E-04	3.15E-02	1.77E-04	4.85E-03	0.00E+00	0.00E+00	4.85E-03	1	15
2.00E+06	2.83E-04	15	13,153	7.50E-04	3.15E-02	1.77E-04	4.85E-03	0.00E+00	0.00E+00	4.85E-03	1	15
2.00E+06	2.83E-04	15	11,608	3.51E-03	1.47E-01	1.77E-04	9.80E-03	0.00E+00	0.00E+00	9.80E-03	1	15
2.00E+06	2.83E-04	15	11,620	1.08E-03	4.54E-02	1.77E-04	1.12E-02	0.00E+00	0.00E+00	1.12E-02	1	15
2.00E+06	2.83E-04	15	8,559	1.85E-03	7.76E-02	1.77E-04	1.26E-02	0.00E+00	0.00E+00	1.26E-02	1	15
2.00E+06	2.83E-04	15	11,591	3.35E-03	1.41E-01	1.77E-04	9.73E-03	0.00E+00	0.00E+00	9.73E-03	1	15
2.00E+06	2.83E-04	15	11,105	1.81E-03	7.60E-02	1.77E-04	1.12E-02	0.00E+00	0.00E+00	1.12E-02	1	15
2.00E+06	2.83E-04	15	11,174	1.40E-03	5.87E-02	1.77E-04	1.12E-02	0.00E+00	0.00E+00	1.12E-02	1	15
2.00E+06	2.83E-04	15	16,153	2.37E-04	9.95E-03	1.77E-04	8.44E-03	0.00E+00	0.00E+00	8.44E-03	1	15
2.00E+06	2.83E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	6.81E-03	1	15
2.00E+06	2.83E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	6.81E-03	1	15
2.00E+06	2.83E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	6.81E-03	1	15
2.00E+06	2.83E-04	15	9,736	2.31E-03	9.69E-02	1.77E-04	1.18E-02	0.00E+00	0.00E+00	1.18E-02	1	15
2.00E+06	2.83E-04	15	24,354	2.91E-05	1.22E-03	1.77E-04	4.01E-03	0.00E+00	0.00E+00	4.01E-03	1	15
2.00E+06	2.83E-04	15	87,214	1.86E-07	7.80E-06	1.77E-04	4.18E-03	0.00E+00	0.00E+00	4.18E-03	1	15
2.00E+06	2.83E-04	15	16,167	2.90E-05	1.22E-03	1.77E-04	5.87E-03	0.00E+00	0.00E+00	5.87E-03	1	15
2.00E+06	2.83E-04	15	12,844	2.59E-04	1.09E-02	1.77E-04	9.54E-03	0.00E+00	0.00E+00	9.54E-03	1	15
2.00E+06	2.83E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	6.81E-03	1	15
2.00E+06	2.83E-04	15	20,612	4.05E-06	1.70E-04	1.77E-04	4.42E-03	0.00E+00	0.00E+00	4.42E-03	1	15
2.00E+06	2.83E-04	15	9,082	4.27E-03	1.80E-01	1.77E-04	1.41E-02	0.00E+00	0.00E+00	1.41E-02	1	15
2.00E+06	2.83E-04	15	12,550	6.31E-01	2.65E+01	1.77E-04	1.05E-02	0.00E+00	0.00E+00	1.05E-02	1	15
2.00E+06	2.83E-04	15	107,393	7.72E-05	3.24E-03	1.77E-04	9.22E-03	0.00E+00	0.00E+00	9.22E-03	1	15
2.00E+06	2.83E-04	15	6,630	2.19E-02	9.22E-01	1.77E-04	1.68E-02	0.00E+00	0.00E+00	1.68E-02	1	15
2.00E+06	2.83E-04	15	6,963	1.56E-03	6.56E-02	1.77E-04	1.63E-02	0.00E+00	0.00E+00	1.63E-02	1	15
2.00E+06	2.83E-04	15	22,010	7.23E-06	3.04E-04	1.77E-04	2.34E-03	0.00E+00	0.00E+00	2.34E-03	1	15
2.00E+06	2.83E-04	15	21,199	6.09E-05	2.56E-03	1.77E-04	2.13E-03	0.00E+00	0.00E+00	2.13E-03	1	15
2.00E+06	2.83E-04	15	25,473	3.23E-05	1.36E-03	1.77E-04	3.66E-03	0.00E+00	0.00E+00	3.66E-03	1	15
2.00E+06	2.83E-04	15	20,966	5.07E-06	2.13E-04	1.77E-04	2.31E-03	0.00E+00	0.00E+00	2.31E-03	1	15
2.00E+06	2.83E-04	15	24,395	4.63E-06	1.95E-04	1.77E-04	2.03E-03	0.00E+00	0.00E+00	2.03E-03	1	15
2.00E+06	2.83E-04	15	20,155	4.22E-06	1.77E-04	1.77E-04	1.87E-03	0.00E+00	0.00E+00	1.87E-03	1	15

Chemical of Potential Concern
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Chlorobenzene
Chrysene
Dibenzofuran
Fluorene
Naphthalene
Phenanthrene
Pyrene
Toluene
p-isopropyltoluene
sec-Butylbenzene
Carbon disulfide
Methylene Chloride
4,4'-DDE
Aldrin
Benzo(b)fluoranthene
Delta-BHC
Dieldrin
Endosulfan 1

TABLE H1-6

INTERMEDIATE CALCULATIONS SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Soil-water partition coefficient, $K_d$ ( $cm^3/g$ )	Source vapor conc., $C_{source}$ ( $\mu g/m^3$ )	Crack radius, $r_{crack}$ (cm)	Average vapor flow rate into bldg., $Q_{soil}$ ( $cm^3/s$ )	Crack effective diffusion coefficient, $D_{crack}$ ( $cm^2/s$ )	Area of crack, $A_{crack}$ ( $cm^2$ )	Exponent of equivalent Peclet number, $exp(Pe)$ (unitless)	Infinite source indoor attenuation coefficient, $\alpha$ (unitless)	Infinite source bldg. conc., $C_{building}$ ( $\mu g/m^3$ )	Finite source $\beta$ term (unitless)	Finite source $\gamma$ term ( $sec$ ) <sup>-1</sup>	Time for source depletion, $t_0$ (sec)	Exposure duration > time for source depletion (YES/NO)
3.56E+00	1.31E+04	0.10	1.67E+02	4.85E-03	5.66E+02		NA	NA	5.92E+01	2.56E-05	4.71E+08	YES
3.56E+00	4.47E+04	0.10	1.67E+02	4.85E-03	5.66E+02		NA	NA	5.92E+01	2.56E-05	4.71E+08	YES
2.70E+00	2.67E+04	0.10	1.67E+02	9.80E-03	5.66E+02	8.88E+195	NA	NA	1.19E+02	3.15E-04	5.85E+07	YES
1.23E+00	9.26E+05	0.10	1.67E+02	1.12E-02	5.66E+02	1.24E+172	NA	NA	1.35E+02	2.39E-04	8.42E+07	YES
8.74E-02	2.07E+03	0.10	1.67E+02	1.26E-02	5.66E+02	7.04E+151	NA	NA	1.53E+02	4.38E-03	5.03E+06	YES
2.70E+00	8.16E+03	0.10	1.67E+02	9.73E-03	5.66E+02	1.78E+197	NA	NA	1.18E+02	2.99E-04	6.13E+07	YES
3.95E+00	2.09E+04	0.10	1.67E+02	1.12E-02	5.66E+02	3.95E+171	NA	NA	1.35E+02	1.28E-04	1.58E+08	YES
1.23E+00	3.12E+05	0.10	1.67E+02	1.12E-02	5.66E+02	1.24E+172	NA	NA	1.35E+02	3.08E-04	6.53E+07	YES
5.62E+00	2.55E+03	0.10	1.67E+02	8.44E-03	5.66E+02	2.97E+227	NA	NA	1.02E+02	8.94E-06	1.86E+09	NO
1.42E+01	7.32E+02	0.10	1.67E+02	6.81E-03	5.66E+02	1.02E+282	NA	NA	8.27E+01	8.65E-07	1.68E+10	NO
1.42E+01	1.89E+01	0.10	1.67E+02	6.81E-03	5.66E+02	1.02E+282	NA	NA	8.27E+01	8.65E-07	1.68E+10	NO
1.42E+01	1.93E+02	0.10	1.67E+02	6.81E-03	5.66E+02	1.02E+282	NA	NA	8.27E+01	8.65E-07	1.68E+10	NO
4.38E-01	2.18E+04	0.10	1.67E+02	1.18E-02	5.66E+02	4.61E+162	NA	NA	1.43E+02	1.41E-03	1.49E+07	YES
7.96E+02	7.37E+00	0.10	1.67E+02	4.01E-03	5.66E+02		NA	NA	4.91E+01	3.71E-09	2.96E+12	NO
1.03E+01	9.82E+00	0.10	1.67E+02	4.18E-03	5.66E+02		NA	NA	5.11E+01	1.90E-09	5.89E+12	NO
2.76E+01	1.12E+02	0.10	1.67E+02	5.87E-03	5.66E+02		NA	NA	7.14E+01	1.56E-07	8.55E+10	NO
4.00E+00	3.51E+04	0.10	1.67E+02	9.54E-03	5.66E+02	1.81E+201	NA	NA	1.15E+02	1.55E-05	1.17E+09	NO
1.42E+01	2.47E+03	0.10	1.67E+02	6.81E-03	5.66E+02	1.02E+282	NA	NA	8.27E+01	8.65E-07	1.68E+10	NO
2.10E+02	1.65E+01	0.10	1.67E+02	4.42E-03	5.66E+02		NA	NA	5.40E+01	2.16E-09	5.33E+12	NO
3.64E-01	1.79E+02	0.10	1.67E+02	1.41E-02	5.66E+02	3.08E+136	NA	NA	1.70E+02	3.53E-03	6.77E+06	YES
9.77E-01	4.75E+05	0.10	1.67E+02	1.05E-02	5.66E+02	4.84E+182	NA	NA	1.27E+02	2.73E-02	7.06E+05	YES
1.93E+00	1.17E+02	0.10	1.67E+02	9.22E-03	5.66E+02	2.00E+208	NA	NA	1.12E+02	9.16E-06	1.93E+09	NO
9.14E-02	7.32E+02	0.10	1.67E+02	1.68E-02	5.66E+02	1.51E+114	NA	NA	2.03E+02	3.09E-02	8.87E+05	YES
2.34E-02	2.29E+03	0.10	1.67E+02	1.63E-02	5.66E+02	3.71E+117	NA	NA	1.97E+02	9.40E-03	2.85E+06	YES
8.94E+03	2.55E-03	0.10	1.67E+02	2.34E-03	5.66E+02		NA	NA	2.90E+01	4.79E-11	1.85E+14	NO
4.90E+03	6.79E-03	0.10	1.67E+02	2.13E-03	5.66E+02		NA	NA	2.66E+01	6.72E-10	1.28E+13	NO
2.46E+03	1.31E+00	0.10	1.67E+02	3.66E-03	5.66E+02		NA	NA	4.48E+01	1.22E-09	8.65E+12	NO
2.14E+00	8.24E-01	0.10	1.67E+02	2.31E-03	5.66E+02		NA	NA	2.87E+01	1.37E-07	6.44E+10	NO
4.28E+01	2.22E-01	0.10	1.67E+02	2.03E-03	5.66E+02		NA	NA	2.54E+01	5.56E-09	1.52E+12	NO
4.28E+00	9.46E-01	0.10	1.67E+02	1.87E-03	5.66E+02		NA	NA	2.34E+01	4.83E-08	1.78E+11	NO

Chemical of Potential Concern
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Chlorobenzene
Chrysene
Dibenzofuran
Fluorene
Naphthalene
Phenanthrene
Pyrene
Toluene
p-isopropyltoluene
sec-Butylbenzene
Carbon disulfide
Methylene Chloride
4,4'-DDE
Aldrin
Benzo(b)fluoranthene
Delta-BHC
Dieldrin
Endosulfan 1

TABLE H1-6

## INTERMEDIATE CALCULATIONS SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Finite source indoor attenuation coefficient, <x> (unitless)	Mass limit bldg. conc., C <sub>building</sub> (µg/m <sup>3</sup> )	Finite source bldg. conc., C <sub>building</sub> (µg/m <sup>3</sup> )	Final finite source bldg. conc., C <sub>building</sub> (µg/m <sup>3</sup> )	Unit risk factor, URF (µg/m <sup>3</sup> ) <sup>-1</sup>	Reference conc., RIC (mg/m <sup>3</sup> )
NA	3.99E+00	NA	3.99E+00	NA	2.0E-01
NA	1.36E+01	NA	1.36E+01	NA	2.0E-01
NA	1.33E+00	NA	1.33E+00	NA	6.0E-03
NA	6.91E+01	NA	6.91E+01	NA	2.0E-01
NA	9.57E-03	NA	9.57E-03	1.9E-05	4.0E-03
NA	4.25E-01	NA	4.25E-01	NA	6.0E-03
NA	2.93E+00	NA	2.93E+00	NA	1.1E-01
NA	1.81E+01	NA	1.81E+01	NA	8.0E-01
7.69E-04	NA	1.96E+00	1.96E+00	NA	7.0E-02
9.28E-04	NA	6.79E-01	6.79E-01	NA	2.1E-01
9.28E-04	NA	1.75E-02	1.75E-02	NA	2.1E-01
9.28E-04	NA	1.79E-01	1.79E-01	NA	2.1E-01
NA	2.93E-01	NA	2.93E-01	NA	6.0E-02
9.63E-04	NA	7.10E-03	7.10E-03	2.1E-06	NA
9.64E-04	NA	9.47E-03	9.47E-03	NA	1.4E-02
9.59E-04	NA	1.07E-01	1.07E-01	NA	1.4E-01
7.27E-04	NA	2.55E+01	2.55E+01	NA	3.0E-03
9.28E-04	NA	2.29E+00	2.29E+00	NA	2.1E-01
9.65E-04	NA	1.59E-02	1.59E-02	NA	1.1E-01
NA	1.14E-03	NA	1.14E-03	NA	4.0E-01
NA	2.93E-01	NA	2.93E-01	NA	4.0E-01
7.90E-04	NA	9.25E-02	9.25E-02	NA	1.4E-01
NA	6.38E-04	NA	6.38E-04	NA	7.0E-01
NA	6.38E-03	NA	6.38E-03	4.7E-07	3.0E+00
9.50E-04	NA	2.42E-06	2.42E-06	9.7E-05	NA
9.47E-04	NA	6.43E-06	6.43E-06	4.9E-03	1.1E-04
9.62E-04	NA	1.26E-03	1.26E-03	2.1E-04	NA
8.95E-04	NA	7.37E-04	7.37E-04	3.7E-04	1.1E-03
9.42E-04	NA	2.09E-04	2.09E-04	4.6E-03	1.8E-04
9.13E-04	NA	8.63E-04	8.63E-04	NA	2.1E-02

## Chemical of Potential Concern

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Chlorobenzene
Chrysene
Dibenzofuran
Fluorene
Naphthalene
Phenanthrene
Pyrene
Toluene
p-isopropyltoluene
sec-Butylbenzene
Carbon disulfide
Methylene Chloride
4,4'-DDE
Aldrin
Benzo(b)fluoranthene
Delta-BHC
Dieldrin
Endosulfan 1

**TABLE H1-6**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Exposure duration, $\tau$ (sec)	Source-building separation, $L_T$ (cm)	Stratum A soil air-filled porosity, $\theta_a^A$ (cm <sup>3</sup> /cm <sup>3</sup> )	Stratum B soil air-filled porosity, $\theta_a^B$ (cm <sup>3</sup> /cm <sup>3</sup> )	Stratum C soil air-filled porosity, $\theta_a^C$ (cm <sup>3</sup> /cm <sup>3</sup> )	Stratum A effective total fluid saturation, $S_{we}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Stratum A soil intrinsic permeability, $k_i$ (cm <sup>2</sup> )	Stratum A soil relative air permeability, $k_{ra}$ (cm <sup>2</sup> )	Stratum A soil effective vapor permeability, $k_v$ (cm <sup>2</sup> )	Floor-wall seam perimeter, $X_{crack}$ (cm)	Initial soil concentration used, $C_R$ ( $\mu$ g/kg)	Bldg. ventilation rate, $Q_{building}$ (cm <sup>3</sup> /s)
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	2.34E+01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	4.30E+01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	3.69E+03	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	6.90E+00	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	5.41E+02	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	7.30E-01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	6.98E+00	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	2.60E+00	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.27E-01	1.69E+05
7.88E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	5,656	1.20E+02	1.69E+05

Chemical of Potential Concern
Endosulfan II
Endosulfan Sulfate
fluoranthene
Heptachlor
Technical Chlordane
alpha-BHC
alpha-Chlordane
gamma-BHC
gamma-Chlordane
Methoxychlor

TABLE H1-6

INTERMEDIATE CALCULATIONS SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Area of enclosed space below grade, $A_B$ ( $cm^2$ )	Crack-to-total area ratio, $\eta$ (unitless)	Crack depth below grade, $Z_{crack}$ (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, $H_{TS}$ (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. soil temperature, $H'_{TS}$ (unitless)	Vapor viscosity at ave. soil temperature, $\mu_{TS}$ (g/cm-s)	Stratum A effective diffusion coefficient, $D_A^{eff}$ ( $cm^2/s$ )	Stratum B effective diffusion coefficient, $D_B^{eff}$ ( $cm^2/s$ )	Stratum C effective diffusion coefficient, $D_C^{eff}$ ( $cm^2/s$ )	Total overall effective diffusion coefficient, $D_T^{eff}$ ( $cm^2/s$ )	Diffusion path length, $L_d$ (cm)	Convection path length, $L_p$ (cm)
2.00E+06	2.83E-04	15	20,155	4.22E-06	1.77E-04	1.77E-04	1.87E-03	0.00E+00	0.00E+00	1.87E-03	1	15
2.00E+06	2.83E-04	15	20,155	4.22E-06	1.77E-04	1.77E-04	1.87E-03	0.00E+00	0.00E+00	1.87E-03	1	15
2.00E+06	2.83E-04	15	25,473	3.23E-05	1.36E-03	1.77E-04	3.66E-03	0.00E+00	0.00E+00	3.66E-03	1	15
2.00E+06	2.83E-04	15	18,271	4.51E-04	1.90E-02	1.77E-04	1.81E-03	0.00E+00	0.00E+00	1.81E-03	1	15
2.00E+06	2.83E-04	15	19,552	1.88E-05	7.92E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	1.91E-03	1	15
2.00E+06	2.83E-04	15	20,966	3.84E-06	1.61E-04	1.77E-04	2.31E-03	0.00E+00	0.00E+00	2.31E-03	1	15
2.00E+06	2.83E-04	15	19,552	1.88E-05	7.92E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	1.91E-03	1	15
2.00E+06	2.83E-04	15	20,966	5.07E-06	2.13E-04	1.77E-04	2.31E-03	0.00E+00	0.00E+00	2.31E-03	1	15
2.00E+06	2.83E-04	15	19,552	1.88E-05	7.92E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	1.91E-03	1	15
2.00E+06	2.83E-04	15	24,507	4.82E-06	2.03E-04	1.77E-04	2.53E-03	0.00E+00	0.00E+00	2.53E-03	1	15

Chemical of Potential Concern

31	Endosulfan II
32	Endosulfan Sulfate
33	fluoranthene
34	Heptachlor
35	Technical Chlordane
36	alpha-BHC
37	alpha-Chlordane
38	gamma-BHC
39	gamma-Chlordane
40	Methoxychlor

**TABLE H1-6**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Soil-water partition coefficient, $K_d$ ( $\text{cm}^3/\text{g}$ )	Source vapor conc., $C_{\text{source}}$ ( $\mu\text{g}/\text{m}^3$ )	Crack radius, $r_{\text{crack}}$ (cm)	Average vapor flow rate into bldg., $Q_{\text{soil}}$ ( $\text{cm}^3/\text{s}$ )	Crack effective diffusion coefficient, $D^{\text{crack}}$ ( $\text{cm}^2/\text{s}$ )	Area of crack, $A_{\text{crack}}$ ( $\text{cm}^2$ )	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, $\alpha$ (unitless)	Infinite source bldg. conc., $C_{\text{building}}$ ( $\mu\text{g}/\text{m}^3$ )	Finite source $\beta$ term (unitless)	Finite source $\psi$ term ( $\text{sec}^{-1}$ )	Time for source depletion, $t_0$ (sec)	Exposure duration > time for source depletion (YES/NO)
4.28E+00	9.62E-01	0.10	1.67E+02	1.87E-03	5.66E+02		NA	NA	2.34E+01	4.63E-08	1.78E+11	NO
4.28E+00	1.77E+00	0.10	1.67E+02	1.87E-03	5.66E+02		NA	NA	2.34E+01	4.63E-08	1.78E+11	NO
2.46E+03	2.04E+00	0.10	1.67E+02	3.66E-03	5.66E+02		NA	NA	4.48E+01	1.22E-09	8.65E+12	NO
2.82E+03	4.64E-02	0.10	1.67E+02	1.81E-03	5.66E+02		NA	NA	2.27E+01	7.33E-09	1.11E+12	NO
2.40E+02	1.79E+00	0.10	1.67E+02	1.91E-03	5.66E+02		NA	NA	2.39E+01	3.80E-09	2.18E+12	NO
2.46E+00	4.73E-02	0.10	1.67E+02	2.31E-03	5.66E+02		NA	NA	2.88E+01	9.03E-08	9.75E+10	NO
2.40E+02	2.30E-02	0.10	1.67E+02	1.91E-03	5.66E+02		NA	NA	2.39E+01	3.80E-09	2.18E+12	NO
2.14E+00	2.55E-01	0.10	1.67E+02	2.31E-03	5.66E+02		NA	NA	2.87E+01	1.37E-07	6.44E+10	NO
2.40E+02	4.19E-04	0.10	1.67E+02	1.91E-03	5.66E+02		NA	NA	2.39E+01	3.80E-09	2.18E+12	NO
1.95E+02	1.24E-01	0.10	1.67E+02	2.53E-03	5.66E+02		NA	NA	3.14E+01	1.58E-09	5.74E+12	NO

Chemical of Potential Concern
Endosulfan II
Endosulfan Sulfate
fluoranthene
Heptachlor
Technical Chlordane
alpha-BHC
alpha-Chlordane
gamma-BHC
gamma-Chlordane
Methoxychlor

TABLE H1-6

INTERMEDIATE CALCULATIONS SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Finite source indoor attenuation coefficient, < $\alpha$ > (unitless)	Mass limit bdg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Finite source bdg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Final finite source bldg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	Reference conc., RfC ( $\text{mg}/\text{m}^3$ )
9.13E-04	NA	8.78E-04	8.78E-04	NA	2.1E-02
9.13E-04	NA	1.61E-03	1.61E-03	NA	2.1E-02
9.62E-04	NA	1.96E-03	1.96E-03	2.1E-04	NA
9.35E-04	NA	4.34E-05	4.34E-05	1.3E-03	1.8E-03
9.40E-04	NA	1.68E-03	1.68E-03	1.0E-04	7.0E-04
9.12E-04	NA	4.31E-05	4.31E-05	1.8E-03	NA
9.40E-04	NA	2.17E-05	2.17E-05	1.0E-04	7.0E-04
8.95E-04	NA	2.28E-04	2.28E-04	3.7E-04	1.1E-03
9.40E-04	NA	3.94E-07	3.94E-07	1.0E-04	7.0E-04
9.52E-04	NA	1.18E-04	1.18E-04	NA	1.8E-02

END

Chemical of Potential Concern
Endosulfan II
Endosulfan Sulfate
fluoranthene
Heptachlor
Technical Chlordane
alpha-BHC
alpha-Chlordane
gamma-BHC
gamma-Chlordane
Methoxychlor

**TABLE H1-7  
DATA ENTRY SHEET**

**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

GW-ADV  
Version 3.0; 02/03

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

DTSC / HERD  
Version 3.0-mod1; 07/03

Reset to  
Defaults

YES

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES

MORE  
↓

ENTER Average soil/ groundwater temperature, $T_s$ (°C)	ENTER Depth below grade to bottom of enclosed space floor, $L_f$ (cm)	ENTER Depth below grade to water table, $L_{wr}$ (cm)	ENTER Thickness of soil stratum A, $h_A$ (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) $h_B$ (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) $h_C$ (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, $k_v$ (cm <sup>2</sup> )
16.7	15	122	122			A	S	S		

MORE  
↓

ENTER Stratum A SCS soil type Lookup Soil Parameters	ENTER Stratum A soil dry bulk density, $\rho_b^A$ (g/cm <sup>3</sup> )	ENTER Stratum A soil total porosity, $n^A$ (unitless)	ENTER Stratum A soil water-filled porosity, $\theta_w^A$ (cm <sup>3</sup> /cm <sup>3</sup> )	ENTER Stratum B SCS soil type Lookup Soil Parameters	ENTER Stratum B soil dry bulk density, $\rho_b^B$ (g/cm <sup>3</sup> )	ENTER Stratum B soil total porosity, $n^B$ (unitless)	ENTER Stratum B soil water-filled porosity, $\theta_w^B$ (cm <sup>3</sup> /cm <sup>3</sup> )	ENTER Stratum C SCS soil type Lookup Soil Parameters	ENTER Stratum C soil dry bulk density, $\rho_b^C$ (g/cm <sup>3</sup> )	ENTER Stratum C soil total porosity, $n^C$ (unitless)	ENTER Stratum C soil water-filled porosity, $\theta_w^C$ (cm <sup>3</sup> /cm <sup>3</sup> )
S	1.66	0.375	0.054								

MORE  
↓

ENTER Enclosed space floor thickness, $L_{crack}$ (cm)	ENTER Soil-bldg. pressure differential, $\Delta P$ (g/cm-s <sup>2</sup> )	ENTER Enclosed space floor length, $L_B$ (cm)	ENTER Enclosed space floor width, $W_B$ (cm)	ENTER Enclosed space height, $H_B$ (cm)	ENTER Floor-wall seam crack width, $w$ (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate $Q_{soil}$ (L/m)
15	40	1414	1414	305	0.1	1	10

MORE  
↓

ENTER Averaging time for carcinogens, $AT_C$ (yrs)	ENTER Averaging time for noncarcinogens, $AT_{NC}$ (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	30	25	250	1.0E-06	1

END

Used to calculate risk-based  
groundwater concentration.

TABLE H1-7

DATA ENTRY SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

	ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C <sub>w</sub> (µg/L)	Modeled Chemical	Chemical of Potential Concern
1	75354	3.00E-01	1,1-Dichloroethylene	1,1-Dichloroethane
2	95636	1.00E-01	1,2,4-Trimethylbenzene	1,2,4-Trimethylbenzene
3	95501	1.85E+00	1,2-Dichlorobenzene	1,2-Dichlorobenzene
4	107062	1.70E+00	1,2-Dichloroethane	1,2-Dichloroethane
5	78875	3.00E-01	1,2-Dichloropropane	1,2-Dichloropropane
6	108678	6.00E-02	1,3,5-Trimethylbenzene	1,3,5-Trimethylbenzene
7	106467	5.00E-01	1,4-Dichlorobenzene	1,4-Dichlorobenzene
8	78933	5.00E-01	Methylethylketone (2-butanone)	2-Hexanone
9	91576	1.00E-02	2-Methylnaphthalene	2-Methylnaphthalene
10	72559	8.50E-04	DDE	4,4'-DDE
	108101	1.00E-01	Methylisobutylketone (4-methyl-2-pentanone)	4-Methyl-2-pentanone
11				
12	83329	1.42E+00	Acenaphthene	Acenaphthene
13	83329	6.04E-02	Acenaphthene	Acenaphthylene
14	309002	4.52E-04	Aldrin	Aldrin
15	83329	1.20E-01	Acenaphthene	Anthracene
16	71432	1.58E-01	Benzene	Benzene
17	205992	4.00E-02	Benzo(b)fluoranthene	Benzo(b)fluoranthene
18	75252	2.00E-01	Bromoform	Bromoform
19	75150	4.20E-01	Carbon disulfide	Carbon disulfide
20	108907	8.00E-02	Chlorobenzene	Chlorobenzene
21	67663	1.60E+00	Chloroform	Chloroform
22	74873	2.00E-01	Methyl chloride (chloromethane)	Chloromethane
23	218019	1.10E-01	Chrysene	Chrysene
24	60571	4.60E-04	Dieldrin	Dieldrin
25	115297	6.89E-04	Endosulfan	Endosulfan I
26	115297	2.30E-04	Endosulfan	Endosulfan II
27	100414	1.00E-01	Ethylbenzene	Ethylbenzene
28	205992	4.00E-02	Benzo(b)fluoranthene	Fluoranthene
29	86737	7.77E-02	Fluorene	Fluorene
30	76448	3.20E-04	Heptachlor	Heptachlor

TABLE H1-7

DATA ENTRY SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

	ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C <sub>w</sub> (µg/L)	Modeled Chemical	Chemical of Potential Concern
31	98828	1.35E-01	Cumene	Isopropylbenzene
32	72435	1.30E-03	Methoxychlor	Methoxychlor
33	91203	5.36E-02	Naphthalene	Naphthalene
34	83329	9.80E-02	Acenaphthene	Phenanthrene
35	129000	1.38E-01	Pyrene	Pyrene
36	98066	4.00E-01	tert-Butylbenzene	Tert-Butylbenzene
37	108883	1.92E-02	Toluene	Toluene
38	79016	3.39E-01	Trichloroethylene	Trichloroethene
39	75014	2.00E-01	Vinyl chloride (chloroethene)	Vinyl chloride
40	319846	4.07E-04	alpha-HCH (alpha-BHC)	alpha-BHC
41	57749	8.47E-04	Chlordane	alpha-Chlordane
42	156592	5.20E-01	cis-1,2-Dichloroethylene	cis-1,2-Dichloroethene
43	58899	4.28E-04	gamma-HCH (Lindane)	gamma-BHC (Lindane)
44	57749	4.10E-04	Chlordane	gamma-Chlordane
45	108383	4.00E-01	m-Xylene	m,p-Xylene
46	104518	1.00E-01	n-Butylbenzene	n-Butylbenzene
47	103651	1.30E-01	n-Propylbenzene	n-Propylbenzene
48	98828	1.35E-01	Cumene	p-Isopropyltoluene
49	135988	3.00E-01	sec-Butylbenzene	sec-Butylbenzene
50	156605	4.00E-01	trans-1,2-Dichloroethylene	trans-1,2-Dichloroethene

**TABLE H1-8  
 CHEMICAL PROPERTIES SHEET  
 VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS  
 FOR A COMMERCIAL/INDUSTRIAL BUILDING  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Diffusivity in air, $D_a$ (cm <sup>2</sup> /s)	Diffusivity in water, $D_w$ (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm·m <sup>3</sup> /mol)	Henry's law constant reference temperature, $T_R$ (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, $T_b$ (°K)	Critical temperature, $T_c$ (°K)	Organic carbon partition coefficient, $K_{oc}$ (cm <sup>3</sup> /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF (µg/m <sup>3</sup> ) <sup>-1</sup>	Reference conc., RFC (mg/m <sup>3</sup> )
9.00E-02	1.04E-05	2.60E-02	25	6,247	304.75	576.05	5.89E+01	2.25E+03	0.0E+00	7.0E-02
6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	1.35E+03	5.70E+01	0.0E+00	6.0E-03
6.90E-02	7.90E-06	1.90E-03	25	9,700	453.57	705.00	6.17E+02	1.56E+02	0.0E+00	2.0E-01
1.04E-01	9.90E-06	9.77E-04	25	7,643	356.65	561.00	1.74E+01	8.52E+03	2.1E-05	4.0E-01
7.82E-02	8.73E-06	2.79E-03	25	7,590	369.52	572.00	4.37E+01	2.80E+03	1.0E-05	4.0E-03
6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	1.35E+03	2.00E+00	0.0E+00	6.0E-03
6.90E-02	7.90E-06	2.39E-03	25	9,271	447.21	684.75	6.17E+02	7.90E+01	1.1E-05	8.0E-01
8.08E-02	9.80E-06	5.58E-05	25	7,481	352.50	536.78	2.30E+00	2.23E+05	0.0E+00	1.0E+00
5.22E-02	7.75E-06	5.17E-04	25	12,600	514.26	761.00	2.81E+03	2.46E+01	0.0E+00	7.0E-02
1.44E-02	5.87E-06	2.09E-05	25	15,000	636.44	860.38	4.47E+06	1.20E-01	9.7E-05	0.0E+00
7.50E-02	7.80E-06	1.38E-04	25	8,243	389.50	571.00	9.06E+00	1.90E+04	0.0E+00	8.0E-02
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01
1.32E-02	4.86E-06	1.70E-04	25	15,000	603.01	839.37	2.45E+06	1.70E-02	4.9E-03	1.1E-04
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01
8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	5.89E+01	1.79E+03	2.9E-05	6.0E-02
2.26E-02	5.56E-06	1.11E-04	25	17,000	715.90	969.27	1.23E+06	1.50E-03	1.1E-04	0.0E+00
1.49E-02	1.03E-05	5.88E-04	25	9,479	422.35	696.00	8.71E+01	3.10E+03	1.1E-06	7.0E-02
1.04E-01	1.00E-05	3.02E-02	25	6,391	319.00	552.00	4.57E+01	1.19E+03	0.0E+00	8.0E-01
7.30E-02	8.70E-06	3.69E-03	25	8,410	404.87	632.40	2.19E+02	4.72E+02	0.0E+00	1.0E+00
1.04E-01	1.00E-05	3.66E-03	25	6,988	334.32	536.40	3.98E+01	7.92E+03	5.3E-06	3.0E-01
1.26E-01	6.50E-06	8.80E-03	25	5,115	249.00	416.25	2.12E+00	5.33E+03	1.0E-06	9.0E-02
2.48E-02	6.21E-06	9.44E-05	25	16,455	714.15	979.00	3.98E+05	6.30E-03	1.1E-05	0.0E+00
1.25E-02	4.74E-06	1.51E-05	25	17,000	613.32	842.25	2.14E+04	1.95E-01	4.6E-03	1.8E-04
1.15E-02	4.55E-06	1.12E-05	25	14,000	674.43	942.94	2.14E+03	5.10E-01	0.0E+00	2.1E-02
1.15E-02	4.55E-06	1.12E-05	25	14,000	674.43	942.94	2.14E+03	5.10E-01	0.0E+00	2.1E-02
7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	3.63E+02	1.69E+02	1.1E-06	2.0E+00
2.26E-02	5.56E-06	1.11E-04	25	17,000	715.90	969.27	1.23E+06	1.50E-03	1.1E-04	0.0E+00
3.63E-02	7.88E-06	6.34E-05	25	12,666	570.44	870.00	1.38E+04	1.98E+00	0.0E+00	1.4E-01
1.12E-02	5.69E-06	1.09E-03	25	13,000	603.69	846.31	1.41E+06	1.80E-01	1.6E-03	1.8E-03

Chemical of Potential Concern
1,1-Dichloroethane
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,4-Dichlorobenzene
2-Hexanone
2-Methylnaphthalene
4,4'-DDE
4-Methyl-2-pentanone
Acenaphthene
Acenaphthylene
Aldrin
Anthracene
Benzene
Benzo(b)fluoranthene
Bromoform
Carbon disulfide
Chlorobenzene
Chloroform
Chloromethane
Chrysene
Dieldrin
Endosulfan I
Endosulfan II
Ethylbenzene
Fluoranthene
Fluorene
Heptachlor

**TABLE H1-8**  
**CHEMICAL PROPERTIES SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS**  
**FOR A COMMERCIAL/INDUSTRIAL BUILDING**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Diffusivity in air, $D_a$ (cm <sup>2</sup> /s)	Diffusivity in water, $D_w$ (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm·m <sup>3</sup> /mol)	Henry's law constant reference temperature, $T_R$ (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, $T_B$ (°K)	Critical temperature, $T_C$ (°K)	Organic carbon partition coefficient, $K_{oc}$ (cm <sup>3</sup> /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF (µg/m <sup>3</sup> ) <sup>-1</sup>	Reference conc., RfC (mg/m <sup>3</sup> )
6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01
1.56E-02	4.46E-06	1.58E-05	25	16,000	651.02	848.49	9.77E+04	1.00E-01	0.0E+00	1.8E-02
5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	2.00E+03	3.10E+01	0.0E+00	9.0E-03
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01
2.72E-02	7.24E-06	1.10E-05	25	14,370	667.95	936.00	1.05E+05	1.35E+00	0.0E+00	1.1E-01
5.65E-02	8.02E-06	1.19E-02	25	8,980	442.10	1220.00	7.71E+02	2.95E+01	0.0E+00	1.4E-01
8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	1.82E+02	5.26E+02	0.0E+00	3.0E-01
7.90E-02	9.10E-06	1.03E-02	25	7,505	360.36	544.20	1.66E+02	1.47E+03	2.0E-06	6.0E-01
1.06E-01	1.23E-05	2.69E-02	25	5,250	259.25	432.00	1.86E+01	8.80E+03	7.8E-05	1.0E-01
1.42E-02	7.34E-06	1.06E-05	25	15,000	596.55	839.36	1.23E+03	2.00E+00	7.7E-04	0.0E+00
1.18E-02	4.37E-06	4.85E-05	25	14,000	624.24	885.73	1.20E+05	5.60E-02	3.4E-04	7.0E-04
7.36E-02	1.13E-05	4.07E-03	25	7,192	333.65	544.00	3.55E+01	3.50E+03	0.0E+00	3.5E-02
1.42E-02	7.34E-06	1.40E-05	25	15,000	596.55	839.36	1.07E+03	7.30E+00	3.1E-04	1.1E-03
1.18E-02	4.37E-06	4.85E-05	25	14,000	624.24	885.73	1.20E+05	5.60E-02	3.4E-04	7.0E-04
7.00E-02	7.80E-06	7.32E-03	25	8,523	412.27	617.05	4.07E+02	1.61E+02	0.0E+00	7.0E-01
5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	1.11E+03	2.00E+00	0.0E+00	1.4E-01
6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	5.62E+02	6.00E+01	0.0E+00	1.4E-01
6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01
5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	9.66E+02	3.94E+00	0.0E+00	1.4E-01
7.07E-02	1.19E-05	9.36E-03	25	6,717	320.85	516.50	5.25E+01	6.30E+03	0.0E+00	7.0E-02

END

Chemical of Potential Concern
Isopropylbenzene
Methoxychlor
Naphthalene
Phenanthrene
Pyrene
Tert-Butylbenzene
Toluene
Trichloroethene
Vinyl chloride
alpha-BHC
alpha-Chlordane
cis-1,2-Dichloroethene
gamma-BHC (Lindane)
gamma-Chlordane
m,p-Xylene
n-Butylbenzene
n-Propylbenzene
p-Isopropyltoluene
sec-Butylbenzene
trans-1,2-Dichloroethene



**TABLE H1-9**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Bldg. ventilation rate, $Q_{building}$ ( $cm^2/s$ )	Area of enclosed space below grade, $A_B$ ( $cm^2$ )	Crack-to-total area ratio, $\eta$ (unitless)	Crack depth below grade, $Z_{crack}$ (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, $H_{rs}$ (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. groundwater temperature, $H'_{rs}$ (unitless)	Vapor viscosity at ave. soil temperature, $\mu_{rs}$ (g/cm-s)	Stratum A effective diffusion coefficient, $D_{eff,A}$ ( $cm^2/s$ )	Stratum B effective diffusion coefficient, $D_{eff,B}$ ( $cm^2/s$ )	Stratum C effective diffusion coefficient, $D_{eff,C}$ ( $cm^2/s$ )	Capillary zone effective diffusion coefficient, $D_{eff,cz}$ ( $cm^2/s$ )	Total overall effective diffusion coefficient, $D_{eff,T}$ ( $cm^2/s$ )	Diffusion path length, $L_d$ (cm)
1.69E+05	2.00E+06	2.83E-04	15	6,348	1.92E-02	8.05E-01	1.77E-04	1.45E-02	0.00E+00	0.00E+00	5.77E-04	3.00E-03	107
1.69E+05	2.00E+06	2.83E-04	15	11,608	3.51E-03	1.47E-01	1.77E-04	9.80E-03	0.00E+00	0.00E+00	3.92E-04	2.03E-03	107
1.69E+05	2.00E+06	2.83E-04	15	11,620	1.08E-03	4.54E-02	1.77E-04	1.12E-02	0.00E+00	0.00E+00	4.55E-04	2.35E-03	107
1.69E+05	2.00E+06	2.83E-04	15	8,449	6.49E-04	2.73E-02	1.77E-04	1.68E-02	0.00E+00	0.00E+00	6.93E-04	3.57E-03	107
1.69E+05	2.00E+06	2.83E-04	15	8,559	1.85E-03	7.76E-02	1.77E-04	1.26E-02	0.00E+00	0.00E+00	5.09E-04	2.64E-03	107
1.69E+05	2.00E+06	2.83E-04	15	11,591	3.35E-03	1.41E-01	1.77E-04	9.73E-03	0.00E+00	0.00E+00	3.90E-04	2.02E-03	107
1.69E+05	2.00E+06	2.83E-04	15	11,174	1.40E-03	5.87E-02	1.77E-04	1.12E-02	0.00E+00	0.00E+00	4.52E-04	2.34E-03	107
1.69E+05	2.00E+06	2.83E-04	15	8,336	3.73E-05	1.57E-03	1.77E-04	1.31E-02	0.00E+00	0.00E+00	9.77E-04	4.40E-03	107
1.69E+05	2.00E+06	2.83E-04	15	16,153	2.37E-04	9.95E-03	1.77E-04	8.44E-03	0.00E+00	0.00E+00	3.91E-04	1.97E-03	107
1.69E+05	2.00E+06	2.83E-04	15	22,010	7.23E-06	3.04E-04	1.77E-04	2.34E-03	0.00E+00	0.00E+00	1.51E-03	2.15E-03	107
1.69E+05	2.00E+06	2.83E-04	15	9,772	8.58E-05	3.61E-03	1.77E-04	1.21E-02	0.00E+00	0.00E+00	6.39E-04	3.14E-03	107
1.69E+05	2.00E+06	2.83E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	4.58E-04	2.12E-03	107
1.69E+05	2.00E+06	2.83E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	4.58E-04	2.12E-03	107
1.69E+05	2.00E+06	2.83E-04	15	21,199	6.09E-05	2.56E-03	1.77E-04	2.13E-03	0.00E+00	0.00E+00	2.24E-04	9.05E-04	107
1.69E+05	2.00E+06	2.83E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	4.58E-04	2.12E-03	107
1.69E+05	2.00E+06	2.83E-04	15	8,053	3.75E-03	1.58E-01	1.77E-04	1.42E-02	0.00E+00	0.00E+00	5.68E-04	2.95E-03	107
1.69E+05	2.00E+06	2.83E-04	15	25,473	3.23E-05	1.36E-03	1.77E-04	3.66E-03	0.00E+00	0.00E+00	4.45E-04	1.70E-03	107
1.69E+05	2.00E+06	2.83E-04	15	10,811	3.49E-04	1.47E-02	1.77E-04	2.41E-03	0.00E+00	0.00E+00	1.47E-04	6.98E-04	107
1.69E+05	2.00E+06	2.83E-04	15	6,630	2.19E-02	9.22E-01	1.77E-04	1.68E-02	0.00E+00	0.00E+00	6.67E-04	3.46E-03	107
1.69E+05	2.00E+06	2.83E-04	15	9,736	2.31E-03	9.69E-02	1.77E-04	1.18E-02	0.00E+00	0.00E+00	4.74E-04	2.46E-03	107
1.69E+05	2.00E+06	2.83E-04	15	7,485	2.55E-03	1.07E-01	1.77E-04	1.68E-02	0.00E+00	0.00E+00	6.73E-04	3.49E-03	107
1.69E+05	2.00E+06	2.83E-04	15	4,667	7.02E-03	2.95E-01	1.77E-04	2.04E-02	0.00E+00	0.00E+00	8.09E-04	4.20E-03	107
1.69E+05	2.00E+06	2.83E-04	15	24,354	2.91E-05	1.22E-03	1.77E-04	4.01E-03	0.00E+00	0.00E+00	5.32E-04	1.96E-03	107
1.69E+05	2.00E+06	2.83E-04	15	24,395	4.63E-06	1.95E-04	1.77E-04	2.03E-03	0.00E+00	0.00E+00	1.87E-03	2.00E-03	107
1.69E+05	2.00E+06	2.83E-04	15	20,155	4.22E-06	1.77E-04	1.77E-04	1.87E-03	0.00E+00	0.00E+00	1.96E-03	1.88E-03	107
1.69E+05	2.00E+06	2.83E-04	15	20,155	4.22E-06	1.77E-04	1.77E-04	1.87E-03	0.00E+00	0.00E+00	1.96E-03	1.88E-03	107
1.69E+05	2.00E+06	2.83E-04	15	10,078	4.83E-03	2.03E-01	1.77E-04	1.21E-02	0.00E+00	0.00E+00	4.83E-04	2.51E-03	107
1.69E+05	2.00E+06	2.83E-04	15	25,473	3.23E-05	1.36E-03	1.77E-04	3.66E-03	0.00E+00	0.00E+00	4.45E-04	1.70E-03	107
1.69E+05	2.00E+06	2.83E-04	15	16,167	2.90E-05	1.22E-03	1.77E-04	5.87E-03	0.00E+00	0.00E+00	7.06E-04	2.71E-03	107
1.69E+05	2.00E+06	2.83E-04	15	18,271	4.51E-04	1.90E-02	1.77E-04	1.81E-03	0.00E+00	0.00E+00	9.38E-05	4.62E-04	107

Chemical of Potential Concern

1	1,1-Dichloroethane
2	1,2,4-Trimethylbenzene
3	1,2-Dichlorobenzene
4	1,2-Dichloroethane
5	1,2-Dichloropropane
6	1,3,5-Trimethylbenzene
7	1,4-Dichlorobenzene
8	2-Hexanone
9	2-Methylnaphthalene
10	4,4'-DDE
11	4-Methyl-2-pentanone
12	Acenaphthene
13	Acenaphthylene
14	Aldrin
15	Anthracene
16	Benzene
17	Benzo(b)fluoranthene
18	Bromofom
19	Carbon disulfide
20	Chlorobenzene
21	Chloroform
22	Chloromethane
23	Chrysene
24	Dieldrin
25	Endosulfan I
26	Endosulfan II
27	Ethylbenzene
28	Fluoranthene
29	Fluorene
30	Heptachlor

**TABLE H1-9  
 INTERMEDIATE CALCULATIONS SHEET (continued)  
 VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Convection path length, $L_p$ (cm)	Source vapor conc., $C_{source}$ ( $\mu\text{g}/\text{m}^3$ )	Crack radius, $r_{crack}$ (cm)	Average vapor flow rate into bldg., $Q_{soil}$ ( $\text{cm}^3/\text{s}$ )	Crack effective diffusion coefficient, $D_{crack}$ ( $\text{cm}^2/\text{s}$ )	Area of crack, $A_{crack}$ ( $\text{cm}^2$ )	Exponent of equivalent foundation Pecllet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, $\alpha$ (unitless)	Infinite source bldg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	Reference conc., RfC ( $\text{mg}/\text{m}^3$ )
15	2.42E+02	0.10	1.67E+02	1.45E-02	5.66E+02	8.69E+131	2.47E-04	5.98E-02	NA	7.0E-02
15	1.47E+01	0.10	1.67E+02	9.80E-03	5.66E+02	8.88E+195	1.83E-04	2.69E-03	NA	6.0E-03
15	8.41E+01	0.10	1.67E+02	1.12E-02	5.66E+02	1.24E+172	2.05E-04	1.72E-02	NA	2.0E-01
15	4.84E+01	0.10	1.67E+02	1.68E-02	5.66E+02	1.50E+114	2.81E-04	1.31E-02	2.1E-05	4.0E-01
15	2.33E+01	0.10	1.67E+02	1.26E-02	5.66E+02	7.04E+151	2.24E-04	5.23E-03	1.0E-05	4.0E-03
15	8.45E+00	0.10	1.67E+02	9.73E-03	5.66E+02	1.78E+197	1.82E-04	1.54E-03	NA	6.0E-03
15	2.93E+01	0.10	1.67E+02	1.12E-02	5.66E+02	1.24E+172	2.04E-04	5.99E-03	1.1E-05	8.0E-01
15	7.83E-01	0.10	1.67E+02	1.31E-02	5.66E+02	8.54E+146	3.25E-04	2.54E-04	NA	1.0E+00
15	9.95E-02	0.10	1.67E+02	8.44E-03	5.66E+02	2.97E+227	1.78E-04	1.77E-05	NA	7.0E-02
15	2.58E-04	0.10	1.67E+02	2.34E-03	5.66E+02	#NUM!	1.91E-04	4.94E-08	9.7E-05	NA
15	3.61E-01	0.10	1.67E+02	1.21E-02	5.66E+02	2.06E+158	2.56E-04	9.24E-05	NA	8.0E-02
15	4.25E+00	0.10	1.67E+02	6.81E-03	5.66E+02	1.02E+282	1.89E-04	8.04E-04	NA	2.1E-01
15	1.81E-01	0.10	1.67E+02	6.81E-03	5.66E+02	1.02E+282	1.89E-04	3.42E-05	NA	2.1E-01
15	1.16E-03	0.10	1.67E+02	2.13E-03	5.66E+02	#NUM!	9.06E-05	1.05E-07	4.9E-03	1.1E-04
15	3.59E-01	0.10	1.67E+02	6.81E-03	5.66E+02	1.02E+282	1.89E-04	6.79E-05	NA	2.1E-01
15	2.49E+01	0.10	1.67E+02	1.42E-02	5.66E+02	8.66E+134	2.44E-04	6.09E-03	2.9E-05	6.0E-02
15	5.44E-02	0.10	1.67E+02	3.66E-03	5.66E+02	#NUM!	1.58E-04	8.57E-06	1.1E-04	NA
15	2.93E+00	0.10	1.67E+02	2.41E-03	5.66E+02	#NUM!	7.14E-05	2.09E-04	1.1E-06	7.0E-02
15	3.87E+02	0.10	1.67E+02	1.68E-02	5.66E+02	1.51E+114	2.75E-04	1.07E-01	NA	8.0E-01
15	7.75E+00	0.10	1.67E+02	1.18E-02	5.66E+02	4.61E+162	2.12E-04	1.65E-03	NA	1.0E+00
15	1.72E+02	0.10	1.67E+02	1.68E-02	5.66E+02	1.51E+114	2.77E-04	4.74E-02	5.3E-06	3.0E-01
15	5.90E+01	0.10	1.67E+02	2.04E-02	5.66E+02	1.75E+94	3.15E-04	1.86E-02	1.0E-06	9.0E-02
15	1.34E-01	0.10	1.67E+02	4.01E-03	5.66E+02	#NUM!	1.78E-04	2.39E-05	1.1E-05	NA
15	8.96E-05	0.10	1.67E+02	2.03E-03	5.66E+02	#NUM!	1.80E-04	1.62E-08	4.6E-03	1.8E-04
15	1.22E-04	0.10	1.67E+02	1.87E-03	5.66E+02	#NUM!	1.72E-04	2.10E-08	NA	2.1E-02
15	4.08E-05	0.10	1.67E+02	1.87E-03	5.66E+02	#NUM!	1.72E-04	7.00E-09	NA	2.1E-02
15	2.03E+01	0.10	1.67E+02	1.21E-02	5.66E+02	2.12E+158	2.16E-04	4.38E-03	1.1E-06	2.0E+00
15	5.44E-02	0.10	1.67E+02	3.66E-03	5.66E+02	#NUM!	1.58E-04	8.57E-06	1.1E-04	NA
15	9.49E-02	0.10	1.67E+02	5.87E-03	5.66E+02	#NUM!	2.29E-04	2.18E-05	NA	1.4E-01
15	6.06E-03	0.10	1.67E+02	1.81E-03	5.66E+02	#NUM!	4.85E-05	2.94E-07	1.6E-03	1.8E-03

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30

Chemical of Potential Concern
1,1-Dichloroethane
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,4-Dichlorobenzene
2-Hexanone
2-Methylnaphthalene
4,4'-DDE
4-Methyl-2-pentanone
Acenaphthene
Acenaphthylene
Aldrin
Anthracene
Benzene
Benzo(b)fluoranthene
Bromoform
Carbon disulfide
Chlorobenzene
Chloroform
Chloromethane
Chrysene
Dieldrin
Endosulfan I
Endosulfan II
Ethylbenzene
Fluoranthene
Fluorene
Heptachlor



**TABLE H1-9**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Bldg. ventilation rate, $Q_{\text{building}}$ ( $\text{cm}^3/\text{s}$ )	Area of enclosed space below grade, $A_B$ ( $\text{cm}^2$ )	Crack-to-total area ratio, $\eta$ (unitless)	Crack depth below grade, $Z_{\text{crack}}$ (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, $H_{TS}$ (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. groundwater temperature, $H'_{TS}$ (unitless)	Vapor viscosity at ave. soil temperature, $\mu_{TS}$ (g/cm-s)	Stratum A effective diffusion coefficient, $D_A^{\text{eff}}$ ( $\text{cm}^2/\text{s}$ )	Stratum B effective diffusion coefficient, $D_B^{\text{eff}}$ ( $\text{cm}^2/\text{s}$ )	Stratum C effective diffusion coefficient, $D_C^{\text{eff}}$ ( $\text{cm}^2/\text{s}$ )	Capillary zone effective diffusion coefficient, $D_{cz}^{\text{eff}}$ ( $\text{cm}^2/\text{s}$ )	Total overall effective diffusion coefficient, $D_T^{\text{eff}}$ ( $\text{cm}^2/\text{s}$ )	Diffusion path length, $L_d$ (cm)
1.69E+05	2.00E+06	2.83E-04	15	12,550	6.31E-01	2.65E+01	1.77E-04	1.05E-02	0.00E+00	0.00E+00	4.16E-04	2.16E-03	107
1.69E+05	2.00E+06	2.83E-04	15	24,507	4.82E-06	2.03E-04	1.77E-04	2.53E-03	0.00E+00	0.00E+00	1.72E-03	2.35E-03	107
1.69E+05	2.00E+06	2.83E-04	15	12,844	2.59E-04	1.09E-02	1.77E-04	9.54E-03	0.00E+00	0.00E+00	4.28E-04	2.17E-03	107
1.69E+05	2.00E+06	2.83E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	4.58E-04	2.12E-03	107
1.69E+05	2.00E+06	2.83E-04	15	20,612	4.05E-06	1.70E-04	1.77E-04	4.42E-03	0.00E+00	0.00E+00	3.29E-03	4.19E-03	107
1.69E+05	2.00E+06	2.83E-04	15	9,475	7.51E-03	3.16E-01	1.77E-04	9.13E-03	0.00E+00	0.00E+00	3.64E-04	1.89E-03	107
1.69E+05	2.00E+06	2.83E-04	15	9,082	4.27E-03	1.80E-01	1.77E-04	1.41E-02	0.00E+00	0.00E+00	5.61E-04	2.91E-03	107
1.69E+05	2.00E+06	2.83E-04	15	8,474	6.82E-03	2.87E-01	1.77E-04	1.28E-02	0.00E+00	0.00E+00	5.08E-04	2.64E-03	107
1.69E+05	2.00E+06	2.83E-04	15	4,925	2.12E-02	8.92E-01	1.77E-04	1.71E-02	0.00E+00	0.00E+00	6.80E-04	3.53E-03	107
1.69E+05	2.00E+06	2.83E-04	15	20,966	3.84E-06	1.61E-04	1.77E-04	2.31E-03	0.00E+00	0.00E+00	3.43E-03	2.44E-03	107
1.69E+05	2.00E+06	2.83E-04	15	19,552	1.88E-05	7.92E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	4.81E-04	1.30E-03	107
1.69E+05	2.00E+06	2.83E-04	15	7,667	2.81E-03	1.18E-01	1.77E-04	1.19E-02	0.00E+00	0.00E+00	4.78E-04	2.48E-03	107
1.69E+05	2.00E+06	2.83E-04	15	20,966	5.07E-06	2.13E-04	1.77E-04	2.31E-03	0.00E+00	0.00E+00	2.62E-03	2.35E-03	107
1.69E+05	2.00E+06	2.83E-04	15	19,552	1.88E-05	7.92E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	4.81E-04	1.30E-03	107
1.69E+05	2.00E+06	2.83E-04	15	10,177	4.48E-03	1.88E-01	1.77E-04	1.13E-02	0.00E+00	0.00E+00	4.51E-04	2.34E-03	107
1.69E+05	2.00E+06	2.83E-04	15	11,763	7.43E-03	3.13E-01	1.77E-04	9.21E-03	0.00E+00	0.00E+00	3.67E-04	1.90E-03	107
1.69E+05	2.00E+06	2.83E-04	15	11,281	6.18E-03	2.60E-01	1.77E-04	9.72E-03	0.00E+00	0.00E+00	3.87E-04	2.01E-03	107
1.69E+05	2.00E+06	2.83E-04	15	12,550	6.31E-01	2.65E+01	1.77E-04	1.05E-02	0.00E+00	0.00E+00	4.16E-04	2.16E-03	107
1.69E+05	2.00E+06	2.83E-04	15	107,393	7.72E-05	3.24E-03	1.77E-04	9.22E-03	0.00E+00	0.00E+00	5.49E-04	2.62E-03	107
1.69E+05	2.00E+06	2.83E-04	15	7,065	6.65E-03	2.80E-01	1.77E-04	1.14E-02	0.00E+00	0.00E+00	4.56E-04	2.36E-03	107

31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50

Chemical of Potential Concern
Isopropylbenzene
Methoxychlor
Naphthalene
Phenanthrene
Pyrene
Tert-Butylbenzene
Toluene
Trichloroethene
Vinyl chloride
alpha-BHC
alpha-Chlordane
cis-1,2-Dichloroethene
gamma-BHC (Lindane)
gamma-Chlordane
m,p-Xylene
n-Butylbenzene
n-Propylbenzene
p-Isopropyltoluene
sec-Butylbenzene
trans-1,2-Dichloroethene

**TABLE H1-9**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A COMMERCIAL/INDUSTRIAL BUILDING**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Convection path length, $L_p$ (cm)	Source vapor conc., $C_{source}$ ( $\mu\text{g}/\text{m}^3$ )	Crack radius, $r_{crack}$ (cm)	Average vapor flow rate into bldg., $Q_{soil}$ ( $\text{cm}^3/\text{s}$ )	Crack effective diffusion coefficient, $D_{crack}$ ( $\text{cm}^2/\text{s}$ )	Area of crack, $A_{crack}$ ( $\text{cm}^2$ )	Exponent of equivalent foundation Peclet number, $\exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, $\alpha$ (unitless)	Infinite source bldg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	Reference conc., RfC ( $\text{mg}/\text{m}^3$ )
15	3.58E+03	0.10	1.67E+02	1.05E-02	5.66E+02	4.84E+182	1.92E-04	6.87E-01	NA	4.0E-01
15	2.64E-04	0.10	1.67E+02	2.53E-03	5.66E+02		2.05E-04	5.41E-08	NA	1.8E-02
15	5.84E-01	0.10	1.67E+02	9.54E-03	5.66E+02	1.81E+201	1.93E-04	1.13E-04	NA	9.0E-03
15	2.93E-01	0.10	1.67E+02	6.81E-03	5.66E+02	1.02E+282	1.89E-04	5.55E-05	NA	2.1E-01
15	2.35E-02	0.10	1.67E+02	4.42E-03	5.66E+02		3.14E-04	7.39E-06	NA	1.1E-01
15	1.26E+02	0.10	1.67E+02	9.13E-03	5.66E+02	1.47E+210	1.72E-04	2.17E-02	NA	1.4E-01
15	3.45E+00	0.10	1.67E+02	1.41E-02	5.66E+02	3.08E+136	2.42E-04	8.34E-04	NA	3.0E-01
15	9.72E+01	0.10	1.67E+02	1.28E-02	5.66E+02	2.04E+150	2.24E-04	2.18E-02	2.0E-06	6.0E-01
15	1.78E+02	0.10	1.67E+02	1.71E-02	5.66E+02	1.06E+112	2.79E-04	4.98E-02	7.8E-05	1.0E-01
15	6.57E-05	0.10	1.67E+02	2.31E-03	5.66E+02		2.11E-04	1.39E-08	7.7E-04	NA
15	6.71E-04	0.10	1.67E+02	1.91E-03	5.66E+02		1.25E-04	8.38E-08	3.4E-04	7.0E-04
15	6.14E+01	0.10	1.67E+02	1.19E-02	5.66E+02	2.18E+161	2.14E-04	1.31E-02	NA	3.5E-02
15	9.12E-05	0.10	1.67E+02	2.31E-03	5.66E+02		2.05E-04	1.87E-08	3.1E-04	1.1E-03
15	3.25E-04	0.10	1.67E+02	1.91E-03	5.66E+02		1.25E-04	4.05E-08	3.4E-04	7.0E-04
15	7.53E+01	0.10	1.67E+02	1.13E-02	5.66E+02	4.32E+169	2.05E-04	1.54E-02	NA	7.0E-01
15	3.13E+01	0.10	1.67E+02	9.21E-03	5.66E+02	2.11E+208	1.73E-04	5.41E-03	NA	1.4E-01
15	3.38E+01	0.10	1.67E+02	9.72E-03	5.66E+02	3.79E+197	1.81E-04	6.10E-03	NA	1.4E-01
15	3.58E+03	0.10	1.67E+02	1.05E-02	5.66E+02	4.84E+182	1.92E-04	6.87E-01	NA	4.0E-01
15	9.73E-01	0.10	1.67E+02	9.22E-03	5.66E+02	2.00E+208	2.23E-04	2.17E-04	NA	1.4E-01
15	1.12E+02	0.10	1.67E+02	1.14E-02	5.66E+02	9.04E+167	2.06E-04	2.31E-02	NA	7.0E-02

END

Chemical of Potential Concern

31	Isopropylbenzene
32	Methoxychlor
33	Naphthalene
34	Phenanthrene
35	Pyrene
36	Tert-Butylbenzene
37	Toluene
38	Trichloroethene
39	Vinyl chloride
40	alpha-BHC
41	alpha-Chlordane
42	cis-1,2-Dichloroethene
43	gamma-BHC (Lindane)
44	gamma-Chlordane
45	m,p-Xylene
46	n-Butylbenzene
47	n-Propylbenzene
48	p-Isopropyltoluene
49	sec-Butylbenzene
50	trans-1,2-Dichloroethene

**TABLE H1-10  
DATA ENTRY SHEET  
VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

SL-ADV  
Version 3.0; 02/03

Reset to  
Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES  OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES  X

MORE  
↓

ENTER Average soil temperature, $T_s$ (°C)	ENTER Depth below grade to bottom of enclosed space floor, $L_f$ (cm)	ENTER Depth below grade to top of contamination, $L_t$ (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) $L_b$ (cm)	ENTER Thickness of soil stratum A, $h_a$ (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) $h_b$ (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) $h_c$ (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, $k_v$ (cm <sup>2</sup> )
16.7	15	15	122	122			S		

MORE  
↓

ENTER Stratum A SCS soil type  Lookup Soil Parameters	ENTER Stratum A soil dry bulk density, $\rho_b^A$ (g/cm <sup>3</sup> )	ENTER Stratum A soil total porosity, $n^A$ (unitless)	ENTER Stratum A soil water-filled porosity, $\theta_w^A$ (cm <sup>3</sup> /cm <sup>3</sup> )	ENTER Stratum A soil organic carbon fraction, $f_{oc}^A$ (unitless)	ENTER Stratum B SCS soil type  Lookup Soil Parameters	ENTER Stratum B soil dry bulk density, $\rho_b^B$ (g/cm <sup>3</sup> )	ENTER Stratum B soil total porosity, $n^B$ (unitless)	ENTER Stratum B soil water-filled porosity, $\theta_w^B$ (cm <sup>3</sup> /cm <sup>3</sup> )	ENTER Stratum B soil organic carbon fraction, $f_{oc}^B$ (unitless)
S	1.66	0.375	0.054	0.002					

MORE  
↓

ENTER Enclosed space floor thickness, $L_{crack}$ (cm)	ENTER Soil-bldg. pressure differential, $\Delta P$ (g/cm-s <sup>2</sup> )	ENTER Enclosed space floor length, $L_b$ (cm)	ENTER Enclosed space floor width, $W_b$ (cm)	ENTER Enclosed space height, $H_b$ (cm)	ENTER Floor-wall seam crack width, $w$ (cm)	ENTER Indoor air exchange rate, $ER$ (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate $Q_{soil}$ (L/m)
10	40	1000	1000	244	0.1	0.5	5

END

ENTER Averaging time for carcinogens, $AT_c$ (yrs)	ENTER Averaging time for noncarcinogens, $AT_{nc}$ (yrs)	ENTER Exposure duration, $ED$ (yrs)	ENTER Exposure frequency, $EF$ (days/yr)	ENTER Target risk for carcinogens, $TR$ (unitless)	ENTER Target hazard quotient for noncarcinogens, $THQ$ (unitless)
70	30	30	350	1.0E-06	1

Used to calculate risk-based soil concentration.

**TABLE H1-10**  
**DATA ENTRY SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

	ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C <sub>p</sub> (µg/kg)	Modeled Chemical	Chemical of Potential Concern
1	120821	1.50E+03	1,2,4-Trichlorobenzene	1,2,3-Trichlorobenzene
2	120821	5.10E+03	1,2,4-Trichlorobenzene	1,2,4-Trichlorobenzene
3	95636	5.00E+02	1,2,4-Trimethylbenzene	1,2,4-Trimethylbenzene
4	95501	2.60E+04	1,2-Dichlorobenzene	1,2-Dichlorobenzene
5	78875	3.60E+00	1,2-Dichloropropane	1,2-Dichloropropane
6	108678	1.60E+02	1,3,5-Trimethylbenzene	1,3,5-Trimethylbenzene
7	541731	1.10E+03	1,3-Dichlorobenzene	1,3-Dichlorobenzene
8	106467	6.80E+03	1,4-Dichlorobenzene	1,4-Dichlorobenzene
9	91576	1.45E+03	2-Methylnaphthalene	2-Methylnaphthalene
10	83329	3.47E+03	Acenaphthene	Acenaphthene
11	83329	8.96E+01	Acenaphthene	Acenaphthylene
12	83329	9.13E+02	Acenaphthene	Anthracene
13	108907	1.10E+02	Chlorobenzene	Chlorobenzene
14	218019	4.80E+03	Chrysene	Chrysene
15	132649	1.30E+04	Dibenzofuran	Dibenzofuran
16	86737	2.53E+03	Fluorene	Fluorene
17	91203	1.30E+04	Naphthalene	Naphthalene
18	83329	1.17E+04	Acenaphthene	Phenanthrene
19	129000	2.03E+04	Pyrene	Pyrene
20	108883	4.30E-01	Toluene	Toluene
21	98828	1.10E+02	Cumene	p-isopropyltoluene
22	135988	7.10E+01	sec-Butylbenzene	sec-Butylbenzene
23	75150	2.40E-01	Carbon disulfide	Carbon Disulfide
24	75092	2.40E+00	Methylene chloride	Methylene Chloride
25	72559	7.50E+01	DDE	4,4'-DDE
26	309002	1.30E+01	Aldrin	Aldrin
27	205992	2.37E+03	Benzo(b)fluoranthene	Benzo(b)fluoranthene
28	58899	8.40E+00	gamma-HCH (Lindane)	Delta-BHC
29	60571	4.89E+01	Dieldrin	Dieldrin
30	115297	2.30E+01	Endosulfan	Endosulfan 1

TABLE H1-10

DATA ENTRY SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

	ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C <sub>R</sub> (µg/kg)	Modeled Chemical	Chemical of Potential Concern
31	115297	2.34E+01	Endosulfan	Endosulfan II
32	115297	4.30E+01	Endosulfan	Endosulfan Sulfate
33	205992	2.23E+04	Benzo(b)fluoranthene	fluoranthene
34	76448	6.90E+00	Heptachlor	Heptachlor
35	57749	5.41E+02	Chlordane	Technical Chlordane
36	319846	7.30E-01	alpha-HCH (alpha-BHC)	alpha-BHC
37	57749	6.98E+00	Chlordane	alpha-Chlordane
38	58899	2.60E+00	gamma-HCH (Lindane)	gamma-BHC
39	57749	1.27E-01	Chlordane	gamma-Chlordane
40	72435	1.20E+02	Methoxychlor	Methoxychlor

**TABLE H1-11**  
**CHEMICAL PROPERTIES SHEET**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Diffusivity in air, $D_a$ (cm <sup>2</sup> /s)	Diffusivity in water, $D_w$ (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m <sup>3</sup> /mol)	Henry's law constant reference temperature, $T_R$ (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, $T_b$ (°K)	Critical temperature, $T_c$ (°K)	Organic carbon partition coefficient, $K_{oc}$ (cm <sup>3</sup> /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	Reference conc., RfC (mg/m <sup>3</sup> )	Physical state at soil temperature, (S,L,G)
3.00E-02	8.23E-06	1.42E-03	25	10,471	486.15	725.00	1.78E+03	4.88E+01	0.0E+00	2.0E-01	L
3.00E-02	8.23E-06	1.42E-03	25	10,471	486.15	725.00	1.78E+03	4.88E+01	0.0E+00	2.0E-01	L
6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	1.35E+03	5.70E+01	0.0E+00	6.0E-03	L
6.90E-02	7.90E-06	1.90E-03	25	9,700	453.57	705.00	6.17E+02	1.56E+02	0.0E+00	2.0E-01	L
7.82E-02	8.73E-06	2.79E-03	25	7,590	369.52	572.00	4.37E+01	2.80E+03	1.9E-05	4.0E-03	L
6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	1.35E+03	2.00E+00	0.0E+00	6.0E-03	L
6.92E-02	7.86E-06	3.09E-03	25	9,230	446.00	684.00	1.98E+03	1.34E+02	0.0E+00	1.1E-01	L
6.90E-02	7.90E-06	2.39E-03	25	9,271	447.21	684.75	6.17E+02	7.90E+01	0.0E+00	8.0E-01	S
5.22E-02	7.75E-06	5.17E-04	25	12,600	514.26	761.00	2.81E+03	2.46E+01	0.0E+00	7.0E-02	S
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01	S
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01	S
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01	S
7.30E-02	8.70E-06	3.69E-03	25	8,410	404.87	632.40	2.19E+02	4.72E+02	0.0E+00	6.0E-02	L
2.48E-02	6.21E-06	9.44E-05	25	16,455	714.15	979.00	3.98E+05	6.30E-03	2.1E-06	0.0E+00	S
2.38E-02	6.00E-06	1.26E-05	25	66,400	560.00	824.00	5.15E+03	3.10E+00	0.0E+00	1.4E-02	S
3.63E-02	7.88E-06	6.34E-05	25	12,666	570.44	870.00	1.38E+04	1.98E+00	0.0E+00	1.4E-01	S
5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	2.00E+03	3.10E+01	0.0E+00	3.0E-03	S
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01	S
2.72E-02	7.24E-06	1.10E-05	25	14,370	667.95	936.00	1.05E+05	1.35E+00	0.0E+00	1.1E-01	S
8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	1.82E+02	5.26E+02	0.0E+00	4.0E-01	L
6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01	L
5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	9.66E+02	3.94E+00	0.0E+00	1.4E-01	L
1.04E-01	1.00E-05	3.02E-02	25	6,391	319.00	552.00	4.57E+01	1.19E+03	0.0E+00	7.0E-01	L
1.01E-01	1.17E-05	2.18E-03	25	6,706	313.00	510.00	1.17E+01	1.30E+04	4.7E-07	3.0E+00	L
1.44E-02	5.87E-06	2.09E-05	25	15,000	636.44	860.38	4.47E+06	1.20E-01	9.7E-05	0.0E+00	S
1.32E-02	4.86E-06	1.70E-04	25	15,000	603.01	839.37	2.45E+06	1.70E-02	4.9E-03	1.1E-04	S
2.26E-02	5.56E-06	1.11E-04	25	17,000	715.90	969.27	1.23E+06	1.50E-03	2.1E-04	0.0E+00	S
1.42E-02	7.34E-06	1.40E-05	25	15,000	596.55	839.36	1.07E+03	7.30E+00	3.7E-04	1.1E-03	S
1.25E-02	4.74E-06	1.51E-05	25	17,000	613.32	842.25	2.14E+04	1.95E-01	4.6E-03	1.8E-04	S
1.15E-02	4.55E-06	1.12E-05	25	14,000	674.43	942.94	2.14E+03	5.10E-01	0.0E+00	2.1E-02	S

Chemical of Potential Concern
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Chlorobenzene
Chrysene
Dibenzofuran
Fluorene
Naphthalene
Phenanthrene
Pyrene
Toluene
p-Isopropyltoluene
sec-Butylbenzene
Carbon Disulfide
Methylene Chloride
4,4'-DDE
Aldrin
Benzo(b)fluoranthene
Delta-BHC
Dieldrin
Endosulfan 1

TABLE H1-11

CHEMICAL PROPERTIES SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Diffusivity in air, $D_a$ (cm <sup>2</sup> /s)	Diffusivity in water, $D_w$ (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m <sup>3</sup> /mol)	Henry's law constant reference temperature, $T_R$ (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, $T_B$ (°K)	Critical temperature, $T_C$ (°K)	Organic carbon partition coefficient, $K_{oc}$ (cm <sup>3</sup> /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3\text{-y}$ )	Reference conc., RfC (mg/m <sup>3</sup> )	Physical state at soil temperature, (S,L,G)
1.15E-02	4.55E-06	1.12E-05	25	14,000	674.43	942.94	2.14E+03	5.10E-01	0.0E+00	2.1E-02	S
1.15E-02	4.55E-06	1.12E-05	25	14,000	674.43	942.94	2.14E+03	5.10E-01	0.0E+00	2.1E-02	S
2.26E-02	5.56E-06	1.11E-04	25	17,000	715.90	969.27	1.23E+06	1.50E-03	2.1E-04	0.0E+00	S
1.12E-02	5.69E-06	1.09E-03	25	13,000	603.69	846.31	1.41E+06	1.80E-01	1.3E-03	1.8E-03	S
1.18E-02	4.37E-06	4.85E-05	25	14,000	624.24	885.73	1.20E+05	5.60E-02	1.0E-04	7.0E-04	S
1.42E-02	7.34E-06	1.06E-05	25	15,000	596.55	839.36	1.23E+03	2.00E+00	1.8E-03	0.0E+00	S
1.18E-02	4.37E-06	4.85E-05	25	14,000	624.24	885.73	1.20E+05	5.60E-02	1.0E-04	7.0E-04	S
1.42E-02	7.34E-06	1.40E-05	25	15,000	596.55	839.36	1.07E+03	7.30E+00	3.7E-04	1.1E-03	S
1.18E-02	4.37E-06	4.85E-05	25	14,000	624.24	885.73	1.20E+05	5.60E-02	1.0E-04	7.0E-04	S
1.56E-02	4.46E-06	1.58E-05	25	16,000	651.02	848.49	9.77E+04	1.00E-01	0.0E+00	1.8E-02	S

END

Chemical of Potential Concern

31  
32  
33  
34  
35  
36  
37  
38  
39  
40

Endosulfan II
Endosulfan Sulfate
fluoranthene
Heptachlor
Technical Chlordane
alpha-BHC
alpha-Chlordane
gamma-BHC
gamma-Chlordane
Methoxychlor

**TABLE H1-12**  
**INTERMEDIATE CALCULATIONS SHEET**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Exposure duration, $\tau$ (sec)	Source-building separation, $L_T$ (cm)	Stratum A soil air-filled porosity, $\theta_a^A$ ( $\text{cm}^3/\text{cm}^3$ )	Stratum B soil air-filled porosity, $\theta_a^B$ ( $\text{cm}^3/\text{cm}^3$ )	Stratum C soil air-filled porosity, $\theta_a^C$ ( $\text{cm}^3/\text{cm}^3$ )	Stratum A effective total fluid saturation, $S_w$ ( $\text{cm}^3/\text{cm}^3$ )	Stratum A soil intrinsic permeability, $k_i$ ( $\text{cm}^2$ )	Stratum A soil relative air permeability, $k_{rg}$ ( $\text{cm}^2$ )	Stratum A soil effective vapor permeability, $k_v$ ( $\text{cm}^2$ )	Floor-wall seam perimeter, $X_{\text{crack}}$ (cm)	Initial soil concentration used, $C_R$ ( $\mu\text{g}/\text{kg}$ )	Bldg. ventilation rate, $Q_{\text{building}}$ ( $\text{cm}^3/\text{s}$ )
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.50E+03	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	5.10E+03	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	5.00E+02	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	2.60E+04	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	3.60E+00	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.60E+02	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.10E+03	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	6.80E+03	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.45E+03	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	3.47E+03	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	8.96E+01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	9.13E+02	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.10E+02	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	4.80E+03	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.30E+04	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	2.53E+03	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.30E+04	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.17E+04	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	2.03E+04	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	4.30E-01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.10E+02	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	7.10E+01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	2.40E-01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	2.40E+00	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	7.50E+01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.30E+01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	2.37E+03	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	8.40E+00	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	4.89E+01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	2.30E+01	3.39E+04

Chemical of Potential Concern
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Chlorobenzene
Chrysene
Dibenzofuran
Fluorene
Naphthalene
Phenanthrene
Pyrene
Toluene
p-isopropyltoluene
sec-Butylbenzene
Carbon Disulfide
Methylene Chloride
4,4'-DDE
Aldrin
Benzo(b)fluoranthene
Delta-BHC
Dieldrin
Endosulfan 1

**TABLE H1-12**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Area of enclosed space below grade, $A_B$ (cm <sup>2</sup> )	Crack-to-total area ratio, $\eta$ (unitless)	Crack depth below grade, $Z_{crack}$ (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, $H_{TS}$ (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. soil temperature, $H'_{TS}$ (unitless)	Vapor viscosity at ave. soil temperature, $\mu_{TS}$ (g/cm-s)	Stratum A effective diffusion coefficient, $D_A^{eff}$ (cm <sup>2</sup> /s)	Stratum B effective diffusion coefficient, $D_B^{eff}$ (cm <sup>2</sup> /s)	Stratum C effective diffusion coefficient, $D_C^{eff}$ (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, $D_T^{eff}$ (cm <sup>2</sup> /s)	Diffusion path length, $L_d$ (cm)	Convection path length, $L_p$ (cm)
1.06E+06	3.77E-04	15	13,153	7.50E-04	3.15E-02	1.77E-04	4.85E-03	0.00E+00	0.00E+00	4.85E-03	1	15
1.06E+06	3.77E-04	15	13,153	7.50E-04	3.15E-02	1.77E-04	4.85E-03	0.00E+00	0.00E+00	4.85E-03	1	15
1.06E+06	3.77E-04	15	11,608	3.51E-03	1.47E-01	1.77E-04	9.80E-03	0.00E+00	0.00E+00	9.80E-03	1	15
1.06E+06	3.77E-04	15	11,620	1.08E-03	4.54E-02	1.77E-04	1.12E-02	0.00E+00	0.00E+00	1.12E-02	1	15
1.06E+06	3.77E-04	15	8,559	1.85E-03	7.76E-02	1.77E-04	1.26E-02	0.00E+00	0.00E+00	1.26E-02	1	15
1.06E+06	3.77E-04	15	11,591	3.35E-03	1.41E-01	1.77E-04	9.73E-03	0.00E+00	0.00E+00	9.73E-03	1	15
1.06E+06	3.77E-04	15	11,105	1.81E-03	7.60E-02	1.77E-04	1.12E-02	0.00E+00	0.00E+00	1.12E-02	1	15
1.06E+06	3.77E-04	15	11,174	1.40E-03	5.87E-02	1.77E-04	1.12E-02	0.00E+00	0.00E+00	1.12E-02	1	15
1.06E+06	3.77E-04	15	16,153	2.37E-04	9.95E-03	1.77E-04	8.44E-03	0.00E+00	0.00E+00	8.44E-03	1	15
1.06E+06	3.77E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	6.81E-03	1	15
1.06E+06	3.77E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	6.81E-03	1	15
1.06E+06	3.77E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	6.81E-03	1	15
1.06E+06	3.77E-04	15	9,736	2.31E-03	9.69E-02	1.77E-04	1.18E-02	0.00E+00	0.00E+00	1.18E-02	1	15
1.06E+06	3.77E-04	15	24,354	2.91E-05	1.22E-03	1.77E-04	4.01E-03	0.00E+00	0.00E+00	4.01E-03	1	15
1.06E+06	3.77E-04	15	87,214	1.86E-07	7.80E-06	1.77E-04	4.18E-03	0.00E+00	0.00E+00	4.18E-03	1	15
1.06E+06	3.77E-04	15	16,167	2.90E-05	1.22E-03	1.77E-04	5.87E-03	0.00E+00	0.00E+00	5.87E-03	1	15
1.06E+06	3.77E-04	15	12,844	2.59E-04	1.09E-02	1.77E-04	9.54E-03	0.00E+00	0.00E+00	9.54E-03	1	15
1.06E+06	3.77E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	6.81E-03	1	15
1.06E+06	3.77E-04	15	20,612	4.05E-06	1.70E-04	1.77E-04	4.42E-03	0.00E+00	0.00E+00	4.42E-03	1	15
1.06E+06	3.77E-04	15	9,082	4.27E-03	1.80E-01	1.77E-04	1.41E-02	0.00E+00	0.00E+00	1.41E-02	1	15
1.06E+06	3.77E-04	15	12,550	6.31E-01	2.65E+01	1.77E-04	1.05E-02	0.00E+00	0.00E+00	1.05E-02	1	15
1.06E+06	3.77E-04	15	107,393	7.72E-05	3.24E-03	1.77E-04	9.22E-03	0.00E+00	0.00E+00	9.22E-03	1	15
1.06E+06	3.77E-04	15	6,630	2.19E-02	9.22E-01	1.77E-04	1.68E-02	0.00E+00	0.00E+00	1.68E-02	1	15
1.06E+06	3.77E-04	15	6,963	1.56E-03	6.56E-02	1.77E-04	1.63E-02	0.00E+00	0.00E+00	1.63E-02	1	15
1.06E+06	3.77E-04	15	22,010	7.23E-06	3.04E-04	1.77E-04	2.34E-03	0.00E+00	0.00E+00	2.34E-03	1	15
1.06E+06	3.77E-04	15	21,199	6.09E-05	2.56E-03	1.77E-04	2.13E-03	0.00E+00	0.00E+00	2.13E-03	1	15
1.06E+06	3.77E-04	15	25,473	3.23E-05	1.36E-03	1.77E-04	3.66E-03	0.00E+00	0.00E+00	3.66E-03	1	15
1.06E+06	3.77E-04	15	20,966	5.07E-06	2.13E-04	1.77E-04	2.31E-03	0.00E+00	0.00E+00	2.31E-03	1	15
1.06E+06	3.77E-04	15	24,395	4.63E-06	1.95E-04	1.77E-04	2.03E-03	0.00E+00	0.00E+00	2.03E-03	1	15
1.06E+06	3.77E-04	15	20,155	4.22E-06	1.77E-04	1.77E-04	1.87E-03	0.00E+00	0.00E+00	1.87E-03	1	15

Chemical of Potential Concern
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Chlorobenzene
Chrysene
Dibenzofuran
Fluorene
Naphthalene
Phenanthrene
Pyrene
Toluene
p-isopropyltoluene
sec-Butylbenzene
Carbon Disulfide
Methylene Chloride
4,4'-DDE
Aldrin
Benzo(b)fluoranthene
Delta-BHC
Dieldrin
Endosulfan 1

**TABLE H1-12**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Soil-water partition coefficient, $K_d$ (cm <sup>3</sup> /g)	Source vapor conc., $C_{source}$ (µg/m <sup>3</sup> )	Crack radius, $r_{crack}$ (cm)	Average vapor flow rate into bldg., $Q_{soil}$ (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, $D^{crack}$ (cm <sup>2</sup> /s)	Area of crack, $A_{crack}$ (cm <sup>2</sup> )	Exponent of equivalent foundation Pecllet number, $exp(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, $\alpha$ (unitless)	Infinite source bldg. conc., $C_{building}$ (µg/m <sup>3</sup> )	Finite source $\beta$ term (unitless)	Finite source $\gamma$ term (sec) <sup>-1</sup>	Time for source depletion, $t_0$ (sec)	Exposure duration > time for source depletion (YES/NO)
3.56E+00	1.31E+04	0.10	8.33E+01	4.85E-03	4.00E+02	3.61E+186	NA	NA	6.27E+01	2.56E-05	4.86E+08	YES
3.56E+00	4.47E+04	0.10	8.33E+01	4.85E-03	4.00E+02	3.61E+186	NA	NA	6.27E+01	2.56E-05	4.86E+08	YES
2.70E+00	2.67E+04	0.10	8.33E+01	9.80E-03	4.00E+02	2.28E+92	NA	NA	1.26E+02	3.15E-04	6.09E+07	YES
1.23E+00	9.26E+05	0.10	8.33E+01	1.12E-02	4.00E+02	1.30E+81	NA	NA	1.43E+02	2.39E-04	8.78E+07	YES
8.74E-02	2.07E+03	0.10	8.33E+01	1.26E-02	4.00E+02	3.72E+71	NA	NA	1.62E+02	4.38E-03	5.26E+06	YES
2.70E+00	8.16E+03	0.10	8.33E+01	9.73E-03	4.00E+02	9.35E+92	NA	NA	1.25E+02	2.99E-04	6.38E+07	YES
3.95E+00	2.09E+04	0.10	8.33E+01	1.12E-02	4.00E+02	7.57E+80	NA	NA	1.43E+02	1.28E-04	1.64E+08	YES
1.23E+00	3.12E+05	0.10	8.33E+01	1.12E-02	4.00E+02	1.30E+81	NA	NA	1.43E+02	3.08E-04	6.81E+07	YES
5.62E+00	2.55E+03	0.10	8.33E+01	8.44E-03	4.00E+02	1.64E+107	NA	NA	1.08E+02	8.94E-06	1.94E+09	NO
1.42E+01	7.32E+02	0.10	8.33E+01	6.81E-03	4.00E+02	8.33E+132	NA	NA	8.76E+01	8.65E-07	1.75E+10	NO
1.42E+01	1.89E+01	0.10	8.33E+01	6.81E-03	4.00E+02	8.33E+132	NA	NA	8.76E+01	8.65E-07	1.75E+10	NO
1.42E+01	1.93E+02	0.10	8.33E+01	6.81E-03	4.00E+02	8.33E+132	NA	NA	8.76E+01	8.65E-07	1.75E+10	NO
4.38E-01	2.18E+04	0.10	8.33E+01	1.18E-02	4.00E+02	4.67E+76	NA	NA	1.51E+02	1.41E-03	1.55E+07	YES
7.96E+02	7.37E+00	0.10	8.33E+01	4.01E-03	4.00E+02	3.61E+225	NA	NA	5.20E+01	3.71E-09	3.04E+12	NO
1.03E+01	9.82E+00	0.10	8.33E+01	4.18E-03	4.00E+02	4.57E+216	NA	NA	5.41E+01	1.90E-09	6.06E+12	NO
2.76E+01	1.12E+02	0.10	8.33E+01	5.87E-03	4.00E+02	1.29E+154	NA	NA	7.57E+01	1.56E-07	8.84E+10	NO
4.00E+00	3.51E+04	0.10	8.33E+01	9.54E-03	4.00E+02	7.23E+94	NA	NA	1.22E+02	1.55E-05	1.21E+09	NO
1.42E+01	2.47E+03	0.10	8.33E+01	6.81E-03	4.00E+02	8.33E+132	NA	NA	8.76E+01	8.65E-07	1.75E+10	NO
2.10E+02	1.65E+01	0.10	8.33E+01	4.42E-03	4.00E+02	8.32E+204	NA	NA	5.72E+01	2.16E-09	5.49E+12	NO
3.64E-01	1.79E+02	0.10	8.33E+01	1.41E-02	4.00E+02	2.15E+64	NA	NA	1.80E+02	3.53E-03	7.08E+06	YES
9.77E-01	4.75E+05	0.10	8.33E+01	1.05E-02	4.00E+02	1.27E+86	NA	NA	1.35E+02	2.73E-02	7.36E+05	YES
1.93E+00	1.17E+02	0.10	8.33E+01	9.22E-03	4.00E+02	1.51E+98	NA	NA	1.18E+02	9.16E-06	2.00E+09	NO
9.14E-02	7.32E+02	0.10	8.33E+01	1.68E-02	4.00E+02	6.54E+53	NA	NA	2.15E+02	3.09E-02	9.29E+05	YES
2.34E-02	2.29E+03	0.10	8.33E+01	1.63E-02	4.00E+02	2.59E+55	NA	NA	2.09E+02	9.40E-03	2.98E+06	YES
8.94E+03	2.55E-03	0.10	8.33E+01	2.34E-03	4.00E+02		NA	NA	3.07E+01	4.79E-11	1.88E+14	NO
4.90E+03	6.79E-03	0.10	8.33E+01	2.13E-03	4.00E+02		NA	NA	2.82E+01	6.72E-10	1.30E+13	NO
2.46E+03	1.31E+00	0.10	8.33E+01	3.66E-03	4.00E+02	3.39E+247	NA	NA	4.75E+01	1.22E-09	8.88E+12	NO
2.14E+00	8.24E-01	0.10	8.33E+01	2.31E-03	4.00E+02		NA	NA	3.04E+01	1.37E-07	6.57E+10	NO
4.28E+01	2.22E-01	0.10	8.33E+01	2.03E-03	4.00E+02		NA	NA	2.68E+01	5.56E-09	1.54E+12	NO
4.28E+00	9.46E-01	0.10	8.33E+01	1.87E-03	4.00E+02		NA	NA	2.48E+01	4.63E-08	1.81E+11	NO

Chemical of Potential Concern
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Chlorobenzene
Chrysene
Dibenzofuran
Fluorene
Naphthalene
Phenanthrene
Pyrene
Toluene
p-isopropyltoluene
sec-Butylbenzene
Carbon Disulfide
Methylene Chloride
4,4-DDE
Aldrin
Benzo(b)fluoranthene
Delta-BHC
Dieldrin
Endosulfan 1

**TABLE H1-12**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Finite indoor source attenuation coefficient, <a> (unitless)	Mass limit bldg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Finite source bldg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Final finite source bldg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	Reference conc., RC ( $\text{mg}/\text{m}^3$ )
NA	8.81E+00	NA	8.81E+00	NA	2.0E-01
NA	2.99E+01	NA	2.99E+01	NA	2.0E-01
NA	2.94E+00	NA	2.94E+00	NA	6.0E-03
NA	1.53E+02	NA	1.53E+02	NA	2.0E-01
NA	2.11E-02	NA	2.11E-02	1.9E-05	4.0E-03
NA	9.40E-01	NA	9.40E-01	NA	6.0E-03
NA	6.46E+00	NA	6.46E+00	NA	1.1E-01
NA	3.99E+01	NA	3.99E+01	NA	8.0E-01
1.90E-03	NA	4.85E+00	4.85E+00	NA	7.0E-02
2.31E-03	NA	1.69E+00	1.69E+00	NA	2.1E-01
2.31E-03	NA	4.37E-02	4.37E-02	NA	2.1E-01
2.31E-03	NA	4.46E-01	4.46E-01	NA	2.1E-01
NA	6.46E-01	NA	6.46E-01	NA	6.0E-02
2.41E-03	NA	1.78E-02	1.78E-02	2.1E-06	NA
2.41E-03	NA	2.37E-02	2.37E-02	NA	1.4E-02
2.40E-03	NA	2.68E-01	2.68E-01	NA	1.4E-01
1.79E-03	NA	6.29E+01	6.29E+01	NA	3.0E-03
2.31E-03	NA	5.71E+00	5.71E+00	NA	2.1E-01
2.42E-03	NA	3.98E-02	3.98E-02	NA	1.1E-01
NA	2.53E-03	NA	2.53E-03	NA	4.0E-01
NA	6.46E-01	NA	6.46E-01	NA	4.0E-01
1.95E-03	NA	2.29E-01	2.29E-01	NA	1.4E-01
NA	1.41E-03	NA	1.41E-03	NA	7.0E-01
NA	1.41E-02	NA	1.41E-02	4.7E-07	3.0E+00
2.38E-03	NA	6.07E-06	6.07E-06	9.7E-05	NA
2.37E-03	NA	1.61E-05	1.61E-05	4.9E-03	1.1E-04
2.41E-03	NA	3.15E-03	3.15E-03	2.1E-04	NA
2.23E-03	NA	1.84E-03	1.84E-03	3.7E-04	1.1E-03
2.36E-03	NA	5.25E-04	5.25E-04	4.6E-03	1.8E-04
2.28E-03	NA	2.16E-03	2.16E-03	NA	2.1E-02

Chemical of Potential Concern
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Methylnaphthalene
Acenaphthene
Acenaphthylene
Anthracene
Chlorobenzene
Chrysene
Dibenzofuran
Fluorene
Naphthalene
Phenanthrene
Pyrene
Toluene
p-isopropyltoluene
sec-Butylbenzene
Carbon Disulfide
Methylene Chloride
4,4'-DDE
Aldrin
Benzo(b)fluoranthene
Delta-BHC
Dieldrin
Endosulfan 1

**TABLE H1-12**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Exposure duration, $\tau$ (sec)	Source-building separation, $L_T$ (cm)	Stratum A soil air-filled porosity, $\theta_1^A$ (cm <sup>3</sup> /cm <sup>3</sup> )	Stratum B soil air-filled porosity, $\theta_2^B$ (cm <sup>3</sup> /cm <sup>3</sup> )	Stratum C soil air-filled porosity, $\theta_3^C$ (cm <sup>3</sup> /cm <sup>3</sup> )	Stratum A effective total fluid saturation, $S_w$ (cm <sup>3</sup> /cm <sup>3</sup> )	Stratum A soil intrinsic permeability, $k_i$ (cm <sup>2</sup> )	Stratum A soil relative air permeability, $k_{rg}$ (cm <sup>2</sup> )	Stratum A soil effective vapor permeability, $k_v$ (cm <sup>2</sup> )	Floor-wall seam perimeter, $X_{\text{crack}}$ (cm)	Initial soil concentration used, $C_R$ ( $\mu\text{g}/\text{kg}$ )	Bldg. ventilation rate, $Q_{\text{building}}$ (cm <sup>3</sup> /s)
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	2.34E+01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	4.30E+01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	3.69E+03	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	6.90E+00	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	5.41E+02	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	7.30E-01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	6.98E+00	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	2.60E+00	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.27E-01	3.39E+04
9.46E+08	1	0.321	ERROR	ERROR	0.003	1.00E-07	0.998	1.00E-07	4,000	1.20E+02	3.39E+04

Chemical of Potential Concern

31	Endosulfan II
32	Endosulfan Sulfate
33	fluoranthene
34	Heptachlor
35	Technical Chlordane
36	alpha-BHC
37	alpha-Chlordane
38	gamma-BHC
39	gamma-Chlordane
40	Methoxychlor

**TABLE H1-12**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Area of enclosed space below grade, $A_g$ ( $cm^2$ )	Crack-to-total area ratio, $\eta$ (unitless)	Crack depth below grade, $Z_{crack}$ (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, $H_{TS}$ ( $atm \cdot m^3/mol$ )	Henry's law constant at ave. soil temperature, $H'_{TS}$ (unitless)	Vapor viscosity at ave. soil temperature, $\mu_{TS}$ (g/cm-s)	Stratum A effective diffusion coefficient, $D^{eff}_A$ ( $cm^2/s$ )	Stratum B effective diffusion coefficient, $D^{eff}_B$ ( $cm^2/s$ )	Stratum C effective diffusion coefficient, $D^{eff}_C$ ( $cm^2/s$ )	Total overall effective diffusion coefficient, $D^{eff}_T$ ( $cm^2/s$ )	Diffusion path length, $L_d$ (cm)	Convection path length, $L_p$ (cm)
1.06E+06	3.77E-04	15	20,155	4.22E-06	1.77E-04	1.77E-04	1.87E-03	0.00E+00	0.00E+00	1.87E-03	1	15
1.06E+06	3.77E-04	15	20,155	4.22E-06	1.77E-04	1.77E-04	1.87E-03	0.00E+00	0.00E+00	1.87E-03	1	15
1.06E+06	3.77E-04	15	25,473	3.23E-05	1.36E-03	1.77E-04	3.66E-03	0.00E+00	0.00E+00	3.66E-03	1	15
1.06E+06	3.77E-04	15	18,271	4.51E-04	1.90E-02	1.77E-04	1.81E-03	0.00E+00	0.00E+00	1.81E-03	1	15
1.06E+06	3.77E-04	15	19,552	1.88E-05	7.92E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	1.91E-03	1	15
1.06E+06	3.77E-04	15	20,966	3.84E-06	1.61E-04	1.77E-04	2.31E-03	0.00E+00	0.00E+00	2.31E-03	1	15
1.06E+06	3.77E-04	15	19,552	1.88E-05	7.92E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	1.91E-03	1	15
1.06E+06	3.77E-04	15	20,966	5.07E-06	2.13E-04	1.77E-04	2.31E-03	0.00E+00	0.00E+00	2.31E-03	1	15
1.06E+06	3.77E-04	15	19,552	1.88E-05	7.92E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	1.91E-03	1	15
1.06E+06	3.77E-04	15	24,507	4.82E-06	2.03E-04	1.77E-04	2.53E-03	0.00E+00	0.00E+00	2.53E-03	1	15

Chemical of Potential Concern
Endosulfan II
Endosulfan Sulfate
fluoranthene
Heptachlor
Technical Chlordane
alpha-BHC
alpha-Chlordane
gamma-BHC
gamma-Chlordane
Methoxychlor

**TABLE H1-12**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Soil-water partition coefficient, $K_d$ ( $\text{cm}^3/\text{g}$ )	Source vapor conc., $C_{\text{source}}$ ( $\mu\text{g}/\text{m}^3$ )	Crack radius, $r_{\text{crack}}$ (cm)	Average vapor flow rate into bldg., $Q_{\text{soil}}$ ( $\text{cm}^3/\text{s}$ )	Crack effective diffusion coefficient, $D_{\text{crack}}$ ( $\text{cm}^2/\text{s}$ )	Area of crack, $A_{\text{crack}}$ ( $\text{cm}^2$ )	Exponent of equivalent foundation Pecllet number, $\text{exp}(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, $\alpha$ (unitless)	Infinite source bldg. conc., $C_{\text{building}}$ ( $\mu\text{g}/\text{m}^3$ )	Finite source $\beta$ term (unitless)	Finite source $\psi$ term ( $\text{sec}^{-1}$ )	Time for source depletion, $t_0$ (sec)	Exposure duration > time for source depletion (YES/NO)
4.28E+00	9.62E-01	0.10	8.33E+01	1.87E-03	4.00E+02		NA	NA	2.48E+01	4.63E-08	1.81E+11	NO
4.28E+00	1.77E+00	0.10	8.33E+01	1.87E-03	4.00E+02		NA	NA	2.48E+01	4.63E-08	1.81E+11	NO
2.46E+03	2.04E+00	0.10	8.33E+01	3.66E-03	4.00E+02	3.39E+247	NA	NA	4.75E+01	1.22E-09	8.88E+12	NO
2.82E+03	4.64E-02	0.10	8.33E+01	1.81E-03	4.00E+02		NA	NA	2.40E+01	7.33E-09	1.13E+12	NO
2.40E+02	1.79E+00	0.10	8.33E+01	1.91E-03	4.00E+02		NA	NA	2.53E+01	3.80E-09	2.22E+12	NO
2.46E+00	4.73E-02	0.10	8.33E+01	2.31E-03	4.00E+02		NA	NA	3.04E+01	9.03E-08	9.95E+10	NO
2.40E+02	2.30E-02	0.10	8.33E+01	1.91E-03	4.00E+02		NA	NA	2.53E+01	3.80E-09	2.22E+12	NO
2.14E+00	2.55E-01	0.10	8.33E+01	2.31E-03	4.00E+02		NA	NA	3.04E+01	1.37E-07	6.57E+10	NO
2.40E+02	4.19E-04	0.10	8.33E+01	1.91E-03	4.00E+02		NA	NA	2.53E+01	3.80E-09	2.22E+12	NO
1.95E+02	1.24E-01	0.10	8.33E+01	2.53E-03	4.00E+02		NA	NA	3.32E+01	1.58E-09	5.87E+12	NO

Chemical of Potential Concern
Endosulfan II
Endosulfan Sulfate
fluoranthene
Heptachlor
Technical Chlordane
alpha-BHC
alpha-Chlordane
gamma-BHC
gamma-Chlordane
Methoxychlor

TABLE H1-12

INTERMEDIATE CALCULATIONS SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING SOIL CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Finite source indoor attenuation coefficient, <math>\alpha</math> (unitless)	Mass limit bdg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Finite source bdg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Final finite source bldg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	Reference conc., RfC ( $\text{mg}/\text{m}^3$ )
2.28E-03	NA	2.19E-03	2.19E-03	NA	2.1E-02
2.28E-03	NA	4.03E-03	4.03E-03	NA	2.1E-02
2.41E-03	NA	4.91E-03	4.91E-03	2.1E-04	NA
2.34E-03	NA	1.09E-04	1.09E-04	1.3E-03	1.8E-03
2.36E-03	NA	4.21E-03	4.21E-03	1.0E-04	7.0E-04
2.28E-03	NA	1.08E-04	1.08E-04	1.8E-03	NA
2.36E-03	NA	5.43E-05	5.43E-05	1.0E-04	7.0E-04
2.23E-03	NA	5.69E-04	5.69E-04	3.7E-04	1.1E-03
2.36E-03	NA	9.87E-07	9.87E-07	1.0E-04	7.0E-04
2.38E-03	NA	2.97E-04	2.97E-04	NA	1.8E-02

END

34  
32  
33  
34  
35  
36  
37  
38  
39  
40

Chemical of Potential Concern
Endosulfan II
Endosulfan Sulfate
fluoranthene
Heptachlor
Technical Chlordane
alpha-BHC
alpha-Chlordane
gamma-BHC
gamma-Chlordane
Methoxychlor

**TABLE H1-13**  
**DATA ENTRY SHEET**  
**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

GW-ADV  
Version 3.0; 02/03

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

DTSC / HERD  
Version 3.0-mod1; 07/03

Reset to Defaults

YES

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES

MORE  
↓

ENTER Average soil/ groundwater temperature, $T_s$ (°C)	ENTER Depth below grade to bottom of enclosed space floor, $L_F$ (cm)	ENTER Depth below grade to water table, $L_{WT}$ (cm)	ENTER Totals must add up to value of $L_{WT}$ (cell G28)			ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, $k_v$ (cm <sup>2</sup> )
			ENTER Thickness of soil stratum A, $h_A$ (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) $h_B$ (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) $h_C$ (cm)					
16.7	15	122	122			A	S	S		

MORE  
↓

ENTER Stratum A SCS soil type Lookup Soil Parameters	ENTER Stratum A soil dry bulk density, $\rho_b^A$ (g/cm <sup>3</sup> )	ENTER Stratum A soil total porosity, $n^A$ (unitless)	ENTER Stratum A soil water-filled porosity, $\theta_w^A$ (cm <sup>3</sup> /cm <sup>3</sup> )	ENTER Stratum B SCS soil type Lookup Soil Parameters	ENTER Stratum B soil dry bulk density, $\rho_b^B$ (g/cm <sup>3</sup> )	ENTER Stratum B soil total porosity, $n^B$ (unitless)	ENTER Stratum B soil water-filled porosity, $\theta_w^B$ (cm <sup>3</sup> /cm <sup>3</sup> )	ENTER Stratum C SCS soil type Lookup Soil Parameters	ENTER Stratum C soil dry bulk density, $\rho_b^C$ (g/cm <sup>3</sup> )	ENTER Stratum C soil total porosity, $n^C$ (unitless)	ENTER Stratum C soil water-filled porosity, $\theta_w^C$ (cm <sup>3</sup> /cm <sup>3</sup> )
S	1.66	0.3375	0.054								

MORE  
↓

ENTER Enclosed space floor thickness, $L_{crack}$ (cm)	ENTER Soil-bldg. pressure differential, $\Delta P$ (g/cm-s <sup>2</sup> )	ENTER Enclosed space floor length, $L_B$ (cm)	ENTER Enclosed space floor width, $W_B$ (cm)	ENTER Enclosed space height, $H_B$ (cm)	ENTER Floor-wall seam crack width, $w$ (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate $Q_{soil}$ (L/m)
10	40	1000	1000	244	0.1	0.5	5

MORE  
↓

ENTER Averaging time for carcinogens, $AT_C$ (yrs)	ENTER Averaging time for noncarcinogens, $AT_{NC}$ (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	30	30	350	1.0E-06	1

END

Used to calculate risk-based groundwater concentration

TABLE H1-13

DATA ENTRY SHEET (continued)

VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

	ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C <sub>w</sub> (µg/L)	Modeled Chemical	Chemical of Potential Concern
1	75354	3.00E-01	1,1-Dichloroethylene	1,1-Dichloroethane
2	95636	1.00E-01	1,2,4-Trimethylbenzene	1,2,4-Trimethylbenzene
3	95501	1.85E+00	1,2-Dichlorobenzene	1,2-Dichlorobenzene
4	107062	1.70E+00	1,2-Dichloroethane	1,2-Dichloroethane
5	78875	3.00E-01	1,2-Dichloropropane	1,2-Dichloropropane
6	108678	6.00E-02	1,3,5-Trimethylbenzene	1,3,5-Trimethylbenzene
7	106467	5.00E-01	1,4-Dichlorobenzene	1,4-Dichlorobenzene
8	78933	5.00E-01	Methylethylketone (2-butanone)	2-Hexanone
9	91576	1.00E-02	2-Methylnaphthalene	2-Methylnaphthalene
10	72559	8.50E-04	DDE	4,4'-DDE
	108101	1.00E-01	Methylisobutylketone (4-methyl-2-pentanone)	4-Methyl-2-pentanone
11				
12	83329	1.42E+00	Acenaphthene	Acenaphthene
13	83329	6.04E-02	Acenaphthene	Acenaphthylene
14	309002	4.52E-04	Aldrin	Aldrin
15	83329	1.20E-01	Acenaphthene	Anthracene
16	71432	1.58E-01	Benzene	Benzene
17	205992	4.00E-02	Benzo(b)fluoranthene	Benzo(b)fluoranthene
18	75252	2.00E-01	Bromoform	Bromoform
19	75150	4.20E-01	Carbon disulfide	Carbon disulfide
20	108907	8.00E-02	Chlorobenzene	Chlorobenzene
21	67663	1.60E+00	Chloroform	Chloroform
22	74873	2.00E-01	Methyl chloride (chloromethane)	Chloromethane
23	218019	1.10E-01	Chrysene	Chrysene
24	60571	4.60E-04	Dieldrin	Dieldrin
25	115297	6.89E-04	Endosulfan	Endosulfan I
26	115297	2.30E-04	Endosulfan	Endosulfan II
27	100414	1.00E-01	Ethylbenzene	Ethylbenzene
28	205992	4.00E-02	Benzo(b)fluoranthene	Fluoranthene
29	86737	7.77E-02	Fluorene	Fluorene
30	76448	3.20E-04	Heptachlor	Heptachlor

**TABLE H1-13**

**DATA ENTRY SHEET (continued)**

**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

	ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C <sub>w</sub> (µg/L)	Modeled Chemical	Chemical of Potential Concern
31	98828	1.35E-01	Cumene	Isopropylbenzene
32	72435	1.30E-03	Methoxychlor	Methoxychlor
33	91203	5.36E-02	Naphthalene	Naphthalene
34	83329	9.80E-02	Acenaphthene	Phenanthrene
35	129000	1.38E-01	Pyrene	Pyrene
36	98066	4.00E-01	tert-Butylbenzene	Tert-Butylbenzene
37	108883	1.92E-02	Toluene	Toluene
38	79016	3.39E-01	Trichloroethylene	Trichloroethene
39	75014	2.00E-01	Vinyl chloride (chloroethene)	Vinyl chloride
40	319846	4.07E-04	alpha-HCH (alpha-BHC)	alpha-BHC
41	57749	8.47E-04	Chlordane	alpha-Chlordane
42	156592	5.20E-01	cis-1,2-Dichloroethylene	cis-1,2-Dichloroethene
43	58899	4.28E-04	gamma-HCH (Lindane)	gamma-BHC (Lindane)
44	57749	4.10E-04	Chlordane	gamma-Chlordane
45	108383	4.00E-01	m-Xylene	m,p-Xylene
46	104518	1.00E-01	n-Butylbenzene	n-Butylbenzene
47	103651	1.30E-01	n-Propylbenzene	n-Propylbenzene
48	98828	1.35E-01	Cumene	p-Isopropyltoluene
49	135988	3.00E-01	sec-Butylbenzene	sec-Butylbenzene
50	156605	4.00E-01	trans-1,2-Dichloroethylene	trans-1,2-Dichloroethene

**TABLE H1-14**  
**CHEMICAL PROPERTIES SHEET**  
**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Diffusivity in air, $D_a$ (cm <sup>2</sup> /s)	Diffusivity in water, $D_w$ (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm·m <sup>3</sup> /mol)	Henry's law constant reference temperature, $T_R$ (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, $T_B$ (°K)	Critical temperature, $T_C$ (°K)	Organic carbon partition coefficient, $K_{oc}$ (cm <sup>3</sup> /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3\text{-d}$ )	Reference conc., RfC (mg/m <sup>3</sup> )
9.00E-02	1.04E-05	2.60E-02	25	6,247	304.75	576.05	5.89E+01	2.25E+03	0.0E+00	7.0E-02
6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	1.35E+03	5.70E+01	0.0E+00	6.0E-03
6.90E-02	7.90E-06	1.90E-03	25	9,700	453.57	705.00	6.17E+02	1.56E+02	0.0E+00	2.0E-01
1.04E-01	9.90E-06	9.77E-04	25	7,643	356.65	561.00	1.74E+01	8.52E+03	2.1E-05	4.0E-01
7.82E-02	8.73E-06	2.79E-03	25	7,590	369.52	572.00	4.37E+01	2.80E+03	1.0E-05	4.0E-03
6.02E-02	8.67E-06	5.87E-03	25	9,321	437.89	637.25	1.35E+03	2.00E+00	0.0E+00	6.0E-03
6.90E-02	7.90E-06	2.39E-03	25	9,271	447.21	684.75	6.17E+02	7.90E+01	1.1E-05	8.0E-01
8.08E-02	9.80E-06	5.58E-05	25	7,481	352.50	536.78	2.30E+00	2.23E+05	0.0E+00	1.0E+00
5.22E-02	7.75E-06	5.17E-04	25	12,600	514.26	761.00	2.81E+03	2.46E+01	0.0E+00	7.0E-02
1.44E-02	5.87E-06	2.09E-05	25	15,000	636.44	860.38	4.47E+06	1.20E-01	9.7E-05	0.0E+00
7.50E-02	7.80E-06	1.38E-04	25	8,243	389.50	571.00	9.06E+00	1.90E+04	0.0E+00	8.0E-02
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01
1.32E-02	4.86E-06	1.70E-04	25	15,000	603.01	839.37	2.45E+06	1.70E-02	4.9E-03	1.1E-04
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01
8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	5.89E+01	1.79E+03	2.9E-05	6.0E-02
2.26E-02	5.56E-06	1.11E-04	25	17,000	715.90	969.27	1.23E+06	1.50E-03	1.1E-04	0.0E+00
1.49E-02	1.03E-05	5.88E-04	25	9,479	422.35	696.00	8.71E+01	3.10E+03	1.1E-06	7.0E-02
1.04E-01	1.00E-05	3.02E-02	25	6,391	319.00	552.00	4.57E+01	1.19E+03	0.0E+00	8.0E-01
7.30E-02	8.70E-06	3.69E-03	25	8,410	404.87	632.40	2.19E+02	4.72E+02	0.0E+00	1.0E+00
1.04E-01	1.00E-05	3.66E-03	25	6,988	334.32	536.40	3.98E+01	7.92E+03	5.3E-06	3.0E-01
1.26E-01	6.50E-06	8.80E-03	25	5,115	249.00	416.25	2.12E+00	5.33E+03	1.0E-06	9.0E-02
2.48E-02	6.21E-06	9.44E-05	25	16,455	714.15	979.00	3.98E+05	6.30E-03	1.1E-05	0.0E+00
1.25E-02	4.74E-06	1.51E-05	25	17,000	613.32	842.25	2.14E+04	1.95E-01	4.6E-03	1.8E-04
1.15E-02	4.55E-06	1.12E-05	25	14,000	674.43	942.94	2.14E+03	5.10E-01	0.0E+00	2.1E-02
1.15E-02	4.55E-06	1.12E-05	25	14,000	674.43	942.94	2.14E+03	5.10E-01	0.0E+00	2.1E-02
7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	3.63E+02	1.69E+02	1.1E-06	2.0E+00
2.26E-02	5.56E-06	1.11E-04	25	17,000	715.90	969.27	1.23E+06	1.50E-03	1.1E-04	0.0E+00
3.63E-02	7.88E-06	6.34E-05	25	12,666	570.44	870.00	1.38E+04	1.98E+00	0.0E+00	1.4E-01
1.12E-02	5.69E-06	1.09E-03	25	13,000	603.69	846.31	1.41E+06	1.80E-01	1.6E-03	1.8E-03

Chemical of Potential Concern
1,1-Dichloroethane
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,4-Dichlorobenzene
2-Hexanone
2-Methylnaphthalene
4,4'-DDE
4-Methyl-2-pentanone
Acenaphthene
Acenaphthylene
Aldrin
Anthracene
Benzene
Benzo(b)fluoranthene
Bromoform
Carbon disulfide
Chlorobenzene
Chloroform
Chloromethane
Chrysene
Dieldrin
Endosulfan I
Endosulfan II
Ethylbenzene
Fluoranthene
Fluorene
Heptachlor

TABLE H1-14  
 CHEMICAL PROPERTIES SHEET (continued)  
 VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Diffusivity in air, D <sub>a</sub> (cm <sup>2</sup> /s)	Diffusivity in water, D <sub>w</sub> (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm·m <sup>3</sup> /mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, ΔH <sub>v,b</sub> (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	Organic carbon partition coefficient, K <sub>oc</sub> (cm <sup>3</sup> /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF (μg/m <sup>3</sup> ) <sup>-1</sup>	Reference conc., RIC (mg/m <sup>3</sup> )
6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01
1.56E-02	4.46E-06	1.58E-05	25	16,000	651.02	848.49	9.77E+04	1.00E-01	0.0E+00	1.8E-02
5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	2.00E+03	3.10E+01	0.0E+00	9.0E-03
4.21E-02	7.69E-06	1.55E-04	25	12,155	550.54	803.15	7.08E+03	3.57E+00	0.0E+00	2.1E-01
2.72E-02	7.24E-06	1.10E-05	25	14,370	667.95	936.00	1.05E+05	1.35E+00	0.0E+00	1.1E-01
5.65E-02	8.02E-06	1.19E-02	25	8,980	442.10	1220.00	7.71E+02	2.95E+01	0.0E+00	1.4E-01
8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	1.82E+02	5.26E+02	0.0E+00	3.0E-01
7.90E-02	9.10E-06	1.03E-02	25	7,505	360.38	544.20	1.66E+02	1.47E+03	2.0E-06	6.0E-01
1.06E-01	1.23E-05	2.69E-02	25	5,250	259.25	432.00	1.86E+01	8.80E+03	7.8E-05	1.0E-01
1.42E-02	7.34E-06	1.06E-05	25	15,000	596.55	839.36	1.23E+03	2.00E+00	7.7E-04	0.0E+00
1.18E-02	4.37E-06	4.85E-05	25	14,000	624.24	885.73	1.20E+05	5.60E-02	3.4E-04	7.0E-04
7.36E-02	1.13E-05	4.07E-03	25	7,192	333.65	544.00	3.55E+01	3.50E+03	0.0E+00	3.5E-02
1.42E-02	7.34E-06	1.40E-05	25	15,000	596.55	839.36	1.07E+03	7.30E+00	3.1E-04	1.1E-03
1.18E-02	4.37E-06	4.85E-05	25	14,000	624.24	885.73	1.20E+05	5.60E-02	3.4E-04	7.0E-04
7.00E-02	7.80E-06	7.32E-03	25	8,523	412.27	617.05	4.07E+02	1.61E+02	0.0E+00	7.0E-01
5.70E-02	8.12E-06	1.31E-02	25	9,290	456.46	660.50	1.11E+03	2.00E+00	0.0E+00	1.4E-01
6.01E-02	7.83E-06	1.07E-02	25	9,123	432.20	630.00	5.62E+02	6.00E+01	0.0E+00	1.4E-01
6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01
5.70E-02	8.12E-06	1.39E-02	25	88,730	446.50	679.00	9.66E+02	3.94E+00	0.0E+00	1.4E-01
7.07E-02	1.19E-05	9.36E-03	25	6,717	320.85	516.50	5.25E+01	6.30E+03	0.0E+00	7.0E-02

END

Chemical of Potential Concern
Isopropylbenzene
Methoxychlor
Naphthalene
Phenanthrene
Pyrene
Tert-Butylbenzene
Toluene
Trichloroethene
Vinyl chloride
alpha-BHC
alpha-Chlordane
cis-1,2-Dichloroethene
gamma-BHC (Lindane)
gamma-Chlordane
m,p-Xylene
n-Butylbenzene
n-Propylbenzene
p-Isopropyltoluene
sec-Butylbenzene
trans-1,2-Dichloroethene



**TABLE H1-15**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Bldg. ventilation rate, $Q_{\text{building}}$ (cm <sup>3</sup> /s)	Area of enclosed space below grade, $A_B$ (cm <sup>2</sup> )	Crack-to-total area ratio, $\eta$ (unitless)	Crack depth below grade, $Z_{\text{crack}}$ (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, $H_{TS}$ (atm·m <sup>3</sup> /mol)	Henry's law constant at ave. groundwater temperature, $H_{TS}$ (unitless)	Vapor viscosity at ave. soil temperature, $\mu_{TS}$ (g/cm·s)	Stratum A effective diffusion coefficient, $D_A^{\text{eff}}$ (cm <sup>2</sup> /s)	Stratum B effective diffusion coefficient, $D_B^{\text{eff}}$ (cm <sup>2</sup> /s)	Stratum C effective diffusion coefficient, $D_C^{\text{eff}}$ (cm <sup>2</sup> /s)	Capillary zone effective diffusion coefficient, $D_{cz}$ (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, $D_T^{\text{eff}}$ (cm <sup>2</sup> /s)	Diffusion path length, $L_d$ (cm)
3.39E+04	1.06E+08	3.77E-04	15	6,348	1.92E-02	8.05E-01	1.77E-04	1.19E-02	0.00E+00	0.00E+00	2.10E-04	1.21E-03	107
3.39E+04	1.06E+08	3.77E-04	15	11,608	3.51E-03	1.47E-01	1.77E-04	8.00E-03	0.00E+00	0.00E+00	1.45E-04	8.33E-04	107
3.39E+04	1.06E+08	3.77E-04	15	11,620	1.08E-03	4.54E-02	1.77E-04	9.11E-03	0.00E+00	0.00E+00	1.76E-04	1.00E-03	107
3.39E+04	1.06E+08	3.77E-04	15	8,449	6.49E-04	2.73E-02	1.77E-04	1.37E-02	0.00E+00	0.00E+00	2.74E-04	1.56E-03	107
3.39E+04	1.06E+08	3.77E-04	15	8,559	1.85E-03	7.76E-02	1.77E-04	1.03E-02	0.00E+00	0.00E+00	1.92E-04	1.10E-03	107
3.39E+04	1.06E+08	3.77E-04	15	11,591	3.35E-03	1.41E-01	1.77E-04	7.94E-03	0.00E+00	0.00E+00	1.45E-04	8.31E-04	107
3.39E+04	1.06E+08	3.77E-04	15	11,174	1.40E-03	5.87E-02	1.77E-04	9.11E-03	0.00E+00	0.00E+00	1.72E-04	9.83E-04	107
3.39E+04	1.06E+08	3.77E-04	15	8,336	3.73E-05	1.57E-03	1.77E-04	1.07E-02	0.00E+00	0.00E+00	7.54E-04	3.45E-03	107
3.39E+04	1.06E+08	3.77E-04	15	16,153	2.37E-04	9.95E-03	1.77E-04	6.89E-03	0.00E+00	0.00E+00	1.92E-04	1.05E-03	107
3.39E+04	1.06E+08	3.77E-04	15	22,010	7.23E-06	3.04E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	1.78E-03	1.89E-03	107
3.39E+04	1.06E+08	3.77E-04	15	9,772	8.58E-05	3.61E-03	1.77E-04	9.90E-03	0.00E+00	0.00E+00	3.70E-04	1.94E-03	107
3.39E+04	1.06E+08	3.77E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	5.56E-03	0.00E+00	0.00E+00	3.30E-04	1.58E-03	107
3.39E+04	1.06E+08	3.77E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	5.56E-03	0.00E+00	0.00E+00	3.30E-04	1.58E-03	107
3.39E+04	1.06E+08	3.77E-04	15	21,199	6.09E-05	2.56E-03	1.77E-04	1.74E-03	0.00E+00	0.00E+00	2.03E-04	7.89E-04	107
3.39E+04	1.06E+08	3.77E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	5.56E-03	0.00E+00	0.00E+00	3.30E-04	1.58E-03	107
3.39E+04	1.06E+08	3.77E-04	15	8,053	3.75E-03	1.58E-01	1.77E-04	1.16E-02	0.00E+00	0.00E+00	2.10E-04	1.20E-03	107
3.39E+04	1.06E+08	3.77E-04	15	25,473	3.23E-05	1.36E-03	1.77E-04	2.98E-03	0.00E+00	0.00E+00	4.23E-04	1.52E-03	107
3.39E+04	1.06E+08	3.77E-04	15	10,811	3.49E-04	1.47E-02	1.77E-04	1.97E-03	0.00E+00	0.00E+00	9.83E-05	4.88E-04	107
3.39E+04	1.06E+08	3.77E-04	15	6,630	2.19E-02	9.22E-01	1.77E-04	1.37E-02	0.00E+00	0.00E+00	2.42E-04	1.39E-03	107
3.39E+04	1.06E+08	3.77E-04	15	9,736	2.31E-03	9.69E-02	1.77E-04	9.63E-03	0.00E+00	0.00E+00	1.77E-04	1.02E-03	107
3.39E+04	1.06E+08	3.77E-04	15	7,485	2.55E-03	1.07E-01	1.77E-04	1.37E-02	0.00E+00	0.00E+00	2.50E-04	1.43E-03	107
3.39E+04	1.06E+08	3.77E-04	15	4,667	7.02E-03	2.95E-01	1.77E-04	1.66E-02	0.00E+00	0.00E+00	2.94E-04	1.69E-03	107
3.39E+04	1.06E+08	3.77E-04	15	24,354	2.91E-05	1.22E-03	1.77E-04	3.28E-03	0.00E+00	0.00E+00	5.18E-04	1.77E-03	107
3.39E+04	1.06E+08	3.77E-04	15	24,395	4.63E-06	1.95E-04	1.77E-04	1.66E-03	0.00E+00	0.00E+00	2.23E-03	1.73E-03	107
3.39E+04	1.06E+08	3.77E-04	15	20,155	4.22E-06	1.77E-04	1.77E-04	1.53E-03	0.00E+00	0.00E+00	2.35E-03	1.62E-03	107
3.39E+04	1.06E+08	3.77E-04	15	20,155	4.22E-06	1.77E-04	1.77E-04	1.53E-03	0.00E+00	0.00E+00	2.35E-03	1.62E-03	107
3.39E+04	1.06E+08	3.77E-04	15	10,078	4.83E-03	2.03E-01	1.77E-04	9.90E-03	0.00E+00	0.00E+00	1.77E-04	1.02E-03	107
3.39E+04	1.06E+08	3.77E-04	15	25,473	3.23E-05	1.36E-03	1.77E-04	2.98E-03	0.00E+00	0.00E+00	4.23E-04	1.52E-03	107
3.39E+04	1.06E+08	3.77E-04	15	16,167	2.90E-05	1.22E-03	1.77E-04	4.79E-03	0.00E+00	0.00E+00	6.69E-04	2.42E-03	107
3.39E+04	1.06E+08	3.77E-04	15	18,271	4.51E-04	1.90E-02	1.77E-04	1.48E-03	0.00E+00	0.00E+00	5.32E-05	2.81E-04	107

Chemical of Potential Concern

1	1,1-Dichloroethane
2	1,2,4-Trimethylbenzene
3	1,2-Dichlorobenzene
4	1,2-Dichloroethane
5	1,2-Dichloropropane
6	1,3,5-Trimethylbenzene
7	1,4-Dichlorobenzene
8	2-Hexanone
9	2-Methylnaphthalene
10	4,4'-DDE
11	4-Methyl-2-pentanone
12	Acenaphthene
13	Acenaphthylene
14	Aldrin
15	Anthracene
16	Benzene
17	Benzo(b)fluoranthene
18	Bromoform
19	Carbon disulfide
20	Chlorobenzene
21	Chloroform
22	Chloromethane
23	Chrysene
24	Dieldrin
25	Endosulfan I
26	Endosulfan II
27	Ethylbenzene
28	Fluoranthene
29	Fluorene
30	Heptachlor

**TABLE H1-15**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Convection path length, $L_p$ (cm)	Source vapor conc., $C_{source}$ ( $\mu\text{g}/\text{m}^3$ )	Crack radius, $r_{crack}$ (cm)	Average vapor flow rate into bldg., $Q_{soil}$ ( $\text{cm}^3/\text{s}$ )	Crack effective diffusion coefficient, $D^{crack}$ ( $\text{cm}^2/\text{s}$ )	Area of crack, $A_{crack}$ ( $\text{cm}^2$ )	Exponent of equivalent foundation Peclet number, $\exp(Pe^e)$ (unitless)	Infinite source indoor attenuation coefficient, $\alpha$ (unitless)	Infinite source bldg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	Reference conc., RfC (mg/m <sup>3</sup> )
15	2.42E+02	0.10	8.33E+01	1.19E-02	4.00E+02	1.52E+76	3.08E-04	7.45E-02	NA	7.0E-02
15	1.47E+01	0.10	8.33E+01	8.00E-03	4.00E+02	1.38E+113	2.22E-04	3.27E-03	NA	6.0E-03
15	8.41E+01	0.10	8.33E+01	9.11E-03	4.00E+02	2.32E+99	2.62E-04	2.20E-02	NA	2.0E-01
15	4.64E+01	0.10	8.33E+01	1.37E-02	4.00E+02	8.41E+85	3.84E-04	1.78E-02	2.1E-05	4.0E-01
15	2.33E+01	0.10	8.33E+01	1.03E-02	4.00E+02	4.74E+87	2.83E-04	6.60E-03	1.0E-05	4.0E-03
15	8.45E+00	0.10	8.33E+01	7.94E-03	4.00E+02	7.79E+113	2.21E-04	1.87E-03	NA	6.0E-03
15	2.93E+01	0.10	8.33E+01	9.11E-03	4.00E+02	2.32E+99	2.57E-04	7.55E-03	1.1E-05	8.0E-01
15	7.83E-01	0.10	8.33E+01	1.07E-02	4.00E+02	6.74E+84	7.15E-04	5.60E-04	NA	1.0E+00
15	9.95E-02	0.10	8.33E+01	6.89E-03	4.00E+02	2.18E+131	2.73E-04	2.71E-05	NA	7.0E-02
15	2.58E-04	0.10	8.33E+01	1.91E-03	4.00E+02		4.51E-04	1.17E-07	9.7E-05	NA
15	3.81E-01	0.10	8.33E+01	9.90E-03	4.00E+02	2.55E+91	4.61E-04	1.66E-04	NA	8.0E-02
15	4.25E+00	0.10	8.33E+01	5.56E-03	4.00E+02	6.57E+162	3.89E-04	1.65E-03	NA	2.1E-01
15	1.81E-01	0.10	8.33E+01	5.56E-03	4.00E+02	6.57E+162	3.89E-04	7.03E-05	NA	2.1E-01
15	1.16E-03	0.10	8.33E+01	1.74E-03	4.00E+02		2.11E-04	2.44E-07	4.9E-03	1.1E-04
15	3.59E-01	0.10	8.33E+01	5.56E-03	4.00E+02	6.57E+162	3.89E-04	1.40E-04	NA	2.1E-01
15	2.49E+01	0.10	8.33E+01	1.16E-02	4.00E+02	8.17E+77	3.07E-04	7.66E-03	2.9E-05	6.0E-02
15	5.44E-02	0.10	8.33E+01	2.98E-03	4.00E+02	1.43E+303	3.76E-04	2.05E-05	1.1E-04	NA
15	2.93E+00	0.10	8.33E+01	1.97E-03	4.00E+02		1.35E-04	3.95E-04	1.1E-06	7.0E-02
15	3.87E+02	0.10	8.33E+01	1.37E-02	4.00E+02	8.43E+65	3.49E-04	1.35E-01	NA	8.0E-01
15	7.75E+00	0.10	8.33E+01	9.63E-03	4.00E+02	8.34E+93	2.65E-04	2.05E-03	NA	1.0E+00
15	1.72E+02	0.10	8.33E+01	1.37E-02	4.00E+02	8.43E+65	3.57E-04	6.13E-02	5.3E-06	3.0E-01
15	5.90E+01	0.10	8.33E+01	1.66E-02	4.00E+02	2.60E+54	4.11E-04	2.43E-02	1.0E-06	9.0E-02
15	1.34E-01	0.10	8.33E+01	3.28E-03	4.00E+02	1.73E+276	4.28E-04	5.75E-05	1.1E-05	NA
15	8.96E-05	0.10	8.33E+01	1.66E-03	4.00E+02		4.20E-04	3.76E-08	4.6E-03	1.8E-04
15	1.22E-04	0.10	8.33E+01	1.53E-03	4.00E+02		3.97E-04	4.85E-08	NA	2.1E-02
15	4.08E-05	0.10	8.33E+01	1.53E-03	4.00E+02		3.97E-04	1.62E-08	NA	2.1E-02
15	2.03E+01	0.10	8.33E+01	9.90E-03	4.00E+02	2.61E+91	2.65E-04	5.39E-03	1.1E-06	2.0E+00
15	5.44E-02	0.10	8.33E+01	2.98E-03	4.00E+02	1.43E+303	3.76E-04	2.05E-05	1.1E-04	NA
15	9.49E-02	0.10	8.33E+01	4.79E-03	4.00E+02	5.55E+188	5.49E-04	5.21E-05	NA	1.4E-01
15	6.06E-03	0.10	8.33E+01	1.48E-03	4.00E+02		7.94E-05	4.81E-07	1.6E-03	1.8E-03

Chemical of Potential Concern

1,1-Dichloroethane
1,2,4-Trimethylbenzene
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,4-Dichlorobenzene
2-Hexanone
2-Methylnaphthalene
4,4'-DDE
4-Methyl-2-pentanone
Acenaphthene
Acenaphthylene
Aldrin
Anthracene
Benzene
Benzo(b)fluoranthene
Bromoform
Carbon disulfide
Chlorobenzene
Chloroform
Chloromethane
Chrysene
Dieldrin
Endosulfan I
Endosulfan II
Ethylbenzene
Fluoranthene
Fluorene
Heptachlor



**TABLE H1-15**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Bldg. ventilation rate, $Q_{building}$ (cm <sup>2</sup> /s)	Area of enclosed space below grade, $A_g$ (cm <sup>2</sup> )	Crack-to-total area ratio, $\eta$ (unitless)	Crack depth below grade, $Z_{crack}$ (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, $H_{TS}$ (atm·m <sup>3</sup> /mol)	Henry's law constant at ave. groundwater temperature, $H'_{TS}$ (unitless)	Vapor viscosity at ave. soil temperature, $\mu_{TS}$ (g/cm·s)	Stratum A effective diffusion coefficient, $D_{eff,A}$ (cm <sup>2</sup> /s)	Stratum B effective diffusion coefficient, $D_{eff,B}$ (cm <sup>2</sup> /s)	Stratum C effective diffusion coefficient, $D_{eff,C}$ (cm <sup>2</sup> /s)	Capillary zone effective diffusion coefficient, $D_{eff,cz}$ (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, $D_{eff,T}$ (cm <sup>2</sup> /s)	Diffusion path length, $L_d$ (cm)
3.39E+04	1.06E+06	3.77E-04	15	12,550	6.31E-01	2.65E+01	1.77E-04	1.05E-02	0.00E+00	0.00E+00	4.16E-04	2.16E-03	107
3.39E+04	1.06E+06	3.77E-04	15	24,507	4.82E-06	2.03E-04	1.77E-04	2.53E-03	0.00E+00	0.00E+00	1.72E-03	2.35E-03	107
3.39E+04	1.06E+06	3.77E-04	15	12,844	2.59E-04	1.09E-02	1.77E-04	9.54E-03	0.00E+00	0.00E+00	4.28E-04	2.17E-03	107
3.39E+04	1.06E+06	3.77E-04	15	16,041	7.12E-05	2.99E-03	1.77E-04	6.81E-03	0.00E+00	0.00E+00	4.58E-04	2.12E-03	107
3.39E+04	1.06E+06	3.77E-04	15	20,612	4.05E-06	1.70E-04	1.77E-04	4.42E-03	0.00E+00	0.00E+00	3.29E-03	4.19E-03	107
3.39E+04	1.06E+06	3.77E-04	15	9,475	7.51E-03	3.16E-01	1.77E-04	9.13E-03	0.00E+00	0.00E+00	3.64E-04	1.89E-03	107
3.39E+04	1.06E+06	3.77E-04	15	9,082	4.27E-03	1.80E-01	1.77E-04	1.41E-02	0.00E+00	0.00E+00	5.61E-04	2.91E-03	107
3.39E+04	1.06E+06	3.77E-04	15	8,474	6.82E-03	2.87E-01	1.77E-04	1.28E-02	0.00E+00	0.00E+00	5.08E-04	2.64E-03	107
3.39E+04	1.06E+06	3.77E-04	15	4,925	2.12E-02	8.92E-01	1.77E-04	1.71E-02	0.00E+00	0.00E+00	6.80E-04	3.53E-03	107
3.39E+04	1.06E+06	3.77E-04	15	20,966	3.84E-06	1.61E-04	1.77E-04	2.31E-03	0.00E+00	0.00E+00	3.43E-03	2.44E-03	107
3.39E+04	1.06E+06	3.77E-04	15	19,552	1.88E-05	7.92E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	4.81E-04	1.30E-03	107
3.39E+04	1.06E+06	3.77E-04	15	7,667	2.81E-03	1.18E-01	1.77E-04	1.19E-02	0.00E+00	0.00E+00	4.78E-04	2.48E-03	107
3.39E+04	1.06E+06	3.77E-04	15	20,966	5.07E-06	2.13E-04	1.77E-04	2.31E-03	0.00E+00	0.00E+00	2.62E-03	2.35E-03	107
3.39E+04	1.06E+06	3.77E-04	15	19,552	1.88E-05	7.92E-04	1.77E-04	1.91E-03	0.00E+00	0.00E+00	4.81E-04	1.30E-03	107
3.39E+04	1.06E+06	3.77E-04	15	10,177	4.48E-03	1.88E-01	1.77E-04	1.13E-02	0.00E+00	0.00E+00	4.51E-04	2.34E-03	107
3.39E+04	1.06E+06	3.77E-04	15	11,763	7.43E-03	3.13E-01	1.77E-04	9.21E-03	0.00E+00	0.00E+00	3.67E-04	1.90E-03	107
3.39E+04	1.06E+06	3.77E-04	15	11,281	6.18E-03	2.60E-01	1.77E-04	9.72E-03	0.00E+00	0.00E+00	3.87E-04	2.01E-03	107
3.39E+04	1.06E+06	3.77E-04	15	12,550	6.31E-01	2.65E+01	1.77E-04	1.05E-02	0.00E+00	0.00E+00	4.16E-04	2.16E-03	107
3.39E+04	1.06E+06	3.77E-04	15	107,393	7.72E-05	3.24E-03	1.77E-04	9.22E-03	0.00E+00	0.00E+00	5.49E-04	2.62E-03	107
3.39E+04	1.06E+06	3.77E-04	15	7,065	6.65E-03	2.80E-01	1.77E-04	1.14E-02	0.00E+00	0.00E+00	4.56E-04	2.36E-03	107

Chemical of Potential Concern
31 Isopropylbenzene
32 Methoxychlor
33 Naphthalene
34 Phenanthrene
35 Pyrene
36 Tert-Butylbenzene
37 Toluene
38 Trichloroethene
39 Vinyl chloride
40 alpha-BHC
41 alpha-Chlordane
42 cis-1,2-Dichloroethene
43 gamma-BHC (Lindane)
44 gamma-Chlordane
45 m,p-Xylene
46 n-Butylbenzene
47 n-Propylbenzene
48 p-Isopropyltoluene
49 sec-Butylbenzene
50 trans-1,2-Dichloroethene

**TABLE H1-15**  
**INTERMEDIATE CALCULATIONS SHEET (continued)**  
**VAPOR INTRUSION MODEL FILES, MODELING GROUNDWATER CONCENTRATIONS INTO INDOOR AIR CONCENTRATIONS FOR A RESIDENCE**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Convection path length, $L_p$ (cm)	Source vapor conc., $C_{source}$ ( $\mu\text{g}/\text{m}^3$ )	Crack radius, $r_{crack}$ (cm)	Average vapor flow rate into bldg., $Q_{soil}$ ( $\text{cm}^3/\text{s}$ )	Crack effective diffusion coefficient, $D^{crack}$ ( $\text{cm}^2/\text{s}$ )	Area of crack, $A_{crack}$ ( $\text{cm}^2$ )	Exponent of equivalent foundation Peclet number, $\text{exp}(Pe^f)$ (unitless)	Infinite source indoor attenuation coefficient, $\alpha$ (unitless)	Infinite source bldg. conc., $C_{building}$ ( $\mu\text{g}/\text{m}^3$ )	Unit risk factor, URF ( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup>	Reference conc., RfC ( $\text{mg}/\text{m}^3$ )
15	3.58E+03	0.10	8.33E+01	1.05E-02	4.00E+02	1.27E+86	5.03E-04	1.80E+00	NA	4.0E-01
15	2.64E-04	0.10	8.33E+01	2.53E-03	4.00E+02		5.37E-04	1.42E-07	NA	1.8E-02
15	5.84E-01	0.10	8.33E+01	9.54E-03	4.00E+02	7.23E+94	5.05E-04	2.95E-04	NA	9.0E-03
15	2.93E-01	0.10	8.33E+01	6.81E-03	4.00E+02	8.33E+132	4.95E-04	1.45E-04	NA	2.1E-01
15	2.35E-02	0.10	8.33E+01	4.42E-03	4.00E+02	8.32E+204	8.17E-04	1.92E-05	NA	1.1E-01
15	1.26E+02	0.10	8.33E+01	9.13E-03	4.00E+02	1.15E+99	4.50E-04	5.69E-02	NA	1.4E-01
15	3.45E+00	0.10	8.33E+01	1.41E-02	4.00E+02	2.15E+64	6.32E-04	2.18E-03	NA	3.0E-01
15	9.72E+01	0.10	8.33E+01	1.28E-02	4.00E+02	7.02E+70	5.87E-04	5.71E-02	2.0E-06	6.0E-01
15	1.78E+02	0.10	8.33E+01	1.71E-02	4.00E+02	6.32E+52	7.27E-04	1.30E-01	7.8E-05	1.0E-01
15	6.57E-05	0.10	8.33E+01	2.31E-03	4.00E+02		5.53E-04	3.63E-08	7.7E-04	NA
15	6.71E-04	0.10	8.33E+01	1.91E-03	4.00E+02		3.28E-04	2.20E-07	3.4E-04	7.0E-04
15	6.14E+01	0.10	8.33E+01	1.19E-02	4.00E+02	1.11E+76	5.59E-04	3.44E-02	NA	3.5E-02
15	9.12E-05	0.10	8.33E+01	2.31E-03	4.00E+02		5.38E-04	4.91E-08	3.1E-04	1.1E-03
15	3.25E-04	0.10	8.33E+01	1.91E-03	4.00E+02		3.28E-04	1.07E-07	3.4E-04	7.0E-04
15	7.53E+01	0.10	8.33E+01	1.13E-02	4.00E+02	9.01E+79	5.35E-04	4.03E-02	NA	7.0E-01
15	3.13E+01	0.10	8.33E+01	9.21E-03	4.00E+02	1.55E+98	4.54E-04	1.42E-02	NA	1.4E-01
15	3.38E+01	0.10	8.33E+01	9.72E-03	4.00E+02	1.34E+93	4.74E-04	1.60E-02	NA	1.4E-01
15	3.58E+03	0.10	8.33E+01	1.05E-02	4.00E+02	1.27E+86	5.03E-04	1.80E+00	NA	4.0E-01
15	9.73E-01	0.10	8.33E+01	9.22E-03	4.00E+02	1.51E+98	5.84E-04	5.69E-04	NA	1.4E-01
15	1.12E+02	0.10	8.33E+01	1.14E-02	4.00E+02	1.46E+79	5.39E-04	6.03E-02	NA	7.0E-02

END

Chemical of Potential Concern

Isopropylbenzene
Methoxychlor
Naphthalene
Phenanthrene
Pyrene
Tert-Butylbenzene
Toluene
Trichloroethene
Vinyl chloride
alpha-BHC
alpha-Chlordane
cis-1,2-Dichloroethene
gamma-BHC (Lindane)
gamma-Chlordane
m,p-Xylene
n-Butylbenzene
n-Propylbenzene
p-Isopropyltoluene
sec-Butylbenzene
trans-1,2-Dichloroethene

**ATTACHMENT H2  
CANCER RISK AND NONCANCER HAZARD ESTIMATES (METHOD 1),  
CENTRAL TENDENCY EXPOSURE**

## TABLES

---

### CTE Cancer Risks and Noncancer Hazards

- H2-7.1 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H2-7.2 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-7.3 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H2-7.4 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-7.5 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H2-7.6 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-7.7 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface Soil (0 to 2 feet bgs)
- H2-7.8 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-7.9 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H2-7.10 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-7.11 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H2-7.12 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H2-7.13 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from EPA Sources (Method 1), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

## Summaries of CTE Receptor Risks and Hazards for COPCs

- H2-8.1 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H2-8.2 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-8.3 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H2-8.4 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-8.5 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H2-8.6 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-8.7 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface Soil (0 to 2 feet bgs)
- H2-8.8 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-8.9 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H2-8.10 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-8.11 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H2-8.12 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H2-8.13 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

## **CTE Risk Assessment Summaries**

- H2-9.1 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H2-9.2 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-9.3 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H2-9.4 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-9.5 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H2-9.6 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-9.7 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface Soil (0 to 2 feet bgs)
- H2-9.8 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-9.9 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H2-9.10 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H2-9.11 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H2-9.12 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H2-9.13 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from EPA Sources (Method 1), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

TABLE H2-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	4.13E-08	mg/kg-day	--	--	--	6.43E-07	mg/kg-day	1.00E-02	mg/kg-day	6.43E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.41E-07	mg/kg-day	--	--	--	2.19E-06	mg/kg-day	1.00E-02	mg/kg-day	2.19E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.38E-08	mg/kg-day	--	--	--	2.14E-07	mg/kg-day	5.00E-02	mg/kg-day	4.28E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	7.16E-07	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	9.00E-02	mg/kg-day	1.24E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	9.92E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	6.74E-12	1.54E-09	mg/kg-day	1.14E-03	mg/kg-day	1.35E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.41E-09	mg/kg-day	--	--	--	6.86E-08	mg/kg-day	5.00E-02	mg/kg-day	1.37E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	3.03E-08	mg/kg-day	--	--	--	4.71E-07	mg/kg-day	3.00E-02	mg/kg-day	1.57E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.87E-07	mg/kg-day	2.40E-02	(mg/kg-day)-1	4.50E-09	2.91E-06	mg/kg-day	3.00E-02	mg/kg-day	9.71E-05
				2,4-Dimethylphenol	2.10E-01	mg/kg	5.79E-09	mg/kg-day	--	--	--	8.00E-08	mg/kg-day	2.00E-02	mg/kg-day	4.50E-06
				2-Methylphenol	8.10E-02	mg/kg	2.23E-09	mg/kg-day	--	--	--	3.47E-08	mg/kg-day	5.00E-02	mg/kg-day	6.94E-07
				2-Methylnaphthalene	1.67E+00	mg/kg	4.61E-08	mg/kg-day	--	--	--	7.16E-07	mg/kg-day	4.00E-03	mg/kg-day	1.79E-04
				4,4'-DDD	1.20E-03	mg/kg	3.31E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	7.93E-12	5.14E-10	mg/kg-day	5.00E-04	mg/kg-day	1.03E-06
				4,4'-DDE	8.23E-02	mg/kg	2.27E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.71E-10	3.53E-08	mg/kg-day	5.00E-04	mg/kg-day	7.05E-05
				4,4'-DDT	4.45E-02	mg/kg	1.23E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.17E-10	1.91E-08	mg/kg-day	5.00E-04	mg/kg-day	3.81E-05
				4-Methylphenol	2.70E-01	mg/kg	7.44E-09	mg/kg-day	--	--	--	1.16E-07	mg/kg-day	5.00E-03	mg/kg-day	2.31E-05
				4-Nitroaniline	6.20E-01	mg/kg	1.71E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.59E-10	2.66E-07	mg/kg-day	3.00E-03	mg/kg-day	8.85E-05
				4-Nitrophenol	4.20E-01	mg/kg	1.16E-08	mg/kg-day	--	--	--	1.80E-07	mg/kg-day	5.00E-04	mg/kg-day	3.60E-04
				Acenaphthene	4.23E+00	mg/kg	1.17E-07	mg/kg-day	--	--	--	1.81E-06	mg/kg-day	6.00E-02	mg/kg-day	3.02E-05
				Acenaphthylene	1.04E-01	mg/kg	2.87E-09	mg/kg-day	--	--	--	4.46E-08	mg/kg-day	6.00E-02	mg/kg-day	7.44E-07
				Aldrin	1.30E-02	mg/kg	3.58E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.09E-09	5.57E-09	mg/kg-day	3.00E-05	mg/kg-day	1.86E-04
				alpha-BHC	7.30E-04	mg/kg	2.01E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.27E-10	3.13E-10	mg/kg-day	5.00E-04	mg/kg-day	6.26E-07
				alpha-Chlordane	8.14E-03	mg/kg	2.24E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	7.85E-11	3.49E-09	mg/kg-day	5.00E-04	mg/kg-day	6.98E-06
				Aluminum	8.82E+03	mg/kg	2.43E-04	mg/kg-day	--	--	--	3.78E-03	mg/kg-day	1.00E+00	mg/kg-day	3.78E-03
				Anthracene	1.05E+00	mg/kg	2.91E-08	mg/kg-day	--	--	--	4.52E-07	mg/kg-day	1.00E-01	mg/kg-day	1.51E-06
				Antimony	4.08E+00	mg/kg	1.12E-07	mg/kg-day	--	--	--	1.75E-06	mg/kg-day	4.00E-04	mg/kg-day	4.37E-03
				Aroclor-1248	1.20E+00	mg/kg	3.31E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.61E-08	5.14E-07	mg/kg-day	2.00E-05	mg/kg-day	2.57E-02
				Aroclor-1254	4.44E-01	mg/kg	1.22E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.45E-08	1.90E-07	mg/kg-day	2.00E-05	mg/kg-day	9.51E-03
				Aroclor-1260	5.41E-01	mg/kg	1.49E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.98E-08	2.32E-07	mg/kg-day	2.00E-05	mg/kg-day	1.16E-02
				Aroclor-1268	2.78E-02	mg/kg	7.65E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.53E-09	1.19E-08	mg/kg-day	2.00E-05	mg/kg-day	5.95E-04
				Arsenic	6.17E+00	mg/kg	1.70E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.55E-07	2.64E-06	mg/kg-day	3.00E-04	mg/kg-day	8.81E-03
				Barium	6.78E+01	mg/kg	1.87E-06	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	7.00E-02	mg/kg-day	4.15E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	1.38E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.01E-07	2.14E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.59E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.35E-07	7.13E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	7.54E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.51E-08	1.17E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.10E-08	mg/kg-day	--	--	--	3.27E-07	mg/kg-day	3.00E-02	mg/kg-day	1.09E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	8.98E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	6.56E-09	1.40E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	6.56E-09	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	2.00E-03	mg/kg-day	5.10E-05
				Beta-BHC	2.20E-03	mg/kg	6.06E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.09E-10	9.43E-10	mg/kg-day	2.00E-04	mg/kg-day	4.71E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.16E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.02E-09	3.36E-06	mg/kg-day	2.00E-02	mg/kg-day	1.68E-04
				Cadmium	9.47E+00	mg/kg	2.61E-07	mg/kg-day	--	--	--	4.06E-06	mg/kg-day	5.00E-04	mg/kg-day	8.12E-03
				Carbon disulfide	2.40E-04	mg/kg	6.61E-12	mg/kg-day	--	--	--	1.03E-10	mg/kg-day	1.00E-01	mg/kg-day	1.03E-09
				Chlorobenzene	1.10E-01	mg/kg	3.03E-09	mg/kg-day	--	--	--	4.71E-08	mg/kg-day	2.00E-02	mg/kg-day	2.36E-06
				Chromium	1.11E+02	mg/kg	3.06E-06	mg/kg-day	--	--	--	4.76E-05	mg/kg-day	1.50E+00	mg/kg-day	3.18E-05
				Chrysene	5.68E+00	mg/kg	1.57E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.14E-09	2.43E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.09E-07	mg/kg-day	--	--	--	3.24E-06	mg/kg-day	2.00E-02	mg/kg-day	1.62E-04
				Copper	5.71E+01	mg/kg	1.57E-06	mg/kg-day	--	--	--	2.44E-05	mg/kg-day	3.70E-02	mg/kg-day	6.61E-04
				Delta-BHC	8.40E-03	mg/kg	2.31E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	4.17E-10	3.60E-09	mg/kg-day	2.00E-04	mg/kg-day	1.80E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	8.75E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	6.39E-08	1.36E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.58E-07	mg/kg-day	--	--	--	5.57E-06	mg/kg-day	2.00E-03	mg/kg-day	2.78E-03
				Dieldrin	5.51E-02	mg/kg	1.52E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.43E-08	2.36E-08	mg/kg-day	5.00E-05	mg/kg-day	4.73E-04
Dimethylphthalate	3.80E-02	mg/kg	1.05E-09	mg/kg-day	--	--	--	1.63E-08	mg/kg-day	1.00E+01	mg/kg-day	1.63E-09				

**TABLE H2-7.1**  
**EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient																	
							Value	Units	Value	Units		Value	Units	Value	Units																		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	6.06E-08	mg/kg-day	--	--	--	--	9.43E-07	mg/kg-day	1.00E-01	mg/kg-day	9.43E-06																
				Endosulfan I	2.30E-02	mg/kg	6.34E-10	mg/kg-day	--	--	--	--	9.85E-09	mg/kg-day	6.00E-03	mg/kg-day	1.64E-06																
				Endosulfan II	2.38E-02	mg/kg	6.56E-10	mg/kg-day	--	--	--	--	1.02E-08	mg/kg-day	6.00E-03	mg/kg-day	1.70E-06																
				Endosulfan Sulfate	4.30E-02	mg/kg	1.18E-09	mg/kg-day	--	--	--	--	1.84E-08	mg/kg-day	6.00E-03	mg/kg-day	3.07E-06																
				Endrin aldehyde	4.21E-02	mg/kg	1.16E-09	mg/kg-day	--	--	--	--	1.80E-08	mg/kg-day	3.00E-04	mg/kg-day	6.01E-05																
				Endrin Ketone	1.00E-02	mg/kg	2.76E-10	mg/kg-day	--	--	--	--	4.28E-09	mg/kg-day	3.00E-04	mg/kg-day	1.43E-05																
				Fluoranthene	2.65E+01	mg/kg	7.30E-07	mg/kg-day	--	--	--	--	1.14E-05	mg/kg-day	4.00E-02	mg/kg-day	2.84E-04																
				Fluorene	2.92E+00	mg/kg	8.03E-08	mg/kg-day	--	--	--	--	1.25E-06	mg/kg-day	4.00E-02	mg/kg-day	3.12E-05																
				gamma-BHC (Lindane)	2.60E-03	mg/kg	7.16E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	9.31E-11	1.11E-09	mg/kg-day	3.00E-04	mg/kg-day	3.71E-06																	
				gamma-Chlordane	1.31E-02	mg/kg	3.81E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.26E-10	5.61E-09	mg/kg-day	5.00E-04	mg/kg-day	1.12E-05																	
				Heptachlor	6.90E-03	mg/kg	1.90E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	8.55E-10	2.96E-09	mg/kg-day	5.00E-04	mg/kg-day	5.91E-06																	
				Heptachlor Epoxide	1.12E-02	mg/kg	3.07E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.80E-09	4.78E-09	mg/kg-day	1.30E-05	mg/kg-day	3.68E-04																	
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.41E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.76E-08	3.74E-07	mg/kg-day	--	--	--																	
				Iron	4.07E+04	mg/kg	1.12E-03	mg/kg-day	--	--	--	1.75E-02	mg/kg-day	3.00E-01	mg/kg-day	5.82E-02																	
				Isophorone	2.00E-01	mg/kg	5.51E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.23E-12	8.57E-08	mg/kg-day	2.00E-01	mg/kg-day	4.28E-07																	
				Lead	2.90E+03	mg/kg	8.00E-05	mg/kg-day	--	--	--	1.24E-03	mg/kg-day	--	--	--																	
				Manganese	3.31E+02	mg/kg	9.12E-06	mg/kg-day	--	--	--	1.42E-04	mg/kg-day	2.40E-02	mg/kg-day	5.91E-03																	
				Mercury	3.10E-01	mg/kg	8.53E-09	mg/kg-day	--	--	--	1.33E-07	mg/kg-day	3.00E-04	mg/kg-day	4.42E-04																	
				Methoxychlor	1.20E-01	mg/kg	3.31E-09	mg/kg-day	--	--	--	5.14E-08	mg/kg-day	5.00E-03	mg/kg-day	1.03E-05																	
				Molybdenum	2.50E+00	mg/kg	6.90E-08	mg/kg-day	--	--	--	1.07E-06	mg/kg-day	5.00E-03	mg/kg-day	2.15E-04																	
				Naphthalene	1.30E+01	mg/kg	3.58E-07	mg/kg-day	--	--	--	5.57E-06	mg/kg-day	2.00E-02	mg/kg-day	2.78E-04																	
				Nickel	3.91E+01	mg/kg	1.08E-06	mg/kg-day	--	--	--	1.68E-05	mg/kg-day	2.00E-02	mg/kg-day	8.39E-04																	
				Phenanthrene	1.39E+01	mg/kg	3.84E-07	mg/kg-day	--	--	--	5.96E-06	mg/kg-day	3.00E-01	mg/kg-day	1.99E-05																	
				Phenol	5.80E-01	mg/kg	1.60E-08	mg/kg-day	--	--	--	2.48E-07	mg/kg-day	3.00E-01	mg/kg-day	8.28E-07																	
				p-Isopropyltoluene	1.10E-01	mg/kg	3.03E-09	mg/kg-day	--	--	--	4.71E-08	mg/kg-day	1.00E-01	mg/kg-day	4.71E-07																	
				Pyrene	2.41E+01	mg/kg	6.65E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	3.00E-02	mg/kg-day	3.45E-04																	
				sec-Butylbenzene	7.10E-02	mg/kg	1.96E-09	mg/kg-day	--	--	--	3.04E-08	mg/kg-day	4.00E-02	mg/kg-day	7.60E-07																	
				Selenium	2.24E-01	mg/kg	6.18E-09	mg/kg-day	--	--	--	9.62E-08	mg/kg-day	5.00E-03	mg/kg-day	1.92E-05																	
				Silver	1.16E+00	mg/kg	3.19E-08	mg/kg-day	--	--	--	4.97E-07	mg/kg-day	5.00E-03	mg/kg-day	9.93E-05																	
				Technical Chlordane	5.51E-01	mg/kg	1.52E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.31E-09	2.36E-07	mg/kg-day	5.00E-04	mg/kg-day	4.72E-04																	
				Thallium	4.97E-01	mg/kg	1.37E-08	mg/kg-day	--	--	--	2.13E-07	mg/kg-day	6.00E-05	mg/kg-day	3.23E-03																	
				Toluene	4.30E-04	mg/kg	1.18E-11	mg/kg-day	--	--	--	1.84E-10	mg/kg-day	8.00E-02	mg/kg-day	2.30E-09																	
				Vanadium	3.41E+01	mg/kg	9.41E-07	mg/kg-day	--	--	--	1.46E-05	mg/kg-day	1.00E-03	mg/kg-day	1.46E-02																	
				Zinc	4.53E+02	mg/kg	1.25E-05	mg/kg-day	--	--	--	1.94E-04	mg/kg-day	3.00E-01	mg/kg-day	6.48E-04																	
				<b>Exposure Route Total</b>							<b>1.01E-06</b>					<b>1.65E-01</b>																	
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4'-DDD	4,4'-DDE	4,4'-DDT	4-Methylphenol	4-Nitroaniline	1.50E+00	mg/kg	5.46E-09	mg/kg-day	--	--	--	--	8.48E-08	mg/kg-day	1.00E-02	mg/kg-day	8.48E-06
																					5.10E+00	mg/kg	1.85E-09	mg/kg-day	--	--	--	--	2.88E-08	mg/kg-day	1.00E-02	mg/kg-day	2.88E-06
																					5.00E-01	mg/kg	1.82E-10	mg/kg-day	--	--	--	--	2.83E-09	mg/kg-day	5.00E-02	mg/kg-day	5.66E-08
																					2.60E+01	mg/kg	9.46E-09	mg/kg-day	--	--	--	--	1.47E-07	mg/kg-day	9.00E-02	mg/kg-day	1.63E-06
																					3.60E-03	mg/kg	1.31E-12	mg/kg-day	6.80E-02	(mg/kg-day)-1	8.90E-14	2.04E-11	mg/kg-day	1.14E-03	mg/kg-day	1.79E-08	
																					1.60E-01	mg/kg	5.82E-11	mg/kg-day	--	--	--	9.05E-10	mg/kg-day	5.00E-02	mg/kg-day	1.81E-08	
1.10E+00	mg/kg	4.00E-10	mg/kg-day																		--	--	--	6.22E-09	mg/kg-day	3.00E-02	mg/kg-day	2.07E-07					
6.80E+00	mg/kg	--	mg/kg-day																		2.40E-02	(mg/kg-day)-1	--	--	--	3.00E-02	mg/kg-day	--					
2.10E-01	mg/kg	7.64E-11	mg/kg-day																		--	--	--	1.19E-09	mg/kg-day	2.00E-02	mg/kg-day	5.94E-08					
8.10E-02	mg/kg	2.95E-10	mg/kg-day																		--	--	--	4.58E-09	mg/kg-day	5.00E-02	mg/kg-day	9.16E-08					
1.67E+00	mg/kg	6.08E-10	mg/kg-day																		--	--	--	9.46E-09	mg/kg-day	4.00E-03	mg/kg-day	2.36E-06					
1.20E-03	mg/kg	4.36E-13	mg/kg-day																		2.40E-01	(mg/kg-day)-1	1.05E-13	6.79E-12	mg/kg-day	5.00E-04	mg/kg-day	1.36E-08					
8.23E-02	mg/kg	2.99E-11	mg/kg-day																		3.40E-01	(mg/kg-day)-1	1.02E-11	4.66E-10	mg/kg-day	5.00E-04	mg/kg-day	9.31E-07					
4.45E-02	mg/kg	4.85E-11	mg/kg-day																		3.40E-01	(mg/kg-day)-1	1.65E-11	7.55E-10	mg/kg-day	5.00E-04	mg/kg-day	1.51E-06					
2.70E-01	mg/kg	9.82E-10	mg/kg-day																		--	--	--	1.53E-08	mg/kg-day	5.00E-03	mg/kg-day	3.05E-06					
6.20E-01	mg/kg	2.25E-09	mg/kg-day	2.10E-02	--	--	4.74E-11	mg/kg-day	3.00E-03	mg/kg-day	1.17E-05																						

TABLE H2-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.53E-09	mg/kg-day	--	--	--	--	2.38E-08	mg/kg-day	5.00E-04	mg/kg-day	4.75E-05
				Acenaphthene	4.23E+00	mg/kg	2.00E-08	mg/kg-day	--	--	--	--	3.11E-07	mg/kg-day	6.00E-02	mg/kg-day	5.19E-06
				Acenaphthylene	1.04E-01	mg/kg	3.79E-11	mg/kg-day	--	--	--	--	5.89E-10	mg/kg-day	6.00E-02	mg/kg-day	9.82E-09
				Aldrin	1.30E-02	mg/kg	4.73E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.04E-10	7.35E-10	mg/kg-day	3.00E-05	mg/kg-day	2.45E-05	
				alpha-BHC	7.30E-04	mg/kg	2.65E-13	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.67E-12	4.13E-12	mg/kg-day	5.00E-04	mg/kg-day	8.26E-09	
				alpha-Chlordane	8.14E+03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--	
				Aluminum	8.82E+03	mg/kg	3.21E-07	mg/kg-day	--	--	--	--	4.99E-08	mg/kg-day	1.00E+00	mg/kg-day	4.99E-06
				Anthracene	1.05E+00	mg/kg	4.99E-09	mg/kg-day	--	--	--	--	7.76E-08	mg/kg-day	3.00E-01	mg/kg-day	2.59E-07
				Antimony	4.08E+00	mg/kg	1.48E-10	mg/kg-day	--	--	--	--	2.31E-09	mg/kg-day	4.00E-04	mg/kg-day	5.77E-06
				Aroclor-1248	1.20E+00	mg/kg	6.11E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.22E-08	9.50E-08	mg/kg-day	2.00E-05	mg/kg-day	4.75E-03	
				Aroclor-1254	4.44E-01	mg/kg	2.26E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.52E-09	3.52E-08	mg/kg-day	2.00E-05	mg/kg-day	1.76E-03	
				Aroclor-1260	5.41E-01	mg/kg	2.76E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.51E-09	4.29E-08	mg/kg-day	2.00E-05	mg/kg-day	2.14E-03	
				Aroclor-1268	2.78E-02	mg/kg	1.41E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.83E-10	2.20E-09	mg/kg-day	2.00E-05	mg/kg-day	1.10E-04	
				Arsenic	6.17E+00	mg/kg	6.73E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.01E-08	1.05E-07	mg/kg-day	3.00E-04	mg/kg-day	3.49E-04	
				Barium	6.78E+01	mg/kg	2.47E-09	mg/kg-day	--	--	--	--	3.84E-08	mg/kg-day	7.00E-02	mg/kg-day	5.48E-07
				Benzo(a)anthracene	5.00E+00	mg/kg	2.37E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.73E-08	3.68E-07	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.67E+00	mg/kg	7.87E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.75E-08	1.22E-07	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.29E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	9.45E-09	2.01E-07	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.61E-09	mg/kg-day	--	--	--	--	5.61E-08	mg/kg-day	3.00E-02	mg/kg-day	1.87E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.54E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.13E-09	2.40E-07	mg/kg-day	--	--	--	
				Beryllium	2.38E-01	mg/kg	8.66E-12	mg/kg-day	--	--	--	--	1.35E-10	mg/kg-day	2.00E-03	mg/kg-day	6.73E-08
				Beta-BHC	2.20E-03	mg/kg	8.00E-13	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.44E-12	1.24E-11	mg/kg-day	2.00E-04	mg/kg-day	6.22E-08	
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.85E-09	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.99E-11	4.43E-08	mg/kg-day	2.00E-02	mg/kg-day	2.21E-06	
				Cadmium	9.47E+00	mg/kg	3.45E-10	mg/kg-day	--	--	--	--	5.36E-09	mg/kg-day	5.00E-04	mg/kg-day	1.07E-05
				Carbon disulfide	2.40E-04	mg/kg	2.18E-12	mg/kg-day	--	--	--	--	3.39E-11	mg/kg-day	1.00E-01	mg/kg-day	3.99E-10
				Chlorobenzene	1.10E-01	mg/kg	4.00E-11	mg/kg-day	--	--	--	--	6.22E-10	mg/kg-day	2.00E-02	mg/kg-day	3.11E-08
				Chromium	1.11E+02	mg/kg	4.04E-09	mg/kg-day	--	--	--	--	6.29E-08	mg/kg-day	1.50E+00	mg/kg-day	4.19E-08
				Chrysene	5.68E+00	mg/kg	2.69E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.96E-10	4.18E-07	mg/kg-day	--	--	--	
				Cobalt	7.57E+00	mg/kg	2.75E-10	mg/kg-day	--	--	--	--	4.28E-09	mg/kg-day	2.00E-02	mg/kg-day	2.14E-07
				Copper	5.71E+01	mg/kg	2.08E-09	mg/kg-day	--	--	--	--	3.23E-08	mg/kg-day	3.70E-02	mg/kg-day	8.72E-07
				Delta-BHC	8.40E-03	mg/kg	1.53E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.75E-11	2.38E-10	mg/kg-day	2.00E-04	mg/kg-day	1.19E-06	
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.50E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.10E-08	2.33E-08	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	4.73E-09	mg/kg-day	--	--	--	--	7.35E-08	mg/kg-day	2.00E-03	mg/kg-day	3.68E-05
				Dieldrin	5.51E-02	mg/kg	2.01E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.21E-10	3.12E-10	mg/kg-day	5.00E-05	mg/kg-day	6.24E-06	
				Dimethylphthalate	3.80E-02	mg/kg	1.38E-11	mg/kg-day	--	--	--	--	2.15E-10	mg/kg-day	1.00E+01	mg/kg-day	2.15E-11
				di-n-Butylphthalate	2.20E+00	mg/kg	8.00E-10	mg/kg-day	--	--	--	--	1.24E-08	mg/kg-day	1.00E-01	mg/kg-day	1.24E-07
				Endosulfan I	2.30E-02	mg/kg	4.18E-11	mg/kg-day	--	--	--	--	6.50E-10	mg/kg-day	6.00E-03	mg/kg-day	1.08E-07
				Endosulfan II	2.38E-02	mg/kg	4.33E-11	mg/kg-day	--	--	--	--	6.73E-10	mg/kg-day	6.00E-03	mg/kg-day	1.12E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	7.82E-11	mg/kg-day	--	--	--	--	1.22E-09	mg/kg-day	6.00E-03	mg/kg-day	2.03E-07
				Endrin aldehyde	4.21E-02	mg/kg	7.65E-11	mg/kg-day	--	--	--	--	1.19E-09	mg/kg-day	3.00E-04	mg/kg-day	3.97E-06
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.25E-07	mg/kg-day	--	--	--	--	1.95E-06	mg/kg-day	4.00E-02	mg/kg-day	4.87E-05
				Fluorene	2.92E+00	mg/kg	1.38E-08	mg/kg-day	--	--	--	--	2.14E-07	mg/kg-day	4.00E-02	mg/kg-day	5.36E-06
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.78E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.92E-12	5.88E-11	mg/kg-day	3.00E-04	mg/kg-day	1.96E-07	
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	2.51E-12	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.13E-11	3.90E-11	mg/kg-day	5.00E-04	mg/kg-day	7.80E-08	
				Heptachlor Epoxide	1.12E-02	mg/kg	4.06E-12	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.69E-11	6.31E-11	mg/kg-day	1.30E-05	mg/kg-day	4.85E-06	
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.13E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.01E-09	6.42E-08	mg/kg-day	--	--	--	
				Iron	4.07E+04	mg/kg	1.48E-06	mg/kg-day	--	--	--	--	2.30E-05	mg/kg-day	3.00E-01	mg/kg-day	7.68E-05
				Isophorone	2.00E-01	mg/kg	7.27E-10	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.91E-13	1.13E-08	mg/kg-day	2.00E-01	mg/kg-day	5.66E-08	
Lead	2.90E+03	mg/kg	1.06E-07	mg/kg-day	--	--	--	--	1.64E-06	mg/kg-day	--	--	--				

TABLE H2-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermat (continued)	Manganese	3.31E+02	mg/kg	1.20E-08	mg/kg-day	--	--	--	1.87E-07	mg/kg-day	2.40E-02	mg/kg-day	7.80E-06			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	3.00E-04	mg/kg-day	--	--	--	--		
				Methoxychlor	1.20E-01	mg/kg	4.36E-11	mg/kg-day	--	--	--	6.79E-10	mg/kg-day	5.00E-03	mg/kg-day	1.36E-07	--		
				Molybdenum	2.50E+00	mg/kg	9.11E-11	mg/kg-day	--	--	--	1.42E-09	mg/kg-day	5.00E-03	mg/kg-day	2.83E-07	--		
				Naphthalene	1.30E+01	mg/kg	6.15E-08	mg/kg-day	--	--	--	9.56E-07	mg/kg-day	2.00E-02	mg/kg-day	4.78E-05	--		
				Nickel	3.91E+01	mg/kg	1.42E-09	mg/kg-day	--	--	--	2.21E-08	mg/kg-day	2.00E-02	mg/kg-day	1.11E-06	--		
				Phenanthrene	1.39E+01	mg/kg	5.06E-09	mg/kg-day	--	--	--	7.87E-08	mg/kg-day	3.00E-01	mg/kg-day	2.82E-07	--		
				Phenol	5.80E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	3.00E-01	mg/kg-day	1.09E-07	--		
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	--		
				Pyrene	2.41E+01	mg/kg	1.14E-07	mg/kg-day	--	--	--	1.78E-06	mg/kg-day	3.00E-02	mg/kg-day	5.92E-05	--		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	--		
				Selenium	2.24E-01	mg/kg	8.16E-12	mg/kg-day	--	--	--	1.27E-10	mg/kg-day	5.00E-03	mg/kg-day	2.54E-08	--		
				Silver	1.16E+00	mg/kg	4.21E-11	mg/kg-day	--	--	--	6.55E-10	mg/kg-day	5.00E-03	mg/kg-day	1.31E-07	--		
				Technical Chlordane	5.51E-01	mg/kg	8.02E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.81E-10	1.25E-08	mg/kg-day	5.00E-04	mg/kg-day	2.49E-05	--		
				Thallium	4.87E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--	--		
				Toluene	4.30E-04	mg/kg	1.56E-13	mg/kg-day	--	--	--	2.43E-12	mg/kg-day	8.00E-02	mg/kg-day	3.04E-11	--		
				Vanadium	3.41E+01	mg/kg	1.24E-09	mg/kg-day	--	--	--	1.93E-08	mg/kg-day	1.00E-03	mg/kg-day	1.93E-05	--		
				Zinc	4.53E+02	mg/kg	1.65E-08	mg/kg-day	--	--	--	2.56E-07	mg/kg-day	3.00E-01	mg/kg-day	8.55E-07	--		
				Exposure Point Total															9.59E-03
				Exposure Medium Total															
Exposure Medium Total																1.74E-01			
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	9.12E-13	mg/kg-day	--	--	--	1.42E-11	mg/kg-day	2.00E-02	mg/kg-day	--	7.09E-10			
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.52E-13	mg/kg-day	--	--	--	5.47E-12	mg/kg-day	--	--	--	--			
			4,4-DDD	9.09E-13	mg/m <sup>3</sup>	5.21E-15	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.25E-15	8.10E-14	mg/kg-day	5.00E-04	mg/kg-day	1.82E-10	--			
			4,4-DDT	3.37E-11	mg/m <sup>3</sup>	1.93E-13	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.57E-14	3.00E-12	mg/kg-day	5.00E-04	mg/kg-day	6.01E-09	--			
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.17E-12	mg/kg-day	--	--	--	1.82E-11	mg/kg-day	5.00E-03	mg/kg-day	3.65E-09	--			
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.69E-12	mg/kg-day	2.10E-02	(mg/kg-day)-1	5.65E-14	4.19E-11	mg/kg-day	1.00E-03	mg/kg-day	4.19E-08	--			
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.82E-12	mg/kg-day	--	--	--	2.84E-11	mg/kg-day	5.70E-04	mg/kg-day	4.97E-08	--			
			Aluminum	6.68E-06	mg/m <sup>3</sup>	3.83E-08	mg/kg-day	--	--	--	5.96E-07	mg/kg-day	1.43E-03	mg/kg-day	4.17E-04	--			
			Antimony	3.09E-09	mg/m <sup>3</sup>	1.77E-11	mg/kg-day	--	--	--	2.75E-10	mg/kg-day	--	--	--	--			
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	5.21E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.04E-11	8.10E-11	mg/kg-day	2.00E-05	mg/kg-day	4.05E-06	--			
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	1.93E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.86E-12	3.00E-11	mg/kg-day	2.00E-05	mg/kg-day	1.50E-06	--			
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	2.35E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.70E-12	3.65E-11	mg/kg-day	2.00E-05	mg/kg-day	1.83E-06	--			
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	1.21E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.41E-13	1.87E-12	mg/kg-day	2.00E-05	mg/kg-day	9.37E-08	--			
			Arsenic	4.67E-09	mg/m <sup>3</sup>	2.68E-11	mg/kg-day	1.50E+01	(mg/kg-day)-1	4.02E-10	4.16E-10	mg/kg-day	--	--	--	--			
			Barium	5.14E-08	mg/m <sup>3</sup>	2.94E-10	mg/kg-day	--	--	--	4.58E-09	mg/kg-day	1.40E-04	mg/kg-day	3.27E-05	--			
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	2.17E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.59E-11	3.38E-10	mg/kg-day	--	--	--	--			
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	7.23E-12	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.28E-11	1.12E-10	mg/kg-day	--	--	--	--			
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	3.31E-12	mg/kg-day	--	--	--	5.15E-11	mg/kg-day	3.00E-02	mg/kg-day	1.72E-09	--			
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	1.42E-11	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.03E-12	2.20E-10	mg/kg-day	--	--	--	--			
			Beryllium	1.80E-10	mg/m <sup>3</sup>	1.03E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	8.68E-12	1.61E-11	mg/kg-day	5.71E-06	mg/kg-day	2.81E-06	--			
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	9.55E-15	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.77E-14	1.49E-13	mg/kg-day	2.00E-04	mg/kg-day	7.43E-10	--			
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	3.40E-11	mg/kg-day	1.40E+02	(mg/kg-day)-1	4.76E-13	5.29E-10	mg/kg-day	2.00E-02	mg/kg-day	2.64E-08	--			
			Cadmium	7.18E-09	mg/m <sup>3</sup>	4.11E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.59E-10	6.40E-10	mg/kg-day	--	--	--	--			
			Chromium	8.42E-08	mg/m <sup>3</sup>	4.83E-10	mg/kg-day	--	--	--	7.51E-09	mg/kg-day	--	--	--	--			
			Cobalt	5.74E-09	mg/m <sup>3</sup>	3.29E-11	mg/kg-day	9.80E+00	(mg/kg-day)-1	3.22E-10	5.11E-10	mg/kg-day	5.71E-06	mg/kg-day	8.95E-05	--			
			Copper	4.32E-08	mg/m <sup>3</sup>	2.48E-10	mg/kg-day	--	--	--	3.85E-09	mg/kg-day	--	--	--	--			
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	1.38E-12	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.01E-11	2.14E-11	mg/kg-day	--	--	--	--			
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.65E-13	mg/kg-day	--	--	--	2.57E-12	mg/kg-day	1.00E+01	mg/kg-day	2.57E-13	--			
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	9.55E-12	mg/kg-day	--	--	--	1.49E-10	mg/kg-day	1.00E-01	mg/kg-day	1.49E-09	--			
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	1.83E-13	mg/kg-day	--	--	--	2.84E-12	mg/kg-day	3.00E-04	mg/kg-day	9.47E-09	--			

TABLE H2-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	4.34E-14	mg/kg-day	--	--	--	--	6.75E-13	mg/kg-day	3.00E-04	mg/kg-day	2.25E-09				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	4.84E-14	mg/kg-day	9.10E+00	(mg/kg-day)-1	4.41E-13	7.53E-13	mg/kg-day	1.30E-05	mg/kg-day	5.79E-08					
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	3.79E-12	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.77E-12	5.89E-11	mg/kg-day	--	--	--					
				Iron	3.09E-05	mg/m <sup>3</sup>	1.77E-07	mg/kg-day	--	--	--	2.75E-06	mg/kg-day	--	--	--					
				Isophorone	1.52E-10	mg/m <sup>3</sup>	8.68E-13	mg/kg-day	9.50E-04	(mg/kg-day)-1	8.25E-16	1.35E-11	mg/kg-day	2.00E-01	mg/kg-day	6.75E-11					
				Lead	2.20E-06	mg/m <sup>3</sup>	1.26E-08	mg/kg-day	--	--	--	1.96E-07	mg/kg-day	--	--	--					
				Manganese	2.51E-07	mg/m <sup>3</sup>	1.44E-09	mg/kg-day	--	--	--	2.24E-08	mg/kg-day	1.43E-05	mg/kg-day	1.56E-03					
				Mercury	2.34E-10	mg/m <sup>3</sup>	1.34E-12	mg/kg-day	--	--	--	2.09E-11	mg/kg-day	8.60E-05	mg/kg-day	2.43E-07					
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	1.09E-11	mg/kg-day	--	--	--	1.69E-10	mg/kg-day	--	--	--					
				Nickel	2.96E-08	mg/m <sup>3</sup>	1.70E-10	mg/kg-day	--	--	--	2.64E-09	mg/kg-day	--	--	--					
				Phenol	4.39E-10	mg/m <sup>3</sup>	2.52E-12	mg/kg-day	--	--	--	3.92E-11	mg/kg-day	3.00E-01	mg/kg-day	1.31E-10					
				Selenium	1.70E-10	mg/m <sup>3</sup>	9.74E-13	mg/kg-day	--	--	--	1.52E-11	mg/kg-day	--	--	--					
				Silver	8.78E-10	mg/m <sup>3</sup>	5.03E-12	mg/kg-day	--	--	--	7.82E-11	mg/kg-day	--	--	--					
				Thallium	3.77E-10	mg/m <sup>3</sup>	2.16E-12	mg/kg-day	--	--	--	3.36E-11	mg/kg-day	--	--	--					
				Vanadium	2.59E-08	mg/m <sup>3</sup>	1.48E-10	mg/kg-day	--	--	--	2.31E-09	mg/kg-day	--	--	--					
				Zinc	3.44E-07	mg/m <sup>3</sup>	1.97E-09	mg/kg-day	--	--	--	3.06E-08	mg/kg-day	--	--	--					
				Exposure Route Total					1.09E-09					2.11E-03							
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.98E-07	mg/kg-day	--	--	--	--	9.31E-06	mg/kg-day	1.10E-03	mg/kg-day	8.46E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	2.03E-06	mg/kg-day	--	--	--	3.16E-05	mg/kg-day	1.10E-03	mg/kg-day	2.88E-02	
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.72E-07	mg/kg-day	--	--	--	1.04E-05	mg/kg-day	1.71E-03	mg/kg-day	6.09E-03	
1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	3.05E-05					mg/kg-day	--	--	--	4.74E-04	mg/kg-day	5.70E-02	mg/kg-day	8.32E-03					
1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.64E-08					mg/kg-day	6.80E-02	(mg/kg-day)-1	1.12E-09	2.55E-07	mg/kg-day	1.14E-03	mg/kg-day	2.24E-04					
1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	2.09E-07					mg/kg-day	--	--	--	3.26E-06	mg/kg-day	1.71E-03	mg/kg-day	1.90E-03					
1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	9.33E-07					mg/kg-day	--	--	--	1.45E-05	mg/kg-day	3.00E-02	mg/kg-day	4.84E-04					
1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.95E-06					mg/kg-day	2.20E-02	(mg/kg-day)-1	1.97E-07	1.39E-04	mg/kg-day	2.30E-01	mg/kg-day	6.05E-04					
2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	4.24E-07					mg/kg-day	--	--	--	6.59E-06	mg/kg-day	5.00E-02	mg/kg-day	1.32E-04					
4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	5.56E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.89E-11	8.64E-10	mg/kg-day	5.00E-04	mg/kg-day	1.73E-06					
Acenaphthene	5.81E-05	mg/m <sup>3</sup>	3.33E-07					mg/kg-day	--	--	--	5.18E-06	mg/kg-day	6.00E-02	mg/kg-day	8.63E-05					
Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	8.20E-09					mg/kg-day	--	--	--	1.27E-07	mg/kg-day	6.00E-02	mg/kg-day	2.12E-06					
Aldrin	5.63E-09	mg/m <sup>3</sup>	3.23E-11					mg/kg-day	1.70E+01	(mg/kg-day)-1	5.49E-10	5.02E-10	mg/kg-day	3.00E-05	mg/kg-day	1.67E-05					
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	2.08E-11					mg/kg-day	6.30E+00	(mg/kg-day)-1	1.31E-10	3.24E-10	mg/kg-day	5.00E-04	mg/kg-day	6.48E-07					
alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	4.62E-11					mg/kg-day	3.50E-01	(mg/kg-day)-1	1.62E-11	7.18E-10	mg/kg-day	2.00E-04	mg/kg-day	3.59E-06					
Anthracene	1.45E-05	mg/m <sup>3</sup>	8.30E-08					mg/kg-day	--	--	--	1.29E-06	mg/kg-day	3.00E-01	mg/kg-day	4.30E-06					
Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	1.01E-08					mg/kg-day	7.30E-01	(mg/kg-day)-1	7.41E-09	1.58E-07	mg/kg-day	--	--	--					
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.59E-09					mg/kg-day	--	--	--	4.03E-08	mg/kg-day	2.00E-01	mg/kg-day	2.02E-07					
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.97E-07					mg/kg-day	--	--	--	4.61E-06	mg/kg-day	1.70E-02	mg/kg-day	2.71E-04					
Chrysene	6.25E-06	mg/m <sup>3</sup>	3.58E-08					mg/kg-day	7.30E-03	(mg/kg-day)-1	2.61E-10	5.57E-07	mg/kg-day	--	--	--					
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.40E-10					mg/kg-day	1.86E+00	(mg/kg-day)-1	4.45E-10	3.73E-09	mg/kg-day	2.00E-04	mg/kg-day	1.87E-05					
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.57E-07					mg/kg-day	--	--	--	4.00E-06	mg/kg-day	2.00E-03	mg/kg-day	2.00E-03					
Dieldrin	7.42E-08	mg/m <sup>3</sup>	4.25E-10					mg/kg-day	1.60E+01	(mg/kg-day)-1	6.80E-09	6.61E-09	mg/kg-day	5.00E-05	mg/kg-day	1.32E-04					
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.62E-10					mg/kg-day	--	--	--	7.18E-09	mg/kg-day	6.00E-03	mg/kg-day	1.20E-06					
Endosulfan II	8.34E-08	mg/m <sup>3</sup>	4.78E-10					mg/kg-day	--	--	--	7.43E-09	mg/kg-day	6.00E-03	mg/kg-day	1.24E-06					
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	8.63E-10					mg/kg-day	--	--	--	1.34E-08	mg/kg-day	6.00E-03	mg/kg-day	2.24E-06					
Fluoranthene	1.71E-05	mg/m <sup>3</sup>	9.82E-08					mg/kg-day	--	--	--	1.53E-06	mg/kg-day	4.00E-02	mg/kg-day	3.82E-05					
Fluorene	1.71E-05	mg/m <sup>3</sup>	9.78E-08	mg/kg-day	--	--	--	1.52E-06	mg/kg-day	4.00E-02	mg/kg-day	3.80E-05									
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	9.14E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.19E-10	1.42E-09	mg/kg-day	3.00E-04	mg/kg-day	4.74E-06									
gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	7.43E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.80E-11	1.16E-09	mg/kg-day	2.00E-04	mg/kg-day	5.78E-06									
Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.94E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	8.81E-09	3.01E-08	mg/kg-day	5.00E-04	mg/kg-day	6.02E-05									
Methoxychlor	8.83E-08	mg/m <sup>3</sup>	4.95E-10	mg/kg-day	--	--	--	7.69E-09	mg/kg-day	5.00E-03	mg/kg-day	1.54E-06									
Naphthalene	6.99E-04	mg/m <sup>3</sup>	4.01E-06	mg/kg-day	--	--	--	6.23E-05	mg/kg-day	8.57E-04	mg/kg-day	7.27E-02									
Phenanthrene	1.91E-04	mg/m <sup>3</sup>	1.10E-06	mg/kg-day	--	--	--	1.70E-05	mg/kg-day	3.00E-01	mg/kg-day	5.68E-05									

TABLE H2-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.10E-06	mg/kg-day	--	--	--	1.71E-05	mg/kg-day	1.10E-01	mg/kg-day	1.59E-04
				Pyrene	1.85E-05	mg/m <sup>3</sup>	1.06E-07	mg/kg-day	--	--	--	1.65E-06	mg/kg-day	3.00E-02	mg/kg-day	5.49E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.61E-07	mg/kg-day	--	--	--	2.50E-06	mg/kg-day	4.00E-02	mg/kg-day	6.26E-05
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	3.13E-09	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	1.09E-12	4.86E-08	mg/kg-day	2.00E-04	mg/kg-day	2.43E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.79E-09	mg/kg-day	--	--	--	2.78E-08	mg/kg-day	1.43E+00	mg/kg-day	1.95E-08
				<b>Exposure Route Total</b>							<b>2.23E-07</b>				<b>1.31E-01</b>	
				<b>Exposure Point Total</b>							<b>2.24E-07</b>				<b>1.33E-01</b>	
		Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	3.99E+00	(a) ug/m <sup>3</sup>	2.29E-05	mg/kg-day	--	--	--	3.55E-04	mg/kg-day	1.10E-03	mg/kg-day	3.23E-01
				1,2,4-Trichlorobenzene	1.36E+01	(a) ug/m <sup>3</sup>	7.77E-05	mg/kg-day	--	--	--	1.21E-03	mg/kg-day	1.10E-03	mg/kg-day	1.10E+00
				1,2,4-Trimethylbenzene	1.33E+00	(a) ug/m <sup>3</sup>	7.62E-06	mg/kg-day	--	--	--	1.18E-04	mg/kg-day	1.71E-03	mg/kg-day	6.91E-02
				1,2-Dichlorobenzene	6.91E+01	(a) ug/m <sup>3</sup>	3.96E-04	mg/kg-day	--	--	--	6.16E-03	mg/kg-day	5.70E-02	mg/kg-day	1.08E-01
				1,2-Dichloropropane	9.57E-03	(a) ug/m <sup>3</sup>	5.49E-08	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	3.73E-09	8.53E-07	mg/kg-day	1.14E-03	mg/kg-day	7.48E-04
				1,3,5-Trimethylbenzene	4.25E-01	(a) ug/m <sup>3</sup>	2.44E-06	mg/kg-day	--	--	--	3.79E-05	mg/kg-day	1.71E-03	mg/kg-day	2.21E-02
				1,3-Dichlorobenzene	2.93E+00	(a) ug/m <sup>3</sup>	1.68E-05	mg/kg-day	--	--	--	2.61E-04	mg/kg-day	3.00E-02	mg/kg-day	8.69E-03
				1,4-Dichlorobenzene	1.81E+01	(a) ug/m <sup>3</sup>	1.04E-04	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	2.28E-06	1.61E-03	mg/kg-day	2.30E-01	mg/kg-day	7.01E-03
				2-Methylnaphthalene	1.96E+00	(a) ug/m <sup>3</sup>	1.12E-05	mg/kg-day	--	--	--	1.75E-04	mg/kg-day	5.00E-02	mg/kg-day	3.50E-03
				4,4-DDE	2.42E-06	(a) ug/m <sup>3</sup>	1.39E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.72E-12	2.16E-10	mg/kg-day	5.00E-04	mg/kg-day	4.32E-07
				Acenaphthene	6.79E-01	(a) ug/m <sup>3</sup>	3.89E-06	mg/kg-day	--	--	--	6.05E-05	mg/kg-day	6.00E-02	mg/kg-day	1.01E-03
				Acenaphthylene	1.75E-02	(a) ug/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	6.00E-02	mg/kg-day	2.60E-05
				Aldrin	6.43E-06	(a) ug/m <sup>3</sup>	3.68E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	6.26E-10	5.73E-11	mg/kg-day	3.00E-05	mg/kg-day	1.91E-05
				alpha-BHC	4.31E-05	(a) ug/m <sup>3</sup>	2.47E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.56E-09	3.84E-09	mg/kg-day	5.00E-04	mg/kg-day	7.68E-06
				alpha-Chlordane	2.17E-05	(a) ug/m <sup>3</sup>	1.24E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	4.34E-11	1.93E-09	mg/kg-day	2.00E-04	mg/kg-day	9.65E-06
				Anthracene	1.79E-01	(a) ug/m <sup>3</sup>	1.02E-06	mg/kg-day	--	--	--	1.59E-05	mg/kg-day	3.00E-01	mg/kg-day	5.31E-05
				Benzo(b)fluoranthene	1.26E-03	(a) ug/m <sup>3</sup>	7.22E-09	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	5.27E-09	1.12E-07	mg/kg-day	--	--	--
				Carbon Disulfide	6.38E-04	(a) ug/m <sup>3</sup>	3.66E-09	mg/kg-day	--	--	--	5.69E-08	mg/kg-day	2.00E-01	mg/kg-day	2.84E-07
				Chlorobenzene	2.93E-01	(a) ug/m <sup>3</sup>	1.68E-06	mg/kg-day	--	--	--	2.61E-05	mg/kg-day	1.70E-02	mg/kg-day	1.53E-03
				Chrysene	7.10E-03	(a) ug/m <sup>3</sup>	4.07E-08	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.97E-10	6.33E-07	mg/kg-day	--	--	--
				Delta-BHC	7.37E-04	(a) ug/m <sup>3</sup>	4.22E-09	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	7.84E-09	6.57E-08	mg/kg-day	2.00E-04	mg/kg-day	3.28E-04
				Dibenzofuran	9.47E-03	(a) ug/m <sup>3</sup>	5.42E-08	mg/kg-day	--	--	--	8.44E-07	mg/kg-day	2.00E-03	mg/kg-day	4.22E-04
				Dieldrin	2.09E-04	(a) ug/m <sup>3</sup>	1.20E-09	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.92E-08	1.87E-08	mg/kg-day	5.00E-05	mg/kg-day	3.73E-04
				Endosulfan I	8.63E-04	(a) ug/m <sup>3</sup>	4.95E-09	mg/kg-day	--	--	--	7.69E-08	mg/kg-day	6.00E-03	mg/kg-day	1.28E-05
				Endosulfan II	8.78E-04	(a) ug/m <sup>3</sup>	5.03E-09	mg/kg-day	--	--	--	7.82E-08	mg/kg-day	6.00E-03	mg/kg-day	1.30E-05
				Endosulfan Sulfate	1.61E-03	(a) ug/m <sup>3</sup>	9.25E-09	mg/kg-day	--	--	--	1.44E-07	mg/kg-day	6.00E-03	mg/kg-day	2.40E-05
				fluoranthene	1.96E-03	(a) ug/m <sup>3</sup>	1.12E-08	mg/kg-day	--	--	--	1.75E-07	mg/kg-day	4.00E-02	mg/kg-day	4.37E-06
				Fluorene	1.07E-01	(a) ug/m <sup>3</sup>	6.14E-07	mg/kg-day	--	--	--	9.55E-06	mg/kg-day	4.00E-02	mg/kg-day	2.39E-04
				gamma-BHC (Lindane)	2.28E-04	(a) ug/m <sup>3</sup>	1.31E-09	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.70E-09	2.03E-08	mg/kg-day	3.00E-04	mg/kg-day	6.78E-05
				gamma-Chlordane	3.94E-07	(a) ug/m <sup>3</sup>	2.26E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	7.91E-13	3.51E-11	mg/kg-day	2.00E-04	mg/kg-day	1.76E-07
				Heptachlor	4.34E-05	(a) ug/m <sup>3</sup>	2.49E-10	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.13E-09	3.87E-09	mg/kg-day	5.00E-04	mg/kg-day	7.73E-06
				Methoxychlor	1.18E-04	(a) ug/m <sup>3</sup>	6.79E-10	mg/kg-day	--	--	--	1.06E-08	mg/kg-day	5.00E-03	mg/kg-day	2.11E-06
				Methylene Chloride	6.38E-03	(a) ug/m <sup>3</sup>	3.66E-08	mg/kg-day	1.60E-03	(mg/kg-day) <sup>-1</sup>	5.85E-11	5.69E-07	mg/kg-day	8.57E-01	mg/kg-day	6.64E-07
				Naphthalene	2.55E+01	(a) ug/m <sup>3</sup>	1.46E-04	mg/kg-day	--	--	--	2.27E-03	mg/kg-day	1.70E-04	mg/kg-day	2.65E+00
				Phenanthrene	2.29E+00	(a) ug/m <sup>3</sup>	1.31E-05	mg/kg-day	--	--	--	2.04E-04	mg/kg-day	3.00E-01	mg/kg-day	6.80E-04
				p-isopropyltoluene	2.93E-01	(a) ug/m <sup>3</sup>	1.68E-06	mg/kg-day	--	--	--	2.61E-05	mg/kg-day	1.10E-01	mg/kg-day	2.37E-04
				Pyrene	1.59E-02	(a) ug/m <sup>3</sup>	9.11E-08	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	3.00E-02	mg/kg-day	4.72E-05
				sec-Butylbenzene	9.25E-02	(a) ug/m <sup>3</sup>	5.30E-07	mg/kg-day	--	--	--	8.25E-08	mg/kg-day	4.00E-02	mg/kg-day	2.06E-04
				Technical Chlordane	1.68E-03	(a) ug/m <sup>3</sup>	9.62E-09	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	3.37E-12	1.50E-07	mg/kg-day	2.00E-04	mg/kg-day	7.48E-04
				Toluene	1.14E-03	(a) ug/m <sup>3</sup>	6.55E-09	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	1.43E+00	mg/kg-day	7.13E-08
				<b>Exposure Route Total</b>							<b>2.32E-06</b>				<b>4.30E+00</b>	
				<b>Exposure Point Total</b>							<b>2.32E-06</b>				<b>4.30E+00</b>	
				<b>Exposure Medium Total</b>							<b>2.54E-06</b>				<b>4.43E+00</b>	
				<b>Medium Total</b>							<b>3.68E-06</b>				<b>4.61E+00</b>	

TABLE H2-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.4E-09	mg/kg-day	--	--	--	--	3.8E-08	mg/kg-day	1.40E-01	mg/kg-day	2.70E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	7.2E-10	mg/kg-day	--	--	--	--	1.1E-08	mg/kg-day	1.71E-03	mg/kg-day	6.56E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.7E-09	mg/kg-day	--	--	--	--	7.4E-08	mg/kg-day	5.70E-02	mg/kg-day	1.29E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.4E-09	mg/kg-day	9.10E-02	--	--	3.10E-10	5.3E-08	mg/kg-day	1.40E-03	mg/kg-day	3.79E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.3E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	--	8.69E-11	2.0E-08	mg/kg-day	1.14E-03	mg/kg-day	1.74E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	4.1E-10	mg/kg-day	--	--	--	--	6.4E-09	mg/kg-day	1.71E-03	mg/kg-day	3.74E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.6E-09	mg/kg-day	2.20E-02	(mg/kg-day)-1	--	3.55E-11	2.5E-08	mg/kg-day	2.30E-01	mg/kg-day	1.09E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	6.2E-11	mg/kg-day	--	--	--	--	9.7E-10	mg/kg-day	1.43E+00	mg/kg-day	6.79E-10
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.5E-12	mg/kg-day	--	--	--	--	8.6E-11	mg/kg-day	5.00E-02	mg/kg-day	1.72E-09
				4,4-DDE	1.29E-09	mg/m <sup>3</sup>	7.4E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	--	2.52E-12	1.2E-10	mg/kg-day	5.00E-04	mg/kg-day	2.31E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.3E-11	mg/kg-day	--	--	--	--	3.6E-10	mg/kg-day	8.60E-01	mg/kg-day	4.19E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.2E-10	mg/kg-day	--	--	--	--	3.5E-09	mg/kg-day	6.00E-02	mg/kg-day	5.76E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	9.5E-12	mg/kg-day	--	--	--	--	1.5E-10	mg/kg-day	6.00E-02	mg/kg-day	2.45E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.3E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	--	2.18E-10	2.0E-10	mg/kg-day	3.00E-05	mg/kg-day	6.64E-06
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.6E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	--	1.02E-11	2.5E-11	mg/kg-day	5.00E-04	mg/kg-day	5.05E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.8E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	1.34E-12	6.0E-11	mg/kg-day	2.00E-04	mg/kg-day	2.99E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.9E-11	mg/kg-day	--	--	--	--	2.9E-10	mg/kg-day	3.00E-01	mg/kg-day	9.76E-10
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.5E-09	mg/kg-day	2.73E-02	(mg/kg-day)-1	--	4.08E-11	2.3E-08	mg/kg-day	8.60E-03	mg/kg-day	2.70E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.8E-12	mg/kg-day	7.30E-01	(mg/kg-day)-1	--	2.04E-12	4.3E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	4.2E-11	mg/kg-day	3.85E-03	(mg/kg-day)-1	--	1.62E-13	6.6E-10	mg/kg-day	2.00E-02	mg/kg-day	3.28E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.6E-08	mg/kg-day	--	--	--	--	4.0E-07	mg/kg-day	2.00E-01	mg/kg-day	2.01E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	4.2E-10	mg/kg-day	--	--	--	--	6.5E-09	mg/kg-day	1.70E-02	mg/kg-day	3.84E-07
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.2E-08	mg/kg-day	8.05E-02	(mg/kg-day)-1	--	9.54E-10	1.8E-07	mg/kg-day	1.40E-02	mg/kg-day	1.32E-05
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	4.3E-09	mg/kg-day	--	--	--	--	6.7E-08	mg/kg-day	2.60E-02	mg/kg-day	2.57E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	7.5E-12	mg/kg-day	7.30E-03	(mg/kg-day)-1	--	5.51E-14	1.2E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	3.0E-09	mg/kg-day	--	--	--	--	4.7E-08	mg/kg-day	1.00E-02	mg/kg-day	4.72E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.6E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	--	9.01E-11	8.8E-11	mg/kg-day	5.00E-05	mg/kg-day	1.75E-06
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.3E-12	mg/kg-day	--	--	--	--	2.0E-11	mg/kg-day	6.00E-03	mg/kg-day	3.33E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	2.1E-15	mg/kg-day	--	--	--	--	3.3E-14	mg/kg-day	6.00E-03	mg/kg-day	5.47E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.1E-09	mg/kg-day	--	--	--	--	1.8E-08	mg/kg-day	2.90E-01	mg/kg-day	6.13E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.9E-12	mg/kg-day	--	--	--	--	4.5E-11	mg/kg-day	4.00E-02	mg/kg-day	1.13E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.7E-12	mg/kg-day	--	--	--	--	8.9E-11	mg/kg-day	4.00E-02	mg/kg-day	2.23E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	7.1E-15	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	9.26E-15	1.1E-13	mg/kg-day	3.00E-04	mg/kg-day	3.69E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	1.0E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	3.49E-12	1.6E-10	mg/kg-day	2.00E-04	mg/kg-day	7.75E-07
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	1.0E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	--	4.66E-10	1.6E-09	mg/kg-day	5.00E-04	mg/kg-day	3.18E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	2.0E-07	mg/kg-day	--	--	--	--	3.1E-06	mg/kg-day	1.10E-01	mg/kg-day	2.78E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	4.0E-09	mg/kg-day	--	--	--	--	6.2E-08	mg/kg-day	2.90E-02	mg/kg-day	2.13E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.9E-11	mg/kg-day	--	--	--	--	2.9E-10	mg/kg-day	5.00E-03	mg/kg-day	5.82E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	3.1E-11	mg/kg-day	--	--	--	--	4.8E-10	mg/kg-day	8.57E-04	mg/kg-day	5.65E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.5E-09	mg/kg-day	--	--	--	--	2.3E-08	mg/kg-day	8.57E-04	mg/kg-day	2.63E-05
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.6E-09	mg/kg-day	--	--	--	--	2.5E-08	mg/kg-day	4.00E-02	mg/kg-day	6.28E-07
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.5E-11	mg/kg-day	--	--	--	--	2.3E-10	mg/kg-day	3.00E-01	mg/kg-day	7.78E-10
p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	2.0E-07	mg/kg-day	--	--	--	--	3.1E-06	mg/kg-day	1.10E-01	mg/kg-day	2.78E-05				
Pyrene	4.61E-10	mg/m <sup>3</sup>	2.6E-12	mg/kg-day	--	--	--	--	4.1E-11	mg/kg-day	3.00E-02	mg/kg-day	1.37E-09				
sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.6E-09	mg/kg-day	--	--	--	--	7.1E-08	mg/kg-day	4.00E-02	mg/kg-day	1.78E-06				
Terf-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	5.2E-09	mg/kg-day	--	--	--	--	8.1E-08	mg/kg-day	4.00E-02	mg/kg-day	2.02E-06				
Toluene	3.80E-07	mg/m <sup>3</sup>	2.2E-09	mg/kg-day	--	--	--	--	3.4E-08	mg/kg-day	1.43E+00	mg/kg-day	2.37E-08				

TABLE H2-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	5.1E-09	mg/kg-day	--	--	--	8.0E-08	mg/kg-day	2.00E-02	mg/kg-day	3.99E-06
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	5.3E-09	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	2.14E-09	8.3E-08	mg/kg-day	1.00E-02	mg/kg-day	8.31E-06
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.1E-08	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	3.43E-10	1.7E-07	mg/kg-day	2.86E-02	mg/kg-day	6.01E-06
				Exposure Route Total							4.70E-09				2.13E-04	
				Exposure Point Total							4.70E-09				2.13E-04	
		Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	5.98E-02	ug/m <sup>3</sup>	3.43E-07	mg/kg-day	--	--	--	5.33E-06	mg/kg-day	1.40E-01	mg/kg-day	3.81E-05
				1,2,4-Trimethylbenzene	2.69E-03	ug/m <sup>3</sup>	1.54E-08	mg/kg-day	--	--	--	2.40E-07	mg/kg-day	1.71E-03	mg/kg-day	1.40E-04
				1,2-Dichlorobenzene	1.72E-02	ug/m <sup>3</sup>	9.88E-08	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	5.70E-02	mg/kg-day	2.70E-05
				1,2-Dichloroethane	1.31E-02	ug/m <sup>3</sup>	7.48E-08	mg/kg-day	9.10E-02	--	6.81E-09	1.16E-06	mg/kg-day	1.40E-03	mg/kg-day	8.31E-04
				1,2-Dichloropropane	5.23E-03	ug/m <sup>3</sup>	3.00E-08	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	2.04E-09	4.66E-07	mg/kg-day	1.14E-03	mg/kg-day	4.09E-04
				1,3,5-Trimethylbenzene	1.54E-03	ug/m <sup>3</sup>	8.80E-09	mg/kg-day	--	--	--	1.37E-07	mg/kg-day	1.71E-03	mg/kg-day	7.99E-05
				1,4-Dichlorobenzene	5.99E-03	ug/m <sup>3</sup>	3.43E-08	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	7.55E-10	5.34E-07	mg/kg-day	2.30E-01	mg/kg-day	2.32E-06
				2-Hexanone	2.54E-04	ug/m <sup>3</sup>	1.46E-09	mg/kg-day	--	--	--	2.27E-08	mg/kg-day	1.43E+00	mg/kg-day	1.59E-08
				2-Methylnaphthalene	1.77E-05	ug/m <sup>3</sup>	1.02E-10	mg/kg-day	--	--	--	1.58E-09	mg/kg-day	5.00E-02	mg/kg-day	3.16E-08
				4,4'-DDE	4.94E-08	ug/m <sup>3</sup>	2.83E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	9.62E-14	4.40E-12	mg/kg-day	5.00E-04	mg/kg-day	8.80E-09
				4-Methyl-2-pentanone	9.24E-05	ug/m <sup>3</sup>	5.30E-10	mg/kg-day	--	--	--	8.24E-09	mg/kg-day	8.60E-01	mg/kg-day	9.58E-09
				Acenaphthene	8.04E-04	ug/m <sup>3</sup>	4.61E-09	mg/kg-day	--	--	--	7.16E-08	mg/kg-day	6.00E-02	mg/kg-day	1.19E-06
				Acenaphthylene	3.42E-05	ug/m <sup>3</sup>	1.86E-10	mg/kg-day	--	--	--	3.05E-09	mg/kg-day	6.00E-02	mg/kg-day	5.08E-08
				Aldrin	1.05E-07	ug/m <sup>3</sup>	6.01E-13	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.02E-11	9.34E-12	mg/kg-day	3.00E-05	mg/kg-day	3.11E-07
				alpha-BHC	1.39E-08	ug/m <sup>3</sup>	7.96E-14	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	5.01E-13	1.24E-12	mg/kg-day	5.00E-04	mg/kg-day	2.48E-09
				alpha-Chlordane	8.38E-08	ug/m <sup>3</sup>	4.80E-13	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.68E-13	7.46E-12	mg/kg-day	2.00E-04	mg/kg-day	3.72E-08
				Anthracene	6.79E-05	ug/m <sup>3</sup>	3.89E-10	mg/kg-day	--	--	--	6.05E-09	mg/kg-day	3.00E-01	mg/kg-day	2.02E-08
				Benzene	6.09E-03	ug/m <sup>3</sup>	3.48E-08	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	9.52E-10	5.42E-07	mg/kg-day	8.60E-03	mg/kg-day	6.31E-05
				Benzo(b)fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.91E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	3.58E-11	7.63E-10	mg/kg-day	--	--	--
				Bromoform	2.09E-04	ug/m <sup>3</sup>	1.20E-09	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	4.62E-12	1.87E-08	mg/kg-day	2.00E-02	mg/kg-day	9.33E-07
				Carbon disulfide	1.07E-01	ug/m <sup>3</sup>	6.11E-07	mg/kg-day	--	--	--	9.50E-06	mg/kg-day	2.00E-01	mg/kg-day	4.75E-05
				Chlorobenzene	1.65E-03	ug/m <sup>3</sup>	9.44E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	1.70E-02	mg/kg-day	8.63E-06
				Chloroform	4.74E-02	ug/m <sup>3</sup>	2.72E-07	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	2.19E-08	4.23E-06	mg/kg-day	1.40E-02	mg/kg-day	3.02E-04
				Chloromethane	1.86E-02	ug/m <sup>3</sup>	1.07E-07	mg/kg-day	--	--	--	1.66E-06	mg/kg-day	2.80E-02	mg/kg-day	6.37E-05
				Chrysene	2.39E-05	ug/m <sup>3</sup>	1.37E-10	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	9.99E-13	2.13E-09	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	1.31E-02	ug/m <sup>3</sup>	7.53E-08	mg/kg-day	--	--	--	1.17E-08	mg/kg-day	1.00E-02	mg/kg-day	1.17E-04
				Dieldrin	1.62E-08	ug/m <sup>3</sup>	9.26E-14	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.48E-12	1.44E-12	mg/kg-day	5.00E-05	mg/kg-day	2.88E-08
				Endosulfan I	2.10E-08	ug/m <sup>3</sup>	1.20E-13	mg/kg-day	--	--	--	1.87E-12	mg/kg-day	6.00E-03	mg/kg-day	3.11E-10
				Endosulfan II	7.00E-09	ug/m <sup>3</sup>	4.01E-14	mg/kg-day	--	--	--	6.23E-13	mg/kg-day	6.00E-03	mg/kg-day	1.04E-10
				Ethylbenzene	4.38E-03	ug/m <sup>3</sup>	2.51E-08	mg/kg-day	--	--	--	3.90E-07	mg/kg-day	2.90E-01	mg/kg-day	1.35E-06
				Fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.91E-11	mg/kg-day	--	--	--	7.63E-10	mg/kg-day	4.00E-02	mg/kg-day	1.91E-08
				Fluorene	2.18E-05	ug/m <sup>3</sup>	1.25E-10	mg/kg-day	--	--	--	1.94E-09	mg/kg-day	4.00E-02	mg/kg-day	4.85E-08
				gamma-BHC (Lindane)	1.87E-08	ug/m <sup>3</sup>	1.07E-13	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.40E-13	1.67E-12	mg/kg-day	3.00E-04	mg/kg-day	5.57E-09
				gamma-Chlordane	4.05E-08	ug/m <sup>3</sup>	2.32E-13	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	8.13E-14	3.61E-12	mg/kg-day	2.00E-04	mg/kg-day	1.81E-08
				Heptachlor	2.94E-07	ug/m <sup>3</sup>	1.68E-12	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	7.67E-12	2.62E-11	mg/kg-day	5.00E-04	mg/kg-day	5.24E-08
				Isopropylbenzene	6.87E-01	ug/m <sup>3</sup>	3.94E-06	mg/kg-day	--	--	--	6.12E-05	mg/kg-day	1.10E-01	mg/kg-day	5.57E-04
				m,p-Xylene	1.54E-02	ug/m <sup>3</sup>	8.82E-08	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	2.90E-02	mg/kg-day	4.75E-05
				Methoxychlor	5.41E-08	ug/m <sup>3</sup>	3.10E-13	mg/kg-day	--	--	--	4.82E-12	mg/kg-day	5.00E-03	mg/kg-day	9.65E-10
				Naphthalene	1.13E-04	ug/m <sup>3</sup>	6.45E-10	mg/kg-day	--	--	--	1.00E-08	mg/kg-day	8.57E-04	mg/kg-day	1.17E-05
				n-Butylbenzene	5.41E-03	ug/m <sup>3</sup>	3.10E-08	mg/kg-day	--	--	--	4.82E-07	mg/kg-day	8.57E-04	mg/kg-day	5.62E-04
				n-Propylbenzene	6.10E-03	ug/m <sup>3</sup>	3.50E-08	mg/kg-day	--	--	--	5.44E-07	mg/kg-day	4.00E-02	mg/kg-day	1.36E-05
				Phenanthrene	5.55E-05	ug/m <sup>3</sup>	3.18E-10	mg/kg-day	--	--	--	4.94E-09	mg/kg-day	3.00E-01	mg/kg-day	1.65E-08
				p-Isopropyltoluene	6.87E-01	ug/m <sup>3</sup>	3.94E-06	mg/kg-day	--	--	--	6.12E-05	mg/kg-day	1.10E-01	mg/kg-day	5.57E-04
				Pyrene	7.39E-06	ug/m <sup>3</sup>	4.24E-11	mg/kg-day	--	--	--	6.59E-10	mg/kg-day	3.00E-02	mg/kg-day	2.20E-08
				sec-Butylbenzene	2.17E-04	ug/m <sup>3</sup>	1.25E-09	mg/kg-day	--	--	--	1.94E-08	mg/kg-day	4.00E-02	mg/kg-day	4.85E-07
				Tert-Butylbenzene	2.17E-02	ug/m <sup>3</sup>	1.24E-07	mg/kg-day	--	--	--	1.93E-06	mg/kg-day	4.00E-02	mg/kg-day	4.83E-05



TABLE H2-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	4.13E-08	mg/kg-day	--	--	--	6.43E-07	mg/kg-day	1.00E-02	mg/kg-day	6.43E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.41E-07	mg/kg-day	--	--	--	2.19E-06	mg/kg-day	1.00E-02	mg/kg-day	2.19E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.38E-08	mg/kg-day	--	--	--	2.14E-07	mg/kg-day	5.00E-02	mg/kg-day	4.28E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	7.16E-07	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	9.00E-02	mg/kg-day	1.24E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	9.92E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	6.74E-12	1.54E-09	mg/kg-day	1.14E-03	mg/kg-day	1.35E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.41E-09	mg/kg-day	--	--	--	6.88E-08	mg/kg-day	5.00E-02	mg/kg-day	1.37E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	3.03E-08	mg/kg-day	--	--	--	4.71E-07	mg/kg-day	3.00E-02	mg/kg-day	1.57E-05
				1,4-Dichlorobenzene	8.80E+00	mg/kg	1.87E-07	mg/kg-day	2.40E-02	(mg/kg-day)-1	4.50E-09	2.91E-06	mg/kg-day	3.00E-02	mg/kg-day	9.71E-05
				2,4-Dimethylphenol	2.10E-01	mg/kg	5.79E-09	mg/kg-day	--	--	--	9.00E-08	mg/kg-day	2.00E-02	mg/kg-day	4.50E-06
				2-Methylphenol	8.10E-02	mg/kg	2.23E-09	mg/kg-day	--	--	--	3.47E-08	mg/kg-day	5.00E-02	mg/kg-day	6.94E-07
				2-Methylnaphthalene	1.45E+00	mg/kg	3.99E-08	mg/kg-day	--	--	--	6.21E-07	mg/kg-day	4.00E-03	mg/kg-day	1.65E-04
				4,4-DDD	1.20E-03	mg/kg	3.31E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	7.93E-12	5.14E-10	mg/kg-day	5.00E-04	mg/kg-day	1.03E-06
				4,4-DDE	7.50E-02	mg/kg	2.07E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.03E-10	3.21E-08	mg/kg-day	5.00E-04	mg/kg-day	6.43E-05
				4,4-DDT	4.20E-02	mg/kg	1.16E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.93E-10	1.80E-08	mg/kg-day	5.00E-04	mg/kg-day	3.60E-05
				4-Methylphenol	2.70E-01	mg/kg	7.44E-09	mg/kg-day	--	--	--	1.16E-07	mg/kg-day	5.00E-03	mg/kg-day	2.31E-05
				4-Nitroaniline	6.20E-01	mg/kg	1.71E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.59E-10	2.66E-07	mg/kg-day	3.00E-03	mg/kg-day	8.85E-05
				4-Nitrophenol	4.20E-01	mg/kg	1.16E-08	mg/kg-day	--	--	--	1.80E-07	mg/kg-day	5.00E-04	mg/kg-day	3.60E-04
				Acenaphthene	3.47E+00	mg/kg	9.56E-08	mg/kg-day	--	--	--	1.49E-06	mg/kg-day	6.00E-02	mg/kg-day	2.48E-05
				Acenaphthylene	8.96E-02	mg/kg	2.47E-09	mg/kg-day	--	--	--	3.84E-08	mg/kg-day	6.00E-02	mg/kg-day	6.40E-07
				Aldrin	1.30E-02	mg/kg	3.58E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.09E-09	5.57E-09	mg/kg-day	3.00E-05	mg/kg-day	1.86E-04
				alpha-BHC	7.30E-04	mg/kg	2.01E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.27E-10	3.13E-10	mg/kg-day	5.00E-04	mg/kg-day	6.26E-07
				alpha-Chlordane	6.98E-03	mg/kg	1.92E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.73E-11	2.99E-09	mg/kg-day	5.00E-04	mg/kg-day	5.98E-06
				Aluminum	9.05E+03	mg/kg	2.49E-04	mg/kg-day	--	--	--	3.88E-03	mg/kg-day	1.00E+00	mg/kg-day	3.88E-03
				Anthracene	9.13E-01	mg/kg	2.52E-08	mg/kg-day	--	--	--	3.91E-07	mg/kg-day	3.00E-01	mg/kg-day	1.30E-06
				Antimony	2.72E+00	mg/kg	7.50E-08	mg/kg-day	--	--	--	1.17E-06	mg/kg-day	4.00E-04	mg/kg-day	2.92E-03
				Aroclor-1248	1.20E+00	mg/kg	3.31E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.61E-08	5.14E-07	mg/kg-day	2.00E-05	mg/kg-day	2.57E-02
				Aroclor-1254	4.38E-01	mg/kg	1.21E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.41E-08	1.88E-07	mg/kg-day	2.00E-05	mg/kg-day	9.38E-03
				Aroclor-1260	4.88E-01	mg/kg	1.35E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.69E-08	2.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.05E-02
				Aroclor-1268	2.72E-02	mg/kg	7.49E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.50E-09	1.16E-08	mg/kg-day	2.00E-05	mg/kg-day	5.82E-04
				Arsenic	9.53E+00	mg/kg	2.63E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.94E-07	4.08E-06	mg/kg-day	3.00E-04	mg/kg-day	1.36E-02
				Barium	6.94E+01	mg/kg	1.91E-06	mg/kg-day	--	--	--	2.98E-05	mg/kg-day	7.00E-02	mg/kg-day	4.25E-04
				Benzo(a)anthracene	4.21E+00	mg/kg	1.16E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.47E-08	1.80E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	3.87E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.83E-07	6.02E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	6.54E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.77E-08	1.02E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.78E-08	mg/kg-day	--	--	--	2.78E-07	mg/kg-day	3.00E-02	mg/kg-day	9.25E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	7.78E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	5.68E-09	1.21E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	6.28E-09	mg/kg-day	--	--	--	9.76E-08	mg/kg-day	2.00E-03	mg/kg-day	4.88E-05
				Beta-BHC	2.20E-03	mg/kg	6.06E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.09E-10	9.43E-10	mg/kg-day	2.00E-04	mg/kg-day	4.71E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.46E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.04E-09	2.27E-06	mg/kg-day	2.00E-02	mg/kg-day	1.13E-04
				Cadmium	8.65E+00	mg/kg	2.38E-07	mg/kg-day	--	--	--	3.71E-06	mg/kg-day	5.00E-04	mg/kg-day	7.41E-03
				Carbon disulfide	2.40E-04	mg/kg	6.61E-12	mg/kg-day	--	--	--	1.03E-10	mg/kg-day	1.00E-01	mg/kg-day	1.03E-09
				Chlorobenzene	1.10E-01	mg/kg	3.03E-09	mg/kg-day	--	--	--	4.71E-08	mg/kg-day	2.00E-02	mg/kg-day	2.36E-06
				Chromium	1.00E-02	mg/kg	2.75E-06	mg/kg-day	--	--	--	4.28E-05	mg/kg-day	1.50E+00	mg/kg-day	2.86E-05
				Chrysene	4.80E+00	mg/kg	1.32E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	9.65E-10	2.05E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.05E-07	mg/kg-day	--	--	--	3.19E-06	mg/kg-day	2.00E-02	mg/kg-day	1.59E-04
				Copper	6.01E+01	mg/kg	1.65E-06	mg/kg-day	--	--	--	2.57E-05	mg/kg-day	3.70E-02	mg/kg-day	6.96E-04
				Delta-BHC	8.40E-03	mg/kg	2.31E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	4.17E-10	3.60E-09	mg/kg-day	2.00E-04	mg/kg-day	1.80E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	7.59E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.54E-08	1.18E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E-01	mg/kg	3.58E-07	mg/kg-day	--	--	--	5.57E-06	mg/kg-day	2.00E-03	mg/kg-day	2.78E-03
				Dieldrin	4.89E-02	mg/kg	1.35E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.16E-08	2.10E-08	mg/kg-day	5.00E-05	mg/kg-day	4.19E-04
				Dimethylphthalate	3.60E-02	mg/kg	1.05E-09	mg/kg-day	--	--	--	1.63E-08	mg/kg-day	1.00E+01	mg/kg-day	1.63E-09

TABLE H2-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	6.34E-08	mg/kg-day	--	--	--	--	9.85E-07	mg/kg-day	1.00E-01	mg/kg-day	9.85E-06				
				Endosulfan I	2.30E-02	mg/kg	6.34E-10	mg/kg-day	--	--	--	--	9.85E-09	mg/kg-day	6.00E-03	mg/kg-day	1.64E-06				
				Endosulfan II	2.34E-02	mg/kg	6.44E-10	mg/kg-day	--	--	--	--	1.00E-08	mg/kg-day	6.00E-03	mg/kg-day	1.67E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	1.18E-09	mg/kg-day	--	--	--	--	1.84E-08	mg/kg-day	6.00E-03	mg/kg-day	3.07E-06				
				Endrin aldehyde	6.30E-02	mg/kg	1.74E-09	mg/kg-day	--	--	--	--	2.70E-08	mg/kg-day	3.00E-04	mg/kg-day	9.00E-05				
				Endrin Ketone	1.00E-02	mg/kg	2.76E-10	mg/kg-day	--	--	--	--	4.28E-09	mg/kg-day	3.00E-04	mg/kg-day	1.43E-05				
				Fluoranthene	2.23E+01	mg/kg	6.13E-07	mg/kg-day	--	--	--	--	9.53E-06	mg/kg-day	4.00E-02	mg/kg-day	2.38E-04				
				Fluorene	2.53E+00	mg/kg	6.96E-08	mg/kg-day	--	--	--	--	1.08E-06	mg/kg-day	4.00E-02	mg/kg-day	2.71E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	7.16E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	9.31E-11	1.11E-09	mg/kg-day	3.00E-04	mg/kg-day	3.71E-06					
				gamma-Chlordane	1.27E-02	mg/kg	3.50E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.22E-10	5.44E-09	mg/kg-day	5.00E-04	mg/kg-day	1.09E-05					
				Heptachlor	6.80E-03	mg/kg	1.80E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	8.55E-10	2.96E-09	mg/kg-day	5.00E-04	mg/kg-day	5.91E-06					
				Heptachlor Epoxide	9.88E-03	mg/kg	2.72E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.47E-09	4.22E-09	mg/kg-day	1.30E-05	mg/kg-day	3.25E-04					
				Indeno(1,2,3-cd)pyrene	4.87E-01	mg/kg	1.37E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.00E-08	2.13E-07	mg/kg-day	--	--	--					
				Iron	3.68E+04	mg/kg	1.01E-03	mg/kg-day	--	--	--	1.58E-02	mg/kg-day	3.00E-01	mg/kg-day	5.25E-02					
				Isophorone	2.00E-01	mg/kg	5.51E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.23E-12	8.57E-08	mg/kg-day	2.00E-01	mg/kg-day	4.28E-07					
				Lead	2.39E+03	mg/kg	6.58E-05	mg/kg-day	--	--	--	1.02E-03	mg/kg-day	--	--	--					
				Manganese	3.04E+02	mg/kg	8.38E-06	mg/kg-day	--	--	--	1.30E-04	mg/kg-day	2.40E-02	mg/kg-day	5.43E-03					
				Mercury	2.65E-01	mg/kg	7.31E-09	mg/kg-day	--	--	--	1.14E-07	mg/kg-day	3.00E-04	mg/kg-day	3.79E-04					
				Methoxychlor	1.20E-01	mg/kg	3.31E-09	mg/kg-day	--	--	--	5.14E-08	mg/kg-day	5.00E-03	mg/kg-day	1.03E-05					
				Methylene chloride	2.40E-03	mg/kg	6.61E-11	mg/kg-day	7.50E-03	(mg/kg-day)-1	4.96E-13	1.03E-09	mg/kg-day	5.00E-02	mg/kg-day	1.71E-08					
				Molybdenum	2.18E+00	mg/kg	6.00E-08	mg/kg-day	--	--	--	9.34E-07	mg/kg-day	5.00E-03	mg/kg-day	1.87E-04					
				Naphthalene	1.30E+01	mg/kg	3.58E-07	mg/kg-day	--	--	--	5.57E-06	mg/kg-day	2.00E-02	mg/kg-day	2.78E-04					
				Nickel	3.89E+01	mg/kg	1.07E-06	mg/kg-day	--	--	--	1.67E-05	mg/kg-day	2.00E-02	mg/kg-day	8.34E-04					
				Phenanthrene	1.17E+01	mg/kg	3.22E-07	mg/kg-day	--	--	--	5.01E-06	mg/kg-day	3.00E-01	mg/kg-day	1.67E-05					
				Phenol	5.80E-01	mg/kg	1.60E-08	mg/kg-day	--	--	--	2.48E-07	mg/kg-day	3.00E-01	mg/kg-day	8.28E-07					
				p-Isopropyltoluene	1.10E-01	mg/kg	3.03E-09	mg/kg-day	--	--	--	4.71E-08	mg/kg-day	1.00E-01	mg/kg-day	4.71E-07					
				Pyrene	2.03E+01	mg/kg	5.60E-07	mg/kg-day	--	--	--	8.72E-06	mg/kg-day	3.00E-02	mg/kg-day	2.91E-04					
				sec-Butylbenzene	7.10E-02	mg/kg	1.96E-09	mg/kg-day	--	--	--	3.04E-08	mg/kg-day	4.00E-02	mg/kg-day	7.60E-07					
				Selenium	2.84E-01	mg/kg	7.81E-09	mg/kg-day	--	--	--	1.22E-07	mg/kg-day	5.00E-03	mg/kg-day	2.43E-05					
				Silver	9.80E-01	mg/kg	2.70E-08	mg/kg-day	--	--	--	4.20E-07	mg/kg-day	5.00E-03	mg/kg-day	8.40E-05					
				Technical Chlordane	5.41E-01	mg/kg	1.49E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.21E-09	2.32E-07	mg/kg-day	5.00E-04	mg/kg-day	4.63E-04					
				Thallium	4.83E-01	mg/kg	1.33E-08	mg/kg-day	--	--	--	2.07E-07	mg/kg-day	6.60E-05	mg/kg-day	3.13E-03					
				Toluene	4.30E-04	mg/kg	1.18E-11	mg/kg-day	--	--	--	1.84E-10	mg/kg-day	8.00E-02	mg/kg-day	2.30E-09					
				Vanadium	3.37E+01	mg/kg	9.28E-07	mg/kg-day	--	--	--	1.44E-05	mg/kg-day	1.00E-03	mg/kg-day	1.44E-02					
				Zinc	3.32E+02	mg/kg	9.14E-06	mg/kg-day	--	--	--	1.42E-04	mg/kg-day	3.00E-01	mg/kg-day	4.74E-04					
				<b>Exposure Route Total</b>																	
							Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	5.46E-09	mg/kg-day	--	--	--	--	8.48E-08	mg/kg-day	1.00E-02	mg/kg-day	8.48E-06
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.85E-09	mg/kg-day	--	--	--	--	2.88E-08	mg/kg-day	1.00E-02	mg/kg-day	2.88E-06
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.82E-10	mg/kg-day	--	--	--	--	2.83E-09	mg/kg-day	5.00E-02	mg/kg-day	5.66E-08
								1,2-Dichlorobenzene	2.60E-01	mg/kg	9.48E-09	mg/kg-day	--	--	--	--	1.47E-07	mg/kg-day	9.00E-02	mg/kg-day	1.63E-06
								1,2-Dichloropropane	3.60E-03	mg/kg	1.31E-12	mg/kg-day	6.80E-02	(mg/kg-day)-1	8.90E-14	2.04E-11	mg/kg-day	1.14E-03	mg/kg-day	1.79E-08	
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.82E-11	mg/kg-day	--	--	--	--	9.05E-10	mg/kg-day	5.00E-02	mg/kg-day	1.81E-08				
				1,3-Dichlorobenzene	1.10E+00	mg/kg	4.00E-10	mg/kg-day	--	--	--	--	6.22E-09	mg/kg-day	3.00E-02	mg/kg-day	2.07E-07				
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
				2,4-Dimethylphenol	2.10E-01	mg/kg	7.64E-11	mg/kg-day	--	--	--	--	1.19E-09	mg/kg-day	2.00E-02	mg/kg-day	5.94E-08				
				2-Methylphenol	8.10E-02	mg/kg	2.95E-10	mg/kg-day	--	--	--	--	4.58E-09	mg/kg-day	5.00E-02	mg/kg-day	9.16E-08				
				2-Methylnaphthalene	1.45E+00	mg/kg	5.27E-10	mg/kg-day	--	--	--	--	8.20E-09	mg/kg-day	4.00E-03	mg/kg-day	2.05E-06				
				4,4'-DDD	1.20E-03	mg/kg	4.36E-13	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.05E-13	6.79E-12	mg/kg-day	5.00E-04	mg/kg-day	1.36E-08					
				4,4'-DDE	7.50E-02	mg/kg	2.73E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.27E-12	4.24E-10	mg/kg-day	5.00E-04	mg/kg-day	8.48E-07					
				4,4'-DDT	4.20E-02	mg/kg	4.58E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.56E-11	7.12E-10	mg/kg-day	5.00E-04	mg/kg-day	1.42E-06					
				4-Methylphenol	2.70E-01	mg/kg	9.82E-10	mg/kg-day	--	--	--	--	1.53E-08	mg/kg-day	5.00E-03	mg/kg-day	3.05E-06				

TABLE H2-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	2.25E-09	mg/kg-day	2.10E-02	--	--	4.74E-11	3.51E-08	mg/kg-day	3.00E-03	mg/kg-day	1.17E-05
				4-Nitrophenol	4.20E-01	mg/kg	1.53E-09	mg/kg-day	--	--	--	--	2.38E-08	mg/kg-day	5.00E-04	mg/kg-day	4.75E-05
				Acenaphthene	3.47E+00	mg/kg	1.64E-08	mg/kg-day	--	--	--	--	2.55E-07	mg/kg-day	6.00E-02	mg/kg-day	4.25E-06
				Acenaphthylene	8.96E-02	mg/kg	3.26E-11	mg/kg-day	--	--	--	--	5.07E-10	mg/kg-day	6.00E-02	mg/kg-day	8.44E-09
				Aldrin	1.30E-02	mg/kg	4.73E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.04E-10	7.35E-10	mg/kg-day	3.00E-05	mg/kg-day	2.45E-05	
				alpha-BHC	7.30E-04	mg/kg	2.65E-13	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.67E-12	4.13E-12	mg/kg-day	5.00E-04	mg/kg-day	8.26E-09	
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--	
				Aluminum	9.05E+03	mg/kg	3.29E-07	mg/kg-day	--	--	--	--	5.12E-06	mg/kg-day	1.00E+00	mg/kg-day	5.12E-06
				Anthracene	9.13E-01	mg/kg	4.32E-09	mg/kg-day	--	--	--	--	6.71E-08	mg/kg-day	3.00E-01	mg/kg-day	2.24E-07
				Antimony	2.72E+00	mg/kg	9.91E-11	mg/kg-day	--	--	--	--	1.54E-09	mg/kg-day	4.00E-04	mg/kg-day	3.85E-06
				Aroclor-1248	1.20E+00	mg/kg	6.11E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.22E-08	9.50E-08	mg/kg-day	2.00E-05	mg/kg-day	4.75E-03	
				Aroclor-1254	4.38E-01	mg/kg	2.23E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.46E-09	3.47E-08	mg/kg-day	2.00E-05	mg/kg-day	1.73E-03	
				Aroclor-1260	4.88E-01	mg/kg	2.49E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.97E-09	3.87E-08	mg/kg-day	2.00E-05	mg/kg-day	1.93E-03	
				Aroclor-1268	2.72E-02	mg/kg	1.38E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.77E-10	2.15E-09	mg/kg-day	2.00E-05	mg/kg-day	1.08E-04	
				Arsenic	9.53E+00	mg/kg	1.04E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.66E-08	1.62E-07	mg/kg-day	3.00E-04	mg/kg-day	5.39E-04	
				Barium	6.94E+01	mg/kg	2.53E-09	mg/kg-day	--	--	--	--	3.93E-08	mg/kg-day	7.00E-02	mg/kg-day	5.61E-07
				Benzo(a)anthracene	4.21E+00	mg/kg	1.99E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.45E-08	3.10E-07	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.41E+00	mg/kg	6.65E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.85E-08	1.03E-07	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.12E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.19E-09	1.74E-07	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	3.06E-09	mg/kg-day	--	--	--	4.76E-08	mg/kg-day	3.00E-02	mg/kg-day	1.59E-06	
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.34E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	9.75E-10	2.08E-07	mg/kg-day	--	--	--	
				Beryllium	2.28E-01	mg/kg	8.28E-12	mg/kg-day	--	--	--	1.29E-10	mg/kg-day	2.00E-03	mg/kg-day	6.44E-08	
				Beta-BHC	2.20E-03	mg/kg	8.00E-13	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.44E-12	1.24E-11	mg/kg-day	2.00E-04	mg/kg-day	6.22E-08	
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.93E-09	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.70E-11	2.99E-08	mg/kg-day	2.00E-02	mg/kg-day	1.50E-06	
				Cadmium	8.65E+00	mg/kg	3.14E-10	mg/kg-day	--	--	--	4.89E-09	mg/kg-day	5.00E-04	mg/kg-day	9.78E-06	
				Carbon disulfide	2.40E-04	mg/kg	2.18E-12	mg/kg-day	--	--	--	3.39E-11	mg/kg-day	1.00E-01	mg/kg-day	3.39E-10	
				Chlorobenzene	1.10E-01	mg/kg	4.00E-11	mg/kg-day	--	--	--	6.22E-10	mg/kg-day	2.00E-02	mg/kg-day	3.11E-08	
				Chromium	1.00E+02	mg/kg	3.64E-09	mg/kg-day	--	--	--	5.65E-08	mg/kg-day	1.50E+00	mg/kg-day	3.77E-08	
				Chrysene	4.80E+00	mg/kg	2.27E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.66E-10	3.53E-07	mg/kg-day	--	--	--	
				Cobalt	7.44E+00	mg/kg	2.71E-10	mg/kg-day	--	--	--	4.21E-09	mg/kg-day	2.00E-02	mg/kg-day	2.10E-07	
				Copper	6.01E+01	mg/kg	2.18E-09	mg/kg-day	--	--	--	3.40E-08	mg/kg-day	3.70E-02	mg/kg-day	9.18E-07	
				Delta-BHC	8.40E-03	mg/kg	1.53E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.75E-11	2.38E-10	mg/kg-day	2.00E-04	mg/kg-day	1.19E-06	
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.30E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	9.51E-09	2.03E-08	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	4.73E-09	mg/kg-day	--	--	--	7.35E-08	mg/kg-day	2.00E-03	mg/kg-day	3.68E-05	
				Dieldrin	4.89E-02	mg/kg	1.78E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.85E-10	2.77E-10	mg/kg-day	5.00E-05	mg/kg-day	5.53E-06	
				Dimethylphthalate	3.80E-02	mg/kg	1.38E-11	mg/kg-day	--	--	--	2.15E-10	mg/kg-day	1.00E+01	mg/kg-day	2.15E-11	
				di-n-Butylphthalate	2.30E+00	mg/kg	8.36E-10	mg/kg-day	--	--	--	1.30E-08	mg/kg-day	1.00E-01	mg/kg-day	1.30E-07	
				Endosulfan I	2.30E-02	mg/kg	4.18E-11	mg/kg-day	--	--	--	6.50E-10	mg/kg-day	6.00E-03	mg/kg-day	1.08E-07	
				Endosulfan II	2.34E-02	mg/kg	4.25E-11	mg/kg-day	--	--	--	6.61E-10	mg/kg-day	6.00E-03	mg/kg-day	1.10E-07	
				Endosulfan Sulfate	4.30E-02	mg/kg	7.82E-11	mg/kg-day	--	--	--	1.22E-09	mg/kg-day	6.00E-03	mg/kg-day	2.03E-07	
Endrin aldehyde	6.30E-02	mg/kg	1.15E-10	mg/kg-day	--	--	--	1.78E-09	mg/kg-day	3.00E-04	mg/kg-day	5.94E-06					
Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--					
Fluoranthene	2.23E+01	mg/kg	1.05E-07	mg/kg-day	--	--	--	1.64E-06	mg/kg-day	4.00E-02	mg/kg-day	4.09E-05					
Fluorene	2.53E+00	mg/kg	1.19E-08	mg/kg-day	--	--	--	1.86E-07	mg/kg-day	4.00E-02	mg/kg-day	4.65E-06					
gamma-BHC (Lindane)	2.60E-03	mg/kg	3.78E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.92E-12	5.88E-11	mg/kg-day	3.00E-04	mg/kg-day	1.96E-07					
gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--					
Heptachlor	6.90E-03	mg/kg	2.51E-12	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.13E-11	3.90E-11	mg/kg-day	5.00E-04	mg/kg-day	7.80E-08					
Heptachlor Epoxide	9.86E-03	mg/kg	3.58E-12	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.26E-11	5.57E-11	mg/kg-day	1.30E-05	mg/kg-day	4.29E-06					
Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	2.35E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.72E-09	3.65E-08	mg/kg-day	--	--	--					
Iron	3.68E+04	mg/kg	1.34E-06	mg/kg-day	--	--	--	2.08E-05	mg/kg-day	3.00E-01	mg/kg-day	6.93E-05					
Isophorone	2.00E-01	mg/kg	7.27E-10	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.91E-13	1.13E-08	mg/kg-day	2.00E-01	mg/kg-day	5.66E-08					

TABLE H2-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	8.69E-08	mg/kg-day	--	--	--	--	1.35E-06	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	1.11E-08	mg/kg-day	--	--	--	--	1.72E-07	mg/kg-day	2.40E-02	mg/kg-day	7.17E-06
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	4.36E-11	mg/kg-day	--	--	--	--	6.79E-10	mg/kg-day	5.00E-03	mg/kg-day	1.36E-07
				Methylene chloride	2.40E-03	mg/kg	8.73E-13	mg/kg-day	7.50E+03	(mg/kg-day) <sup>-1</sup>	6.55E-15	1.36E-11	mg/kg-day	6.00E-02	mg/kg-day	2.26E-10	
				Molybdenum	2.18E+00	mg/kg	7.93E-11	mg/kg-day	--	--	--	1.23E-09	mg/kg-day	5.00E-03	mg/kg-day	2.47E-07	
				Naphthalene	1.30E+01	mg/kg	6.15E-08	mg/kg-day	--	--	--	9.56E-07	mg/kg-day	2.00E-02	mg/kg-day	4.78E-05	
				Nickel	3.89E+01	mg/kg	1.42E-09	mg/kg-day	--	--	--	2.20E-08	mg/kg-day	2.00E-02	mg/kg-day	1.10E-06	
				Phenanthrene	1.17E+01	mg/kg	4.25E-09	mg/kg-day	--	--	--	6.61E-08	mg/kg-day	3.00E-01	mg/kg-day	2.20E-07	
				Phenol	5.80E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	3.00E-01	mg/kg-day	1.09E-07	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	
				Pyrene	2.03E+01	mg/kg	9.62E-08	mg/kg-day	--	--	--	1.50E-06	mg/kg-day	3.00E-02	mg/kg-day	4.99E-05	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	
				Selenium	2.84E-01	mg/kg	1.03E-11	mg/kg-day	--	--	--	1.60E-10	mg/kg-day	5.00E-03	mg/kg-day	3.21E-08	
				Silver	9.80E-01	mg/kg	3.56E-11	mg/kg-day	--	--	--	5.54E-10	mg/kg-day	5.00E-03	mg/kg-day	1.11E-07	
				Technical Chlordane	5.41E-01	mg/kg	7.87E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.75E-10	1.22E-08	mg/kg-day	5.00E-04	mg/kg-day	2.45E-05	
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--	
				Toluene	4.30E-04	mg/kg	1.56E-13	mg/kg-day	--	--	--	2.43E-12	mg/kg-day	8.00E-02	mg/kg-day	3.04E-11	
				Vanadium	3.37E+01	mg/kg	1.22E-09	mg/kg-day	--	--	--	1.90E-08	mg/kg-day	1.00E-03	mg/kg-day	1.90E-05	
				Zinc	3.32E+02	mg/kg	1.21E-08	mg/kg-day	--	--	--	1.88E-07	mg/kg-day	3.00E-01	mg/kg-day	6.25E-07	
				Exposure Point Total										1.23E-07			
Exposure Medium Total										1.17E-08					1.69E-01		
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	9.12E-13	mg/kg-day	--	--	--	--	1.42E-11	mg/kg-day	2.00E-02	mg/kg-day	7.09E-10	
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.52E-13	mg/kg-day	--	--	--	--	5.47E-12	mg/kg-day	--	--	--	
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	5.21E-15	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	1.25E-15	8.10E-14	mg/kg-day	5.00E-04	mg/kg-day	1.62E-10		
			4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	1.82E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	6.20E-14	2.84E-12	mg/kg-day	5.00E-04	mg/kg-day	5.67E-09		
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.17E-12	mg/kg-day	--	--	--	1.82E-11	mg/kg-day	5.00E-03	mg/kg-day	3.65E-09		
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.69E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	5.65E-14	4.19E-11	mg/kg-day	1.00E-03	mg/kg-day	4.19E-08		
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.82E-12	mg/kg-day	--	--	--	2.84E-11	mg/kg-day	5.70E-04	mg/kg-day	4.97E-08		
			Aluminum	6.86E-06	mg/m <sup>3</sup>	3.93E-08	mg/kg-day	--	--	--	6.11E-07	mg/kg-day	1.43E-03	mg/kg-day	4.27E-04		
			Antimony	2.06E-09	mg/m <sup>3</sup>	1.18E-11	mg/kg-day	--	--	--	1.84E-10	mg/kg-day	--	--	--		
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	5.21E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.04E-11	8.10E-11	mg/kg-day	2.00E-05	mg/kg-day	4.05E-06		
			Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	1.90E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.80E-12	2.95E-11	mg/kg-day	2.00E-05	mg/kg-day	1.48E-06		
			Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	2.12E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.24E-12	3.30E-11	mg/kg-day	2.00E-05	mg/kg-day	1.65E-06		
			Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	1.18E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.36E-13	1.84E-12	mg/kg-day	2.00E-05	mg/kg-day	9.18E-08		
			Arsenic	7.22E-09	mg/m <sup>3</sup>	4.14E-11	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	6.21E-10	6.44E-10	mg/kg-day	--	--	--		
			Barium	5.26E-08	mg/m <sup>3</sup>	3.02E-10	mg/kg-day	--	--	--	4.69E-09	mg/kg-day	1.40E-04	mg/kg-day	3.35E-05		
			Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	1.83E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.34E-11	2.84E-10	mg/kg-day	--	--	--		
			Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	6.10E-12	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	4.46E-11	9.49E-11	mg/kg-day	--	--	--		
			Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	2.81E-12	mg/kg-day	--	--	--	4.37E-11	mg/kg-day	3.00E-02	mg/kg-day	1.46E-09		
			Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	1.23E-11	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	8.95E-13	1.91E-10	mg/kg-day	--	--	--		
			Beryllium	1.73E-10	mg/m <sup>3</sup>	9.89E-13	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	8.31E-12	1.54E-11	mg/kg-day	5.71E-06	mg/kg-day	2.69E-06		
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	9.55E-15	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	1.77E-14	1.49E-13	mg/kg-day	2.00E-04	mg/kg-day	7.43E-10		
			bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	2.30E-11	mg/kg-day	1.40E+02	(mg/kg-day) <sup>-1</sup>	3.22E-13	3.57E-10	mg/kg-day	2.00E-02	mg/kg-day	1.78E-08		
			Cadmium	6.55E-09	mg/m <sup>3</sup>	3.75E-11	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	2.37E-10	5.84E-10	mg/kg-day	--	--	--		
			Chromium	7.57E-08	mg/m <sup>3</sup>	4.34E-10	mg/kg-day	--	--	--	6.75E-09	mg/kg-day	--	--	--		
			Cobalt	5.64E-09	mg/m <sup>3</sup>	3.23E-11	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	3.17E-10	5.03E-10	mg/kg-day	5.71E-06	mg/kg-day	8.80E-05		
			Copper	4.55E-08	mg/m <sup>3</sup>	2.61E-10	mg/kg-day	--	--	--	4.06E-09	mg/kg-day	--	--	--		
			Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	1.20E-12	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.86E-11	1.86E-11	mg/kg-day	--	--	--		
Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.65E-13	mg/kg-day	--	--	--	2.57E-12	mg/kg-day	1.00E+01	mg/kg-day	2.57E-13					

TABLE H2-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	9.99E-12	mg/kg-day	--	--	--	--	1.55E-10	mg/kg-day	1.00E-01	mg/kg-day	1.55E-09			
				Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	2.74E-13	mg/kg-day	--	--	--	--	4.25E-12	mg/kg-day	3.00E-04	mg/kg-day	1.42E-08			
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	4.34E-14	mg/kg-day	--	--	--	--	6.75E-13	mg/kg-day	3.00E-04	mg/kg-day	2.25E-09			
				Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	4.28E-14	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.89E-13	6.66E-13	mg/kg-day	1.30E-05	mg/kg-day	5.12E-08				
				Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	2.16E-12	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.58E-12	3.36E-11	mg/kg-day	--	--	--				
				Iron	2.79E-05	mg/m <sup>3</sup>	1.60E-07	mg/kg-day	--	--	--	2.48E-06	mg/kg-day	--	--	--				
				Isophorone	1.52E-10	mg/m <sup>3</sup>	8.68E-13	mg/kg-day	9.50E-04	(mg/kg-day)-1	8.25E-16	1.35E-11	mg/kg-day	2.00E-01	mg/kg-day	6.75E-11				
				Lead	1.81E-06	mg/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	1.61E-07	mg/kg-day	--	--	--				
				Manganese	2.31E-07	mg/m <sup>3</sup>	1.32E-09	mg/kg-day	--	--	--	2.05E-08	mg/kg-day	1.43E-05	mg/kg-day	1.44E-03				
				Mercury	2.01E-10	mg/m <sup>3</sup>	1.15E-12	mg/kg-day	--	--	--	1.79E-11	mg/kg-day	8.60E-05	mg/kg-day	2.08E-07				
				Nickel	2.95E-08	mg/m <sup>3</sup>	1.69E-10	mg/kg-day	--	--	--	2.63E-09	mg/kg-day	--	--	--				
				Phenol	4.39E-10	mg/m <sup>3</sup>	2.52E-12	mg/kg-day	--	--	--	3.82E-11	mg/kg-day	3.00E-01	mg/kg-day	1.31E-10				
				Selenium	2.15E-10	mg/m <sup>3</sup>	1.23E-12	mg/kg-day	--	--	--	1.91E-11	mg/kg-day	--	--	--				
				Silver	7.42E-10	mg/m <sup>3</sup>	4.25E-12	mg/kg-day	--	--	--	6.62E-11	mg/kg-day	--	--	--				
				Thallium	3.66E-10	mg/m <sup>3</sup>	2.10E-12	mg/kg-day	--	--	--	3.26E-11	mg/kg-day	--	--	--				
				Vanadium	2.55E-08	mg/m <sup>3</sup>	1.46E-10	mg/kg-day	--	--	--	2.27E-09	mg/kg-day	--	--	--				
				Zinc	2.51E-07	mg/m <sup>3</sup>	1.44E-09	mg/kg-day	--	--	--	2.24E-08	mg/kg-day	--	--	--				
				Exposure Route Total										1.27E-09			2.00E-03			
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.98E-07	mg/kg-day	--	--	--	9.31E-06	mg/kg-day	1.10E-03	mg/kg-day	8.46E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	2.03E-06	mg/kg-day	--	--	--	3.16E-05	mg/kg-day	1.10E-03	mg/kg-day	2.88E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.72E-07	mg/kg-day	--	--	--	1.04E-05	mg/kg-day	1.71E-03	mg/kg-day	6.09E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	3.05E-05	mg/kg-day	--	--	--	4.74E-04	mg/kg-day	5.70E-02	mg/kg-day	8.32E-03
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.64E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.12E-09	2.55E-07	mg/kg-day	1.14E-03	mg/kg-day	2.24E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	2.09E-07	mg/kg-day	--	--	--	3.26E-06	mg/kg-day	1.71E-03	mg/kg-day	1.90E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	9.33E-07	mg/kg-day	--	--	--	1.45E-05	mg/kg-day	3.00E-02	mg/kg-day	4.84E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.95E-06	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.97E-07	1.39E-04	mg/kg-day	2.30E-01	mg/kg-day	6.05E-04
								2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	3.68E-07	mg/kg-day	--	--	--	5.72E-06	mg/kg-day	5.00E-02	mg/kg-day	1.14E-04
4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	5.06E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.72E-11	7.88E-10	mg/kg-day	5.00E-04	mg/kg-day	1.58E-06				
Acenaphthene	4.77E-05	mg/m <sup>3</sup>	2.73E-07					mg/kg-day	--	--	--	4.25E-06	mg/kg-day	6.00E-02	mg/kg-day	7.08E-05				
Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	7.05E-09					mg/kg-day	--	--	--	1.10E-07	mg/kg-day	6.00E-02	mg/kg-day	1.83E-06				
Aldrin	5.63E-09	mg/m <sup>3</sup>	3.23E-11					mg/kg-day	1.70E+01	(mg/kg-day)-1	5.49E-10	5.02E-10	mg/kg-day	3.00E-05	mg/kg-day	1.67E-05				
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	2.08E-11					mg/kg-day	6.30E+00	(mg/kg-day)-1	1.31E-10	3.24E-10	mg/kg-day	5.00E-04	mg/kg-day	6.48E-07				
alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	3.96E-11					mg/kg-day	3.50E-01	(mg/kg-day)-1	1.39E-11	6.16E-10	mg/kg-day	2.00E-04	mg/kg-day	3.08E-06				
Anthracene	1.25E-05	mg/m <sup>3</sup>	7.18E-08					mg/kg-day	--	--	--	1.12E-06	mg/kg-day	3.00E-01	mg/kg-day	3.72E-06				
Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	8.79E-09					mg/kg-day	7.30E-01	(mg/kg-day)-1	6.42E-09	1.37E-07	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.59E-09					mg/kg-day	--	--	--	4.03E-08	mg/kg-day	2.00E-01	mg/kg-day	2.02E-07				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.97E-07					mg/kg-day	--	--	--	4.61E-06	mg/kg-day	1.70E-02	mg/kg-day	2.71E-04				
Chrysene	5.27E-06	mg/m <sup>3</sup>	3.02E-08					mg/kg-day	7.30E-03	(mg/kg-day)-1	2.21E-10	4.70E-07	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.40E-10					mg/kg-day	1.86E+00	(mg/kg-day)-1	4.45E-10	3.73E-09	mg/kg-day	2.00E-04	mg/kg-day	1.87E-05				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.57E-07					mg/kg-day	--	--	--	4.00E-06	mg/kg-day	2.00E-03	mg/kg-day	2.00E-03				
Dieldrin	6.58E-08	mg/m <sup>3</sup>	3.77E-10					mg/kg-day	1.60E+01	(mg/kg-day)-1	6.03E-09	5.86E-09	mg/kg-day	5.00E-05	mg/kg-day	1.17E-04				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.62E-10					mg/kg-day	--	--	--	7.18E-09	mg/kg-day	6.00E-03	mg/kg-day	1.20E-06				
Endosulfan II	8.19E-08	mg/m <sup>3</sup>	4.69E-10					mg/kg-day	--	--	--	7.29E-09	mg/kg-day	6.00E-03	mg/kg-day	1.22E-06				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	8.63E-10					mg/kg-day	--	--	--	1.34E-08	mg/kg-day	6.00E-03	mg/kg-day	2.24E-06				
Fluoranthene	1.44E-05	mg/m <sup>3</sup>	8.24E-08					mg/kg-day	--	--	--	1.28E-06	mg/kg-day	4.00E-02	mg/kg-day	3.21E-05				
Fluorene	1.48E-05	mg/m <sup>3</sup>	8.48E-08	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	4.00E-02	mg/kg-day	3.30E-05								
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	9.14E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.19E-10	1.42E-09	mg/kg-day	3.00E-04	mg/kg-day	4.74E-06								
gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	7.20E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.52E-11	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.60E-06								
Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.94E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	8.81E-09	3.01E-08	mg/kg-day	5.00E-04	mg/kg-day	6.02E-05								
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.95E-10	mg/kg-day	--	--	--	7.69E-09	mg/kg-day	5.00E-03	mg/kg-day	1.54E-06								
Naphthalene	6.99E-04	mg/m <sup>3</sup>	4.01E-06	mg/kg-day	--	--	--	6.23E-05	mg/kg-day	8.57E-04	mg/kg-day	7.27E-02								

**TABLE H2-7.2**  
**EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	1.60E-04	mg/m <sup>3</sup>	9.19E-07	mg/kg-day	--	--	--	--	1.43E-05	mg/kg-day	3.00E-01	mg/kg-day	4.76E-05			
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.10E-06	mg/kg-day	--	--	--	--	1.71E-05	mg/kg-day	1.10E-01	mg/kg-day	1.55E-04			
				Pyrene	1.56E-05	mg/m <sup>3</sup>	8.92E-08	mg/kg-day	--	--	--	--	1.39E-06	mg/kg-day	3.00E-02	mg/kg-day	4.62E-05			
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.61E-07	mg/kg-day	--	--	--	--	2.50E-06	mg/kg-day	4.00E-02	mg/kg-day	6.26E-05			
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	3.07E-09	mg/kg-day	3.50E-04	(mg/kg-day)-1	1.07E-12	--	4.77E-08	mg/kg-day	2.00E-04	mg/kg-day	2.39E-04			
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.79E-09	mg/kg-day	--	--	--	--	2.78E-08	mg/kg-day	1.43E+00	mg/kg-day	1.95E-08			
				Exposure Route Total																
				Exposure Point Total																
				Indoor Air (Vapor Intrusion)		Inhalation (Volatiles)	1,2,3-Trichlorobenzene	3.99E+00	(a) ug/m <sup>3</sup>	2.29E-05	mg/kg-day	--	--	--	--	3.55E-04	mg/kg-day	1.10E-03	mg/kg-day	3.23E-01
							1,2,4-Trichlorobenzene	1.36E+01	(a) ug/m <sup>3</sup>	7.77E-05	mg/kg-day	--	--	--	--	1.21E-03	mg/kg-day	1.10E-03	mg/kg-day	1.10E+00
							1,2,4-Trimethylbenzene	1.33E+00	(a) ug/m <sup>3</sup>	7.62E-06	mg/kg-day	--	--	--	--	1.18E-04	mg/kg-day	1.71E-03	mg/kg-day	6.91E-02
							1,2-Dichlorobenzene	6.91E+01	(a) ug/m <sup>3</sup>	3.96E-04	mg/kg-day	--	--	--	--	6.16E-03	mg/kg-day	5.70E-02	mg/kg-day	1.08E-01
							1,2-Dichloropropane	9.57E-03	(a) ug/m <sup>3</sup>	5.49E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	3.73E-09	--	8.53E-07	mg/kg-day	1.14E-03	mg/kg-day	7.48E-04
							1,3,5-Trimethylbenzene	4.25E-01	(a) ug/m <sup>3</sup>	2.44E-06	mg/kg-day	--	--	--	--	3.79E-05	mg/kg-day	1.71E-03	mg/kg-day	2.21E-02
							1,3-Dichlorobenzene	2.93E+00	(a) ug/m <sup>3</sup>	1.68E-05	mg/kg-day	--	--	--	--	2.61E-04	mg/kg-day	3.00E-02	mg/kg-day	8.69E-03
		1,4-Dichlorobenzene	1.81E+01	(a) ug/m <sup>3</sup>	1.04E-04		mg/kg-day	2.20E-02	(mg/kg-day)-1	2.28E-06	--	1.61E-03	mg/kg-day	2.30E-01	mg/kg-day	7.01E-03				
		2-Methylnaphthalene	1.96E+00	(a) ug/m <sup>3</sup>	1.12E-05		mg/kg-day	--	--	--	--	1.75E-04	mg/kg-day	5.00E-02	mg/kg-day	3.50E-03				
		4,4'-DDE	2.42E-06	(a) ug/m <sup>3</sup>	1.39E-11		mg/kg-day	3.40E-01	(mg/kg-day)-1	4.72E-12	--	2.16E-04	mg/kg-day	5.00E-04	mg/kg-day	4.32E-07				
		Acenaphthene	6.79E-01	(a) ug/m <sup>3</sup>	3.89E-06		mg/kg-day	--	--	--	--	6.05E-05	mg/kg-day	6.00E-02	mg/kg-day	1.01E-03				
		Acenaphthylene	1.75E-02	(a) ug/m <sup>3</sup>	1.00E-07		mg/kg-day	--	--	--	--	1.58E-06	mg/kg-day	6.00E-02	mg/kg-day	2.60E-05				
		Aldrin	6.43E-06	(a) ug/m <sup>3</sup>	3.68E-11		mg/kg-day	1.70E+01	(mg/kg-day)-1	6.26E-10	--	5.73E-10	mg/kg-day	3.00E-05	mg/kg-day	1.91E-05				
		alpha-BHC	4.31E-05	(a) ug/m <sup>3</sup>	2.47E-10		mg/kg-day	6.30E+00	(mg/kg-day)-1	1.56E-09	--	3.84E-09	mg/kg-day	5.00E-04	mg/kg-day	7.68E-06				
		alpha-Chlordane	2.17E-05	(a) ug/m <sup>3</sup>	1.24E-10		mg/kg-day	3.50E-01	(mg/kg-day)-1	4.34E-11	--	1.93E-09	mg/kg-day	2.00E-04	mg/kg-day	9.65E-06				
		Anthracene	1.79E-01	(a) ug/m <sup>3</sup>	1.02E-06	mg/kg-day	--	--	--	--	1.59E-05	mg/kg-day	3.00E-01	mg/kg-day	5.31E-05					
		Benzo(b)fluoranthene	1.26E-03	(a) ug/m <sup>3</sup>	7.22E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.27E-09	--	1.12E-07	mg/kg-day	--	--	--					
		Carbon Disulfide	6.38E-04	(a) ug/m <sup>3</sup>	3.66E-09	mg/kg-day	--	--	--	--	5.69E-08	mg/kg-day	2.00E-01	mg/kg-day	2.84E-07					
		Chlorobenzene	2.93E-01	(a) ug/m <sup>3</sup>	1.68E-06	mg/kg-day	--	--	--	--	2.61E-05	mg/kg-day	1.70E-02	mg/kg-day	1.53E-03					
		Chrysene	7.10E-03	(a) ug/m <sup>3</sup>	4.07E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.97E-10	--	6.33E-07	mg/kg-day	--	--	--					
		Delta-BHC	7.37E-04	(a) ug/m <sup>3</sup>	4.22E-09	mg/kg-day	1.86E+00	(mg/kg-day)-1	7.84E-09	--	6.57E-08	mg/kg-day	2.00E-04	mg/kg-day	3.28E-04					
		Dibenzofuran	9.47E-03	(a) ug/m <sup>3</sup>	5.42E-08	mg/kg-day	--	--	--	--	6.44E-07	mg/kg-day	2.00E-03	mg/kg-day	4.22E-04					
		Dieldrin	2.09E-04	(a) ug/m <sup>3</sup>	1.20E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.92E-08	--	1.87E-08	mg/kg-day	5.00E-05	mg/kg-day	3.73E-04					
		Endosulfan I	8.63E-04	(a) ug/m <sup>3</sup>	4.95E-09	mg/kg-day	--	--	--	--	7.69E-08	mg/kg-day	6.00E-03	mg/kg-day	1.28E-05					
		Endosulfan II	8.78E-04	(a) ug/m <sup>3</sup>	5.03E-09	mg/kg-day	--	--	--	--	7.82E-08	mg/kg-day	6.00E-03	mg/kg-day	1.30E-05					
		Endosulfan Sulfate	1.61E-03	(a) ug/m <sup>3</sup>	9.25E-09	mg/kg-day	--	--	--	--	1.44E-07	mg/kg-day	6.00E-03	mg/kg-day	2.40E-05					
		fluoranthene	1.96E-03	(a) ug/m <sup>3</sup>	1.12E-08	mg/kg-day	--	--	--	--	1.75E-07	mg/kg-day	4.00E-02	mg/kg-day	4.37E-06					
		Fluorene	1.07E-01	(a) ug/m <sup>3</sup>	6.14E-07	mg/kg-day	--	--	--	--	9.55E-06	mg/kg-day	4.00E-02	mg/kg-day	2.39E-04					
		gamma-BHC (Lindane)	2.28E-04	(a) ug/m <sup>3</sup>	1.31E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.70E-09	--	2.03E-08	mg/kg-day	3.00E-04	mg/kg-day	6.78E-05					
		gamma-Chlordane	3.94E-07	(a) ug/m <sup>3</sup>	2.28E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	7.91E-13	--	3.51E-11	mg/kg-day	2.00E-04	mg/kg-day	1.76E-07					
		Heptachlor	4.34E-05	(a) ug/m <sup>3</sup>	2.49E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	1.13E-09	--	3.87E-09	mg/kg-day	5.00E-04	mg/kg-day	7.73E-06					
		Methoxychlor	1.18E-04	(a) ug/m <sup>3</sup>	6.79E-10	mg/kg-day	--	--	--	--	1.06E-08	mg/kg-day	5.00E-03	mg/kg-day	2.11E-06					
		Methylene Chloride	6.38E-03	(a) ug/m <sup>3</sup>	3.66E-08	mg/kg-day	1.60E-03	(mg/kg-day)-1	5.85E-11	--	5.69E-07	mg/kg-day	8.57E-01	mg/kg-day	6.64E-07					
		Naphthalene	2.55E+01	(a) ug/m <sup>3</sup>	1.46E-04	mg/kg-day	--	--	--	--	2.27E-03	mg/kg-day	8.57E-04	mg/kg-day	2.65E+00					
		Phenanthrene	2.29E+00	(a) ug/m <sup>3</sup>	1.31E-05	mg/kg-day	--	--	--	--	2.04E-04	mg/kg-day	3.00E-01	mg/kg-day	6.80E-04					
		p-isopropyltoluene	2.93E-01	(a) ug/m <sup>3</sup>	1.68E-06	mg/kg-day	--	--	--	--	2.61E-05	mg/kg-day	1.10E-01	mg/kg-day	2.37E-04					
		Pyrene	1.59E-02	(a) ug/m <sup>3</sup>	9.11E-08	mg/kg-day	--	--	--	--	1.42E-06	mg/kg-day	3.00E-02	mg/kg-day	4.72E-05					

TABLE H2-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion)	Inhalation (Volatiles) (continued)	sec-Butylbenzene	9.25E-02	(a) ug/m <sup>3</sup>	5.30E-07	mg/kg-day	--	--	--	--	8.25E-06	mg/kg-day	4.00E-02	mg/kg-day	2.06E-04
				Technical Chlordane	1.68E-03	(a) ug/m <sup>3</sup>	9.62E-09	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	3.37E-12	1.50E-07	mg/kg-day	2.00E-04	mg/kg-day	7.48E-04	
				Toluene	1.14E-03	(a) ug/m <sup>3</sup>	6.55E-09	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	1.43E+00	mg/kg-day	7.13E-08	
				<b>Exposure Route Total</b>													
		<b>Exposure Point Total</b>															
	<b>Exposure Medium Total</b>																
<b>Medium Total</b>																	
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.4E-09	mg/kg-day	--	--	--	--	3.8E-08	mg/kg-day	1.40E-01	mg/kg-day	2.70E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	7.2E-10	mg/kg-day	--	--	--	--	1.1E-08	mg/kg-day	1.71E-03	mg/kg-day	6.56E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.7E-09	mg/kg-day	--	--	--	--	7.4E-08	mg/kg-day	5.70E-02	mg/kg-day	1.29E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.4E-09	mg/kg-day	9.10E-02	--	3.10E-10	5.3E-08	mg/kg-day	1.40E-03	mg/kg-day	3.79E-05	
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.3E-09	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	8.69E-11	2.0E-08	mg/kg-day	1.14E-03	mg/kg-day	1.74E-05	
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	4.1E-10	mg/kg-day	--	--	--	8.4E-09	mg/kg-day	1.71E-03	mg/kg-day	3.74E-06	
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.6E-09	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	3.55E-11	2.5E-08	mg/kg-day	2.30E-01	mg/kg-day	1.09E-07	
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	6.2E-11	mg/kg-day	--	--	--	9.7E-10	mg/kg-day	1.43E+00	mg/kg-day	6.79E-10	
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.5E-12	mg/kg-day	--	--	--	8.6E-11	mg/kg-day	5.00E-02	mg/kg-day	1.72E-09	
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	7.4E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.52E-12	1.2E-10	mg/kg-day	5.00E-04	mg/kg-day	2.31E-07	
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.3E-11	mg/kg-day	--	--	--	3.6E-10	mg/kg-day	8.60E-01	mg/kg-day	4.19E-10	
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.2E-10	mg/kg-day	--	--	--	3.5E-09	mg/kg-day	6.00E-02	mg/kg-day	5.76E-08	
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	9.5E-12	mg/kg-day	--	--	--	1.5E-10	mg/kg-day	6.00E-02	mg/kg-day	2.45E-09	
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.3E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	2.18E-10	2.0E-10	mg/kg-day	3.00E-05	mg/kg-day	6.64E-06	
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.6E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.02E-11	2.5E-11	mg/kg-day	5.00E-04	mg/kg-day	5.05E-08	
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.8E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.34E-12	6.0E-11	mg/kg-day	2.00E-04	mg/kg-day	2.69E-07	
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.9E-11	mg/kg-day	--	--	--	2.9E-10	mg/kg-day	3.00E-01	mg/kg-day	9.76E-10	
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.5E-09	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	4.08E-11	2.3E-08	mg/kg-day	8.60E-03	mg/kg-day	2.70E-06	
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.8E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	2.04E-12	4.3E-11	mg/kg-day	--	--	--	
				Bromoforn	7.36E-09	mg/m <sup>3</sup>	4.2E-11	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	1.62E-13	6.6E-10	mg/kg-day	2.00E-02	mg/kg-day	3.28E-08	
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.6E-08	mg/kg-day	--	--	--	4.0E-07	mg/kg-day	2.00E-01	mg/kg-day	2.01E-06	
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	4.2E-10	mg/kg-day	--	--	--	6.5E-09	mg/kg-day	1.70E-02	mg/kg-day	3.84E-07	
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.2E-08	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	9.54E-10	1.8E-07	mg/kg-day	1.40E-02	mg/kg-day	1.32E-05	
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	4.3E-09	mg/kg-day	--	--	--	6.7E-08	mg/kg-day	2.60E-02	mg/kg-day	2.57E-06	
				Chrysene	1.32E-09	mg/m <sup>3</sup>	7.5E-12	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	5.51E-14	1.2E-10	mg/kg-day	--	--	--	
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	3.0E-09	mg/kg-day	--	--	--	4.7E-08	mg/kg-day	1.00E-02	mg/kg-day	4.72E-06	
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.6E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	9.01E-11	8.8E-11	mg/kg-day	5.00E-05	mg/kg-day	1.75E-06	
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.3E-12	mg/kg-day	--	--	--	2.0E-11	mg/kg-day	6.00E-03	mg/kg-day	3.33E-09	
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	2.1E-15	mg/kg-day	--	--	--	3.3E-14	mg/kg-day	6.00E-03	mg/kg-day	5.47E-12	
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.1E-09	mg/kg-day	--	--	--	1.8E-08	mg/kg-day	2.90E-01	mg/kg-day	6.13E-08	
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.9E-12	mg/kg-day	--	--	--	4.5E-11	mg/kg-day	4.00E-02	mg/kg-day	1.13E-09	
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.7E-12	mg/kg-day	--	--	--	8.9E-11	mg/kg-day	4.00E-02	mg/kg-day	2.23E-09	
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	7.1E-15	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	9.26E-15	1.1E-13	mg/kg-day	3.00E-04	mg/kg-day	3.69E-10	
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	1.0E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.49E-12	1.6E-10	mg/kg-day	2.00E-04	mg/kg-day	7.75E-07	
				Hepaachlor	1.79E-08	mg/m <sup>3</sup>	1.0E-10	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	4.66E-10	1.6E-09	mg/kg-day	5.00E-04	mg/kg-day	3.18E-06	
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	2.0E-07	mg/kg-day	--	--	--	3.1E-06	mg/kg-day	1.10E-01	mg/kg-day	2.78E-05	
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	4.0E-09	mg/kg-day	--	--	--	6.2E-08	mg/kg-day	2.90E-02	mg/kg-day	2.13E-06	
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.9E-11	mg/kg-day	--	--	--	2.9E-10	mg/kg-day	5.00E-03	mg/kg-day	5.82E-08	
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	3.1E-11	mg/kg-day	--	--	--	4.8E-10	mg/kg-day	8.57E-04	mg/kg-day	5.65E-07	
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.5E-09	mg/kg-day	--	--	--	2.3E-08	mg/kg-day	8.57E-04	mg/kg-day	2.63E-05	
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.6E-09	mg/kg-day	--	--	--	2.5E-08	mg/kg-day	4.00E-02	mg/kg-day	6.28E-07	
Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.5E-11	mg/kg-day	--	--	--	2.3E-10	mg/kg-day	3.00E-01	mg/kg-day	7.78E-10					
p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	2.0E-07	mg/kg-day	--	--	--	3.1E-06	mg/kg-day	1.10E-01	mg/kg-day	2.78E-05					
Pyrene	4.61E-10	mg/m <sup>3</sup>	2.6E-12	mg/kg-day	--	--	--	4.1E-11	mg/kg-day	3.00E-02	mg/kg-day	1.37E-09					

TABLE H2-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.6E-09	mg/kg-day	--	--	--	7.1E-08	mg/kg-day	4.00E-02	mg/kg-day	1.78E-06
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	5.2E-09	mg/kg-day	--	--	--	8.1E-08	mg/kg-day	4.00E-02	mg/kg-day	2.02E-06
				Toluene	3.80E-07	mg/m <sup>3</sup>	2.2E-09	mg/kg-day	--	--	--	3.4E-08	mg/kg-day	1.43E+00	mg/kg-day	2.37E-08
				trans-1,2-Dichloroethene	8.86E-07	mg/m <sup>3</sup>	5.1E-09	mg/kg-day	--	--	--	8.0E-08	mg/kg-day	2.00E-02	mg/kg-day	3.99E-06
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	5.3E-09	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	2.14E-09	8.3E-08	mg/kg-day	1.00E-02	mg/kg-day	8.31E-06
				Vinyl chloride	1.83E-08	mg/m <sup>3</sup>	1.1E-08	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	3.43E-10	1.7E-07	mg/kg-day	2.86E-02	mg/kg-day	6.01E-06
				Exposure Route Total							4.70E-09				2.13E-04	
				Exposure Point Total							4.70E-09				2.13E-04	
		Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	5.98E-02	ug/m <sup>3</sup>	3.43E-07	mg/kg-day	--	--	--	5.33E-08	mg/kg-day	1.40E-01	mg/kg-day	3.81E-05
				1,2,4-Trimethylbenzene	2.69E-03	ug/m <sup>3</sup>	1.54E-08	mg/kg-day	--	--	--	2.40E-07	mg/kg-day	1.71E-03	mg/kg-day	1.40E-04
				1,2-Dichlorobenzene	1.72E-02	ug/m <sup>3</sup>	8.88E-08	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	5.70E-02	mg/kg-day	2.70E-05
				1,2-Dichloroethane	1.31E-02	ug/m <sup>3</sup>	7.48E-08	mg/kg-day	9.10E-02	--	6.81E-09	1.18E-08	mg/kg-day	1.40E-03	mg/kg-day	8.31E-04
				1,2-Dichloropropane	5.23E-03	ug/m <sup>3</sup>	3.00E-08	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	2.04E-09	4.69E-07	mg/kg-day	1.14E-03	mg/kg-day	4.09E-04
				1,3,5-Trimethylbenzene	1.54E-03	ug/m <sup>3</sup>	8.80E-09	mg/kg-day	--	--	--	1.37E-07	mg/kg-day	1.71E-03	mg/kg-day	7.99E-05
				1,4-Dichlorobenzene	5.89E-03	ug/m <sup>3</sup>	3.43E-08	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	7.55E-10	5.34E-07	mg/kg-day	2.30E-01	mg/kg-day	2.32E-06
				2-Hexanone	2.54E-04	ug/m <sup>3</sup>	1.46E-09	mg/kg-day	--	--	--	2.27E-08	mg/kg-day	1.43E+00	mg/kg-day	1.59E-08
				2-Methylnaphthalene	1.77E-05	ug/m <sup>3</sup>	1.02E-10	mg/kg-day	--	--	--	1.58E-09	mg/kg-day	5.00E-02	mg/kg-day	3.16E-08
				4,4'-DDE	4.84E-08	ug/m <sup>3</sup>	2.83E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	9.62E-14	4.40E-12	mg/kg-day	5.00E-04	mg/kg-day	8.80E-09
				4-Methyl-2-pentanone	9.24E-05	ug/m <sup>3</sup>	5.30E-10	mg/kg-day	--	--	--	8.24E-09	mg/kg-day	8.60E-01	mg/kg-day	9.58E-09
				Acenaphthene	8.04E-04	ug/m <sup>3</sup>	4.81E-09	mg/kg-day	--	--	--	7.16E-08	mg/kg-day	6.00E-02	mg/kg-day	1.19E-06
				Acenaphthylene	3.42E-05	ug/m <sup>3</sup>	1.96E-10	mg/kg-day	--	--	--	3.05E-09	mg/kg-day	6.00E-02	mg/kg-day	5.08E-08
				Aldrin	1.05E-07	ug/m <sup>3</sup>	6.01E-13	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.02E-11	9.34E-12	mg/kg-day	3.00E-05	mg/kg-day	3.11E-07
				alpha-BHC	1.39E-08	ug/m <sup>3</sup>	7.96E-14	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	5.01E-13	1.24E-12	mg/kg-day	5.00E-04	mg/kg-day	2.48E-09
				alpha-Chlordane	8.38E-08	ug/m <sup>3</sup>	4.80E-13	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.68E-13	7.46E-12	mg/kg-day	2.00E-04	mg/kg-day	3.73E-08
				Anthracene	6.79E-05	ug/m <sup>3</sup>	3.89E-10	mg/kg-day	--	--	--	6.05E-09	mg/kg-day	3.00E-01	mg/kg-day	2.02E-08
				Benzene	6.09E-03	ug/m <sup>3</sup>	3.49E-08	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	9.52E-10	5.42E-07	mg/kg-day	8.60E-03	mg/kg-day	6.31E-05
				Benzo(b)fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.91E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	3.58E-11	7.63E-10	mg/kg-day	--	--	--
				Bromoform	2.09E-04	ug/m <sup>3</sup>	1.20E-09	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	4.62E-12	1.87E-08	mg/kg-day	2.00E-02	mg/kg-day	9.33E-07
				Carbon disulfide	1.07E-01	ug/m <sup>3</sup>	6.11E-07	mg/kg-day	--	--	--	9.50E-06	mg/kg-day	2.00E-01	mg/kg-day	4.75E-05
				Chlorobenzene	1.65E-03	ug/m <sup>3</sup>	9.44E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	1.70E-02	mg/kg-day	8.63E-06
				Chloroform	4.74E-02	ug/m <sup>3</sup>	2.72E-07	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	2.19E-08	4.23E-06	mg/kg-day	1.40E-02	mg/kg-day	3.02E-04
				Chloromethane	1.86E-02	ug/m <sup>3</sup>	1.07E-07	mg/kg-day	--	--	--	1.66E-06	mg/kg-day	2.60E-02	mg/kg-day	6.37E-05
				Chrysene	2.39E-05	ug/m <sup>3</sup>	1.37E-10	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	9.99E-13	2.13E-09	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	1.31E-02	ug/m <sup>3</sup>	7.53E-08	mg/kg-day	--	--	--	1.17E-06	mg/kg-day	1.00E-02	mg/kg-day	1.17E-04
				Dieldrin	1.62E-08	ug/m <sup>3</sup>	9.26E-14	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.48E-12	1.44E-12	mg/kg-day	5.00E-05	mg/kg-day	2.88E-08
				Endosulfan I	2.10E-08	ug/m <sup>3</sup>	1.20E-13	mg/kg-day	--	--	--	1.87E-12	mg/kg-day	6.00E-03	mg/kg-day	3.11E-10
				Endosulfan II	7.00E-09	ug/m <sup>3</sup>	4.01E-14	mg/kg-day	--	--	--	6.23E-13	mg/kg-day	8.00E-03	mg/kg-day	1.04E-10
				Ethylbenzene	4.38E-03	ug/m <sup>3</sup>	2.51E-08	mg/kg-day	--	--	--	3.90E-07	mg/kg-day	2.90E-01	mg/kg-day	1.35E-06
				Fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.91E-11	mg/kg-day	--	--	--	7.63E-10	mg/kg-day	4.00E-02	mg/kg-day	1.91E-08
				Fluorene	2.18E-05	ug/m <sup>3</sup>	1.25E-10	mg/kg-day	--	--	--	1.94E-09	mg/kg-day	4.00E-02	mg/kg-day	4.85E-08
				gamma-BHC (Lindane)	1.87E-08	ug/m <sup>3</sup>	1.07E-13	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.40E-13	1.67E-12	mg/kg-day	3.00E-04	mg/kg-day	5.57E-09
				gamma-Chlordane	4.05E-08	ug/m <sup>3</sup>	2.32E-13	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	8.13E-14	3.81E-12	mg/kg-day	2.00E-04	mg/kg-day	1.81E-08
				Heptachlor	2.94E-07	ug/m <sup>3</sup>	1.68E-12	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	7.67E-12	2.62E-11	mg/kg-day	5.00E-04	mg/kg-day	5.24E-08
				Isopropylbenzene	6.87E-01	ug/m <sup>3</sup>	3.94E-06	mg/kg-day	--	--	--	6.12E-05	mg/kg-day	1.10E-01	mg/kg-day	5.57E-04
				m,p-Xylene	1.54E-02	ug/m <sup>3</sup>	8.82E-08	mg/kg-day	--	--	--	1.37E-08	mg/kg-day	2.90E-02	mg/kg-day	4.73E-05
				Methoxychlor	5.41E-08	ug/m <sup>3</sup>	3.10E-13	mg/kg-day	--	--	--	4.82E-12	mg/kg-day	5.00E-03	mg/kg-day	9.65E-10
				Naphthalene	1.13E-04	ug/m <sup>3</sup>	8.45E-10	mg/kg-day	--	--	--	1.00E-08	mg/kg-day	8.57E-04	mg/kg-day	1.17E-05
				n-Butylbenzene	5.41E-03	ug/m <sup>3</sup>	3.10E-08	mg/kg-day	--	--	--	4.82E-07	mg/kg-day	8.57E-04	mg/kg-day	5.62E-04
				n-Propylbenzene	6.10E-03	ug/m <sup>3</sup>	3.50E-08	mg/kg-day	--	--	--	5.44E-07	mg/kg-day	4.00E-02	mg/kg-day	1.36E-05
				Phenanthrene	5.55E-05	ug/m <sup>3</sup>	3.18E-10	mg/kg-day	--	--	--	4.94E-09	mg/kg-day	3.00E-01	mg/kg-day	1.65E-08
				p-Isopropyltoluene	6.87E-01	ug/m <sup>3</sup>	3.94E-06	mg/kg-day	--	--	--	6.12E-05	mg/kg-day	1.10E-01	mg/kg-day	5.57E-04

TABLE H2-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units			
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Pyrene	7.39E-06	ug/m <sup>3</sup>	4.24E-11	mg/kg-day	--	--	--	6.59E-10	mg/kg-day	3.00E-02	mg/kg-day	2.20E-08
				sec-Butylbenzene	2.17E-04	ug/m <sup>3</sup>	1.25E-09	mg/kg-day	--	--	--	1.94E-08	mg/kg-day	4.00E-02	mg/kg-day	4.85E-07
				Tert-Butylbenzene	2.17E-02	ug/m <sup>3</sup>	1.24E-07	mg/kg-day	--	--	--	1.93E-08	mg/kg-day	4.00E-02	mg/kg-day	4.83E-05
				Toluene	8.34E-04	ug/m <sup>3</sup>	4.78E-09	mg/kg-day	--	--	--	7.43E-08	mg/kg-day	1.43E+00	mg/kg-day	5.20E-08
				trans-1,2-Dichloroethene	2.31E-02	ug/m <sup>3</sup>	1.32E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	2.00E-02	mg/kg-day	1.03E-04
				Trichloroethene	2.18E-02	ug/m <sup>3</sup>	1.25E-07	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	5.00E-08	1.95E-06	mg/kg-day	1.00E-02	mg/kg-day	1.95E-04
				Vinyl chloride	4.98E-02	ug/m <sup>3</sup>	2.85E-07	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	8.84E-09	4.44E-06	mg/kg-day	2.86E-02	mg/kg-day	1.55E-04
Exposure Route Total																
Exposure Point Total																
Exposure Medium Total																
Medium Total																
Total of Receptor Risks Across All Media										3.80E-06	Total of Receptor Hazards Across All Media				4.60E+00	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfC Reference concentration
  - RfD Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H2-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.55E-09	mg/kg-day	--	--	--	5.28E-07	mg/kg-day	1.00E-02	mg/kg-day	5.28E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.57E-08	mg/kg-day	--	--	--	1.80E-06	mg/kg-day	1.00E-02	mg/kg-day	1.80E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.52E-09	mg/kg-day	--	--	--	1.76E-07	mg/kg-day	5.00E-02	mg/kg-day	3.52E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.31E-07	mg/kg-day	--	--	--	9.16E-06	mg/kg-day	9.00E-02	mg/kg-day	1.02E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.81E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.23E-12	1.27E-09	mg/kg-day	1.14E-03	mg/kg-day	1.11E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	8.05E-10	mg/kg-day	--	--	--	5.64E-08	mg/kg-day	5.00E-02	mg/kg-day	1.13E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.54E-09	mg/kg-day	--	--	--	3.87E-07	mg/kg-day	3.00E-02	mg/kg-day	1.29E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.42E-08	mg/kg-day	2.40E-02	(mg/kg-day)-1	8.21E-10	2.40E-06	mg/kg-day	3.00E-02	mg/kg-day	7.98E-05
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.06E-09	mg/kg-day	--	--	--	7.40E-08	mg/kg-day	2.00E-02	mg/kg-day	3.70E-06
				2-Methylphenol	8.10E-02	mg/kg	4.08E-10	mg/kg-day	--	--	--	2.85E-08	mg/kg-day	5.00E-02	mg/kg-day	5.71E-07
				2-Methylnaphthalene	1.67E+00	mg/kg	8.41E-09	mg/kg-day	--	--	--	6.89E-07	mg/kg-day	4.00E-03	mg/kg-day	1.47E-04
				4,4-DDD	1.20E-03	mg/kg	6.04E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-12	4.23E-10	mg/kg-day	5.00E-04	mg/kg-day	8.45E-07
				4,4-DDE	8.23E-02	mg/kg	4.14E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.41E-10	2.90E-08	mg/kg-day	5.00E-04	mg/kg-day	5.80E-05
				4,4-DDT	4.45E-02	mg/kg	2.24E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.61E-11	1.57E-08	mg/kg-day	5.00E-04	mg/kg-day	3.13E-05
				4-Methylphenol	2.70E-01	mg/kg	1.36E-09	mg/kg-day	--	--	--	9.51E-08	mg/kg-day	5.00E-03	mg/kg-day	1.90E-05
				4-Nitroaniline	6.20E-01	mg/kg	3.12E-09	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.55E-11	2.18E-07	mg/kg-day	3.00E-03	mg/kg-day	7.28E-05
				4-Nitrophenol	4.20E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	1.48E-07	mg/kg-day	5.00E-04	mg/kg-day	2.96E-04
				Acenaphthene	4.23E+00	mg/kg	2.13E-08	mg/kg-day	--	--	--	1.49E-06	mg/kg-day	6.00E-02	mg/kg-day	2.49E-05
				Acenaphthylene	1.04E-01	mg/kg	5.24E-10	mg/kg-day	--	--	--	3.67E-08	mg/kg-day	6.00E-02	mg/kg-day	6.12E-07
				Aldrin	1.30E-02	mg/kg	6.54E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.11E-09	4.58E-09	mg/kg-day	3.00E-05	mg/kg-day	1.53E-04
				alpha-BHC	7.30E-04	mg/kg	3.67E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.31E-11	2.57E-10	mg/kg-day	5.00E-04	mg/kg-day	5.14E-07
				alpha-Chlordane	8.14E-03	mg/kg	4.10E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.43E-11	2.87E-09	mg/kg-day	5.00E-04	mg/kg-day	5.74E-06
				Aluminum	8.82E+03	mg/kg	4.44E-05	mg/kg-day	--	--	--	3.11E-03	mg/kg-day	1.00E+00	mg/kg-day	3.11E-03
				Anthracene	1.05E+00	mg/kg	5.31E-09	mg/kg-day	--	--	--	3.72E-07	mg/kg-day	3.00E-01	mg/kg-day	1.24E-06
				Antimony	4.08E+00	mg/kg	2.05E-08	mg/kg-day	--	--	--	1.44E-06	mg/kg-day	4.00E-04	mg/kg-day	3.59E-03
				Aroclor-1248	1.20E+00	mg/kg	6.04E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.21E-08	4.23E-07	mg/kg-day	2.00E-05	mg/kg-day	2.11E-02
				Aroclor-1254	4.44E-01	mg/kg	2.23E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.47E-09	1.56E-07	mg/kg-day	2.00E-05	mg/kg-day	7.82E-03
				Aroclor-1260	5.41E-01	mg/kg	2.72E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.45E-09	1.91E-07	mg/kg-day	2.00E-05	mg/kg-day	9.53E-03
				Aroclor-1268	2.78E-02	mg/kg	1.40E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.79E-10	9.78E-09	mg/kg-day	2.00E-05	mg/kg-day	4.86E-04
				Arsenic	6.17E+00	mg/kg	3.10E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.65E-08	2.17E-06	mg/kg-day	3.00E-04	mg/kg-day	7.24E-03
				Barium	6.78E+01	mg/kg	3.41E-07	mg/kg-day	--	--	--	2.39E-05	mg/kg-day	7.00E-02	mg/kg-day	3.41E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	2.52E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.84E-08	1.76E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	8.38E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	6.12E-08	5.87E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.38E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.01E-08	9.65E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.84E-09	mg/kg-day	--	--	--	2.69E-07	mg/kg-day	3.00E-02	mg/kg-day	8.97E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.64E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.20E-09	1.15E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.20E-09	mg/kg-day	--	--	--	8.39E-08	mg/kg-day	2.00E-03	mg/kg-day	4.19E-05
				Beta-BHC	2.20E-03	mg/kg	1.11E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.99E-11	7.75E-10	mg/kg-day	2.00E-04	mg/kg-day	3.87E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.94E-08	mg/kg-day	1.40E-02	(mg/kg-day)-1	5.52E-10	2.76E-06	mg/kg-day	2.00E-02	mg/kg-day	1.38E-04
				Cadmium	9.47E+00	mg/kg	4.77E-08	mg/kg-day	--	--	--	3.34E-06	mg/kg-day	5.00E-04	mg/kg-day	6.67E-03
				Carbon disulfide	2.40E-04	mg/kg	1.21E-12	mg/kg-day	--	--	--	8.45E-11	mg/kg-day	1.00E-01	mg/kg-day	8.45E-10
				Chlorobenzene	1.10E-01	mg/kg	5.54E-10	mg/kg-day	--	--	--	3.87E-08	mg/kg-day	2.00E-02	mg/kg-day	1.94E-06
				Chromium	1.11E+02	mg/kg	5.60E-07	mg/kg-day	--	--	--	3.92E-05	mg/kg-day	1.50E+00	mg/kg-day	2.61E-05
				Chrysene	5.68E+00	mg/kg	2.86E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.09E-10	2.00E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.81E-08	mg/kg-day	--	--	--	2.67E-06	mg/kg-day	2.00E-02	mg/kg-day	1.33E-04
				Copper	5.71E+01	mg/kg	2.87E-07	mg/kg-day	--	--	--	2.01E-05	mg/kg-day	3.70E-02	mg/kg-day	5.43E-04
				Delta-BHC	8.40E-03	mg/kg	4.23E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	7.61E-11	2.96E-09	mg/kg-day	2.00E-04	mg/kg-day	1.48E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.60E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.17E-08	1.12E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.54E-08	mg/kg-day	--	--	--	4.58E-06	mg/kg-day	2.00E-03	mg/kg-day	2.29E-03
				Dieldrin	5.51E-02	mg/kg	2.77E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.44E-09	1.94E-08	mg/kg-day	5.00E-05	mg/kg-day	3.88E-04
				Dimethylphthalate	3.80E-02	mg/kg	1.91E-10	mg/kg-day	--	--	--	1.34E-08	mg/kg-day	1.00E+01	mg/kg-day	1.34E-09

TABLE H2-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations																					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient																
							Value	Units	Value	Units		Value	Units	Value	Units																	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	1.11E-08	mg/kg-day	--	--	--	7.75E-07	mg/kg-day	1.00E-01	mg/kg-day	7.75E-06																
				Endosulfan I	2.30E-02	mg/kg	1.16E-10	mg/kg-day	--	--	--	8.10E-09	mg/kg-day	6.00E-03	mg/kg-day	1.35E-06																
				Endosulfan II	2.38E-02	mg/kg	1.20E-10	mg/kg-day	--	--	--	8.39E-09	mg/kg-day	6.00E-03	mg/kg-day	1.40E-06																
				Endosulfan Sulfate	4.30E-02	mg/kg	2.16E-10	mg/kg-day	--	--	--	1.51E-08	mg/kg-day	6.00E-03	mg/kg-day	2.52E-06																
				Endrin aldehyde	4.21E-02	mg/kg	2.12E-10	mg/kg-day	--	--	--	1.48E-08	mg/kg-day	3.00E-04	mg/kg-day	4.94E-05																
				Endrin Ketone	1.00E-02	mg/kg	5.03E-11	mg/kg-day	--	--	--	3.52E-09	mg/kg-day	3.00E-04	mg/kg-day	1.17E-05																
				Fluoranthene	2.65E+01	mg/kg	1.33E-07	mg/kg-day	--	--	--	9.34E-06	mg/kg-day	4.00E-02	mg/kg-day	2.33E-04																
				Fluorene	2.92E+00	mg/kg	1.47E-08	mg/kg-day	--	--	--	1.03E-06	mg/kg-day	4.00E-02	mg/kg-day	2.57E-05																
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.31E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.70E-11	9.16E-10	mg/kg-day	3.00E-04	mg/kg-day	3.05E-06																
				gamma-Chlordane	1.31E-02	mg/kg	6.59E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.31E-11	4.62E-09	mg/kg-day	5.00E-04	mg/kg-day	9.23E-06																
				Heptachlor	6.90E-03	mg/kg	3.47E-11	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.56E-10	2.43E-09	mg/kg-day	5.00E-04	mg/kg-day	4.86E-06																
				Heptachlor Epoxide	1.12E-02	mg/kg	5.61E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	5.11E-10	3.93E-09	mg/kg-day	1.30E-05	mg/kg-day	3.02E-04																
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.39E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.21E-09	3.07E-07	mg/kg-day	--	--	--																
				Iron	4.07E+04	mg/kg	2.05E-04	mg/kg-day	--	--	--	1.43E-02	mg/kg-day	3.00E-01	mg/kg-day	4.78E-02																
				Isophorone	2.00E-01	mg/kg	1.01E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.56E-13	7.05E-08	mg/kg-day	2.00E-01	mg/kg-day	3.52E-07																
				Lead	2.90E+03	mg/kg	1.46E-05	mg/kg-day	--	--	--	1.02E-03	mg/kg-day	--	--	--																
				Manganese	3.31E+02	mg/kg	1.67E-06	mg/kg-day	--	--	--	1.17E-04	mg/kg-day	2.40E-02	mg/kg-day	4.86E-03																
				Mercury	3.10E-01	mg/kg	1.56E-09	mg/kg-day	--	--	--	1.09E-07	mg/kg-day	3.00E-04	mg/kg-day	3.63E-04																
				Methoxychlor	1.20E-01	mg/kg	6.04E-10	mg/kg-day	--	--	--	4.23E-08	mg/kg-day	5.00E-03	mg/kg-day	8.45E-06																
				Molybdenum	2.50E+00	mg/kg	1.26E-08	mg/kg-day	--	--	--	8.82E-07	mg/kg-day	5.00E-03	mg/kg-day	1.76E-04																
				Naphthalene	1.30E+01	mg/kg	6.54E-08	mg/kg-day	--	--	--	4.58E-06	mg/kg-day	2.00E-02	mg/kg-day	2.29E-04																
				Nickel	3.91E+01	mg/kg	1.97E-07	mg/kg-day	--	--	--	1.38E-05	mg/kg-day	2.00E-02	mg/kg-day	6.89E-04																
				Phenanthrene	1.39E+01	mg/kg	7.00E-08	mg/kg-day	--	--	--	4.90E-06	mg/kg-day	3.00E-01	mg/kg-day	1.63E-05																
				Phenol	5.80E-01	mg/kg	2.92E-09	mg/kg-day	--	--	--	2.04E-07	mg/kg-day	3.00E-01	mg/kg-day	6.81E-07																
				p-Isopropyltoluene	1.10E-01	mg/kg	5.54E-10	mg/kg-day	--	--	--	3.87E-08	mg/kg-day	1.00E-01	mg/kg-day	3.87E-07																
				Pyrene	2.41E-02	mg/kg	1.22E-07	mg/kg-day	--	--	--	8.51E-06	mg/kg-day	3.00E-02	mg/kg-day	2.84E-04																
				sec-Butylbenzene	7.10E-02	mg/kg	3.57E-10	mg/kg-day	--	--	--	2.50E-08	mg/kg-day	4.00E-02	mg/kg-day	6.25E-07																
				Selenium	2.24E-01	mg/kg	1.13E-09	mg/kg-day	--	--	--	7.91E-08	mg/kg-day	5.00E-03	mg/kg-day	1.58E-05																
				Silver	1.16E+00	mg/kg	5.83E-09	mg/kg-day	--	--	--	4.08E-07	mg/kg-day	5.00E-03	mg/kg-day	8.16E-05																
				Technical Chlordane	5.51E-01	mg/kg	2.77E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	9.71E-10	1.94E-07	mg/kg-day	5.00E-04	mg/kg-day	3.88E-04																
				Thallium	4.97E-01	mg/kg	2.50E-09	mg/kg-day	--	--	--	1.75E-07	mg/kg-day	6.60E-05	mg/kg-day	2.65E-03																
				Toluene	4.30E-04	mg/kg	2.16E-12	mg/kg-day	--	--	--	1.51E-10	mg/kg-day	8.00E-02	mg/kg-day	1.89E-09																
				Vanadium	3.41E+01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	1.00E-03	mg/kg-day	1.20E-02																
				Zinc	4.53E+02	mg/kg	2.28E-06	mg/kg-day	--	--	--	1.60E-04	mg/kg-day	3.00E-01	mg/kg-day	5.32E-04																
				Exposure Route Total										1.84E-07					1.36E-01													
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4'-DDD	4,4'-DDE	4,4'-DDT	4-Methylphenol	4-Nitroaniline	1.50E+00	mg/kg	2.46E-09	mg/kg-day	--	--	--	1.74E-07	mg/kg-day	1.00E-02	mg/kg-day	1.74E-05
																					5.10E+00	mg/kg	8.47E-10	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	1.00E-02	mg/kg-day	5.93E-06
																					5.00E-01	mg/kg	8.30E-11	mg/kg-day	--	--	--	5.81E-09	mg/kg-day	5.00E-02	mg/kg-day	1.16E-07
																					2.60E+01	mg/kg	4.32E-09	mg/kg-day	--	--	--	3.02E-07	mg/kg-day	9.00E-02	mg/kg-day	3.36E-06
																					3.60E-03	mg/kg	5.98E-13	mg/kg-day	6.80E-02	(mg/kg-day)-1	4.07E-14	4.18E-11	mg/kg-day	1.14E-03	mg/kg-day	3.67E-08
																					1.60E-01	mg/kg	2.66E-11	mg/kg-day	--	--	--	1.86E-09	mg/kg-day	5.00E-02	mg/kg-day	3.72E-08
1.10E+00	mg/kg	1.83E-10	mg/kg-day																		--	--	--	1.28E-08	mg/kg-day	3.00E-02	mg/kg-day	4.26E-07				
6.80E+00	mg/kg	--	mg/kg-day																		2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2.10E-01	mg/kg	3.49E-11	mg/kg-day																		--	--	--	2.44E-09	mg/kg-day	2.00E-02	mg/kg-day	1.22E-07				
8.10E-02	mg/kg	1.35E-10	mg/kg-day																		--	--	--	9.42E-09	mg/kg-day	5.00E-02	mg/kg-day	1.88E-07				
1.67E+00	mg/kg	2.78E-10	mg/kg-day																		--	--	--	1.94E-08	mg/kg-day	4.00E-03	mg/kg-day	4.86E-06				
1.20E-03	mg/kg	1.99E-13	mg/kg-day																		2.40E-01	(mg/kg-day)-1	4.78E-14	1.39E-11	mg/kg-day	5.00E-04	mg/kg-day	2.79E-08				
8.23E-02	mg/kg	1.37E-11	mg/kg-day																		3.40E-01	(mg/kg-day)-1	4.65E-12	9.57E-10	mg/kg-day	5.00E-04	mg/kg-day	1.91E-06				
4.45E-02	mg/kg	2.22E-11	mg/kg-day																		3.40E-01	(mg/kg-day)-1	7.54E-12	1.55E-09	mg/kg-day	5.00E-04	mg/kg-day	3.10E-06				
2.70E-01	mg/kg	4.48E-10	mg/kg-day																		--	--	--	3.14E-08	mg/kg-day	5.00E-03	mg/kg-day	6.28E-06				
6.20E-01	mg/kg	1.03E-09	mg/kg-day																		2.10E-02	--	2.16E-11	7.21E-08	mg/kg-day	3.00E-03	mg/kg-day	2.40E-05				

TABLE H2-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	6.97E-10	mg/kg-day	--	--	--	--	4.88E-08	mg/kg-day	5.00E-04	mg/kg-day	9.76E-05
				Acenaphthene	4.23E+00	mg/kg	9.14E-09	mg/kg-day	--	--	--	--	6.40E-07	mg/kg-day	6.00E-02	mg/kg-day	1.07E-05
				Acenaphthylene	1.04E-01	mg/kg	1.73E-11	mg/kg-day	--	--	--	--	1.21E-09	mg/kg-day	6.00E-02	mg/kg-day	2.02E-08
				Aldrin	1.30E-02	mg/kg	2.16E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.67E-10	1.51E-09	mg/kg-day	3.00E-05	mg/kg-day	5.04E-05	
				alpha-BHC	7.30E-04	mg/kg	1.21E-13	mg/kg-day	6.30E+00	(mg/kg-day)-1	7.64E-13	8.48E-12	mg/kg-day	5.00E-04	mg/kg-day	1.70E-08	
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--	
				Aluminum	8.82E+03	mg/kg	1.47E-07	mg/kg-day	--	--	--	--	1.03E-05	mg/kg-day	1.00E+00	mg/kg-day	1.03E-05
				Anthracene	1.05E+00	mg/kg	2.28E-09	mg/kg-day	--	--	--	--	1.59E-07	mg/kg-day	3.00E-01	mg/kg-day	5.31E-07
				Antimony	4.08E+00	mg/kg	6.77E-11	mg/kg-day	--	--	--	--	4.74E-09	mg/kg-day	4.00E-04	mg/kg-day	1.19E-05
				Aroclor-1248	1.20E+00	mg/kg	2.79E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.58E-09	1.95E-07	mg/kg-day	2.00E-05	mg/kg-day	9.76E-03	
				Aroclor-1254	4.44E-01	mg/kg	1.03E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.06E-09	7.23E-08	mg/kg-day	2.00E-05	mg/kg-day	3.61E-03	
				Aroclor-1260	5.41E-01	mg/kg	1.26E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.52E-09	8.81E-08	mg/kg-day	2.00E-05	mg/kg-day	4.41E-03	
				Aroclor-1268	2.78E-02	mg/kg	6.45E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.29E-10	4.52E-09	mg/kg-day	2.00E-05	mg/kg-day	2.26E-04	
				Arsenic	6.17E+00	mg/kg	3.07E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.61E-09	2.15E-07	mg/kg-day	3.00E-04	mg/kg-day	7.17E-04	
				Barium	6.78E+01	mg/kg	1.13E-09	mg/kg-day	--	--	--	7.88E-08	mg/kg-day	7.00E-02	mg/kg-day	1.13E-06	
				Benzo(a)anthracene	5.00E+00	mg/kg	1.08E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.89E-09	7.56E-07	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.67E+00	mg/kg	3.60E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.62E-08	2.52E-07	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.74E+00	mg/kg	5.91E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.32E-09	4.14E-07	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.65E-09	mg/kg-day	--	--	--	1.15E-07	mg/kg-day	3.00E-02	mg/kg-day	3.85E-06	
				Benzo(k)fluoranthene	3.26E+00	mg/kg	7.04E-09	mg/kg-day	7.30E-02	(mg/kg-day)-1	5.14E-10	4.93E-07	mg/kg-day	--	--	--	
				Beryllium	2.38E-01	mg/kg	3.95E-12	mg/kg-day	--	--	--	2.77E-10	mg/kg-day	2.00E-03	mg/kg-day	1.38E-07	
				Beta-BHC	2.20E-03	mg/kg	3.65E-13	mg/kg-day	1.80E+00	(mg/kg-day)-1	6.58E-13	2.56E-11	mg/kg-day	2.00E-04	mg/kg-day	1.28E-07	
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.30E-09	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.82E-11	9.10E-08	mg/kg-day	2.00E-02	mg/kg-day	4.56E-06	
				Cadmium	9.47E+00	mg/kg	1.57E-10	mg/kg-day	--	--	--	1.10E-08	mg/kg-day	5.00E-04	mg/kg-day	2.20E-05	
				Carbon disulfide	2.40E-04	mg/kg	9.96E-13	mg/kg-day	--	--	--	6.97E-11	mg/kg-day	1.00E-01	mg/kg-day	6.97E-10	
				Chlorobenzene	1.10E-01	mg/kg	1.83E-11	mg/kg-day	--	--	--	1.28E-09	mg/kg-day	2.00E-02	mg/kg-day	6.39E-08	
				Chromium	1.11E+02	mg/kg	1.85E-09	mg/kg-day	--	--	--	1.29E-07	mg/kg-day	1.50E+00	mg/kg-day	8.62E-08	
				Chrysene	5.68E+00	mg/kg	1.23E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	8.96E-11	8.59E-07	mg/kg-day	--	--	--	
				Cobalt	7.57E+00	mg/kg	1.26E-10	mg/kg-day	--	--	--	8.80E-09	mg/kg-day	2.00E-02	mg/kg-day	4.40E-07	
				Copper	5.71E+01	mg/kg	9.48E-10	mg/kg-day	--	--	--	6.63E-08	mg/kg-day	3.70E-02	mg/kg-day	1.79E-06	
				Delta-BHC	8.40E-03	mg/kg	6.97E-12	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.26E-11	4.88E-10	mg/kg-day	2.00E-04	mg/kg-day	2.44E-06	
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	6.85E-10	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.00E-09	4.80E-08	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	2.16E-09	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	2.00E-03	mg/kg-day	7.56E-05	
				Dieldrin	5.51E-02	mg/kg	9.16E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.47E-10	6.41E-10	mg/kg-day	5.00E-05	mg/kg-day	1.28E-05	
				Dimethylphthalate	3.80E-02	mg/kg	6.31E-12	mg/kg-day	--	--	--	4.42E-10	mg/kg-day	1.00E+01	mg/kg-day	4.42E-11	
				di-n-Butylphthalate	2.20E+00	mg/kg	3.65E-10	mg/kg-day	--	--	--	2.56E-08	mg/kg-day	1.00E-01	mg/kg-day	2.56E-07	
				Endosulfan I	2.30E-02	mg/kg	1.91E-11	mg/kg-day	--	--	--	1.34E-09	mg/kg-day	6.00E-03	mg/kg-day	2.23E-07	
				Endosulfan II	2.38E-02	mg/kg	1.98E-11	mg/kg-day	--	--	--	1.38E-09	mg/kg-day	6.00E-03	mg/kg-day	2.31E-07	
				Endosulfan Sulfate	4.30E-02	mg/kg	3.57E-11	mg/kg-day	--	--	--	2.50E-09	mg/kg-day	6.00E-03	mg/kg-day	4.17E-07	
				Endrin aldehyde	4.21E-02	mg/kg	3.49E-11	mg/kg-day	--	--	--	2.45E-09	mg/kg-day	3.00E-04	mg/kg-day	8.15E-06	
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	
				Fluoranthene	2.65E+01	mg/kg	5.72E-08	mg/kg-day	--	--	--	4.01E-06	mg/kg-day	4.00E-02	mg/kg-day	1.00E-04	
				Fluorene	2.92E+00	mg/kg	6.30E-09	mg/kg-day	--	--	--	4.41E-07	mg/kg-day	4.00E-02	mg/kg-day	1.10E-05	
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.73E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.25E-12	1.21E-10	mg/kg-day	3.00E-04	mg/kg-day	4.03E-07	
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--	
				Heptachlor	6.90E-03	mg/kg	1.15E-12	mg/kg-day	4.50E+00	(mg/kg-day)-1	5.16E-12	8.02E-11	mg/kg-day	5.00E-04	mg/kg-day	1.60E-07	
				Heptachlor Epoxide	1.12E-02	mg/kg	1.85E-12	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.69E-11	1.30E-10	mg/kg-day	1.30E-05	mg/kg-day	9.97E-06	
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.88E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.38E-09	1.32E-07	mg/kg-day	--	--	--	
				Iron	4.07E+04	mg/kg	6.76E-07	mg/kg-day	--	--	--	4.73E-05	mg/kg-day	3.00E-01	mg/kg-day	1.58E-04	
				Isophorone	2.00E-01	mg/kg	3.32E-10	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.16E-13	2.32E-08	mg/kg-day	2.00E-01	mg/kg-day	1.16E-07	
Lead	2.90E+03	mg/kg	4.82E-08	mg/kg-day	--	--	--	3.37E-06	mg/kg-day	--	--	--					

TABLE H2-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	5.50E-09	mg/kg-day	--	--	--	--	3.85E-07	mg/kg-day	2.40E-02	mg/kg-day	1.60E-05		
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	3.00E-04	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	1.99E-11	mg/kg-day	--	--	--	--	1.39E-09	mg/kg-day	5.00E-03	mg/kg-day	2.79E-07		
				Molybdenum	2.50E+00	mg/kg	4.16E-11	mg/kg-day	--	--	--	--	2.91E-09	mg/kg-day	5.00E-03	mg/kg-day	5.82E-07		
				Naphthalene	1.30E+01	mg/kg	2.81E-08	mg/kg-day	--	--	--	--	1.96E-08	mg/kg-day	2.00E-02	mg/kg-day	9.82E-05		
				Nickel	3.91E+01	mg/kg	6.50E-10	mg/kg-day	--	--	--	--	4.55E-08	mg/kg-day	2.00E-02	mg/kg-day	2.27E-06		
				Phenanthrene	1.39E+01	mg/kg	2.31E-09	mg/kg-day	--	--	--	--	1.62E-07	mg/kg-day	3.00E-01	mg/kg-day	5.39E-07		
				Phenol	5.80E-01	mg/kg	9.63E-10	mg/kg-day	--	--	--	--	6.74E-08	mg/kg-day	3.00E-01	mg/kg-day	2.25E-07		
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	--		
				Pyrene	2.41E+01	mg/kg	5.21E-08	mg/kg-day	--	--	--	--	3.65E-06	mg/kg-day	3.00E-02	mg/kg-day	1.22E-04		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	--		
				Selenium	2.24E-01	mg/kg	3.73E-12	mg/kg-day	--	--	--	--	2.61E-10	mg/kg-day	5.00E-03	mg/kg-day	5.22E-08		
				Silver	1.18E+00	mg/kg	1.92E-11	mg/kg-day	--	--	--	--	1.35E-09	mg/kg-day	5.00E-03	mg/kg-day	2.69E-07		
				Technical Chlordane	5.51E-01	mg/kg	3.66E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.28E-10	--	2.56E-08	mg/kg-day	5.00E-04	mg/kg-day	5.12E-05		
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	6.60E-05	mg/kg-day	--	--		
				Toluene	4.30E-04	mg/kg	7.14E-14	mg/kg-day	--	--	--	--	5.00E-12	mg/kg-day	8.00E-02	mg/kg-day	6.25E-11		
				Vanadium	3.41E+01	mg/kg	5.67E-10	mg/kg-day	--	--	--	--	3.97E-08	mg/kg-day	1.00E-03	mg/kg-day	3.97E-05		
				Zinc	4.53E+02	mg/kg	7.53E-09	mg/kg-day	--	--	--	--	5.27E-07	mg/kg-day	3.00E-01	mg/kg-day	1.76E-06		
				Exposure Point Total			Exposure Route Total							6.11E-08					1.97E-02
				Exposure Medium Total											2.45E-07				
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	3.19E-10	mg/m <sup>3</sup>	1.67E-13	mg/kg-day	--	--	--	--	1.17E-11	mg/kg-day	2.00E-02	mg/kg-day	5.85E-10			
			2-Methylphenol	1.23E-10	mg/m <sup>3</sup>	6.44E-14	mg/kg-day	--	--	--	--	4.51E-12	mg/kg-day	--	--	--			
			4,4'-DDD	1.82E-12	mg/m <sup>3</sup>	9.54E-16	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	2.29E-16	6.68E-14	mg/kg-day	5.00E-04	mg/kg-day	1.34E-10				
			4,4'-DDT	6.78E-11	mg/m <sup>3</sup>	3.54E-14	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.20E-14	2.48E-12	mg/kg-day	5.00E-04	mg/kg-day	4.95E-09				
			4-Methylphenol	4.10E-10	mg/m <sup>3</sup>	2.15E-13	mg/kg-day	--	--	--	--	1.50E-11	mg/kg-day	5.00E-03	mg/kg-day	3.01E-09			
			4-Nitroaniline	9.42E-10	mg/m <sup>3</sup>	4.93E-13	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.04E-14	3.45E-11	mg/kg-day	1.00E-03	mg/kg-day	3.45E-08				
			4-Nitrophenol	6.38E-10	mg/m <sup>3</sup>	3.34E-13	mg/kg-day	--	--	--	--	2.34E-11	mg/kg-day	5.70E-04	mg/kg-day	4.10E-08			
			Aluminum	1.34E-05	mg/m <sup>3</sup>	7.02E-09	mg/kg-day	--	--	--	--	4.91E-07	mg/kg-day	1.43E-03	mg/kg-day	3.44E-04			
			Antimony	6.20E-09	mg/m <sup>3</sup>	3.24E-12	mg/kg-day	--	--	--	--	2.27E-10	mg/kg-day	--	--	--			
			Aroclor-1248	1.82E-09	mg/m <sup>3</sup>	9.54E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.91E-12	6.68E-11	mg/kg-day	2.00E-05	mg/kg-day	3.34E-06				
			Aroclor-1254	6.75E-10	mg/m <sup>3</sup>	3.53E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	7.06E-13	2.47E-11	mg/kg-day	2.00E-05	mg/kg-day	1.24E-06				
			Aroclor-1260	8.23E-10	mg/m <sup>3</sup>	4.31E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	8.61E-13	3.01E-11	mg/kg-day	2.00E-05	mg/kg-day	1.51E-06				
			Aroclor-1268	4.22E-11	mg/m <sup>3</sup>	2.21E-14	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.42E-14	1.55E-12	mg/kg-day	2.00E-05	mg/kg-day	7.73E-08				
			Arsenic	9.37E-09	mg/m <sup>3</sup>	4.90E-12	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	7.36E-11	3.43E-10	mg/kg-day	--	--	--				
			Barium	1.03E-07	mg/m <sup>3</sup>	5.39E-11	mg/kg-day	--	--	--	--	3.78E-09	mg/kg-day	1.40E-04	mg/kg-day	2.70E-05			
			Benzo(a)anthracene	7.61E-09	mg/m <sup>3</sup>	3.98E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	2.91E-12	2.79E-10	mg/kg-day	--	--	--				
			Benzo(a)pyrene	2.53E-09	mg/m <sup>3</sup>	1.32E-12	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	9.67E-12	9.27E-11	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	1.16E-09	mg/m <sup>3</sup>	6.07E-13	mg/kg-day	--	--	--	--	4.25E-11	mg/kg-day	3.00E-02	mg/kg-day	1.42E-09			
			Benzo(k)fluoranthene	4.95E-09	mg/m <sup>3</sup>	2.59E-12	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	1.89E-13	1.82E-10	mg/kg-day	--	--	--				
			Beryllium	3.62E-10	mg/m <sup>3</sup>	1.89E-13	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	1.59E-12	1.33E-11	mg/kg-day	5.71E-06	mg/kg-day	2.32E-06				
			Beta-BHC	3.34E-12	mg/m <sup>3</sup>	1.75E-15	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	3.25E-15	1.22E-13	mg/kg-day	2.00E-04	mg/kg-day	6.12E-10				
			bis(2-ethylhexyl)phthalate	1.19E-08	mg/m <sup>3</sup>	6.23E-12	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	8.72E-14	4.36E-10	mg/kg-day	2.00E-02	mg/kg-day	2.18E-08				
			Cadmium	1.44E-08	mg/m <sup>3</sup>	7.53E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	4.75E-11	5.27E-10	mg/kg-day	--	--	--				
			Chromium	1.69E-07	mg/m <sup>3</sup>	8.84E-11	mg/kg-day	--	--	--	--	6.19E-09	mg/kg-day	--	--				
			Cobalt	1.15E-08	mg/m <sup>3</sup>	6.02E-12	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	5.90E-11	4.22E-10	mg/kg-day	5.71E-06	mg/kg-day	7.38E-05				
			Copper	8.67E-08	mg/m <sup>3</sup>	4.54E-11	mg/kg-day	--	--	--	--	3.18E-09	mg/kg-day	--	--				
			Dibenzo(a,h)anthracene	4.83E-10	mg/m <sup>3</sup>	2.53E-13	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.84E-12	1.77E-11	mg/kg-day	--	--	--				
			Dimethylphthalate	5.78E-11	mg/m <sup>3</sup>	3.02E-14	mg/kg-day	--	--	--	--	2.12E-12	mg/kg-day	1.00E+01	mg/kg-day	2.12E-13			
			di-n-Butylphthalate	3.34E-09	mg/m <sup>3</sup>	1.75E-12	mg/kg-day	--	--	--	--	1.22E-10	mg/kg-day	1.22E-01	mg/kg-day	1.22E-09			
			Endrin aldehyde	6.39E-11	mg/m <sup>3</sup>	3.35E-14	mg/kg-day	--	--	--	--	2.34E-12	mg/kg-day	3.00E-04	mg/kg-day	7.81E-09			

TABLE H2-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	1.52E-11	mg/m <sup>3</sup>	7.95E-15	mg/kg-day	--	--	--	--	5.57E-13	mg/kg-day	3.00E-04	mg/kg-day	1.86E-09				
				Heptachlor Epoxide	1.70E-11	mg/m <sup>3</sup>	8.87E-15	mg/kg-day	9.10E+00	(mg/kg-day)-1	8.07E-14	6.21E-13	mg/kg-day	1.30E-05	mg/kg-day	4.78E-08					
				Indeno(1,2,3-cd)pyrene	1.33E-09	mg/m <sup>3</sup>	6.94E-13	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.07E-13	4.86E-11	mg/kg-day	--	--	--					
				Iron	6.19E-05	mg/m <sup>3</sup>	3.24E-08	mg/kg-day	--	--	--	2.27E-06	mg/kg-day	--	--	--					
				Isophorone	3.04E-10	mg/m <sup>3</sup>	1.59E-13	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.51E-16	1.11E-11	mg/kg-day	2.00E-01	mg/kg-day	5.57E-11					
				Lead	4.41E-06	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	--	--	--					
				Manganese	5.03E-07	mg/m <sup>3</sup>	2.63E-10	mg/kg-day	--	--	--	1.84E-08	mg/kg-day	1.43E-05	mg/kg-day	1.29E-03					
				Mercury	4.70E-10	mg/m <sup>3</sup>	2.46E-13	mg/kg-day	--	--	--	1.72E-11	mg/kg-day	8.60E-05	mg/kg-day	2.00E-07					
				Molybdenum	3.81E-09	mg/m <sup>3</sup>	1.99E-12	mg/kg-day	--	--	--	1.39E-10	mg/kg-day	--	--	--					
				Nickel	5.95E-08	mg/m <sup>3</sup>	3.11E-11	mg/kg-day	--	--	--	2.18E-09	mg/kg-day	--	--	--					
				Phenol	8.81E-10	mg/m <sup>3</sup>	4.61E-13	mg/kg-day	--	--	--	3.23E-11	mg/kg-day	3.00E-01	mg/kg-day	1.08E-10					
				Selenium	3.41E-10	mg/m <sup>3</sup>	1.79E-13	mg/kg-day	--	--	--	1.25E-11	mg/kg-day	--	--	--					
				Silver	1.76E-09	mg/m <sup>3</sup>	9.22E-13	mg/kg-day	--	--	--	6.45E-11	mg/kg-day	--	--	--					
				Thallium	7.55E-10	mg/m <sup>3</sup>	3.95E-13	mg/kg-day	--	--	--	2.77E-11	mg/kg-day	--	--	--					
				Vanadium	5.19E-08	mg/m <sup>3</sup>	2.72E-11	mg/kg-day	--	--	--	1.90E-09	mg/kg-day	--	--	--					
				Zinc	6.89E-07	mg/m <sup>3</sup>	3.61E-10	mg/kg-day	--	--	--	2.52E-08	mg/kg-day	--	--	--					
				<b>Exposure Route Total</b>																	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.46E-08	mg/kg-day	--	--	--	--	3.83E-06	mg/kg-day	1.10E-03	mg/kg-day	3.48E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.86E-07	mg/kg-day	--	--	--	--	1.30E-05	mg/kg-day	1.10E-03	mg/kg-day	1.18E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.13E-08	mg/kg-day	--	--	--	--	4.29E-06	mg/kg-day	1.71E-03	mg/kg-day	2.50E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.79E-06	mg/kg-day	--	--	--	--	1.95E-04	mg/kg-day	5.70E-02	mg/kg-day	3.42E-03
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.50E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.02E-10	1.05E-07	mg/kg-day	1.14E-03	mg/kg-day	9.20E-05					
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.91E-08	mg/kg-day	--	--	--	--	1.34E-06	mg/kg-day	1.71E-03	mg/kg-day	7.81E-04				
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	8.52E-08	mg/kg-day	--	--	--	--	5.97E-06	mg/kg-day	3.00E-02	mg/kg-day	1.99E-04				
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.18E-07	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.80E-08	5.72E-05	mg/kg-day	2.30E-01	mg/kg-day	2.49E-04					
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	3.87E-08	mg/kg-day	--	--	--	--	2.71E-06	mg/kg-day	5.00E-02	mg/kg-day	5.42E-05				
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	5.08E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.73E-12	3.55E-10	mg/kg-day	5.00E-04	mg/kg-day	7.11E-07					
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	3.04E-08	mg/kg-day	--	--	--	--	2.13E-06	mg/kg-day	6.00E-02	mg/kg-day	3.55E-05				
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	7.48E-10	mg/kg-day	--	--	--	--	5.24E-08	mg/kg-day	6.00E-02	mg/kg-day	8.73E-07				
				Aldrin	5.63E-09	mg/m <sup>3</sup>	2.95E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.01E-11	2.06E-10	mg/kg-day	3.00E-05	mg/kg-day	6.88E-06					
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.90E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.20E-11	1.33E-10	mg/kg-day	5.00E-04	mg/kg-day	2.67E-07					
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	4.22E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.48E-12	2.95E-10	mg/kg-day	2.00E-04	mg/kg-day	1.48E-06					
				Anthracene	1.45E-05	mg/m <sup>3</sup>	7.58E-09	mg/kg-day	--	--	--	--	5.31E-07	mg/kg-day	3.00E-01	mg/kg-day	1.77E-06				
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	9.27E-10	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.76E-10	6.49E-08	mg/kg-day	--	--	--					
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.37E-10	mg/kg-day	--	--	--	--	1.66E-08	mg/kg-day	2.00E-01	mg/kg-day	8.29E-08				
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.71E-08	mg/kg-day	--	--	--	--	1.90E-06	mg/kg-day	1.70E-02	mg/kg-day	1.12E-04				
				Chrysene	6.25E-06	mg/m <sup>3</sup>	3.27E-09	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.39E-11	2.29E-07	mg/kg-day	--	--	--					
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.19E-11	mg/kg-day	1.86E+00	(mg/kg-day)-1	4.06E-11	1.53E-09	mg/kg-day	2.00E-04	mg/kg-day	7.67E-06					
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.35E-08	mg/kg-day	--	--	--	--	1.64E-06	mg/kg-day	2.00E-03	mg/kg-day	8.22E-04				
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	3.88E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.21E-10	2.72E-09	mg/kg-day	5.00E-05	mg/kg-day	5.43E-05					
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.22E-11	mg/kg-day	--	--	--	--	2.95E-09	mg/kg-day	6.00E-03	mg/kg-day	4.92E-07				
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	4.37E-11	mg/kg-day	--	--	--	--	3.06E-09	mg/kg-day	6.00E-03	mg/kg-day	5.09E-07				
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	7.88E-11	mg/kg-day	--	--	--	--	5.52E-09	mg/kg-day	6.00E-03	mg/kg-day	9.20E-07				
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	8.97E-09	mg/kg-day	--	--	--	--	6.28E-07	mg/kg-day	4.00E-02	mg/kg-day	1.57E-05				
				Fluorene	1.71E-05	mg/m <sup>3</sup>	8.93E-09	mg/kg-day	--	--	--	--	6.25E-07	mg/kg-day	4.00E-02	mg/kg-day	1.56E-05				
				gamma-BHC (Lindane)	1.58E-08	mg/m <sup>3</sup>	8.34E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.08E-11	5.84E-10	mg/kg-day	3.00E-04	mg/kg-day	1.95E-06					
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	6.79E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.38E-12	4.75E-10	mg/kg-day	2.00E-04	mg/kg-day	2.38E-06					
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.77E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	8.05E-10	1.24E-08	mg/kg-day	5.00E-04	mg/kg-day	2.48E-05					
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.52E-11	mg/kg-day	--	--	--	--	3.16E-09	mg/kg-day	5.00E-03	mg/kg-day	6.33E-07				
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.66E-07	mg/kg-day	--	--	--	--	2.56E-05	mg/kg-day	8.57E-04	mg/kg-day	2.99E-02				
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	--	7.00E-06	mg/kg-day	3.00E-01	mg/kg-day	2.33E-05				

TABLE H2-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	7.02E-06	mg/kg-day	1.10E-01	mg/kg-day	6.38E-05
				Pyrene	1.85E-05	mg/m <sup>3</sup>	9.66E-09	mg/kg-day	--	--	--	6.77E-07	mg/kg-day	3.00E-02	mg/kg-day	2.26E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.47E-08	mg/kg-day	--	--	--	1.03E-08	mg/kg-day	4.00E-02	mg/kg-day	2.57E-05
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	2.85E-10	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	9.99E-14	2.00E-08	mg/kg-day	2.00E-04	mg/kg-day	9.99E-05
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.63E-10	mg/kg-day	--	--	--	1.14E-08	mg/kg-day	1.43E+00	mg/kg-day	8.01E-09
				Exposure Route Total											5.38E-02	
				Exposure Point Total											5.66E-02	
				Exposure Medium Total											5.66E-02	
<b>Medium Total</b>							<b>2.65E-07</b>				<b>2.11E-01</b>					
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.22E-10	mg/kg-day	--	--	--	1.55E-08	mg/kg-day	1.40E-01	mg/kg-day	1.11E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.61E-11	mg/kg-day	--	--	--	4.62E-09	mg/kg-day	1.71E-03	mg/kg-day	2.70E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.33E-10	mg/kg-day	--	--	--	3.03E-08	mg/kg-day	5.70E-02	mg/kg-day	5.32E-07
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	9.10E-02	--	2.83E-11	2.18E-08	mg/kg-day	1.40E-03	mg/kg-day	1.56E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	7.94E-12	8.17E-09	mg/kg-day	1.14E-03	mg/kg-day	7.17E-06
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.76E-11	mg/kg-day	--	--	--	2.63E-09	mg/kg-day	1.71E-03	mg/kg-day	1.54E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.47E-10	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	3.24E-12	1.03E-08	mg/kg-day	2.30E-01	mg/kg-day	4.49E-08
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	5.70E-12	mg/kg-day	--	--	--	3.99E-10	mg/kg-day	1.43E+00	mg/kg-day	2.79E-10
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.06E-13	mg/kg-day	--	--	--	3.54E-11	mg/kg-day	5.00E-02	mg/kg-day	7.09E-10
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	6.77E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.30E-13	4.74E-11	mg/kg-day	5.00E-04	mg/kg-day	9.48E-08
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.12E-12	mg/kg-day	--	--	--	1.48E-10	mg/kg-day	8.60E-01	mg/kg-day	1.72E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.03E-11	mg/kg-day	--	--	--	1.42E-09	mg/kg-day	6.00E-02	mg/kg-day	2.37E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	8.64E-13	mg/kg-day	--	--	--	6.05E-11	mg/kg-day	6.00E-02	mg/kg-day	1.01E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.17E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.99E-11	8.19E-11	mg/kg-day	3.00E-05	mg/kg-day	2.73E-06
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.48E-13	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	9.34E-13	1.04E-11	mg/kg-day	5.00E-04	mg/kg-day	2.07E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.51E-13	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.23E-13	2.45E-11	mg/kg-day	2.00E-04	mg/kg-day	1.23E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.72E-12	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	3.00E-01	mg/kg-day	4.01E-10
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.37E-10	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	3.73E-12	9.56E-09	mg/kg-day	8.60E-03	mg/kg-day	1.11E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.55E-13	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.86E-13	1.78E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	3.85E-12	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	1.48E-14	2.70E-10	mg/kg-day	2.00E-02	mg/kg-day	1.35E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.36E-09	mg/kg-day	--	--	--	1.65E-07	mg/kg-day	2.00E-01	mg/kg-day	8.25E-07
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	3.83E-11	mg/kg-day	--	--	--	2.68E-09	mg/kg-day	1.70E-02	mg/kg-day	1.58E-07
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.08E-09	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	8.71E-11	7.57E-08	mg/kg-day	1.40E-02	mg/kg-day	5.41E-06
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	3.92E-10	mg/kg-day	--	--	--	2.74E-08	mg/kg-day	2.60E-02	mg/kg-day	1.06E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	6.89E-13	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	5.03E-15	4.82E-11	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.77E-10	mg/kg-day	--	--	--	1.94E-08	mg/kg-day	1.00E-02	mg/kg-day	1.94E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.14E-13	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	8.23E-12	3.60E-11	mg/kg-day	5.00E-05	mg/kg-day	7.20E-07
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.17E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.93E-16	mg/kg-day	--	--	--	1.35E-14	mg/kg-day	6.00E-03	mg/kg-day	2.25E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.04E-10	mg/kg-day	--	--	--	7.31E-09	mg/kg-day	2.90E-01	mg/kg-day	2.52E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.65E-13	mg/kg-day	--	--	--	1.85E-11	mg/kg-day	4.00E-02	mg/kg-day	4.63E-10
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.23E-13	mg/kg-day	--	--	--	3.66E-11	mg/kg-day	4.00E-02	mg/kg-day	9.15E-10
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.50E-16	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	8.45E-16	4.55E-14	mg/kg-day	3.00E-04	mg/kg-day	1.52E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	9.11E-13	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.19E-13	6.37E-11	mg/kg-day	2.00E-04	mg/kg-day	3.19E-07
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	9.34E-12	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	4.25E-11	6.54E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.79E-08	mg/kg-day	--	--	--	1.26E-06	mg/kg-day	1.10E-01	mg/kg-day	1.14E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.63E-10	mg/kg-day	--	--	--	2.54E-08	mg/kg-day	2.90E-02	mg/kg-day	8.77E-07
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.71E-12	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	5.00E-03	mg/kg-day	2.39E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	2.84E-12	mg/kg-day	--	--	--	1.99E-10	mg/kg-day	8.57E-04	mg/kg-day	2.32E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.32E-10	mg/kg-day	--	--	--	9.27E-09	mg/kg-day	8.57E-04	mg/kg-day	1.08E-05
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.47E-10	mg/kg-day	--	--	--	1.03E-08	mg/kg-day	4.00E-02	mg/kg-day	2.58E-07
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.37E-12	mg/kg-day	--	--	--	9.59E-11	mg/kg-day	3.00E-01	mg/kg-day	3.20E-10

TABLE H2-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.79E-08	mg/kg-day	--	--	--	--	1.26E-06	mg/kg-day	1.10E-01	mg/kg-day	1.14E-05				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	2.41E-13	mg/kg-day	--	--	--	--	1.69E-11	mg/kg-day	3.00E-02	mg/kg-day	5.63E-10				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.19E-10	mg/kg-day	--	--	--	--	2.93E-08	mg/kg-day	4.00E-02	mg/kg-day	7.34E-07				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	4.75E-10	mg/kg-day	--	--	--	--	3.33E-08	mg/kg-day	4.00E-02	mg/kg-day	8.32E-07				
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.99E-10	mg/kg-day	--	--	--	--	1.39E-08	mg/kg-day	1.43E+00	mg/kg-day	9.74E-09				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.69E-10	mg/kg-day	--	--	--	--	3.28E-08	mg/kg-day	2.00E-02	mg/kg-day	1.64E-06				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	4.88E-10	mg/kg-day	4.00E-01	(mg/kg-day)-1	1.95E-10		3.41E-08	mg/kg-day	1.00E-02	mg/kg-day	3.41E-06				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.01E-09	mg/kg-day	3.10E-02	(mg/kg-day)-1	3.13E-11		7.06E-08	mg/kg-day	2.86E-02	mg/kg-day	2.47E-06				
				Exposure Route Total																	8.77E-05
				Exposure Point Total																	
Exposure Medium Total																		8.77E-05			
Medium Total																		8.77E-05			
Total of Receptor Risks Across All Media										4.29E-10	Total of Receptor Hazards Across All Media						2.11E-01				

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RTC Reference concentration
  - RID Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H2-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.55E-09	mg/kg-day	--	--	--	--	5.29E-07	mg/kg-day	1.00E-02	mg/kg-day	5.29E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.57E-08	mg/kg-day	--	--	--	--	1.80E-06	mg/kg-day	1.00E-02	mg/kg-day	1.80E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.52E-09	mg/kg-day	--	--	--	--	1.76E-07	mg/kg-day	5.00E-02	mg/kg-day	3.52E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.31E-07	mg/kg-day	--	--	--	--	9.16E-06	mg/kg-day	9.00E-02	mg/kg-day	1.02E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.81E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.23E-12	1.27E-09	mg/kg-day	1.14E-03	mg/kg-day	1.11E-06	
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	8.05E-10	mg/kg-day	--	--	--	--	5.64E-08	mg/kg-day	5.00E-02	mg/kg-day	1.13E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.54E-09	mg/kg-day	--	--	--	--	3.87E-07	mg/kg-day	3.00E-02	mg/kg-day	1.29E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.42E-08	mg/kg-day	2.40E-02	(mg/kg-day)-1	8.21E-10	2.40E-07	mg/kg-day	3.00E-02	mg/kg-day	7.98E-05	
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.06E-09	mg/kg-day	--	--	--	--	7.40E-08	mg/kg-day	2.00E-02	mg/kg-day	3.70E-06
				2-Methylphenol	8.10E-02	mg/kg	4.08E-10	mg/kg-day	--	--	--	--	2.85E-08	mg/kg-day	5.00E-02	mg/kg-day	5.71E-07
				2-Methylnaphthalene	1.45E+00	mg/kg	7.29E-09	mg/kg-day	--	--	--	--	5.11E-07	mg/kg-day	4.00E-03	mg/kg-day	1.28E-04
				4,4'-DDD	1.20E-03	mg/kg	6.04E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-12	4.23E-10	mg/kg-day	5.00E-04	mg/kg-day	8.45E-07	
				4,4'-DDE	7.50E-02	mg/kg	3.77E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.28E-10	2.64E-08	mg/kg-day	5.00E-04	mg/kg-day	5.28E-05	
				4,4'-DDT	4.20E-02	mg/kg	2.11E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.18E-11	1.48E-08	mg/kg-day	5.00E-04	mg/kg-day	2.96E-05	
				4-Methylphenol	2.70E-01	mg/kg	1.36E-09	mg/kg-day	--	--	--	--	9.51E-08	mg/kg-day	5.00E-03	mg/kg-day	1.00E-05
				4-Nitroaniline	6.20E-01	mg/kg	3.12E-09	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.55E-11	2.18E-07	mg/kg-day	3.00E-03	mg/kg-day	7.28E-05	
				4-Nitrophenol	4.20E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	--	1.48E-07	mg/kg-day	5.00E-04	mg/kg-day	2.96E-04
				Acenaphthene	3.47E+00	mg/kg	1.75E-08	mg/kg-day	--	--	--	--	1.22E-08	mg/kg-day	6.00E-02	mg/kg-day	2.04E-05
				Acenaphthylene	8.96E-02	mg/kg	4.51E-10	mg/kg-day	--	--	--	--	3.16E-08	mg/kg-day	6.00E-02	mg/kg-day	5.26E-07
				Aldrin	1.30E-02	mg/kg	6.54E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.11E-09	4.58E-09	mg/kg-day	3.00E-05	mg/kg-day	1.53E-04	
				alpha-BHC	7.30E-04	mg/kg	3.87E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.31E-11	2.57E-10	mg/kg-day	5.00E-04	mg/kg-day	5.14E-07	
				alpha-Chlordane	6.98E-03	mg/kg	3.51E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.23E-11	2.46E-09	mg/kg-day	5.00E-04	mg/kg-day	4.92E-06	
				Aluminum	9.05E+03	mg/kg	4.56E-05	mg/kg-day	--	--	--	--	3.19E-03	mg/kg-day	1.00E+00	mg/kg-day	3.19E-03
				Anthracene	9.13E-01	mg/kg	4.60E-09	mg/kg-day	--	--	--	--	3.22E-07	mg/kg-day	3.00E-01	mg/kg-day	1.07E-06
				Antimony	2.72E+00	mg/kg	1.37E-08	mg/kg-day	--	--	--	--	9.59E-07	mg/kg-day	4.00E-04	mg/kg-day	2.40E-03
				Aroclor-1248	1.20E+00	mg/kg	6.04E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.21E-08	4.23E-07	mg/kg-day	2.00E-05	mg/kg-day	2.11E-02	
				Aroclor-1254	4.38E-01	mg/kg	2.20E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.40E-09	1.54E-07	mg/kg-day	2.00E-05	mg/kg-day	7.71E-03	
				Aroclor-1260	4.88E-01	mg/kg	2.46E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.91E-09	1.72E-07	mg/kg-day	2.00E-05	mg/kg-day	8.60E-03	
				Aroclor-1268	2.72E-02	mg/kg	1.37E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.74E-10	9.57E-09	mg/kg-day	2.00E-05	mg/kg-day	4.79E-04	
				Arsenic	9.53E+00	mg/kg	4.80E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	7.20E-08	3.36E-06	mg/kg-day	3.00E-04	mg/kg-day	1.12E-02	
				Barium	6.94E+01	mg/kg	3.49E-07	mg/kg-day	--	--	--	--	2.45E-05	mg/kg-day	7.00E-02	mg/kg-day	3.49E-04
				Benzo(a)anthracene	4.21E+00	mg/kg	2.12E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.55E-08	1.48E-06	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.41E+00	mg/kg	7.08E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.16E-08	4.95E-07	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.19E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.72E-09	8.36E-07	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	3.26E-09	mg/kg-day	--	--	--	--	2.28E-07	mg/kg-day	3.00E-02	mg/kg-day	7.61E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.42E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.04E-09	9.95E-07	mg/kg-day	--	--	--	
				Beryllium	2.28E-01	mg/kg	1.15E-09	mg/kg-day	--	--	--	--	8.02E-08	mg/kg-day	2.00E-03	mg/kg-day	4.01E-05
				Beta-BHC	2.20E-03	mg/kg	1.11E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.99E-11	7.75E-10	mg/kg-day	2.00E-04	mg/kg-day	3.87E-06	
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	2.66E-08	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.73E-10	1.87E-06	mg/kg-day	2.00E-02	mg/kg-day	9.33E-05	
				Cadmium	8.65E+00	mg/kg	4.35E-08	mg/kg-day	--	--	--	--	3.05E-06	mg/kg-day	5.00E-04	mg/kg-day	6.09E-03
				Carbon disulfide	2.40E-04	mg/kg	1.21E-12	mg/kg-day	--	--	--	--	8.45E-11	mg/kg-day	1.00E-01	mg/kg-day	8.45E-10
				Chlorobenzene	1.10E-01	mg/kg	5.54E-10	mg/kg-day	--	--	--	--	3.87E-08	mg/kg-day	2.00E-02	mg/kg-day	1.94E-06
				Chromium	1.00E+02	mg/kg	5.03E-07	mg/kg-day	--	--	--	--	3.52E-05	mg/kg-day	1.50E+00	mg/kg-day	2.35E-05
				Chrysene	4.80E+00	mg/kg	2.41E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.76E-10	1.69E-06	mg/kg-day	--	--	--	
				Cobalt	7.44E+00	mg/kg	3.75E-08	mg/kg-day	--	--	--	--	2.62E-06	mg/kg-day	2.00E-02	mg/kg-day	1.31E-04
				Copper	6.01E+01	mg/kg	3.02E-07	mg/kg-day	--	--	--	--	2.12E-05	mg/kg-day	3.70E-02	mg/kg-day	5.72E-04
				Delta-BHC	8.40E-03	mg/kg	4.23E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	7.61E-11	2.96E-09	mg/kg-day	2.00E-04	mg/kg-day	1.48E-05	
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.39E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.01E-08	9.71E-08	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	6.54E-08	mg/kg-day	--	--	--	--	4.58E-06	mg/kg-day	2.00E-03	mg/kg-day	2.29E-03
				Dieldrin	4.89E-02	mg/kg	2.46E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.94E-09	1.72E-08	mg/kg-day	5.00E-05	mg/kg-day	3.45E-04	
Dimethylphthalate	3.80E-02	mg/kg	1.91E-10	mg/kg-day	--	--	--	--	1.34E-08	mg/kg-day	1.00E+01	mg/kg-day	1.34E-09				

TABLE H2-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	1.16E-08	mg/kg-day	--	--	--	8.10E-07	mg/kg-day	1.00E-01	mg/kg-day	8.10E-06				
				Endosulfan I	2.30E-02	mg/kg	1.16E-10	mg/kg-day	--	--	--	8.10E-09	mg/kg-day	6.00E-03	mg/kg-day	1.35E-06				
				Endosulfan II	2.34E-02	mg/kg	1.18E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	2.16E-10	mg/kg-day	--	--	--	1.51E-08	mg/kg-day	6.00E-03	mg/kg-day	2.52E-06				
				Endrin aldehyde	6.30E-02	mg/kg	3.17E-10	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	3.00E-04	mg/kg-day	7.40E-05				
				Endrin Ketone	1.00E-02	mg/kg	5.03E-11	mg/kg-day	--	--	--	3.52E-09	mg/kg-day	3.00E-04	mg/kg-day	1.17E-05				
				Fluoranthene	2.23E+01	mg/kg	1.12E-07	mg/kg-day	--	--	--	7.84E-06	mg/kg-day	4.00E-02	mg/kg-day	1.96E-04				
				Fluorene	2.53E+00	mg/kg	1.27E-08	mg/kg-day	--	--	--	8.90E-07	mg/kg-day	4.00E-02	mg/kg-day	2.23E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.31E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.70E-11	9.18E-10	mg/kg-day	3.00E-04	mg/kg-day	3.05E-06				
				gamma-Chlordane	1.27E-02	mg/kg	6.39E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.24E-11	4.47E-09	mg/kg-day	5.00E-04	mg/kg-day	8.95E-06				
				Heptachlor	6.90E-03	mg/kg	3.47E-11	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.56E-10	2.43E-09	mg/kg-day	5.00E-04	mg/kg-day	4.86E-06				
				Heptachlor Epoxide	9.86E-03	mg/kg	4.96E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	4.51E-10	3.47E-09	mg/kg-day	1.30E-05	mg/kg-day	2.67E-04				
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	2.50E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.83E-09	1.75E-07	mg/kg-day	--	--	--				
				Iron	3.68E+04	mg/kg	1.85E-04	mg/kg-day	--	--	--	1.30E-02	mg/kg-day	3.00E-01	mg/kg-day	4.32E-02				
				Isophorone	2.00E-01	mg/kg	1.01E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.56E-13	7.05E-08	mg/kg-day	2.00E-01	mg/kg-day	3.52E-07				
				Lead	2.39E+03	mg/kg	1.20E-05	mg/kg-day	--	--	--	8.42E-04	mg/kg-day	--	--	--				
				Manganese	3.04E+02	mg/kg	1.53E-06	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	2.40E-02	mg/kg-day	4.47E-03				
				Mercury	2.65E-01	mg/kg	1.34E-09	mg/kg-day	--	--	--	9.35E-08	mg/kg-day	3.00E-04	mg/kg-day	3.12E-04				
				Methoxychlor	1.20E-01	mg/kg	6.04E-10	mg/kg-day	--	--	--	4.23E-08	mg/kg-day	5.00E-03	mg/kg-day	8.45E-06				
				Methylene chloride	2.40E-03	mg/kg	1.21E-11	mg/kg-day	7.50E-03	(mg/kg-day)-1	9.06E-14	8.45E-10	mg/kg-day	6.00E-02	mg/kg-day	1.41E-08				
				Molybdenum	2.18E+00	mg/kg	1.10E-08	mg/kg-day	--	--	--	7.68E-07	mg/kg-day	5.00E-03	mg/kg-day	1.54E-04				
				Naphthalene	1.30E+01	mg/kg	6.54E-08	mg/kg-day	--	--	--	4.58E-06	mg/kg-day	2.00E-02	mg/kg-day	2.29E-04				
				Nickel	3.89E+01	mg/kg	1.96E-07	mg/kg-day	--	--	--	1.37E-05	mg/kg-day	2.00E-02	mg/kg-day	6.86E-04				
				Phenanthrene	1.17E+01	mg/kg	5.88E-08	mg/kg-day	--	--	--	4.12E-06	mg/kg-day	3.00E-01	mg/kg-day	1.37E-05				
				Phenol	5.80E-01	mg/kg	2.92E-09	mg/kg-day	--	--	--	2.04E-07	mg/kg-day	3.00E-01	mg/kg-day	6.81E-07				
				p-Isopropyltoluene	1.10E-01	mg/kg	5.54E-10	mg/kg-day	--	--	--	3.87E-08	mg/kg-day	1.00E-01	mg/kg-day	3.87E-07				
				Pyrene	2.03E+01	mg/kg	1.02E-07	mg/kg-day	--	--	--	7.17E-06	mg/kg-day	3.00E-02	mg/kg-day	2.39E-04				
				sec-Butylbenzene	7.10E-02	mg/kg	3.57E-10	mg/kg-day	--	--	--	2.50E-08	mg/kg-day	4.00E-02	mg/kg-day	6.25E-07				
				Selenium	2.84E-01	mg/kg	1.43E-09	mg/kg-day	--	--	--	9.99E-08	mg/kg-day	5.00E-03	mg/kg-day	2.00E-05				
				Silver	9.80E-01	mg/kg	4.93E-09	mg/kg-day	--	--	--	3.45E-07	mg/kg-day	5.00E-03	mg/kg-day	6.90E-05				
				Technical Chlordane	5.41E-01	mg/kg	2.72E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	9.52E-10	1.90E-07	mg/kg-day	5.00E-04	mg/kg-day	3.81E-04				
				Thallium	4.83E-01	mg/kg	2.43E-09	mg/kg-day	--	--	--	1.70E-07	mg/kg-day	6.00E-05	mg/kg-day	2.58E-03				
				Toluene	4.30E-04	mg/kg	2.16E-12	mg/kg-day	--	--	--	1.51E-10	mg/kg-day	8.00E-02	mg/kg-day	1.89E-09				
				Vanadium	3.37E+01	mg/kg	1.69E-07	mg/kg-day	--	--	--	1.19E-05	mg/kg-day	1.00E-03	mg/kg-day	1.19E-02				
				Zinc	3.32E+02	mg/kg	1.67E-06	mg/kg-day	--	--	--	1.17E-04	mg/kg-day	3.00E-01	mg/kg-day	3.90E-04				
				<b>Exposure Route total</b>																
				Dermal				1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.49E-09	mg/kg-day	--	--	--	1.74E-07	mg/kg-day	1.00E-02	mg/kg-day	1.74E-05
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	8.47E-10	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	1.00E-02	mg/kg-day	5.93E-06
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	8.30E-11	mg/kg-day	--	--	--	5.81E-09	mg/kg-day	5.00E-02	mg/kg-day	1.16E-07
								1,2-Dichlorobenzene	2.60E+01	mg/kg	4.32E-09	mg/kg-day	--	--	--	3.02E-07	mg/kg-day	9.00E-02	mg/kg-day	3.36E-06
1,2-Dichloropropane	3.60E-03	mg/kg	5.98E-13					mg/kg-day	6.80E-02	(mg/kg-day)-1	4.07E-14	4.18E-11	mg/kg-day	1.14E-03	mg/kg-day	3.67E-08				
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.66E-11					mg/kg-day	--	--	--	1.86E-09	mg/kg-day	5.00E-02	mg/kg-day	3.72E-08				
1,3-Dichlorobenzene	1.10E+00	mg/kg	1.83E-10					mg/kg-day	--	--	--	1.28E-08	mg/kg-day	3.00E-02	mg/kg-day	4.26E-07				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	3.49E-11					mg/kg-day	--	--	--	2.44E-09	mg/kg-day	2.00E-02	mg/kg-day	1.22E-07				
2-Methylphenol	8.10E-02	mg/kg	1.35E-10					mg/kg-day	--	--	--	9.42E-09	mg/kg-day	5.00E-02	mg/kg-day	1.88E-07				
2-Methylnaphthalene	1.45E+00	mg/kg	2.41E-10					mg/kg-day	--	--	--	1.68E-08	mg/kg-day	4.00E-03	mg/kg-day	4.21E-06				
4,4'-DDD	1.20E-03	mg/kg	1.99E-13					mg/kg-day	2.40E-01	(mg/kg-day)-1	4.78E-14	1.39E-11	mg/kg-day	5.00E-04	mg/kg-day	2.79E-08				
4,4'-DDE	7.50E-02	mg/kg	1.25E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	4.23E-12	8.72E-10	mg/kg-day	5.00E-04	mg/kg-day	1.74E-06				
4,4'-DDT	4.20E-02	mg/kg	2.09E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	7.11E-12	1.46E-09	mg/kg-day	5.00E-04	mg/kg-day	2.93E-06				
4-Methylphenol	2.70E-01	mg/kg	4.48E-10					mg/kg-day	--	--	--	3.14E-08	mg/kg-day	5.00E-03	mg/kg-day	6.28E-06				

TABLE H2-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	1.03E-09	mg/kg-day	2.10E-02	--	--	2.16E-11	7.21E-08	mg/kg-day	3.00E-03	mg/kg-day	2.40E-05
				4-Nitrophenol	4.20E-01	mg/kg	6.97E-10	mg/kg-day	--	--	--	--	4.88E-08	mg/kg-day	5.00E-04	mg/kg-day	9.76E-05
				Acenaphthene	3.47E+00	mg/kg	7.49E-09	mg/kg-day	--	--	--	--	5.25E-07	mg/kg-day	6.00E-02	mg/kg-day	8.74E-06
				Acenaphthylene	8.96E-02	mg/kg	1.49E-11	mg/kg-day	--	--	--	--	1.04E-09	mg/kg-day	6.00E-02	mg/kg-day	1.74E-08
				Aldrin	1.30E-02	mg/kg	2.16E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.67E-10	1.51E-09	mg/kg-day	3.00E-05	mg/kg-day	5.04E-05	
				alpha-BHC	7.30E-04	mg/kg	1.21E-13	mg/kg-day	6.30E+00	(mg/kg-day)-1	7.64E-13	8.49E-12	mg/kg-day	5.00E-04	mg/kg-day	1.70E-08	
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--	
				Aluminum	9.05E+03	mg/kg	1.50E-07	mg/kg-day	--	--	--	--	1.05E-05	mg/kg-day	1.00E+00	mg/kg-day	1.05E-05
				Anthracene	9.13E-01	mg/kg	1.97E-09	mg/kg-day	--	--	--	--	1.38E-07	mg/kg-day	3.00E-01	mg/kg-day	4.60E-07
				Antimony	2.72E+00	mg/kg	4.52E-11	mg/kg-day	--	--	--	--	3.17E-09	mg/kg-day	4.00E-04	mg/kg-day	7.92E-06
				Aroclor-1248	1.20E+00	mg/kg	2.79E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.58E-09	1.95E-07	mg/kg-day	2.00E-05	mg/kg-day	9.76E-03	
				Aroclor-1254	4.38E-01	mg/kg	1.02E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.03E-09	7.12E-08	mg/kg-day	2.00E-05	mg/kg-day	3.56E-03	
				Aroclor-1260	4.88E-01	mg/kg	1.14E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.27E-09	7.95E-08	mg/kg-day	2.00E-05	mg/kg-day	3.97E-03	
				Aroclor-1268	2.72E-02	mg/kg	6.32E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.26E-10	4.42E-09	mg/kg-day	2.00E-05	mg/kg-day	2.21E-04	
				Arsenic	9.53E+00	mg/kg	4.75E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	7.12E-09	3.32E-07	mg/kg-day	3.00E-04	mg/kg-day	1.11E-03	
				Barium	6.94E+01	mg/kg	1.15E-09	mg/kg-day	--	--	--	8.07E-08	mg/kg-day	7.00E-02	mg/kg-day	1.15E-06	
				Benzo(a)anthracene	4.21E+00	mg/kg	9.09E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.64E-09	6.37E-07	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.41E+00	mg/kg	3.04E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.22E-08	2.12E-07	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.37E+00	mg/kg	5.12E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.74E-09	3.59E-07	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.40E-09	mg/kg-day	--	--	--	9.79E-08	mg/kg-day	3.00E-02	mg/kg-day	3.26E-06	
				Benzo(k)fluoranthene	2.82E+00	mg/kg	6.10E-09	mg/kg-day	7.30E-02	(mg/kg-day)-1	4.45E-10	4.27E-07	mg/kg-day	--	--	--	
				Beryllium	2.28E-01	mg/kg	3.78E-12	mg/kg-day	--	--	--	2.65E-10	mg/kg-day	2.00E-03	mg/kg-day	1.32E-07	
				Beta-BHC	2.20E-03	mg/kg	3.65E-13	mg/kg-day	1.80E+00	(mg/kg-day)-1	6.58E-13	2.56E-11	mg/kg-day	2.00E-04	mg/kg-day	1.28E-07	
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	8.79E-10	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.23E-11	6.16E-08	mg/kg-day	2.00E-02	mg/kg-day	3.08E-06	
				Cadmium	8.65E+00	mg/kg	1.44E-10	mg/kg-day	--	--	--	1.01E-08	mg/kg-day	5.00E-04	mg/kg-day	2.01E-05	
				Carbon disulfide	2.40E-04	mg/kg	9.96E-13	mg/kg-day	--	--	--	6.97E-11	mg/kg-day	1.00E-01	mg/kg-day	6.97E-10	
				Chlorobenzene	1.10E-01	mg/kg	1.83E-11	mg/kg-day	--	--	--	1.28E-09	mg/kg-day	2.00E-02	mg/kg-day	6.39E-08	
				Chromium	1.00E+02	mg/kg	1.66E-09	mg/kg-day	--	--	--	1.16E-07	mg/kg-day	1.50E+00	mg/kg-day	7.75E-08	
				Chrysene	4.80E+00	mg/kg	1.04E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	7.56E-11	7.25E-07	mg/kg-day	--	--	--	
				Cobalt	7.44E+00	mg/kg	1.24E-10	mg/kg-day	--	--	--	8.65E-09	mg/kg-day	2.00E-02	mg/kg-day	4.33E-07	
				Copper	6.01E+01	mg/kg	9.98E-10	mg/kg-day	--	--	--	6.98E-08	mg/kg-day	3.70E-02	mg/kg-day	1.89E-06	
				Delta-BHC	8.40E-03	mg/kg	6.97E-12	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.26E-11	4.88E-10	mg/kg-day	2.00E-04	mg/kg-day	2.44E-06	
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	5.95E-10	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.34E-09	4.17E-08	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	2.16E-09	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	2.00E-03	mg/kg-day	7.56E-05	
				Dieldrin	4.89E-02	mg/kg	8.12E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.30E-10	5.69E-10	mg/kg-day	5.00E-05	mg/kg-day	1.14E-05	
				Dimethylphthalate	3.80E-02	mg/kg	6.31E-12	mg/kg-day	--	--	--	4.42E-10	mg/kg-day	1.00E+01	mg/kg-day	4.42E-11	
				di-n-Butylphthalate	2.30E+00	mg/kg	3.82E-10	mg/kg-day	--	--	--	2.67E-08	mg/kg-day	1.00E-01	mg/kg-day	2.67E-07	
				Endosulfan I	2.30E-02	mg/kg	1.91E-11	mg/kg-day	--	--	--	1.34E-09	mg/kg-day	6.00E-03	mg/kg-day	2.23E-07	
				Endosulfan II	2.34E-02	mg/kg	1.94E-11	mg/kg-day	--	--	--	1.36E-09	mg/kg-day	6.00E-03	mg/kg-day	2.26E-07	
				Endosulfan Sulfate	4.30E-02	mg/kg	3.57E-11	mg/kg-day	--	--	--	2.50E-09	mg/kg-day	6.00E-03	mg/kg-day	4.17E-07	
				Endrin aldehyde	6.30E-02	mg/kg	5.23E-11	mg/kg-day	--	--	--	3.66E-09	mg/kg-day	3.00E-04	mg/kg-day	1.22E-05	
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	
				Fluoranthene	2.23E+01	mg/kg	4.80E-08	mg/kg-day	--	--	--	3.38E-06	mg/kg-day	4.00E-02	mg/kg-day	8.41E-05	
				Fluorene	2.53E+00	mg/kg	5.46E-09	mg/kg-day	--	--	--	3.82E-07	mg/kg-day	4.00E-02	mg/kg-day	9.55E-06	
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.73E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.25E-12	1.21E-10	mg/kg-day	3.00E-04	mg/kg-day	4.03E-07	
gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--					
Heptachlor	6.90E-03	mg/kg	1.15E-12	mg/kg-day	4.50E+00	(mg/kg-day)-1	5.16E-12	8.02E-11	mg/kg-day	5.00E-04	mg/kg-day	1.60E-07					
Heptachlor Epoxide	9.86E-03	mg/kg	1.64E-12	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.49E-11	1.15E-10	mg/kg-day	1.00E-05	mg/kg-day	8.81E-06					
Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.07E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.83E-10	7.51E-08	mg/kg-day	--	--	--					
Iron	3.68E+04	mg/kg	6.11E-07	mg/kg-day	--	--	--	4.27E-05	mg/kg-day	3.00E-01	mg/kg-day	1.42E-04					
Isophorone	2.00E-01	mg/kg	3.32E-10	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.16E-13	2.32E-08	mg/kg-day	2.00E-01	mg/kg-day	1.16E-07					

TABLE H2-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	3.97E-08	mg/kg-day	--	--	--	--	2.78E-06	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	5.05E-09	mg/kg-day	--	--	--	--	3.54E-07	mg/kg-day	2.40E-02	mg/kg-day	1.47E-05
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	1.99E-11	mg/kg-day	--	--	--	--	1.39E-09	mg/kg-day	5.00E-03	mg/kg-day	2.79E-07
				Methylene chloride	2.40E-03	mg/kg	3.99E-13	mg/kg-day	7.50E-03	(mg/kg-day)-1	2.99E-15	--	2.79E-11	mg/kg-day	6.00E-02	mg/kg-day	4.65E-10
				Molybdenum	2.18E+00	mg/kg	3.62E-11	mg/kg-day	--	--	--	--	2.53E-09	mg/kg-day	5.00E-03	mg/kg-day	5.07E-07
				Naphthalene	1.30E+01	mg/kg	2.81E-08	mg/kg-day	--	--	--	--	1.96E-06	mg/kg-day	2.00E-02	mg/kg-day	9.82E-05
				Nickel	3.89E+01	mg/kg	6.47E-10	mg/kg-day	--	--	--	--	4.53E-08	mg/kg-day	2.00E-02	mg/kg-day	2.26E-06
				Phenanthrene	1.17E+01	mg/kg	1.94E-09	mg/kg-day	--	--	--	--	1.36E-07	mg/kg-day	3.00E-01	mg/kg-day	4.53E-07
				Phenol	5.80E-01	mg/kg	9.63E-10	mg/kg-day	--	--	--	--	6.74E-08	mg/kg-day	3.00E-01	mg/kg-day	2.25E-07
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	4.39E-08	mg/kg-day	--	--	--	--	3.07E-06	mg/kg-day	3.00E-02	mg/kg-day	1.02E-04
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	4.71E-12	mg/kg-day	--	--	--	--	3.30E-10	mg/kg-day	5.00E-03	mg/kg-day	6.59E-08
				Silver	9.80E-01	mg/kg	1.63E-11	mg/kg-day	--	--	--	--	1.14E-09	mg/kg-day	5.00E-03	mg/kg-day	2.28E-07
				Technical Chlordane	5.41E-01	mg/kg	3.59E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.26E-10	--	2.51E-08	mg/kg-day	5.00E-04	mg/kg-day	5.03E-05
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	7.14E-14	mg/kg-day	--	--	--	--	5.00E-12	mg/kg-day	8.00E-02	mg/kg-day	6.25E-11
				Vanadium	3.37E+01	mg/kg	5.59E-10	mg/kg-day	--	--	--	--	3.92E-08	mg/kg-day	1.00E-03	mg/kg-day	3.92E-05
				Zinc	3.32E+02	mg/kg	5.51E-09	mg/kg-day	--	--	--	--	3.86E-07	mg/kg-day	3.00E-01	mg/kg-day	1.29E-06
							Exposure Route Total							5.60E-08			
			Exposure Point Total							2.47E-07					1.51E-01		
Exposure Medium Total											2.47E-07					1.51E-01	
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	3.19E-10	mg/m <sup>3</sup>	1.67E-13	mg/kg-day	--	--	--	--	1.17E-11	mg/kg-day	2.00E-02	mg/kg-day	5.85E-10	
			2-Methylphenol	1.23E-10	mg/m <sup>3</sup>	6.44E-14	mg/kg-day	--	--	--	--	4.51E-12	mg/kg-day	--	--	--	
			4,4'-DDD	1.82E-12	mg/m <sup>3</sup>	9.54E-16	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.29E-16	6.68E-14	mg/kg-day	5.00E-04	mg/kg-day	1.34E-10		
			4,4'-DDT	6.38E-11	mg/m <sup>3</sup>	3.34E-14	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.14E-14	2.34E-12	mg/kg-day	5.00E-04	mg/kg-day	4.68E-09		
			4-Methylphenol	4.10E-10	mg/m <sup>3</sup>	2.15E-13	mg/kg-day	--	--	--	--	1.50E-11	mg/kg-day	5.00E-03	mg/kg-day	3.01E-09	
			4-Nitroaniline	9.42E-10	mg/m <sup>3</sup>	4.93E-13	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.04E-14	3.45E-11	mg/kg-day	1.00E-03	mg/kg-day	3.45E-08		
			4-Nitrophenol	6.38E-10	mg/m <sup>3</sup>	3.34E-13	mg/kg-day	--	--	--	--	2.34E-11	mg/kg-day	5.70E-04	mg/kg-day	4.10E-08	
			Aluminum	1.38E-05	mg/m <sup>3</sup>	7.20E-09	mg/kg-day	--	--	--	--	5.04E-07	mg/kg-day	1.43E-03	mg/kg-day	3.53E-04	
			Antimony	4.14E-09	mg/m <sup>3</sup>	2.17E-12	mg/kg-day	--	--	--	--	1.52E-10	mg/kg-day	--	--	--	
			Aroclor-1248	1.82E-09	mg/m <sup>3</sup>	9.54E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.91E-12	6.68E-11	mg/kg-day	2.00E-05	mg/kg-day	3.34E-06		
			Aroclor-1254	6.65E-10	mg/m <sup>3</sup>	3.48E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.96E-13	2.44E-11	mg/kg-day	2.00E-05	mg/kg-day	1.22E-06		
			Aroclor-1260	7.42E-10	mg/m <sup>3</sup>	3.88E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.77E-13	2.72E-11	mg/kg-day	2.00E-05	mg/kg-day	1.36E-06		
			Aroclor-1268	4.13E-11	mg/m <sup>3</sup>	2.16E-14	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.32E-14	1.51E-12	mg/kg-day	2.00E-05	mg/kg-day	7.57E-08		
			Arsenic	1.45E-08	mg/m <sup>3</sup>	7.58E-12	mg/kg-day	1.50E+01	(mg/kg-day)-1	1.14E-10	5.31E-10	mg/kg-day	--	--	--		
			Barium	1.06E-07	mg/m <sup>3</sup>	5.52E-11	mg/kg-day	--	--	--	--	3.87E-09	mg/kg-day	1.40E-04	mg/kg-day	2.76E-05	
			Benzo(a)anthracene	6.40E-09	mg/m <sup>3</sup>	3.35E-12	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.45E-12	2.35E-10	mg/kg-day	--	--	--		
			Benzo(a)pyrene	2.14E-09	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	7.30E+00	(mg/kg-day)-1	8.16E-12	7.83E-11	mg/kg-day	--	--	--		
			Benzo(g,h,i)perylene	9.84E-10	mg/m <sup>3</sup>	5.15E-13	mg/kg-day	--	--	--	--	3.61E-11	mg/kg-day	3.00E-02	mg/kg-day	1.20E-09	
			Benzo(k)fluoranthene	4.29E-09	mg/m <sup>3</sup>	2.25E-12	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.64E-13	1.57E-10	mg/kg-day	--	--	--		
			Beryllium	3.46E-10	mg/m <sup>3</sup>	1.81E-13	mg/kg-day	8.40E+00	(mg/kg-day)-1	1.52E-12	1.27E-11	mg/kg-day	5.71E-06	mg/kg-day	2.22E-06		
			Beta-BHC	3.34E-12	mg/m <sup>3</sup>	1.75E-15	mg/kg-day	1.86E+00	(mg/kg-day)-1	3.25E-15	1.22E-13	mg/kg-day	2.00E-04	mg/kg-day	6.12E-10		
			bis(2-ethylhexyl)phthalate	8.05E-09	mg/m <sup>3</sup>	4.21E-12	mg/kg-day	1.40E-02	(mg/kg-day)-1	5.90E-14	2.95E-10	mg/kg-day	2.00E-02	mg/kg-day	1.47E-08		
			Cadmium	1.31E-08	mg/m <sup>3</sup>	6.88E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	4.33E-11	4.81E-10	mg/kg-day	--	--	--		
			Chromium	1.52E-07	mg/m <sup>3</sup>	7.95E-11	mg/kg-day	--	--	--	5.57E-09	mg/kg-day	--	--	--		
			Cobalt	1.13E-08	mg/m <sup>3</sup>	5.92E-12	mg/kg-day	9.80E+00	(mg/kg-day)-1	5.80E-11	4.14E-10	mg/kg-day	5.71E-06	mg/kg-day	7.26E-05		
			Copper	9.13E-08	mg/m <sup>3</sup>	4.78E-11	mg/kg-day	--	--	--	3.34E-09	mg/kg-day	--	--	--		
			Dibenz(a,h)anthracene	4.19E-10	mg/m <sup>3</sup>	2.19E-13	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.60E-12	1.53E-11	mg/kg-day	--	--	--		
			Dimethylphthalate	5.78E-11	mg/m <sup>3</sup>	3.02E-14	mg/kg-day	--	--	--	--	2.12E-12	mg/kg-day	1.00E+01	mg/kg-day	2.12E-13	

TABLE H2-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	di-n-Butylphthalate	3.50E-09	mg/m <sup>3</sup>	1.83E-12	mg/kg-day	--	--	--	--	1.28E-10	mg/kg-day	1.00E-01	mg/kg-day	1.28E-09				
				Endrin aldehyde	9.57E-11	mg/m <sup>3</sup>	5.01E-14	mg/kg-day	--	--	--	--	3.51E-12	mg/kg-day	3.00E-04	mg/kg-day	1.17E-08				
				Endrin Ketone	1.52E-11	mg/m <sup>3</sup>	7.95E-15	mg/kg-day	--	--	--	--	5.57E-13	mg/kg-day	3.00E-04	mg/kg-day	1.86E-09				
				Heptachlor Epoxide	1.50E-11	mg/m <sup>3</sup>	7.84E-15	mg/kg-day	9.10E+00	(mg/kg-day)-1	7.13E-14	--	5.49E-13	mg/kg-day	1.30E-05	mg/kg-day	4.22E-08				
				Indeno(1,2,3-cd)pyrene	7.55E-10	mg/m <sup>3</sup>	3.95E-13	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.89E-13	--	2.77E-11	mg/kg-day	--	--	--				
				Iron	5.59E-05	mg/m <sup>3</sup>	2.92E-08	mg/kg-day	--	--	--	--	2.05E-06	mg/kg-day	--	--	--				
				Isophorone	3.04E-10	mg/m <sup>3</sup>	1.59E-13	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.51E-16	--	1.11E-11	mg/kg-day	2.00E-01	mg/kg-day	5.57E-11				
				Lead	3.63E-06	mg/m <sup>3</sup>	1.90E-09	mg/kg-day	--	--	--	--	1.33E-07	mg/kg-day	--	--	--				
				Manganese	4.63E-07	mg/m <sup>3</sup>	2.42E-10	mg/kg-day	--	--	--	--	1.69E-08	mg/kg-day	1.43E-05	mg/kg-day	1.19E-03				
				Mercury	4.03E-10	mg/m <sup>3</sup>	2.11E-13	mg/kg-day	--	--	--	--	1.48E-11	mg/kg-day	8.60E-05	mg/kg-day	1.72E-07				
				Nickel	5.92E-08	mg/m <sup>3</sup>	3.10E-11	mg/kg-day	--	--	--	--	2.17E-09	mg/kg-day	--	--	--				
				Phenol	8.81E-10	mg/m <sup>3</sup>	4.61E-13	mg/kg-day	--	--	--	--	3.23E-11	mg/kg-day	3.00E-01	mg/kg-day	1.08E-10				
				Selenium	4.31E-10	mg/m <sup>3</sup>	2.26E-13	mg/kg-day	--	--	--	--	1.58E-11	mg/kg-day	--	--	--				
				Silver	1.49E-09	mg/m <sup>3</sup>	7.79E-13	mg/kg-day	--	--	--	--	5.46E-11	mg/kg-day	--	--	--				
				Thallium	7.33E-10	mg/m <sup>3</sup>	3.84E-13	mg/kg-day	--	--	--	--	2.69E-11	mg/kg-day	--	--	--				
				Vanadium	5.12E-08	mg/m <sup>3</sup>	2.68E-11	mg/kg-day	--	--	--	--	1.88E-09	mg/kg-day	--	--	--				
				Zinc	5.04E-07	mg/m <sup>3</sup>	2.64E-10	mg/kg-day	--	--	--	--	1.85E-08	mg/kg-day	--	--	--				
				Exposure Route Total										2.33E-10						1.85E-03	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.46E-08	mg/kg-day	--	--	--	--	3.83E-06	mg/kg-day	1.10E-03	mg/kg-day	3.48E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.86E-07	mg/kg-day	--	--	--	--	1.30E-05	mg/kg-day	1.10E-03	mg/kg-day	1.18E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.13E-08	mg/kg-day	--	--	--	--	4.29E-06	mg/kg-day	1.71E-03	mg/kg-day	2.50E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.79E-06	mg/kg-day	--	--	--	--	1.95E-04	mg/kg-day	5.70E-02	mg/kg-day	3.42E-03
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.50E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.02E-10	--	1.05E-07	mg/kg-day	1.14E-03	mg/kg-day	9.20E-05
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.91E-08	mg/kg-day	--	--	--	--	1.34E-06	mg/kg-day	1.71E-03	mg/kg-day	7.81E-04
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	8.52E-08	mg/kg-day	--	--	--	--	5.97E-06	mg/kg-day	3.00E-02	mg/kg-day	1.99E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.18E-07	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.80E-08	--	5.72E-05	mg/kg-day	2.30E-01	mg/kg-day	2.49E-04
								2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	3.36E-08	mg/kg-day	--	--	--	--	2.35E-06	mg/kg-day	5.00E-02	mg/kg-day	4.70E-05
4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	4.62E-12					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.57E-12	--	3.24E-10	mg/kg-day	5.00E-04	mg/kg-day	6.47E-07				
Acenaphthene	4.77E-05	mg/m <sup>3</sup>	2.49E-08					mg/kg-day	--	--	--	--	1.75E-06	mg/kg-day	6.00E-02	mg/kg-day	2.91E-05				
Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	6.44E-10					mg/kg-day	--	--	--	--	4.51E-08	mg/kg-day	6.00E-02	mg/kg-day	7.51E-07				
Aldrin	5.63E-09	mg/m <sup>3</sup>	2.95E-12					mg/kg-day	1.70E+01	(mg/kg-day)-1	5.01E-11	--	2.06E-10	mg/kg-day	3.00E-05	mg/kg-day	6.88E-06				
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.90E-12					mg/kg-day	6.30E+00	(mg/kg-day)-1	1.20E-11	--	1.33E-10	mg/kg-day	5.00E-04	mg/kg-day	2.67E-07				
alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	3.62E-12					mg/kg-day	3.50E-01	(mg/kg-day)-1	1.27E-12	--	2.53E-10	mg/kg-day	2.00E-04	mg/kg-day	1.27E-06				
Anthracene	1.25E-05	mg/m <sup>3</sup>	6.56E-09					mg/kg-day	--	--	--	--	4.59E-07	mg/kg-day	3.00E-01	mg/kg-day	1.53E-06				
Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	8.03E-10					mg/kg-day	7.30E-01	(mg/kg-day)-1	5.86E-10	--	5.62E-08	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.37E-10					mg/kg-day	--	--	--	--	1.66E-08	mg/kg-day	2.00E-01	mg/kg-day	8.29E-08				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.71E-08					mg/kg-day	--	--	--	--	1.90E-06	mg/kg-day	1.70E-02	mg/kg-day	1.12E-04				
Chrysene	5.27E-06	mg/m <sup>3</sup>	2.76E-09					mg/kg-day	7.30E-03	(mg/kg-day)-1	2.01E-11	--	1.93E-07	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.19E-11					mg/kg-day	1.86E+00	(mg/kg-day)-1	4.06E-11	--	1.53E-09	mg/kg-day	2.00E-04	mg/kg-day	7.67E-06				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.35E-08					mg/kg-day	--	--	--	--	1.64E-06	mg/kg-day	2.00E-03	mg/kg-day	8.22E-04				
Dieldrin	6.58E-08	mg/m <sup>3</sup>	3.44E-11					mg/kg-day	1.60E+01	(mg/kg-day)-1	5.51E-10	--	2.41E-09	mg/kg-day	5.00E-05	mg/kg-day	4.82E-05				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.22E-11					mg/kg-day	--	--	--	--	2.95E-09	mg/kg-day	6.00E-03	mg/kg-day	4.92E-07				
Endosulfan II	8.19E-08	mg/m <sup>3</sup>	4.28E-11					mg/kg-day	--	--	--	--	3.00E-09	mg/kg-day	6.00E-03	mg/kg-day	5.00E-07				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	7.88E-11					mg/kg-day	--	--	--	--	5.52E-09	mg/kg-day	6.00E-03	mg/kg-day	9.20E-07				
Fluoranthene	1.44E-05	mg/m <sup>3</sup>	7.53E-09					mg/kg-day	--	--	--	--	5.27E-07	mg/kg-day	4.00E-02	mg/kg-day	1.32E-05				
Fluorene	1.48E-05	mg/m <sup>3</sup>	7.74E-09					mg/kg-day	--	--	--	--	5.42E-07	mg/kg-day	4.00E-02	mg/kg-day	1.35E-05				
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	8.34E-12					mg/kg-day	1.30E+00	(mg/kg-day)-1	1.08E-11	--	5.84E-10	mg/kg-day	3.00E-04	mg/kg-day	1.95E-06				
gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	6.58E-12					mg/kg-day	3.50E-01	(mg/kg-day)-1	2.30E-12	--	4.61E-10	mg/kg-day	2.00E-04	mg/kg-day	2.30E-06				
Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.77E-10					mg/kg-day	4.55E+00	(mg/kg-day)-1	8.05E-10	--	1.24E-08	mg/kg-day	5.00E-04	mg/kg-day	2.48E-05				
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.52E-11					mg/kg-day	--	--	--	--	3.16E-09	mg/kg-day	5.00E-03	mg/kg-day	6.33E-07				
Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.66E-07					mg/kg-day	--	--	--	--	2.56E-05	mg/kg-day	8.57E-04	mg/kg-day	2.99E-02				

TABLE H2-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	1.60E-04	mg/m <sup>3</sup>	8.39E-08	mg/kg-day	--	--	--	5.88E-06	mg/kg-day	3.00E-01	mg/kg-day	1.96E-05
				p-isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	7.02E-06	mg/kg-day	1.10E-01	mg/kg-day	6.38E-05
				Pyrene	1.56E-05	mg/m <sup>3</sup>	8.14E-09	mg/kg-day	--	--	--	5.70E-07	mg/kg-day	3.00E-02	mg/kg-day	1.90E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.47E-08	mg/kg-day	--	--	--	1.03E-06	mg/kg-day	4.00E-02	mg/kg-day	2.57E-05
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	2.80E-10	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	9.81E-14	1.96E-08	mg/kg-day	2.00E-04	mg/kg-day	9.81E-05
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.83E-10	mg/kg-day	--	--	--	1.14E-08	mg/kg-day	1.43E+00	mg/kg-day	8.01E-09
				<b>Exposure Route Total</b>												
		<b>Exposure Point Total</b>														
	<b>Exposure Medium Total</b>															
<b>Medium Total</b>																
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.22E-10	mg/kg-day	--	--	--	1.65E-08	mg/kg-day	1.40E-01	mg/kg-day	1.11E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.61E-11	mg/kg-day	--	--	--	4.62E-09	mg/kg-day	1.71E-03	mg/kg-day	2.70E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.33E-10	mg/kg-day	--	--	--	3.03E-08	mg/kg-day	5.70E-02	mg/kg-day	5.32E-07
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	9.10E-02	--	2.83E-11	2.18E-08	mg/kg-day	1.40E-03	mg/kg-day	1.56E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	7.94E-12	8.17E-09	mg/kg-day	1.14E-03	mg/kg-day	7.17E-06
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.76E-11	mg/kg-day	--	--	--	2.63E-09	mg/kg-day	1.71E-03	mg/kg-day	1.54E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.47E-10	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	3.24E-12	1.03E-08	mg/kg-day	2.30E-01	mg/kg-day	4.49E-08
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	5.70E-12	mg/kg-day	--	--	--	3.99E-10	mg/kg-day	1.43E+00	mg/kg-day	2.79E-10
				2-Methylnaphthalene	9.87E-10	mg/m <sup>3</sup>	5.06E-13	mg/kg-day	--	--	--	3.54E-11	mg/kg-day	5.00E-02	mg/kg-day	7.09E-10
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	6.77E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.30E-13	4.74E-11	mg/kg-day	5.00E-04	mg/kg-day	9.48E-08
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.12E-12	mg/kg-day	--	--	--	1.48E-10	mg/kg-day	8.60E-01	mg/kg-day	1.72E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.03E-11	mg/kg-day	--	--	--	1.42E-09	mg/kg-day	6.00E-02	mg/kg-day	2.37E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	8.64E-13	mg/kg-day	--	--	--	6.05E-11	mg/kg-day	6.00E-02	mg/kg-day	1.01E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.17E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.99E-11	8.19E-11	mg/kg-day	3.00E-05	mg/kg-day	2.73E-06
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.48E-13	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	9.34E-13	1.04E-11	mg/kg-day	5.00E-04	mg/kg-day	2.07E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.51E-13	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.23E-13	2.45E-11	mg/kg-day	2.00E-04	mg/kg-day	1.23E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.72E-12	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	3.00E-01	mg/kg-day	4.01E-10
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.37E-10	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	3.73E-12	9.56E-09	mg/kg-day	8.60E-03	mg/kg-day	1.11E-06
				Benz(o)b/fluoranthene	4.85E-10	mg/m <sup>3</sup>	2.55E-13	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.88E-13	1.78E-11	mg/kg-day	--	--	--
				Bromoforn	7.36E-09	mg/m <sup>3</sup>	3.85E-12	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	1.48E-14	2.70E-10	mg/kg-day	2.00E-02	mg/kg-day	1.35E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.36E-09	mg/kg-day	--	--	--	1.65E-07	mg/kg-day	2.00E-01	mg/kg-day	8.25E-07
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	3.83E-11	mg/kg-day	--	--	--	2.68E-09	mg/kg-day	1.70E-02	mg/kg-day	1.58E-07
				Chloroforn	2.07E-06	mg/m <sup>3</sup>	1.08E-09	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	8.71E-11	7.57E-08	mg/kg-day	1.40E-02	mg/kg-day	5.41E-08
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	3.92E-10	mg/kg-day	--	--	--	2.74E-08	mg/kg-day	2.60E-02	mg/kg-day	1.06E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	6.89E-13	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	5.03E-15	4.82E-11	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.77E-10	mg/kg-day	--	--	--	1.94E-08	mg/kg-day	1.00E-02	mg/kg-day	1.94E-08
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.14E-13	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	8.23E-12	3.60E-11	mg/kg-day	5.00E-05	mg/kg-day	7.20E-07
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.17E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.93E-16	mg/kg-day	--	--	--	1.35E-14	mg/kg-day	6.00E-03	mg/kg-day	2.25E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.04E-10	mg/kg-day	--	--	--	7.31E-09	mg/kg-day	2.90E-01	mg/kg-day	2.52E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.65E-13	mg/kg-day	--	--	--	1.85E-11	mg/kg-day	4.00E-02	mg/kg-day	4.63E-10
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.23E-13	mg/kg-day	--	--	--	3.66E-11	mg/kg-day	4.00E-02	mg/kg-day	9.15E-10
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.50E-16	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	8.45E-16	4.55E-14	mg/kg-day	3.00E-04	mg/kg-day	1.52E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	9.11E-13	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.10E-13	6.37E-11	mg/kg-day	2.00E-04	mg/kg-day	3.19E-07
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	9.34E-12	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	4.25E-11	6.54E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.79E-08	mg/kg-day	--	--	--	1.26E-06	mg/kg-day	1.10E-01	mg/kg-day	1.14E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.63E-10	mg/kg-day	--	--	--	2.54E-08	mg/kg-day	2.90E-02	mg/kg-day	8.77E-07
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.71E-12	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	5.00E-03	mg/kg-day	2.39E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	2.84E-12	mg/kg-day	--	--	--	1.99E-10	mg/kg-day	8.57E-04	mg/kg-day	2.32E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.32E-10	mg/kg-day	--	--	--	9.27E-09	mg/kg-day	8.57E-04	mg/kg-day	1.08E-05
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.47E-10	mg/kg-day	--	--	--	1.03E-08	mg/kg-day	4.00E-02	mg/kg-day	2.58E-07

TABLE H2-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.37E-12	mg/kg-day	--	--	--	9.59E-11	mg/kg-day	3.00E-01	mg/kg-day	3.20E-10
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.79E-08	mg/kg-day	--	--	--	1.26E-06	mg/kg-day	1.10E-01	mg/kg-day	1.14E-05
				Pyrene	4.61E-10	mg/m <sup>3</sup>	2.41E-13	mg/kg-day	--	--	--	1.69E-11	mg/kg-day	3.00E-02	mg/kg-day	5.63E-10
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.19E-10	mg/kg-day	--	--	--	2.93E-08	mg/kg-day	4.00E-02	mg/kg-day	7.34E-07
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	4.75E-10	mg/kg-day	--	--	--	3.33E-08	mg/kg-day	4.00E-02	mg/kg-day	8.32E-07
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.99E-10	mg/kg-day	--	--	--	1.39E-08	mg/kg-day	1.43E+00	mg/kg-day	9.74E-09
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.69E-10	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	2.00E-02	mg/kg-day	1.64E-08
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	4.88E-10	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	1.95E-10	3.41E-08	mg/kg-day	1.00E-02	mg/kg-day	3.41E-08
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.01E-09	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	3.13E-11	7.06E-08	mg/kg-day	2.86E-02	mg/kg-day	2.47E-06
						Exposure Point Total	Exposure Route Total							4.29E-10		
		Exposure Medium Total								4.29E-10				8.77E-05		
Medium Total										4.29E-10				8.77E-05		
Total of Receptor Risks Across All Media										2.68E-07	Total of Receptor Hazards Across All Media				2.06E-01	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfC Reference concentration
  - RfD Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H2-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.03E-07	mg/kg-day	--	--	--	--	1.03E-08	mg/kg-day	1.00E-02	mg/kg-day	1.03E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	3.49E-07	mg/kg-day	--	--	--	--	3.49E-08	mg/kg-day	1.00E-02	mg/kg-day	3.49E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	3.42E-08	mg/kg-day	--	--	--	--	3.42E-07	mg/kg-day	5.00E-02	mg/kg-day	6.85E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.78E-06	mg/kg-day	--	--	--	--	1.78E-05	mg/kg-day	9.00E-02	mg/kg-day	1.98E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	2.47E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.68E-11	--	2.47E-09	mg/kg-day	1.14E-03	mg/kg-day	2.16E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.10E-08	mg/kg-day	--	--	--	--	1.10E-07	mg/kg-day	5.00E-02	mg/kg-day	2.19E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	7.53E-08	mg/kg-day	--	--	--	--	7.53E-07	mg/kg-day	3.00E-02	mg/kg-day	2.51E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	4.66E-07	mg/kg-day	2.40E-02	(mg/kg-day)-1	1.12E-08	--	4.66E-06	mg/kg-day	3.00E-02	mg/kg-day	1.55E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.44E-08	mg/kg-day	--	--	--	--	1.44E-07	mg/kg-day	2.00E-02	mg/kg-day	7.19E-06
				2-Methylphenol	8.10E-02	mg/kg	5.55E-09	mg/kg-day	--	--	--	--	5.55E-08	mg/kg-day	5.00E-02	mg/kg-day	1.11E-06
				2-Methylnaphthalene	1.67E+00	mg/kg	1.15E-07	mg/kg-day	--	--	--	--	1.15E-06	mg/kg-day	4.00E-03	mg/kg-day	2.86E-04
				4,4'-DDD	1.20E-03	mg/kg	8.22E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.97E-11	--	8.22E-10	mg/kg-day	5.00E-04	mg/kg-day	1.64E-06
				4,4'-DDE	8.23E-02	mg/kg	5.64E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.92E-09	--	5.64E-08	mg/kg-day	5.00E-04	mg/kg-day	1.13E-04
				4,4'-DDT	4.45E-02	mg/kg	3.05E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.04E-09	--	3.05E-08	mg/kg-day	5.00E-04	mg/kg-day	6.09E-05
				4-Methylphenol	2.70E-01	mg/kg	1.85E-08	mg/kg-day	--	--	--	--	1.85E-07	mg/kg-day	5.00E-03	mg/kg-day	3.70E-05
				4-Nitroaniline	6.20E-01	mg/kg	4.25E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	8.92E-10	--	4.25E-07	mg/kg-day	3.00E-03	mg/kg-day	1.42E-04
				4-Nitrophenol	4.20E-01	mg/kg	2.88E-08	mg/kg-day	--	--	--	--	2.88E-07	mg/kg-day	5.00E-04	mg/kg-day	5.75E-04
				Acenaphthene	4.23E+00	mg/kg	2.90E-07	mg/kg-day	--	--	--	--	2.90E-06	mg/kg-day	6.00E-02	mg/kg-day	4.83E-05
				Acenaphthylene	1.04E-01	mg/kg	7.14E-09	mg/kg-day	--	--	--	--	7.14E-08	mg/kg-day	6.00E-02	mg/kg-day	1.19E-06
				Aldrin	1.30E-02	mg/kg	8.90E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.51E-08	--	8.90E-09	mg/kg-day	3.00E-05	mg/kg-day	2.97E-04
				alpha-BHC	7.30E-04	mg/kg	5.00E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.15E-10	--	5.00E-10	mg/kg-day	5.00E-04	mg/kg-day	1.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	5.58E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.95E-10	--	5.58E-09	mg/kg-day	5.00E-04	mg/kg-day	1.12E-05
				Aluminum	8.82E+03	mg/kg	6.04E-04	mg/kg-day	--	--	--	--	6.04E-03	mg/kg-day	1.00E+00	mg/kg-day	6.04E-03
				Anthracene	1.05E+00	mg/kg	7.23E-08	mg/kg-day	--	--	--	--	7.23E-07	mg/kg-day	3.00E-01	mg/kg-day	2.41E-06
				Antimony	4.08E+00	mg/kg	2.79E-07	mg/kg-day	--	--	--	--	2.79E-06	mg/kg-day	4.00E-04	mg/kg-day	6.98E-03
				Aroclor-1248	1.20E+00	mg/kg	8.22E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.64E-07	--	8.22E-07	mg/kg-day	2.00E-05	mg/kg-day	4.11E-02
				Aroclor-1254	4.44E-01	mg/kg	3.04E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.08E-08	--	3.04E-07	mg/kg-day	2.00E-05	mg/kg-day	1.52E-02
				Aroclor-1260	5.41E-01	mg/kg	3.71E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.42E-08	--	3.71E-07	mg/kg-day	2.00E-05	mg/kg-day	1.85E-02
				Aroclor-1268	2.78E-02	mg/kg	1.90E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.80E-09	--	1.90E-08	mg/kg-day	2.00E-05	mg/kg-day	9.51E-04
				Arsenic	6.17E+00	mg/kg	4.22E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	6.34E-07	--	4.22E-06	mg/kg-day	3.00E-04	mg/kg-day	1.41E-02
				Barium	6.78E+01	mg/kg	4.65E-06	mg/kg-day	--	--	--	--	4.65E-05	mg/kg-day	7.00E-02	mg/kg-day	6.64E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	3.43E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.50E-07	--	3.43E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.14E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	8.33E-07	--	1.14E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.88E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.37E-07	--	1.88E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	5.23E-08	mg/kg-day	--	--	--	--	5.23E-07	mg/kg-day	3.00E-02	mg/kg-day	1.74E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	2.23E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.63E-08	--	2.23E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.63E-08	mg/kg-day	--	--	--	--	1.63E-07	mg/kg-day	2.00E-03	mg/kg-day	8.16E-05
				Beta-BHC	2.20E-03	mg/kg	1.51E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.71E-10	--	1.51E-09	mg/kg-day	2.00E-04	mg/kg-day	7.53E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	5.36E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	7.51E-09	--	5.36E-06	mg/kg-day	2.00E-02	mg/kg-day	2.68E-04
				Cadmium	9.47E+00	mg/kg	6.49E-07	mg/kg-day	--	--	--	--	6.49E-06	mg/kg-day	5.00E-04	mg/kg-day	1.30E-02
				Carbon disulfide	2.40E-04	mg/kg	1.64E-11	mg/kg-day	--	--	--	--	1.64E-10	mg/kg-day	1.00E-01	mg/kg-day	1.64E-09
				Chlorobenzene	1.10E-01	mg/kg	7.53E-09	mg/kg-day	--	--	--	--	7.53E-08	mg/kg-day	2.00E-02	mg/kg-day	3.77E-06
				Chromium	1.11E+02	mg/kg	7.62E-06	mg/kg-day	--	--	--	--	7.62E-05	mg/kg-day	1.50E+00	mg/kg-day	5.08E-05
				Chrysene	5.68E+00	mg/kg	3.89E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.84E-09	--	3.89E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	5.19E-07	mg/kg-day	--	--	--	--	5.19E-06	mg/kg-day	2.00E-02	mg/kg-day	2.59E-04
Copper	5.71E+01	mg/kg	3.91E-06	mg/kg-day	--	--	--	--	3.91E-05	mg/kg-day	3.70E-02	mg/kg-day	1.06E-03				
Delta-BHC	8.40E-03	mg/kg	5.75E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.04E-09	--	5.75E-09	mg/kg-day	2.00E-04	mg/kg-day	2.88E-05				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	2.17E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.59E-07	--	2.17E-07	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	8.90E-07	mg/kg-day	--	--	--	--	8.90E-06	mg/kg-day	2.00E-03	mg/kg-day	4.45E-03				
Dieldrin	5.51E-02	mg/kg	3.78E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.04E-08	--	3.78E-08	mg/kg-day	5.00E-05	mg/kg-day	7.55E-04				
Dimethylphthalate	3.80E-02	mg/kg	2.60E-09	mg/kg-day	--	--	--	--	2.60E-08	mg/kg-day	1.00E+01	mg/kg-day	2.60E-09				

TABLE H2-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	1.51E-07	mg/kg-day	--	--	--	1.51E-06	mg/kg-day	1.00E-01	mg/kg-day	1.51E-05				
				Endosulfan I	2.30E-02	mg/kg	1.58E-09	mg/kg-day	--	--	--	1.58E-08	mg/kg-day	6.00E-03	mg/kg-day	2.63E-06				
				Endosulfan II	2.38E-02	mg/kg	1.63E-09	mg/kg-day	--	--	--	1.63E-08	mg/kg-day	6.00E-03	mg/kg-day	2.72E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	2.95E-09	mg/kg-day	--	--	--	2.95E-08	mg/kg-day	6.00E-03	mg/kg-day	4.91E-06				
				Endrin aldehyde	4.21E-02	mg/kg	2.88E-09	mg/kg-day	--	--	--	2.88E-08	mg/kg-day	3.00E-04	mg/kg-day	9.61E-05				
				Endrin Ketone	1.00E-02	mg/kg	6.85E-10	mg/kg-day	--	--	--	6.85E-09	mg/kg-day	3.00E-04	mg/kg-day	2.28E-05				
				Fluoranthene	2.65E+01	mg/kg	1.82E-06	mg/kg-day	--	--	--	1.82E-05	mg/kg-day	4.00E-02	mg/kg-day	4.54E-04				
				Fluorene	2.92E+00	mg/kg	2.00E-07	mg/kg-day	--	--	--	2.00E-06	mg/kg-day	4.00E-02	mg/kg-day	4.99E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.78E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.32E-10	1.78E-09	mg/kg-day	3.00E-04	mg/kg-day	5.94E-06				
				gamma-Chlordane	1.31E-02	mg/kg	8.97E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.14E-10	8.97E-09	mg/kg-day	5.00E-04	mg/kg-day	1.79E-05				
				Heptachlor	6.90E-03	mg/kg	4.73E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	2.13E-09	4.73E-09	mg/kg-day	5.00E-04	mg/kg-day	9.45E-06				
				Heptachlor Epoxide	1.12E-02	mg/kg	7.64E-10	mg/kg-day	8.10E+00	(mg/kg-day)-1	6.95E-09	7.64E-09	mg/kg-day	1.30E-05	mg/kg-day	5.88E-04				
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	5.98E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.36E-08	5.98E-07	mg/kg-day	--	--	--				
				Iron	4.07E+04	mg/kg	2.79E-03	mg/kg-day	--	--	--	2.79E-02	mg/kg-day	3.00E-01	mg/kg-day	9.30E-02				
				Isophorone	2.00E-01	mg/kg	1.37E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.30E-11	1.37E-07	mg/kg-day	2.00E-01	mg/kg-day	6.85E-07				
				Lead	2.90E+03	mg/kg	1.99E-04	mg/kg-day	--	--	--	1.99E-03	mg/kg-day	--	--	--				
				Manganese	3.31E+02	mg/kg	2.27E-05	mg/kg-day	--	--	--	2.27E-04	mg/kg-day	2.40E-02	mg/kg-day	9.45E-03				
				Mercury	3.10E-01	mg/kg	2.12E-08	mg/kg-day	--	--	--	2.12E-07	mg/kg-day	3.00E-04	mg/kg-day	7.07E-04				
				Methoxychlor	1.20E-01	mg/kg	8.22E-09	mg/kg-day	--	--	--	8.22E-08	mg/kg-day	5.00E-03	mg/kg-day	1.64E-05				
				Molybdenum	2.50E+00	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.72E-06	mg/kg-day	5.00E-03	mg/kg-day	3.43E-04				
				Naphthalene	1.30E+01	mg/kg	8.90E-07	mg/kg-day	--	--	--	8.90E-06	mg/kg-day	2.00E-02	mg/kg-day	4.45E-04				
				Nickel	3.91E+01	mg/kg	2.68E-06	mg/kg-day	--	--	--	2.68E-05	mg/kg-day	2.00E-02	mg/kg-day	1.34E-03				
				Phenanthrene	1.39E+01	mg/kg	9.53E-07	mg/kg-day	--	--	--	9.53E-06	mg/kg-day	3.00E-01	mg/kg-day	3.18E-05				
				Phenol	5.80E-01	mg/kg	3.97E-08	mg/kg-day	--	--	--	3.97E-07	mg/kg-day	3.00E-01	mg/kg-day	1.32E-06				
				p-Isopropyltoluene	1.10E-01	mg/kg	7.53E-09	mg/kg-day	--	--	--	7.53E-08	mg/kg-day	1.00E-01	mg/kg-day	7.53E-07				
				Pyrene	2.41E+01	mg/kg	1.65E-06	mg/kg-day	--	--	--	1.65E-05	mg/kg-day	3.00E-02	mg/kg-day	5.51E-04				
				sec-Butylbenzene	7.10E-02	mg/kg	4.86E-09	mg/kg-day	--	--	--	4.86E-08	mg/kg-day	4.00E-02	mg/kg-day	1.22E-06				
				Selenium	2.24E-01	mg/kg	1.54E-08	mg/kg-day	--	--	--	1.54E-07	mg/kg-day	5.00E-03	mg/kg-day	3.07E-05				
				Silver	1.16E+00	mg/kg	7.94E-08	mg/kg-day	--	--	--	7.94E-07	mg/kg-day	5.00E-03	mg/kg-day	1.59E-04				
				Technical Chlordane	5.51E-01	mg/kg	3.77E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.32E-08	3.77E-07	mg/kg-day	5.00E-04	mg/kg-day	7.55E-04				
				Thallium	4.97E-01	mg/kg	3.40E-08	mg/kg-day	--	--	--	3.40E-07	mg/kg-day	6.00E-05	mg/kg-day	5.16E-03				
				Toluene	4.30E-04	mg/kg	2.95E-11	mg/kg-day	--	--	--	2.95E-10	mg/kg-day	8.00E-02	mg/kg-day	3.68E-09				
				Vanadium	3.41E+01	mg/kg	2.34E-06	mg/kg-day	--	--	--	2.34E-05	mg/kg-day	1.00E-03	mg/kg-day	2.34E-02				
				Zinc	4.53E+02	mg/kg	3.11E-06	mg/kg-day	--	--	--	3.11E-04	mg/kg-day	3.00E-01	mg/kg-day	1.04E-03				
				Exposure Route total							2.50E-06					2.64E-01				
				Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.17E-08	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	1.00E-02	mg/kg-day	1.17E-05			
					1,2,4-Trichlorobenzene	5.10E+00	mg/kg	3.98E-09	mg/kg-day	--	--	--	3.98E-08	mg/kg-day	1.00E-02	mg/kg-day	3.98E-06			
					1,2,4-Trimethylbenzene	5.00E-01	mg/kg	3.90E-10	mg/kg-day	--	--	--	3.90E-09	mg/kg-day	5.00E-02	mg/kg-day	7.81E-08			
					1,2-Dichlorobenzene	2.60E+01	mg/kg	2.03E-08	mg/kg-day	--	--	--	2.03E-07	mg/kg-day	9.00E-02	mg/kg-day	2.26E-06			
					1,2-Dichloropropane	3.60E-03	mg/kg	2.81E-12	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.91E-13	2.81E-11	mg/kg-day	1.14E-03	mg/kg-day	2.47E-08			
					1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.25E-10	mg/kg-day	--	--	--	1.25E-09	mg/kg-day	5.00E-02	mg/kg-day	2.50E-08			
					1,3-Dichlorobenzene	1.10E+00	mg/kg	8.59E-10	mg/kg-day	--	--	--	8.59E-09	mg/kg-day	3.00E-02	mg/kg-day	2.86E-07			
					1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
					2,4-Dimethylphenol	2.10E-01	mg/kg	1.64E-10	mg/kg-day	--	--	--	1.64E-09	mg/kg-day	2.00E-02	mg/kg-day	8.20E-08			
					2-Methylphenol	8.10E-02	mg/kg	6.32E-10	mg/kg-day	--	--	--	6.32E-09	mg/kg-day	5.00E-02	mg/kg-day	1.26E-07			
					2-Methylnaphthalene	1.67E+00	mg/kg	1.31E-09	mg/kg-day	--	--	--	1.31E-08	mg/kg-day	4.00E-03	mg/kg-day	3.26E-06			
					4,4'-DDD	1.20E-03	mg/kg	9.37E-13	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.25E-13	9.37E-12	mg/kg-day	5.00E-04	mg/kg-day	1.87E-08			
4,4'-DDE	8.23E-02	mg/kg	6.43E-11		mg/kg-day	3.40E-01	(mg/kg-day)-1	2.19E-11	6.43E-10	mg/kg-day	5.00E-04	mg/kg-day	1.29E-06							
4,4'-DDT	4.45E-02	mg/kg	1.04E-10		mg/kg-day	3.40E-01	(mg/kg-day)-1	3.54E-11	1.04E-09	mg/kg-day	5.00E-04	mg/kg-day	2.08E-06							
4-Methylphenol	2.70E-01	mg/kg	2.11E-09		mg/kg-day	--	--	--	2.11E-08	mg/kg-day	5.00E-03	mg/kg-day	4.22E-06							
4-Nitroaniline	6.20E-01	mg/kg	4.84E-09		mg/kg-day	2.10E-02	--	--	1.02E-10	4.84E-08	mg/kg-day	3.00E-03	mg/kg-day	1.61E-05						

TABLE H2-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	3.28E-09	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	5.00E-04	mg/kg-day	6.56E-05
				Acenaphthene	4.23E+00	mg/kg	4.30E-08	mg/kg-day	--	--	--	4.30E-07	mg/kg-day	6.00E-02	mg/kg-day	7.16E-06
				Acenaphthylene	1.04E-01	mg/kg	8.13E-11	mg/kg-day	--	--	--	8.13E-10	mg/kg-day	6.00E-02	mg/kg-day	1.36E-08
				Aldrin	1.30E-02	mg/kg	1.02E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.73E-09	1.02E-09	mg/kg-day	3.00E-05	mg/kg-day	3.38E-05
				alpha-BHC	7.30E-04	mg/kg	5.70E-13	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.59E-12	5.70E-12	mg/kg-day	5.00E-04	mg/kg-day	1.14E-08
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	6.89E-07	mg/kg-day	--	--	--	6.89E-06	mg/kg-day	1.00E+00	mg/kg-day	6.89E-06
				Anthracene	1.05E+00	mg/kg	1.07E-08	mg/kg-day	--	--	--	1.07E-07	mg/kg-day	3.00E-01	mg/kg-day	3.57E-07
				Antimony	4.08E+00	mg/kg	3.18E-10	mg/kg-day	--	--	--	3.18E-09	mg/kg-day	4.00E-04	mg/kg-day	7.96E-06
				Aroclor-1248	1.20E+00	mg/kg	1.31E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.62E-08	1.31E-07	mg/kg-day	2.00E-05	mg/kg-day	6.56E-03
				Aroclor-1254	4.44E-01	mg/kg	4.85E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.71E-09	4.85E-08	mg/kg-day	2.00E-05	mg/kg-day	2.43E-03
				Aroclor-1260	5.41E-01	mg/kg	5.92E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.18E-08	5.92E-08	mg/kg-day	2.00E-05	mg/kg-day	2.96E-03
				Aroclor-1268	2.78E-02	mg/kg	3.03E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.07E-10	3.03E-09	mg/kg-day	2.00E-05	mg/kg-day	1.52E-04
				Arsenic	6.17E+00	mg/kg	1.44E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.17E-08	1.44E-07	mg/kg-day	3.00E-04	mg/kg-day	4.81E-04
				Barium	6.78E+01	mg/kg	5.30E-09	mg/kg-day	--	--	--	5.30E-08	mg/kg-day	7.00E-02	mg/kg-day	7.57E-07
				Benzo(a)anthracene	5.00E+00	mg/kg	5.08E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.71E-08	5.08E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.87E+00	mg/kg	1.69E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.23E-07	1.69E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.78E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.03E-08	2.78E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	7.75E-09	mg/kg-day	--	--	--	7.75E-08	mg/kg-day	3.00E-02	mg/kg-day	2.58E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.31E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	2.42E-09	3.31E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.86E-11	mg/kg-day	--	--	--	1.86E-10	mg/kg-day	2.00E-03	mg/kg-day	9.30E-08
				Beta-BHC	2.20E-03	mg/kg	1.72E-12	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.09E-12	1.72E-11	mg/kg-day	2.00E-04	mg/kg-day	8.59E-08
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	6.12E-09	mg/kg-day	1.40E-02	(mg/kg-day)-1	8.56E-11	6.12E-08	mg/kg-day	2.00E-02	mg/kg-day	3.06E-06
				Cadmium	9.47E+00	mg/kg	7.40E-10	mg/kg-day	--	--	--	7.40E-09	mg/kg-day	5.00E-04	mg/kg-day	1.48E-05
				Carbon disulfide	2.40E-04	mg/kg	4.68E-12	mg/kg-day	--	--	--	4.68E-11	mg/kg-day	1.00E-01	mg/kg-day	4.68E-10
				Chlorobenzene	1.10E-01	mg/kg	8.59E-11	mg/kg-day	--	--	--	8.59E-10	mg/kg-day	2.00E-02	mg/kg-day	4.29E-08
				Chromium	1.11E+02	mg/kg	8.68E-09	mg/kg-day	--	--	--	8.68E-08	mg/kg-day	1.50E+00	mg/kg-day	5.79E-08
				Chrysene	5.68E+00	mg/kg	5.77E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.21E-10	5.77E-07	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	5.91E-10	mg/kg-day	--	--	--	5.91E-09	mg/kg-day	2.00E-02	mg/kg-day	2.96E-07
				Copper	5.71E+01	mg/kg	4.46E-09	mg/kg-day	--	--	--	4.46E-08	mg/kg-day	3.70E-02	mg/kg-day	1.20E-06
				Delta-BHC	8.40E-03	mg/kg	3.28E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	5.90E-11	3.28E-10	mg/kg-day	2.00E-04	mg/kg-day	1.64E-06
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	3.22E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.35E-08	3.22E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	1.02E-08	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	2.00E-03	mg/kg-day	5.08E-05
				Dieldrin	5.51E-02	mg/kg	4.31E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.89E-10	4.31E-10	mg/kg-day	5.00E-05	mg/kg-day	8.61E-06
				Dimethylphthalate	3.80E-02	mg/kg	2.97E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	1.00E+01	mg/kg-day	2.97E-11
				di-n-Butylphthalate	2.20E+00	mg/kg	1.72E-09	mg/kg-day	--	--	--	1.72E-08	mg/kg-day	1.00E-01	mg/kg-day	1.72E-07
				Endosulfan I	2.30E-02	mg/kg	8.98E-11	mg/kg-day	--	--	--	8.98E-10	mg/kg-day	6.00E-03	mg/kg-day	1.50E-07
				Endosulfan II	2.38E-02	mg/kg	9.30E-11	mg/kg-day	--	--	--	9.30E-10	mg/kg-day	6.00E-03	mg/kg-day	1.55E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	1.68E-10	mg/kg-day	--	--	--	1.68E-09	mg/kg-day	6.00E-03	mg/kg-day	2.80E-07
				Endrin aldehyde	4.21E-02	mg/kg	1.64E-10	mg/kg-day	--	--	--	1.64E-09	mg/kg-day	3.00E-04	mg/kg-day	5.48E-06
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	2.69E-07	mg/kg-day	--	--	--	2.69E-06	mg/kg-day	4.00E-02	mg/kg-day	6.73E-05
				Fluorene	2.92E+00	mg/kg	2.96E-08	mg/kg-day	--	--	--	2.96E-07	mg/kg-day	4.00E-02	mg/kg-day	7.40E-06
				gamma-BHC (Lindane)	2.60E-03	mg/kg	8.12E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.06E-11	8.12E-11	mg/kg-day	3.00E-04	mg/kg-day	2.71E-07
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	5.39E-12	mg/kg-day	4.50E+00	(mg/kg-day)-1	2.42E-11	5.39E-11	mg/kg-day	5.00E-04	mg/kg-day	1.08E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	8.71E-12	mg/kg-day	9.10E+00	(mg/kg-day)-1	7.93E-11	8.71E-11	mg/kg-day	1.30E-05	mg/kg-day	6.70E-08
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	8.86E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.47E-09	8.86E-08	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	3.18E-06	mg/kg-day	--	--	--	3.18E-05	mg/kg-day	3.00E-01	mg/kg-day	1.06E-04
				Isophorone	2.00E-01	mg/kg	1.56E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.48E-12	1.56E-08	mg/kg-day	2.00E-01	mg/kg-day	7.81E-08
Lead	2.90E+03	mg/kg	2.27E-07	mg/kg-day	--	--	--	2.27E-06	mg/kg-day	--	--	--				

TABLE H2-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	2.58E-08	mg/kg-day	--	--	--	2.58E-07	mg/kg-day	2.40E-02	mg/kg-day	1.08E-05		
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	--	--	--	
				Methoxychlor	1.20E-01	mg/kg	9.37E-11	mg/kg-day	--	--	--	9.37E-10	mg/kg-day	5.00E-03	mg/kg-day	1.87E-07	1.87E-07	
				Molybdenum	2.50E+00	mg/kg	1.96E-10	mg/kg-day	--	--	--	1.96E-09	mg/kg-day	5.00E-03	mg/kg-day	3.91E-07	3.91E-07	
				Naphthalene	1.30E+01	mg/kg	1.32E-07	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	2.00E-02	mg/kg-day	6.60E-05	6.60E-05	
				Nickel	3.91E+01	mg/kg	3.05E-09	mg/kg-day	--	--	--	3.05E-08	mg/kg-day	2.00E-02	mg/kg-day	1.53E-06	1.53E-06	
				Phenanthrene	1.39E+01	mg/kg	1.09E-08	mg/kg-day	--	--	--	1.09E-07	mg/kg-day	3.00E-01	mg/kg-day	3.62E-07	3.62E-07	
				Phenol	5.80E-01	mg/kg	4.53E-09	mg/kg-day	--	--	--	4.53E-08	mg/kg-day	3.00E-01	mg/kg-day	1.51E-07	1.51E-07	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	--	
				Pyrene	2.41E+01	mg/kg	2.45E-07	mg/kg-day	--	--	--	2.45E-06	mg/kg-day	3.00E-02	mg/kg-day	8.17E-05	8.17E-05	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	--	
				Selenium	2.24E-01	mg/kg	1.75E-11	mg/kg-day	--	--	--	1.75E-10	mg/kg-day	5.00E-03	mg/kg-day	3.51E-08	3.51E-08	
				Silver	1.16E+00	mg/kg	9.05E-11	mg/kg-day	--	--	--	9.05E-10	mg/kg-day	5.00E-03	mg/kg-day	1.81E-07	1.81E-07	
				Technical Chlordane	5.51E-01	mg/kg	1.72E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.02E-10	1.72E-08	mg/kg-day	5.00E-04	mg/kg-day	3.44E-05	3.44E-05	
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--	--	
				Toluene	4.30E-04	mg/kg	3.36E-13	mg/kg-day	--	--	--	3.36E-12	mg/kg-day	8.00E-02	mg/kg-day	4.20E-11	4.20E-11	
				Vanadium	3.41E+01	mg/kg	2.67E-09	mg/kg-day	--	--	--	2.67E-08	mg/kg-day	1.00E-03	mg/kg-day	2.67E-05	2.67E-05	
				Zinc	4.53E+02	mg/kg	3.54E-08	mg/kg-day	--	--	--	3.54E-07	mg/kg-day	3.00E-01	mg/kg-day	1.18E-06	1.18E-06	
				Exposure Point Total			Exposure Route Total							2.87E-07				1.32E-02
														2.79E-06				2.77E-01
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--			
		1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--			
		1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
		1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--			
		1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	6.80E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--			
		1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
		1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
		1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
		2,4-Dimethylphenol	2.10E-01	mg/kg	4.01E-08	mg/kg-day	--	--	--	4.01E-05	mg/kg-day	2.00E-02	mg/kg-day	2.01E-03	2.01E-03			
		2-Methylphenol	8.10E-02	mg/kg	3.68E-06	mg/kg-day	--	--	--	3.68E-05	mg/kg-day	5.00E-02	mg/kg-day	7.37E-04	7.37E-04			
		2-Methylnaphthalene	1.67E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-03	mg/kg-day	--	--			
		4,4'-DDD	1.20E-03	mg/kg	3.91E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	9.38E-12	3.91E-10	mg/kg-day	5.00E-04	mg/kg-day	7.81E-07	7.81E-07			
		4,4'-DDE	8.23E-02	mg/kg	1.94E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.60E-10	1.94E-08	mg/kg-day	5.00E-04	mg/kg-day	3.88E-05	3.88E-05			
		4,4'-DDT	4.45E-02	mg/kg	4.52E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.54E-09	4.52E-08	mg/kg-day	5.00E-04	mg/kg-day	9.05E-05	9.05E-05			
		4-Methylphenol	2.70E-01	mg/kg	1.26E-05	mg/kg-day	--	--	--	1.26E-04	mg/kg-day	5.00E-03	mg/kg-day	2.52E-02	2.52E-02			
		4-Nitroaniline	6.20E-01	mg/kg	1.88E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.16E-07	1.88E-04	mg/kg-day	3.00E-03	mg/kg-day	6.61E-02	6.61E-02			
		4-Nitrophenol	4.20E-01	mg/kg	2.02E-05	mg/kg-day	--	--	--	2.02E-04	mg/kg-day	5.00E-04	mg/kg-day	4.03E-01	4.03E-01			
		Acenaphthene	4.23E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--	--			
		Acenaphthylene	1.04E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--	--			
		Aldrin	1.30E-02	mg/kg	6.93E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.18E-08	6.93E-09	mg/kg-day	3.00E-05	mg/kg-day	2.31E-04	2.31E-04			
		alpha-BHC	7.30E-04	mg/kg	8.40E-09	mg/kg-day	6.30E+00	(mg/kg-day)-1	5.29E-08	8.40E-08	mg/kg-day	5.00E-04	mg/kg-day	1.68E-04	1.68E-04			
		alpha-Chlordane	8.14E-03	mg/kg	9.53E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.33E-10	9.53E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05	1.91E-05			
		Aluminum	8.82E+03	mg/kg	1.41E-04	mg/kg-day	--	--	--	1.41E-03	mg/kg-day	1.00E+00	mg/kg-day	1.41E-03	1.41E-03			
		Anthracene	1.05E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--	--			
		Antimony	4.08E+00	mg/kg	3.00E-06	mg/kg-day	--	--	--	3.00E-05	mg/kg-day	4.00E-04	mg/kg-day	7.50E-02	7.50E-02			
		Aroclor-1248	1.20E+00	mg/kg	3.92E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.84E-08	3.92E-07	mg/kg-day	2.00E-05	mg/kg-day	1.96E-02	1.96E-02			
		Aroclor-1254	4.44E-01	mg/kg	1.94E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.88E-07	1.94E-06	mg/kg-day	2.00E-05	mg/kg-day	9.70E-02	9.70E-02			
Aroclor-1260	5.41E-01	mg/kg	8.46E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.69E-08	8.46E-08	mg/kg-day	2.00E-05	mg/kg-day	4.23E-03	4.23E-03					
Aroclor-1268	2.78E-02	mg/kg	1.21E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.43E-08	1.21E-07	mg/kg-day	2.00E-05	mg/kg-day	6.07E-03	6.07E-03					
Arsenic	6.17E+00	mg/kg	9.07E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.36E-06	9.07E-06	mg/kg-day	3.00E-04	mg/kg-day	3.02E-02	3.02E-02					
Barium	6.78E+01	mg/kg	2.49E-05	mg/kg-day	--	--	--	2.49E-04	mg/kg-day	7.00E-02	mg/kg-day	3.56E-03	3.56E-03					

TABLE H2-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	3.15E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.30E-08	3.15E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	5.95E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.34E-08	5.95E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	9.78E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.14E-08	9.78E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.08E-08	mg/kg-day	--	--	--	2.08E-07	mg/kg-day	3.00E-02	mg/kg-day	6.93E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.16E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	8.50E-09	1.16E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	8.76E-09	mg/kg-day	--	--	--	8.76E-08	mg/kg-day	2.00E-03	mg/kg-day	4.36E-05
				Beta-BHC	2.20E-03	mg/kg	2.53E-08	mg/kg-day	1.80E+00	(mg/kg-day)-1	4.55E-08	2.53E-07	mg/kg-day	2.00E-04	mg/kg-day	1.27E-03
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	6.64E-05	mg/kg-day	1.40E-02	(mg/kg-day)-1	9.29E-07	6.64E-04	mg/kg-day	2.00E-02	mg/kg-day	3.32E-02
				Cadmium	9.47E+00	mg/kg	3.48E-05	mg/kg-day	--	--	--	3.48E-04	mg/kg-day	5.00E-04	mg/kg-day	6.97E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	1.23E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	1.50E+00	mg/kg-day	8.18E-05
				Chrysene	5.68E+00	mg/kg	2.51E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.83E-09	2.51E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.30E-06	mg/kg-day	--	--	--	1.30E-05	mg/kg-day	2.00E-02	mg/kg-day	6.50E-04
				Copper	5.71E+01	mg/kg	3.50E-04	mg/kg-day	--	--	--	3.50E-03	mg/kg-day	3.70E-02	mg/kg-day	9.45E-02
				Delta-BHC	8.40E-03	mg/kg	7.87E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.42E-09	7.87E-09	mg/kg-day	2.00E-04	mg/kg-day	3.94E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	7.00E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.11E-08	7.00E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	7.16E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.15E-05	7.16E-06	mg/kg-day	5.00E-05	mg/kg-day	1.43E-01
				Dimethylphthalate	3.80E-02	mg/kg	1.39E-06	mg/kg-day	--	--	--	1.39E-05	mg/kg-day	1.00E+01	mg/kg-day	1.39E-06
				di-n-Butylphthalate	2.20E+00	mg/kg	1.12E-07	mg/kg-day	--	--	--	1.12E-06	mg/kg-day	1.00E-01	mg/kg-day	1.12E-05
				Endosulfan I	2.30E-02	mg/kg	2.53E-07	mg/kg-day	--	--	--	2.53E-06	mg/kg-day	6.00E-03	mg/kg-day	4.21E-04
				Endosulfan II	2.38E-02	mg/kg	2.51E-07	mg/kg-day	--	--	--	2.51E-06	mg/kg-day	6.00E-03	mg/kg-day	4.16E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	4.42E-07	mg/kg-day	--	--	--	4.42E-06	mg/kg-day	6.00E-03	mg/kg-day	7.37E-04
				Endrin aldehyde	4.21E-02	mg/kg	1.71E-09	mg/kg-day	--	--	--	1.71E-08	mg/kg-day	3.00E-04	mg/kg-day	5.70E-05
				Endrin Ketone	1.00E-02	mg/kg	4.07E-10	mg/kg-day	--	--	--	4.07E-09	mg/kg-day	3.00E-04	mg/kg-day	1.36E-05
				Fluoranthene	2.65E+01	mg/kg	1.76E-06	mg/kg-day	--	--	--	1.76E-05	mg/kg-day	4.00E-02	mg/kg-day	4.39E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.05E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.37E-07	1.05E-06	mg/kg-day	3.00E-04	mg/kg-day	3.51E-03
				gamma-Chlordane	1.31E-02	mg/kg	1.53E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.37E-10	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05
				Heptachlor	6.90E-03	mg/kg	6.00E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	2.70E-09	6.00E-09	mg/kg-day	5.00E-04	mg/kg-day	1.20E-05
				Heptachlor Epoxide	1.12E-02	mg/kg	3.16E-07	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.87E-06	3.16E-06	mg/kg-day	1.30E-05	mg/kg-day	2.43E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.33E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.70E-08	2.33E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	9.93E-04	mg/kg-day	--	--	--	9.93E-03	mg/kg-day	3.00E-01	mg/kg-day	3.31E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	6.40E-04	mg/kg-day	--	--	--	6.40E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	4.06E-04	mg/kg-day	--	--	--	4.06E-03	mg/kg-day	2.40E-02	mg/kg-day	1.69E-01
				Mercury	3.10E-01	mg/kg	1.52E-06	mg/kg-day	--	--	--	1.52E-05	mg/kg-day	3.00E-04	mg/kg-day	5.06E-02
				Methoxychlor	1.20E-01	mg/kg	2.55E-09	mg/kg-day	--	--	--	2.55E-08	mg/kg-day	5.00E-03	mg/kg-day	5.10E-06
				Molybdenum	2.50E+00	mg/kg	3.68E-06	mg/kg-day	--	--	--	3.68E-05	mg/kg-day	5.00E-03	mg/kg-day	7.37E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.91E+01	mg/kg	5.76E-05	mg/kg-day	--	--	--	5.76E-04	mg/kg-day	2.00E-02	mg/kg-day	2.88E-02
				Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
				Phenol	5.80E-01	mg/kg	7.01E-05	mg/kg-day	--	--	--	7.01E-04	mg/kg-day	3.00E-01	mg/kg-day	2.34E-03
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.24E-01	mg/kg	1.38E-07	mg/kg-day	--	--	--	1.38E-06	mg/kg-day	5.00E-03	mg/kg-day	2.75E-04
				Silver	1.16E+00	mg/kg	2.84E-06	mg/kg-day	--	--	--	2.84E-05	mg/kg-day	5.00E-03	mg/kg-day	5.68E-03
				Technical Chlordane	5.51E-01	mg/kg	6.45E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.26E-08	6.45E-07	mg/kg-day	5.00E-04	mg/kg-day	1.29E-03
				Thallium	4.97E-01	mg/kg	4.87E-09	mg/kg-day	--	--	--	4.87E-08	mg/kg-day	6.60E-05	mg/kg-day	7.38E-04

TABLE H2-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	8.00E-02	mg/kg-day	--	
				Vanadium	3.41E+01	mg/kg	2.51E-06	mg/kg-day	--	--	--	2.51E-05	mg/kg-day	1.00E-03	mg/kg-day	2.51E-02
				Zinc	4.53E+02	mg/kg	1.00E-02	mg/kg-day	--	--	--	1.00E-01	mg/kg-day	3.00E-01	mg/kg-day	3.34E-01
Exposure Route Total													2.61E+00			
Exposure Point Total													2.61E+00			
Exposure Medium Total													2.89E+00			
	Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.6E-10	mg/m <sup>3</sup>	3.30E-12	mg/kg-day	--	--	--	3.30E-11	mg/kg-day	2.0E+02	mg/kg-day	1.65E-09
				2-Methylphenol	6.1E-11	mg/m <sup>3</sup>	1.27E-12	mg/kg-day	--	--	--	1.27E-11	mg/kg-day	--	--	--
				4,4'-DDD	9.1E-13	mg/m <sup>3</sup>	1.88E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	4.52E-15	1.88E-13	mg/kg-day	5.00E-04	mg/kg-day	3.77E-10
				4,4'-DDT	3.4E-11	mg/m <sup>3</sup>	6.98E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.37E-13	6.98E-12	mg/kg-day	5.00E-04	mg/kg-day	1.40E-08
				4-Methylphenol	2.0E-10	mg/m <sup>3</sup>	4.24E-12	mg/kg-day	--	--	--	4.24E-11	mg/kg-day	5.00E-03	mg/kg-day	8.47E-09
				4-Nitroaniline	4.7E-10	mg/m <sup>3</sup>	9.73E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.04E-13	9.73E-11	mg/kg-day	1.00E-03	mg/kg-day	9.73E-08
				4-Nitrophenol	3.2E-10	mg/m <sup>3</sup>	6.59E-12	mg/kg-day	--	--	--	6.59E-11	mg/kg-day	5.70E-04	mg/kg-day	1.16E-07
				Aluminum	6.7E-06	mg/m <sup>3</sup>	1.38E-07	mg/kg-day	--	--	--	1.38E-06	mg/kg-day	1.43E-03	mg/kg-day	9.68E-04
				Antimony	3.1E-09	mg/m <sup>3</sup>	6.40E-11	mg/kg-day	--	--	--	6.40E-10	mg/kg-day	--	--	--
				Aroclor-1248	9.1E-10	mg/m <sup>3</sup>	1.88E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.77E-11	1.88E-10	mg/kg-day	2.00E-05	mg/kg-day	9.41E-06
				Aroclor-1254	3.4E-10	mg/m <sup>3</sup>	6.97E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.39E-11	6.97E-11	mg/kg-day	2.00E-05	mg/kg-day	3.48E-06
				Aroclor-1260	4.1E-10	mg/m <sup>3</sup>	8.49E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.70E-11	8.49E-11	mg/kg-day	2.00E-05	mg/kg-day	4.25E-06
				Aroclor-1268	2.1E-11	mg/m <sup>3</sup>	4.36E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	8.71E-13	4.36E-12	mg/kg-day	2.00E-05	mg/kg-day	2.18E-07
				Arsenic	4.7E-09	mg/m <sup>3</sup>	9.68E-11	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.45E-09	9.68E-10	mg/kg-day	--	--	--
				Barium	5.1E-08	mg/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	1.06E-08	mg/kg-day	1.40E-04	mg/kg-day	7.60E-05
				Benzo(a)anthracene	3.8E-09	mg/m <sup>3</sup>	7.85E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	5.73E-11	7.85E-10	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.3E-09	mg/m <sup>3</sup>	2.61E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.91E-10	2.61E-10	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	5.8E-10	mg/m <sup>3</sup>	1.20E-11	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	3.00E-02	mg/kg-day	3.99E-09
				Benzo(k)fluoranthene	2.5E-09	mg/m <sup>3</sup>	5.12E-11	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	3.73E-12	5.12E-10	mg/kg-day	--	--	--
				Beryllium	1.8E-10	mg/m <sup>3</sup>	3.74E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	3.14E-11	3.74E-11	mg/kg-day	5.71E-06	mg/kg-day	6.54E-06
				Beta-BHC	1.7E-12	mg/m <sup>3</sup>	3.45E-14	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	6.40E-14	3.45E-13	mg/kg-day	2.00E-04	mg/kg-day	1.73E-09
				bis(2-ethylhexyl)phthalate	5.9E-09	mg/m <sup>3</sup>	1.23E-10	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.72E-12	1.23E-09	mg/kg-day	2.00E-02	mg/kg-day	6.14E-08
				Cadmium	7.2E-09	mg/m <sup>3</sup>	1.49E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	9.36E-10	1.49E-09	mg/kg-day	--	--	--
				Chromium	8.4E-08	mg/m <sup>3</sup>	1.74E-09	mg/kg-day	--	--	--	1.74E-08	mg/kg-day	--	--	--
				Cobalt	5.7E-09	mg/m <sup>3</sup>	1.19E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	1.16E-09	1.19E-09	mg/kg-day	5.71E-06	mg/kg-day	2.08E-04
				Copper	4.3E-08	mg/m <sup>3</sup>	8.95E-10	mg/kg-day	--	--	--	8.95E-09	mg/kg-day	--	--	--
				Dibenzo(a,h)anthracene	2.4E-10	mg/m <sup>3</sup>	4.98E-12	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	3.64E-11	4.98E-11	mg/kg-day	--	--	--
				Dimethylphthalate	2.9E-11	mg/m <sup>3</sup>	5.96E-13	mg/kg-day	--	--	--	5.96E-12	mg/kg-day	1.00E+01	mg/kg-day	5.96E-13
				di-n-Butylphthalate	1.7E-09	mg/m <sup>3</sup>	3.45E-11	mg/kg-day	--	--	--	3.45E-10	mg/kg-day	1.00E-01	mg/kg-day	3.45E-09
				Endrin aldehyde	3.2E-11	mg/m <sup>3</sup>	6.60E-13	mg/kg-day	--	--	--	6.60E-12	mg/kg-day	3.00E-04	mg/kg-day	2.20E-08
				Endrin Ketone	7.6E-12	mg/m <sup>3</sup>	1.57E-13	mg/kg-day	--	--	--	1.57E-12	mg/kg-day	3.00E-04	mg/kg-day	5.23E-09
				Heptachlor Epoxide	8.5E-12	mg/m <sup>3</sup>	1.75E-13	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	1.59E-12	1.75E-12	mg/kg-day	1.30E-05	mg/kg-day	1.35E-07
				Indeno(1,2,3-cd)pyrene	6.6E-10	mg/m <sup>3</sup>	1.37E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.00E-11	1.37E-10	mg/kg-day	--	--	--
				Iron	3.1E-05	mg/m <sup>3</sup>	6.39E-07	mg/kg-day	--	--	--	6.39E-06	mg/kg-day	--	--	--
				Isophorone	1.5E-10	mg/m <sup>3</sup>	3.14E-12	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	2.98E-15	3.14E-11	mg/kg-day	2.00E-01	mg/kg-day	1.57E-10
				Lead	2.2E-06	mg/m <sup>3</sup>	4.55E-08	mg/kg-day	--	--	--	4.55E-07	mg/kg-day	--	--	--
				Manganese	2.5E-07	mg/m <sup>3</sup>	5.19E-09	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	1.43E-05	mg/kg-day	3.64E-03
				Mercury	2.3E-10	mg/m <sup>3</sup>	4.86E-12	mg/kg-day	--	--	--	4.86E-11	mg/kg-day	8.60E-05	mg/kg-day	5.65E-07
				Molybdenum	1.9E-09	mg/m <sup>3</sup>	3.93E-11	mg/kg-day	--	--	--	3.93E-10	mg/kg-day	--	--	--
				Nickel	3.0E-08	mg/m <sup>3</sup>	6.14E-10	mg/kg-day	--	--	--	6.14E-09	mg/kg-day	--	--	--
				Phenol	4.4E-10	mg/m <sup>3</sup>	9.10E-12	mg/kg-day	--	--	--	9.10E-11	mg/kg-day	3.00E-01	mg/kg-day	3.03E-10
				Selenium	1.7E-10	mg/m <sup>3</sup>	3.52E-12	mg/kg-day	--	--	--	3.52E-11	mg/kg-day	--	--	--
				Silver	8.8E-10	mg/m <sup>3</sup>	1.82E-11	mg/kg-day	--	--	--	1.82E-10	mg/kg-day	--	--	--

TABLE H2-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units				
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.8E-10	mg/m <sup>3</sup>	7.80E-12	mg/kg-day	--	--	--	7.80E-11	mg/kg-day	--	--	--	
				Vanadium	2.6E-08	mg/m <sup>3</sup>	5.36E-10	mg/kg-day	--	--	--	5.36E-09	mg/kg-day	--	--	--	
				Zinc	3.4E-07	mg/m <sup>3</sup>	7.12E-09	mg/kg-day	--	--	--	7.12E-08	mg/kg-day	--	--	--	
<b>Exposure Route Total</b>										<b>3.96E-09</b>			<b>4.91E-03</b>				
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.16E-06	mg/kg-day	--	--	--	2.16E-05	mg/kg-day	1.10E-03	mg/kg-day	1.97E-02	
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	7.35E-06	mg/kg-day	--	--	--	7.35E-05	mg/kg-day	1.10E-03	mg/kg-day	6.68E-02	
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.43E-06	mg/kg-day	--	--	--	2.43E-05	mg/kg-day	1.71E-03	mg/kg-day	1.42E-02	
			1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.10E-04	mg/kg-day	--	--	--	1.10E-03	mg/kg-day	5.70E-02	mg/kg-day	1.93E-02		
			1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	5.93E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	4.03E-09	5.93E-07	mg/kg-day	1.14E-03	mg/kg-day	5.20E-04		
			1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	7.57E-07	mg/kg-day	--	--	--	7.57E-06	mg/kg-day	1.71E-03	mg/kg-day	4.41E-03		
			1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	3.37E-06	mg/kg-day	--	--	--	3.37E-05	mg/kg-day	3.00E-02	mg/kg-day	1.12E-03		
			1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	3.24E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	7.12E-07	3.24E-04	mg/kg-day	2.30E-01	mg/kg-day	1.41E-03		
			2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.53E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	5.00E-02	mg/kg-day	3.06E-04		
			4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	2.01E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.83E-11	2.01E-09	mg/kg-day	5.00E-04	mg/kg-day	4.02E-06		
			Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.20E-06	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	6.00E-02	mg/kg-day	2.01E-04		
			Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.96E-08	mg/kg-day	--	--	--	2.96E-07	mg/kg-day	6.00E-02	mg/kg-day	4.94E-06		
			Aldrin	5.63E-09	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.98E-09	1.17E-09	mg/kg-day	3.00E-05	mg/kg-day	3.89E-05		
			alpha-BHC	3.64E-09	mg/m <sup>3</sup>	7.53E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	4.75E-10	7.53E-10	mg/kg-day	5.00E-04	mg/kg-day	1.51E-06		
			alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.67E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.84E-11	1.67E-09	mg/kg-day	2.00E-04	mg/kg-day	8.35E-06		
			Anthracene	1.45E-05	mg/m <sup>3</sup>	3.00E-07	mg/kg-day	--	--	--	3.00E-06	mg/kg-day	3.00E-01	mg/kg-day	1.00E-05		
			Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	3.67E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.68E-08	3.67E-07	mg/kg-day	--	--	--		
			Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	9.37E-09	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	2.00E-01	mg/kg-day	4.69E-07		
			Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.07E-06	mg/kg-day	--	--	--	1.07E-05	mg/kg-day	1.70E-02	mg/kg-day	6.31E-04		
			Chrysene	6.25E-06	mg/m <sup>3</sup>	1.29E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	9.45E-10	1.29E-06	mg/kg-day	--	--	--		
			Delta-BHC	4.19E-08	mg/m <sup>3</sup>	8.67E-10	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.61E-09	8.67E-09	mg/kg-day	2.00E-04	mg/kg-day	4.33E-05		
			Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	9.29E-07	mg/kg-day	--	--	--	9.29E-06	mg/kg-day	2.00E-03	mg/kg-day	4.65E-03		
			Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.54E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.46E-08	1.54E-08	mg/kg-day	5.00E-05	mg/kg-day	3.07E-04		
			Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.67E-09	mg/kg-day	--	--	--	1.67E-08	mg/kg-day	6.00E-03	mg/kg-day	2.78E-06		
			Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.73E-09	mg/kg-day	--	--	--	1.73E-08	mg/kg-day	6.00E-03	mg/kg-day	2.88E-06		
			Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	3.12E-09	mg/kg-day	--	--	--	3.12E-08	mg/kg-day	6.00E-03	mg/kg-day	5.20E-06		
			Fluoranthene	1.71E-05	mg/m <sup>3</sup>	3.55E-07	mg/kg-day	--	--	--	3.55E-06	mg/kg-day	4.00E-02	mg/kg-day	8.88E-05		
			Fluorene	1.71E-05	mg/m <sup>3</sup>	3.54E-07	mg/kg-day	--	--	--	3.54E-06	mg/kg-day	4.00E-02	mg/kg-day	8.84E-05		
			gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	3.30E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.29E-10	3.30E-09	mg/kg-day	3.00E-04	mg/kg-day	1.10E-05		
			gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.69E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	9.40E-11	2.69E-09	mg/kg-day	2.00E-04	mg/kg-day	1.34E-05		
			Heptachlor	3.38E-07	mg/m <sup>3</sup>	7.00E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	3.19E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04		
			Methoxychlor	8.83E-08	mg/m <sup>3</sup>	1.79E-09	mg/kg-day	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	3.58E-06		
			Naphthalene	6.89E-04	mg/m <sup>3</sup>	1.45E-05	mg/kg-day	--	--	--	1.45E-04	mg/kg-day	8.57E-04	mg/kg-day	1.69E-01		
			Phenanthrene	1.91E-04	mg/m <sup>3</sup>	3.96E-06	mg/kg-day	--	--	--	3.96E-05	mg/kg-day	3.00E-01	mg/kg-day	1.32E-04		
			p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	3.97E-06	mg/kg-day	--	--	--	3.97E-05	mg/kg-day	1.10E-01	mg/kg-day	3.61E-04		
			Pyrene	1.86E-05	mg/m <sup>3</sup>	3.83E-07	mg/kg-day	--	--	--	3.83E-06	mg/kg-day	3.00E-02	mg/kg-day	1.28E-04		
			sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	5.82E-07	mg/kg-day	--	--	--	5.82E-06	mg/kg-day	4.00E-02	mg/kg-day	1.45E-04		
			Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	1.13E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	3.95E-12	1.13E-07	mg/kg-day	2.00E-04	mg/kg-day	5.65E-04		
			Toluene	3.12E-07	mg/m <sup>3</sup>	6.47E-09	mg/kg-day	--	--	--	6.47E-08	mg/kg-day	1.43E+00	mg/kg-day	4.53E-08		
<b>Exposure Route Total</b>										<b>8.05E-07</b>			<b>3.04E-01</b>				
<b>Exposure Point Total</b>										<b>8.05E-07</b>			<b>3.09E-01</b>				
			Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	1.82E-04	mg/kg-day	--	--	--	1.82E-03	mg/kg-day	1.10E-03	mg/kg-day	1.66E+00
					1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	6.20E-04	mg/kg-day	--	--	--	6.20E-03	mg/kg-day	1.10E-03	mg/kg-day	5.64E+00
					1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	6.08E-05	mg/kg-day	--	--	--	6.08E-04	mg/kg-day	1.71E-03	mg/kg-day	3.55E-01
					1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	3.16E-03	mg/kg-day	--	--	--	3.16E-02	mg/kg-day	5.70E-02	mg/kg-day	5.55E-01
					1,2-Dichloropropane	2.11E+02	(a) ug/m <sup>3</sup>	4.38E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.98E-08	4.38E-06	mg/kg-day	1.14E-03	mg/kg-day	3.84E-03
			1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	1.95E-05	mg/kg-day	--	--	--	1.95E-04	mg/kg-day	1.71E-03	mg/kg-day	1.14E-01		

TABLE H2-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	1.34E-04	mg/kg-day	--	--	--	1.34E-03	mg/kg-day	3.00E-02	mg/kg-day	4.46E-02
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	8.27E-04	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.82E-05	8.27E-03	mg/kg-day	2.30E-01	mg/kg-day	3.60E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	1.00E-04	mg/kg-day	--	--	--	1.00E-03	mg/kg-day	5.00E-02	mg/kg-day	2.01E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	1.26E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.27E-11	1.26E-09	mg/kg-day	5.00E-04	mg/kg-day	2.51E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	3.51E-05	mg/kg-day	--	--	--	3.51E-04	mg/kg-day	6.00E-02	mg/kg-day	5.85E-03
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	9.06E-07	mg/kg-day	--	--	--	9.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.51E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	3.33E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.67E-09	3.33E-09	mg/kg-day	3.00E-05	mg/kg-day	1.11E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	2.23E-09	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.40E-08	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	1.12E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.93E-10	1.12E-08	mg/kg-day	2.00E-04	mg/kg-day	5.62E-05
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	9.23E-06	mg/kg-day	--	--	--	9.23E-05	mg/kg-day	3.00E-01	mg/kg-day	3.08E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	6.53E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.78E-08	6.53E-07	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.92E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06
				Chlorobenzene	6.45E-01	(a) ug/m <sup>3</sup>	1.34E-05	mg/kg-day	--	--	--	1.34E-04	mg/kg-day	1.70E-02	mg/kg-day	7.87E-03
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	3.68E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.69E-09	3.68E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	3.81E-08	mg/kg-day	1.86E+00	(mg/kg-day)-1	7.07E-08	3.81E-07	mg/kg-day	2.00E-04	mg/kg-day	1.90E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	4.91E-07	mg/kg-day	--	--	--	4.91E-06	mg/kg-day	2.00E-03	mg/kg-day	2.45E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	1.09E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.74E-07	1.09E-07	mg/kg-day	5.00E-05	mg/kg-day	2.17E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	4.47E-08	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	6.00E-03	mg/kg-day	7.45E-05
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	4.55E-08	mg/kg-day	--	--	--	4.55E-07	mg/kg-day	6.00E-03	mg/kg-day	7.58E-05
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	8.35E-08	mg/kg-day	--	--	--	8.35E-07	mg/kg-day	6.00E-03	mg/kg-day	1.39E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	1.02E-07	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	4.00E-02	mg/kg-day	2.54E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	5.55E-06	mg/kg-day	--	--	--	5.55E-05	mg/kg-day	4.00E-02	mg/kg-day	1.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	1.18E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.53E-08	1.18E-07	mg/kg-day	3.00E-04	mg/kg-day	3.93E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	2.04E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	7.16E-12	2.04E-10	mg/kg-day	2.00E-04	mg/kg-day	1.02E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	2.25E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	1.02E-08	2.25E-08	mg/kg-day	5.00E-04	mg/kg-day	4.50E-05
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	6.14E-09	mg/kg-day	--	--	--	6.14E-08	mg/kg-day	5.00E-03	mg/kg-day	1.23E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.92E-07	mg/kg-day	1.60E-03	(mg/kg-day)-1	4.67E-10	2.92E-06	mg/kg-day	8.57E-01	mg/kg-day	3.41E-06
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	1.30E-03	mg/kg-day	--	--	--	1.30E-02	mg/kg-day	8.57E-04	mg/kg-day	1.52E-01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	1.18E-04	mg/kg-day	--	--	--	1.18E-03	mg/kg-day	3.00E-01	mg/kg-day	3.94E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	1.34E-05	mg/kg-day	--	--	--	1.34E-04	mg/kg-day	1.10E-01	mg/kg-day	1.22E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	8.24E-07	mg/kg-day	--	--	--	8.24E-06	mg/kg-day	3.00E-02	mg/kg-day	2.75E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	4.74E-06	mg/kg-day	--	--	--	4.74E-05	mg/kg-day	4.00E-02	mg/kg-day	1.19E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	8.71E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	3.05E-11	8.71E-07	mg/kg-day	2.00E-04	mg/kg-day	4.36E-03
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	5.23E-08	mg/kg-day	--	--	--	5.23E-07	mg/kg-day	1.43E+00	mg/kg-day	3.66E-07				
				Exposure Route Total					1.86E-05					2.37E+01		
				Exposure Point Total					1.86E-05					2.37E+01		
				Exposure Medium Total					1.94E-05					2.40E+01		
				Medium Total					4.02E-05					2.69E+01		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	8.77E-09	mg/kg-day	--	--	--	8.77E-08	mg/kg-day	1.40E-01	mg/kg-day	6.26E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.81E-09	mg/kg-day	--	--	--	2.81E-08	mg/kg-day	1.71E-03	mg/kg-day	1.53E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.71E-08	mg/kg-day	--	--	--	1.71E-07	mg/kg-day	5.70E-02	mg/kg-day	3.01E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	9.10E-02	--	1.12E-09	1.23E-07	mg/kg-day	1.40E-03	mg/kg-day	8.80E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	4.62E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	3.14E-10	4.62E-08	mg/kg-day	1.4E-03	mg/kg-day	4.05E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.49E-09	mg/kg-day	--	--	--	1.49E-08	mg/kg-day	1.71E-03	mg/kg-day	8.69E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	5.83E-09	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.28E-10	5.83E-08	mg/kg-day	2.30E-01	mg/kg-day	2.54E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	2.25E-10	mg/kg-day	--	--	--	2.25E-09	mg/kg-day	1.43E+00	mg/kg-day	1.58E-09
				2-Methylnaphthalene	9.87E-10	mg/m <sup>3</sup>	2.00E-11	mg/kg-day	--	--	--	2.00E-10	mg/kg-day	5.00E-02	mg/kg-day	4.01E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.68E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.11E-12	2.68E-10	mg/kg-day	5.00E-04	mg/kg-day	5.36E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	8.38E-11	mg/kg-day	--	--	--	8.38E-10	mg/kg-day	6.00E-01	mg/kg-day	9.74E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	8.03E-10	mg/kg-day	--	--	--	8.03E-09	mg/kg-day	6.00E-02	mg/kg-day	1.34E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	3.42E-11	mg/kg-day	--	--	--	3.42E-10	mg/kg-day	6.00E-02	mg/kg-day	5.70E-09

TABLE H2-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	4.63E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	7.87E-10	4.63E-10	mg/kg-day	3.00E-05	mg/kg-day	1.54E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	5.86E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.69E-11	5.86E-11	mg/kg-day	5.00E-04	mg/kg-day	1.17E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.39E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.86E-12	1.39E-10	mg/kg-day	2.00E-04	mg/kg-day	6.94E-07				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	6.80E-11	mg/kg-day	--	--	--	6.80E-10	mg/kg-day	3.00E-01	mg/kg-day	2.27E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	5.40E-09	mg/kg-day	2.73E-02	(mg/kg-day)-1	1.48E-10	5.40E-08	mg/kg-day	8.60E-03	mg/kg-day	6.28E-06				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.01E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.36E-12	1.01E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.52E-10	mg/kg-day	3.85E-03	(mg/kg-day)-1	5.87E-13	1.52E-09	mg/kg-day	2.00E-02	mg/kg-day	7.62E-08				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	9.33E-08	mg/kg-day	--	--	--	9.33E-07	mg/kg-day	2.00E-01	mg/kg-day	4.67E-06				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.52E-09	mg/kg-day	--	--	--	1.52E-08	mg/kg-day	1.70E-02	mg/kg-day	8.92E-07				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	4.28E-08	mg/kg-day	8.05E-02	(mg/kg-day)-1	3.45E-09	4.28E-07	mg/kg-day	1.40E-02	mg/kg-day	3.06E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.55E-08	mg/kg-day	--	--	--	1.55E-07	mg/kg-day	2.60E-02	mg/kg-day	5.97E-06				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	2.73E-11	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.99E-13	2.73E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.10E-07	mg/kg-day	1.00E-02	mg/kg-day	1.10E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.03E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.26E-10	2.03E-10	mg/kg-day	5.00E-05	mg/kg-day	4.07E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	4.64E-12	mg/kg-day	--	--	--	4.64E-11	mg/kg-day	6.00E-03	mg/kg-day	7.73E-09				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	7.62E-15	mg/kg-day	--	--	--	7.62E-14	mg/kg-day	6.00E-03	mg/kg-day	1.27E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	4.13E-09	mg/kg-day	--	--	--	4.13E-08	mg/kg-day	2.90E-01	mg/kg-day	1.42E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.05E-11	mg/kg-day	--	--	--	1.05E-10	mg/kg-day	4.00E-02	mg/kg-day	2.62E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.07E-11	mg/kg-day	--	--	--	2.07E-10	mg/kg-day	4.00E-02	mg/kg-day	5.18E-09				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.57E-14	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.35E-14	2.57E-13	mg/kg-day	3.00E-04	mg/kg-day	8.58E-10				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	3.60E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.26E-11	3.60E-10	mg/kg-day	2.00E-04	mg/kg-day	1.80E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	3.70E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	1.68E-09	3.70E-09	mg/kg-day	5.00E-04	mg/kg-day	7.40E-08				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	7.10E-07	mg/kg-day	--	--	--	7.10E-06	mg/kg-day	1.10E-01	mg/kg-day	6.45E-05				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.44E-08	mg/kg-day	--	--	--	1.44E-07	mg/kg-day	2.90E-02	mg/kg-day	4.96E-06				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	6.77E-11	mg/kg-day	--	--	--	6.77E-10	mg/kg-day	5.00E-03	mg/kg-day	1.35E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.13E-10	mg/kg-day	--	--	--	1.13E-09	mg/kg-day	8.57E-04	mg/kg-day	1.31E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	5.24E-09	mg/kg-day	--	--	--	5.24E-08	mg/kg-day	8.57E-04	mg/kg-day	6.11E-05				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	5.83E-09	mg/kg-day	--	--	--	5.83E-08	mg/kg-day	4.00E-02	mg/kg-day	1.46E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	5.42E-11	mg/kg-day	--	--	--	5.42E-10	mg/kg-day	3.00E-01	mg/kg-day	1.81E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	7.10E-07	mg/kg-day	--	--	--	7.10E-06	mg/kg-day	1.10E-01	mg/kg-day	6.45E-05				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	9.55E-12	mg/kg-day	--	--	--	9.55E-11	mg/kg-day	3.00E-02	mg/kg-day	3.18E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.66E-08	mg/kg-day	--	--	--	1.66E-07	mg/kg-day	4.00E-02	mg/kg-day	4.15E-06				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	--	--	--	1.88E-07	mg/kg-day	4.00E-02	mg/kg-day	4.70E-06				
				Toluene	3.80E-07	mg/m <sup>3</sup>	7.87E-09	mg/kg-day	--	--	--	7.87E-08	mg/kg-day	1.43E+00	mg/kg-day	5.51E-08				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.86E-08	mg/kg-day	--	--	--	1.86E-07	mg/kg-day	2.00E-02	mg/kg-day	9.28E-06				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.93E-08	mg/kg-day	4.00E-01	(mg/kg-day)-1	7.72E-09	1.93E-07	mg/kg-day	1.00E-02	mg/kg-day	1.93E-05				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	3.99E-08	mg/kg-day	3.10E-02	(mg/kg-day)-1	1.24E-09	3.99E-07	mg/kg-day	2.85E-02	mg/kg-day	1.40E-05				
				Exposure Route Total										1.70E-08					4.95E-04	
				Exposure Point Total										1.70E-08						4.95E-04
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.54E-06	mg/kg-day	--	--	--	1.54E-05	mg/kg-day	1.40E-01	mg/kg-day	1.10E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	6.77E-08	mg/kg-day	--	--	--	6.77E-07	mg/kg-day	1.71E-03	mg/kg-day	3.95E-04
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	4.56E-07					mg/kg-day	--	--	--	4.56E-06	mg/kg-day	5.70E-02	mg/kg-day	7.99E-05				
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	3.69E-07					mg/kg-day	9.10E-02	--	3.36E-08	3.69E-06	mg/kg-day	1.40E-03	mg/kg-day	2.64E-03				
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	1.37E-07					mg/kg-day	6.80E-02	(mg/kg-day)-1	9.30E-09	1.37E-06	mg/kg-day	1.14E-03	mg/kg-day	1.20E-03				
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	3.87E-08					mg/kg-day	--	--	--	3.87E-07	mg/kg-day	1.71E-03	mg/kg-day	2.26E-04				
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.56E-07					mg/kg-day	2.20E-02	(mg/kg-day)-1	3.44E-09	1.56E-06	mg/kg-day	2.30E-01	mg/kg-day	6.80E-06				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	1.16E-08					mg/kg-day	--	--	--	1.16E-07	mg/kg-day	1.43E+00	mg/kg-day	8.12E-08				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	5.62E-10					mg/kg-day	--	--	--	5.62E-09	mg/kg-day	5.00E-02	mg/kg-day	1.12E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	2.41E-12					mg/kg-day	3.40E-01	(mg/kg-day)-1	8.21E-13	2.41E-11	mg/kg-day	5.00E-04	mg/kg-day	4.83E-08				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	3.44E-09					mg/kg-day	--	--	--	3.44E-08	mg/kg-day	8.60E-01	mg/kg-day	4.00E-08				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	3.42E-08					mg/kg-day	--	--	--	3.42E-07	mg/kg-day	6.00E-02	mg/kg-day	5.70E-06				

TABLE H2-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	1.46E-09	mg/kg-day	--	--	--	1.46E-08	mg/kg-day	6.00E-02	mg/kg-day	2.43E-07
				Aldrin	2.44E-07	ug/m <sup>3</sup>	5.05E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.58E-11	5.05E-11	mg/kg-day	3.00E-05	mg/kg-day	1.68E-06
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	7.52E-13	mg/kg-day	6.30E+00	(mg/kg-day)-1	4.74E-12	7.52E-12	mg/kg-day	5.00E-04	mg/kg-day	1.50E-08
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	4.56E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.60E-12	4.56E-11	mg/kg-day	2.00E-04	mg/kg-day	2.28E-07
				Anthracene	1.40E-04	ug/m <sup>3</sup>	2.89E-09	mg/kg-day	--	--	--	2.89E-08	mg/kg-day	3.00E-01	mg/kg-day	9.64E-08
				Benzene	7.66E-03	ug/m <sup>3</sup>	1.59E-07	mg/kg-day	2.73E-02	(mg/kg-day)-1	4.33E-09	1.59E-08	mg/kg-day	8.60E-03	mg/kg-day	1.85E-04
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	4.24E-10	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.09E-10	4.24E-09	mg/kg-day	--	--	--
				Bromofom	3.95E-04	ug/m <sup>3</sup>	8.19E-09	mg/kg-day	3.85E-03	(mg/kg-day)-1	3.15E-11	8.19E-08	mg/kg-day	2.00E-02	mg/kg-day	4.09E-06
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	2.80E-06	mg/kg-day	--	--	--	2.80E-05	mg/kg-day	2.00E-01	mg/kg-day	1.40E-04
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	4.25E-08	mg/kg-day	--	--	--	4.25E-07	mg/kg-day	1.70E-02	mg/kg-day	2.50E-05
				Chloroform	6.13E-02	ug/m <sup>3</sup>	1.27E-06	mg/kg-day	8.05E-02	(mg/kg-day)-1	1.02E-07	1.27E-05	mg/kg-day	1.40E-02	mg/kg-day	9.07E-04
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	5.03E-07	mg/kg-day	--	--	--	5.03E-06	mg/kg-day	2.60E-02	mg/kg-day	1.93E-04
				Chrysene	5.75E-05	ug/m <sup>3</sup>	1.19E-09	mg/kg-day	7.30E-03	(mg/kg-day)-1	8.70E-12	1.19E-08	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	7.12E-07	mg/kg-day	--	--	--	7.12E-06	mg/kg-day	1.00E-02	mg/kg-day	7.12E-04
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	7.80E-13	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.25E-11	7.80E-12	mg/kg-day	5.00E-05	mg/kg-day	1.56E-07
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	1.01E-11	mg/kg-day	6.00E-03	mg/kg-day	1.68E-09
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	3.36E-13	mg/kg-day	--	--	--	3.36E-12	mg/kg-day	6.00E-03	mg/kg-day	5.59E-10
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	1.12E-07	mg/kg-day	--	--	--	1.12E-06	mg/kg-day	2.90E-01	mg/kg-day	3.85E-06
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	4.24E-10	mg/kg-day	--	--	--	4.24E-09	mg/kg-day	4.00E-02	mg/kg-day	1.06E-07
				Fluorene	5.21E-05	ug/m <sup>3</sup>	1.08E-09	mg/kg-day	--	--	--	1.08E-08	mg/kg-day	4.00E-02	mg/kg-day	2.70E-07
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	1.02E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.32E-12	1.02E-11	mg/kg-day	3.00E-04	mg/kg-day	3.39E-08
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	2.21E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	7.73E-13	2.21E-11	mg/kg-day	2.00E-04	mg/kg-day	1.10E-07
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	9.97E-12	mg/kg-day	4.55E+00	(mg/kg-day)-1	4.54E-11	9.97E-11	mg/kg-day	5.00E-04	mg/kg-day	1.99E-07
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	3.73E-05	mg/kg-day	--	--	--	3.73E-04	mg/kg-day	1.10E-01	mg/kg-day	3.39E-03
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	8.35E-07	mg/kg-day	--	--	--	8.35E-06	mg/kg-day	2.90E-02	mg/kg-day	2.88E-04
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	2.93E-12	mg/kg-day	--	--	--	2.93E-11	mg/kg-day	5.00E-03	mg/kg-day	5.87E-09
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	6.10E-09	mg/kg-day	--	--	--	6.10E-08	mg/kg-day	8.57E-04	mg/kg-day	7.12E-05
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	2.94E-07	mg/kg-day	--	--	--	2.94E-06	mg/kg-day	8.57E-04	mg/kg-day	3.43E-03
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	3.31E-07	mg/kg-day	--	--	--	3.31E-06	mg/kg-day	4.00E-02	mg/kg-day	8.28E-05
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	3.01E-09	mg/kg-day	--	--	--	3.01E-08	mg/kg-day	3.00E-01	mg/kg-day	1.00E-07
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	3.73E-05	mg/kg-day	--	--	--	3.73E-04	mg/kg-day	1.10E-01	mg/kg-day	3.39E-03
				Pyrene	1.92E-05	ug/m <sup>3</sup>	3.98E-10	mg/kg-day	--	--	--	3.98E-09	mg/kg-day	3.00E-02	mg/kg-day	1.33E-07
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	1.18E-08	mg/kg-day	--	--	--	1.18E-07	mg/kg-day	4.00E-02	mg/kg-day	2.94E-06
Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	1.18E-06	mg/kg-day	--	--	--	1.18E-05	mg/kg-day	4.00E-02	mg/kg-day	2.95E-04				
Toluene	2.18E-03	ug/m <sup>3</sup>	4.51E-08	mg/kg-day	--	--	--	4.51E-07	mg/kg-day	1.43E+00	mg/kg-day	3.16E-07				
trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	1.25E-06	mg/kg-day	--	--	--	1.25E-05	mg/kg-day	2.00E-02	mg/kg-day	6.25E-04				
Trichloroethene	5.71E-02	ug/m <sup>3</sup>	1.18E-06	mg/kg-day	4.00E-01	(mg/kg-day)-1	4.73E-07	1.18E-05	mg/kg-day	1.00E-02	mg/kg-day	1.18E-03				
Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	2.69E-06	mg/kg-day	3.10E-02	(mg/kg-day)-1	8.33E-08	2.69E-05	mg/kg-day	2.86E-02	mg/kg-day	9.40E-04				
			Exposure Route Total													2.05E-02
			Exposure Point Total													2.05E-02
			Exposure Medium Total													2.10E-02
Medium Total																2.10E-02
Total of Receptor Risks Across All Media										4.09E-05	Total of Receptor Hazards Across All Media					2.69E+01

**TABLE H2-7.5**

**EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations			
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

**Notes:**

- Not applicable or not available
- CSF Cancer slope factor
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- EPC Exposure point concentration
- ft bgs Feet below ground surface
- mg/kg Milligram per kilogram
- mg/kg-day Milligram per kilogram per day
- (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
- mg/L Milligram per liter
- mg/m<sup>3</sup> Milligram per cubic meter
- RAGS Risk Assessment Guidelines for Superfund
- RIC Reference concentration
- RID Reference dose
- RI Remedial Investigation
- ug/m<sup>3</sup> Microgram per cubic meter
- VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.03E-07	mg/kg-day	--	--	--	1.03E-08	mg/kg-day	1.00E-02	mg/kg-day	1.03E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	3.49E-07	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	1.00E-02	mg/kg-day	3.49E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	3.42E-08	mg/kg-day	--	--	--	3.42E-07	mg/kg-day	5.00E-02	mg/kg-day	6.85E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.78E-06	mg/kg-day	--	--	--	1.78E-05	mg/kg-day	9.00E-02	mg/kg-day	1.98E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	2.47E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.68E-11	2.47E-09	mg/kg-day	1.14E-03	mg/kg-day	2.16E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.10E-08	mg/kg-day	--	--	--	1.10E-07	mg/kg-day	5.00E-02	mg/kg-day	2.19E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	7.53E-08	mg/kg-day	--	--	--	7.53E-07	mg/kg-day	3.00E-02	mg/kg-day	2.51E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	4.68E-07	mg/kg-day	2.40E-02	(mg/kg-day)-1	1.12E-08	4.68E-06	mg/kg-day	3.00E-02	mg/kg-day	1.55E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.44E-08	mg/kg-day	--	--	--	1.44E-07	mg/kg-day	2.00E-02	mg/kg-day	7.19E-06
				2-Methylphenol	8.10E-02	mg/kg	5.55E-09	mg/kg-day	--	--	--	5.55E-08	mg/kg-day	5.00E-02	mg/kg-day	1.11E-06
				2-Methylnaphthalene	1.45E+00	mg/kg	9.93E-08	mg/kg-day	--	--	--	9.93E-07	mg/kg-day	4.00E-03	mg/kg-day	2.48E-04
				4,4'-DDD	1.20E-03	mg/kg	8.22E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.97E-11	8.22E-10	mg/kg-day	5.00E-04	mg/kg-day	1.64E-06
				4,4'-DDE	7.50E-02	mg/kg	5.14E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.75E-09	5.14E-08	mg/kg-day	5.00E-04	mg/kg-day	1.03E-04
				4,4'-DDT	4.20E-02	mg/kg	2.88E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.78E-10	2.88E-08	mg/kg-day	5.00E-04	mg/kg-day	5.75E-05
				4-Methylphenol	2.70E-01	mg/kg	1.85E-08	mg/kg-day	--	--	--	1.85E-07	mg/kg-day	5.00E-03	mg/kg-day	3.70E-05
				4-Nitroaniline	6.20E-01	mg/kg	4.25E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	8.92E-10	4.25E-07	mg/kg-day	3.00E-03	mg/kg-day	1.42E-04
				4-Nitrophenol	4.20E-01	mg/kg	2.88E-08	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	5.00E-04	mg/kg-day	5.75E-04
				Acenaphthene	3.47E+00	mg/kg	2.38E-07	mg/kg-day	--	--	--	2.38E-06	mg/kg-day	6.00E-02	mg/kg-day	3.96E-05
				Acenaphthylene	8.96E-02	mg/kg	6.14E-09	mg/kg-day	--	--	--	6.14E-08	mg/kg-day	6.00E-02	mg/kg-day	1.02E-06
				Aldrin	1.30E-02	mg/kg	8.90E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.51E-08	8.90E-09	mg/kg-day	3.00E-05	mg/kg-day	2.97E-04
				alpha-BHC	7.30E-04	mg/kg	5.00E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.15E-10	5.00E-10	mg/kg-day	5.00E-04	mg/kg-day	1.00E-06
				alpha-Chlordane	6.98E-03	mg/kg	4.78E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.67E-10	4.78E-09	mg/kg-day	5.00E-04	mg/kg-day	9.56E-06
				Aluminum	9.05E+03	mg/kg	8.20E-04	mg/kg-day	--	--	--	6.20E-03	mg/kg-day	1.00E+00	mg/kg-day	6.20E-03
				Anthracene	9.13E-01	mg/kg	6.26E-08	mg/kg-day	--	--	--	6.26E-07	mg/kg-day	3.00E-01	mg/kg-day	2.09E-08
				Antimony	2.72E+00	mg/kg	1.87E-07	mg/kg-day	--	--	--	1.87E-06	mg/kg-day	4.00E-04	mg/kg-day	4.66E-03
				Aroclor-1248	1.20E+00	mg/kg	8.22E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.64E-07	8.22E-07	mg/kg-day	2.00E-05	mg/kg-day	4.11E-02
				Aroclor-1254	4.38E-01	mg/kg	3.00E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.00E-08	3.00E-07	mg/kg-day	2.00E-05	mg/kg-day	1.50E-02
				Aroclor-1260	4.88E-01	mg/kg	3.34E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.69E-08	3.34E-07	mg/kg-day	2.00E-05	mg/kg-day	1.67E-02
				Aroclor-1268	2.72E-02	mg/kg	1.86E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.72E-09	1.86E-08	mg/kg-day	2.00E-05	mg/kg-day	9.31E-04
				Arsenic	9.53E+00	mg/kg	6.53E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.79E-07	6.53E-06	mg/kg-day	3.00E-04	mg/kg-day	2.18E-02
				Barium	6.94E+01	mg/kg	4.76E-06	mg/kg-day	--	--	--	4.76E-05	mg/kg-day	7.00E-02	mg/kg-day	6.80E-04
				Benzo(a)anthracene	4.21E+00	mg/kg	2.89E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.11E-07	2.89E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	9.63E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	7.03E-07	9.63E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.63E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.19E-07	1.63E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	4.44E-08	mg/kg-day	--	--	--	4.44E-07	mg/kg-day	3.00E-02	mg/kg-day	1.48E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.93E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.41E-08	1.93E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.56E-08	mg/kg-day	--	--	--	1.56E-07	mg/kg-day	2.00E-03	mg/kg-day	7.80E-05
				Beta-BHC	2.20E-03	mg/kg	1.51E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.71E-10	1.51E-09	mg/kg-day	2.00E-04	mg/kg-day	7.53E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	3.63E-07	mg/kg-day	1.40E+02	(mg/kg-day)-1	5.08E-09	3.63E-06	mg/kg-day	2.00E-02	mg/kg-day	1.81E-04
				Cadmium	8.65E+00	mg/kg	5.92E-07	mg/kg-day	--	--	--	5.92E-06	mg/kg-day	5.00E-04	mg/kg-day	1.18E-02
				Carbon disulfide	2.40E-04	mg/kg	1.64E-11	mg/kg-day	--	--	--	1.64E-10	mg/kg-day	1.00E-01	mg/kg-day	1.64E-09
				Chlorobenzene	1.10E-01	mg/kg	7.53E-09	mg/kg-day	--	--	--	7.53E-08	mg/kg-day	2.00E-02	mg/kg-day	3.77E-06
				Chromium	1.00E+02	mg/kg	6.85E-06	mg/kg-day	--	--	--	6.85E-05	mg/kg-day	1.50E+00	mg/kg-day	4.56E-05
				Chrysene	4.80E+00	mg/kg	3.28E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.40E-09	3.28E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	5.10E-07	mg/kg-day	--	--	--	5.10E-06	mg/kg-day	2.00E-02	mg/kg-day	2.55E-04
Copper	6.01E+01	mg/kg	4.11E-06	mg/kg-day	--	--	--	4.11E-05	mg/kg-day	3.70E-02	mg/kg-day	1.11E-03				
Delta-BHC	8.40E-03	mg/kg	5.75E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.04E-09	5.75E-09	mg/kg-day	2.00E-04	mg/kg-day	2.88E-05				
Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.89E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.38E-07	1.89E-07	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	8.90E-07	mg/kg-day	--	--	--	8.90E-06	mg/kg-day	2.00E-03	mg/kg-day	4.45E-03				
Dieldrin	4.89E-02	mg/kg	3.35E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	5.36E-08	3.35E-08	mg/kg-day	5.00E-05	mg/kg-day	6.70E-04				
Dimethylphthalate	3.80E-02	mg/kg	2.60E-09	mg/kg-day	--	--	--	2.60E-08	mg/kg-day	1.00E+01	mg/kg-day	2.60E-09				

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	1.58E-07	mg/kg-day	--	--	--	--	1.58E-06	mg/kg-day	1.00E-01	mg/kg-day	1.58E-05				
				Endosulfan I	2.30E-02	mg/kg	1.58E-09	mg/kg-day	--	--	--	--	1.58E-08	mg/kg-day	6.00E-03	mg/kg-day	2.63E-06				
				Endosulfan II	2.34E-02	mg/kg	1.60E-09	mg/kg-day	--	--	--	--	1.60E-08	mg/kg-day	6.00E-03	mg/kg-day	2.67E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	2.95E-09	mg/kg-day	--	--	--	--	2.95E-08	mg/kg-day	6.00E-03	mg/kg-day	4.91E-06				
				Endrin aldehyde	6.30E-02	mg/kg	4.32E-09	mg/kg-day	--	--	--	--	4.32E-08	mg/kg-day	3.00E-04	mg/kg-day	1.44E-04				
				Endrin Ketone	1.00E-02	mg/kg	6.85E-10	mg/kg-day	--	--	--	--	6.85E-09	mg/kg-day	3.00E-04	mg/kg-day	2.28E-05				
				Fluoranthene	2.23E+01	mg/kg	1.52E-06	mg/kg-day	--	--	--	--	1.52E-05	mg/kg-day	4.00E-02	mg/kg-day	3.81E-04				
				Fluorene	2.53E+00	mg/kg	1.73E-07	mg/kg-day	--	--	--	--	1.73E-06	mg/kg-day	4.00E-02	mg/kg-day	4.33E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.78E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.32E-10	1.78E-09	mg/kg-day	3.00E-04	mg/kg-day	5.94E-06					
				gamma-Chlordane	1.27E-02	mg/kg	8.70E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.04E-10	8.70E-09	mg/kg-day	5.00E-04	mg/kg-day	1.74E-05					
				Heptachlor	6.80E-03	mg/kg	4.73E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	2.13E-09	4.73E-09	mg/kg-day	5.00E-04	mg/kg-day	9.45E-06					
				Heptachlor Epoxide	9.86E-03	mg/kg	6.75E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	6.14E-09	6.75E-09	mg/kg-day	1.30E-05	mg/kg-day	5.19E-04					
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	3.40E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.49E-08	3.40E-07	mg/kg-day	--	--	--					
				Iron	3.68E+04	mg/kg	2.52E-03	mg/kg-day	--	--	--	--	2.52E-02	mg/kg-day	3.00E-01	mg/kg-day	8.39E-02				
				isophorone	2.00E-01	mg/kg	1.37E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.30E-11	1.37E-07	mg/kg-day	2.00E-01	mg/kg-day	6.85E-07					
				Lead	2.39E+03	mg/kg	1.64E-04	mg/kg-day	--	--	--	--	1.64E-03	mg/kg-day	--	--	--				
				Manganese	3.04E+02	mg/kg	2.08E-05	mg/kg-day	--	--	--	--	2.08E-04	mg/kg-day	2.40E-02	mg/kg-day	8.69E-03				
				Mercury	2.65E-01	mg/kg	1.82E-08	mg/kg-day	--	--	--	--	1.82E-07	mg/kg-day	3.00E-04	mg/kg-day	6.06E-04				
				Methoxychlor	1.20E-01	mg/kg	8.22E-09	mg/kg-day	--	--	--	--	8.22E-08	mg/kg-day	5.00E-03	mg/kg-day	1.64E-05				
				Methylene chloride	2.40E-03	mg/kg	1.64E-10	mg/kg-day	7.50E-03	(mg/kg-day)-1	1.23E-12	1.64E-09	mg/kg-day	6.00E-02	mg/kg-day	2.74E-08					
				Molybdenum	2.18E+00	mg/kg	1.49E-07	mg/kg-day	--	--	--	--	1.49E-06	mg/kg-day	5.00E-03	mg/kg-day	2.99E-04				
				Naphthalene	1.30E+01	mg/kg	8.90E-07	mg/kg-day	--	--	--	--	8.90E-06	mg/kg-day	2.00E-02	mg/kg-day	4.45E-04				
				Nickel	3.89E+01	mg/kg	2.67E-06	mg/kg-day	--	--	--	--	2.67E-05	mg/kg-day	2.00E-02	mg/kg-day	1.33E-03				
				Phenanthrene	1.17E+01	mg/kg	8.00E-07	mg/kg-day	--	--	--	--	8.00E-06	mg/kg-day	3.00E-01	mg/kg-day	2.67E-05				
				Phenol	5.80E-01	mg/kg	3.97E-08	mg/kg-day	--	--	--	--	3.97E-07	mg/kg-day	3.00E-01	mg/kg-day	1.32E-06				
				p-isopropyltoluene	1.10E-01	mg/kg	7.53E-09	mg/kg-day	--	--	--	--	7.53E-08	mg/kg-day	1.00E-01	mg/kg-day	7.53E-07				
				Pyrene	2.03E+01	mg/kg	1.39E-06	mg/kg-day	--	--	--	--	1.39E-05	mg/kg-day	3.00E-02	mg/kg-day	4.64E-04				
				sec-Butylbenzene	7.10E-02	mg/kg	4.86E-09	mg/kg-day	--	--	--	--	4.86E-08	mg/kg-day	4.00E-02	mg/kg-day	1.22E-06				
				Selenium	2.84E-01	mg/kg	1.94E-08	mg/kg-day	--	--	--	--	1.94E-07	mg/kg-day	5.00E-03	mg/kg-day	3.89E-05				
				Silver	9.80E-01	mg/kg	6.71E-08	mg/kg-day	--	--	--	--	6.71E-07	mg/kg-day	5.00E-03	mg/kg-day	1.34E-04				
				Technical Chlordane	5.41E-01	mg/kg	3.70E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.30E-08	3.70E-07	mg/kg-day	5.00E-04	mg/kg-day	7.41E-04					
				Thallium	4.83E-01	mg/kg	3.31E-08	mg/kg-day	--	--	--	--	3.31E-07	mg/kg-day	6.00E-05	mg/kg-day	5.01E-03				
				Toluene	4.30E-04	mg/kg	2.95E-11	mg/kg-day	--	--	--	--	2.95E-10	mg/kg-day	8.00E-02	mg/kg-day	3.68E-09				
				Vanadium	3.37E+01	mg/kg	2.31E-06	mg/kg-day	--	--	--	--	2.31E-05	mg/kg-day	1.00E-03	mg/kg-day	2.31E-02				
				Zinc	3.32E+02	mg/kg	2.27E-05	mg/kg-day	--	--	--	--	2.27E-04	mg/kg-day	3.00E-01	mg/kg-day	7.57E-04				
				<b>Exposure Route Total</b>																	
							Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.17E-08	mg/kg-day	--	--	--	--	1.17E-07	mg/kg-day	1.00E-02	mg/kg-day	1.17E-05
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	3.98E-09	mg/kg-day	--	--	--	--	3.98E-08	mg/kg-day	1.00E-02	mg/kg-day	3.98E-06
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	3.90E-10	mg/kg-day	--	--	--	--	3.90E-09	mg/kg-day	5.00E-02	mg/kg-day	7.81E-08
								1,2-Dichlorobenzene	2.60E+01	mg/kg	2.03E-08	mg/kg-day	--	--	--	--	2.03E-07	mg/kg-day	9.00E-02	mg/kg-day	2.26E-06
								1,2-Dichloropropane	3.60E-03	mg/kg	2.81E-12	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.91E-13	2.81E-11	mg/kg-day	1.14E-03	mg/kg-day	2.47E-08	
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.25E-10	mg/kg-day	--	--	--	--	1.25E-09	mg/kg-day	5.00E-02	mg/kg-day	2.50E-08				
				1,3-Dichlorobenzene	1.10E+00	mg/kg	8.59E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	3.00E-02	mg/kg-day	2.86E-07				
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.64E-10	mg/kg-day	--	--	--	--	1.64E-09	mg/kg-day	2.00E-02	mg/kg-day	8.20E-08				
				2-Methylphenol	8.10E-02	mg/kg	6.32E-10	mg/kg-day	--	--	--	--	6.32E-09	mg/kg-day	5.00E-02	mg/kg-day	1.26E-07				
				2-Methylnaphthalene	1.45E+00	mg/kg	1.13E-09	mg/kg-day	--	--	--	--	1.13E-08	mg/kg-day	4.00E-03	mg/kg-day	2.83E-06				
				4,4'-DDD	1.20E-03	mg/kg	9.37E-13	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.25E-13	9.37E-12	mg/kg-day	5.00E-04	mg/kg-day	1.87E-08					
				4,4'-DDE	7.50E-02	mg/kg	5.86E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.99E-11	5.86E-10	mg/kg-day	5.00E-04	mg/kg-day	1.17E-06					
				4,4'-DDT	4.20E-02	mg/kg	9.84E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.34E-11	9.84E-10	mg/kg-day	5.00E-04	mg/kg-day	1.97E-06					
				4-Methylphenol	2.70E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	--	2.11E-08	mg/kg-day	5.00E-03	mg/kg-day	4.22E-06				

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	4.84E-09	mg/kg-day	2.10E-02	--	--	1.02E-10	4.84E-08	mg/kg-day	3.00E-03	mg/kg-day	1.61E-05
				4-Nitrophenol	4.20E-01	mg/kg	3.28E-09	mg/kg-day	--	--	--	--	3.28E-08	mg/kg-day	5.00E-04	mg/kg-day	6.56E-05
				Acenaphthene	3.47E+00	mg/kg	3.52E-08	mg/kg-day	--	--	--	--	3.52E-07	mg/kg-day	6.00E-02	mg/kg-day	5.87E-06
				Acenaphthylene	8.96E-02	mg/kg	6.99E-11	mg/kg-day	--	--	--	--	6.99E-10	mg/kg-day	6.00E-02	mg/kg-day	1.17E-08
				Aldrin	1.30E-02	mg/kg	1.02E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.73E-09	--	1.02E-09	mg/kg-day	3.00E-05	mg/kg-day	3.38E-05
				alpha-BHC	7.30E-04	mg/kg	5.70E-13	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.59E-12	--	5.70E-12	mg/kg-day	5.00E-04	mg/kg-day	1.14E-08
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	7.07E-07	mg/kg-day	--	--	--	--	7.07E-06	mg/kg-day	1.00E+00	mg/kg-day	7.07E-06
				Anthracene	9.13E-01	mg/kg	8.27E-09	mg/kg-day	--	--	--	--	9.27E-08	mg/kg-day	3.00E-01	mg/kg-day	3.09E-07
				Antimony	2.72E+00	mg/kg	2.13E-10	mg/kg-day	--	--	--	--	2.13E-09	mg/kg-day	4.00E-04	mg/kg-day	5.32E-06
				Aroclor-1248	1.20E+00	mg/kg	1.31E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.62E-08	--	1.31E-07	mg/kg-day	2.00E-05	mg/kg-day	6.56E-03
				Aroclor-1254	4.38E-01	mg/kg	4.78E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.57E-09	--	4.78E-08	mg/kg-day	2.00E-05	mg/kg-day	2.39E-03
				Aroclor-1260	4.88E-01	mg/kg	5.34E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.07E-08	--	5.34E-08	mg/kg-day	2.00E-05	mg/kg-day	2.67E-03
				Aroclor-1268	2.72E-02	mg/kg	2.97E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.94E-10	--	2.97E-09	mg/kg-day	2.00E-05	mg/kg-day	1.49E-04
				Arsenic	9.53E+00	mg/kg	2.23E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.35E-08	--	2.23E-07	mg/kg-day	3.00E-04	mg/kg-day	7.44E-04
				Barium	6.94E+01	mg/kg	5.42E-09	mg/kg-day	--	--	--	--	5.42E-08	mg/kg-day	7.00E-02	mg/kg-day	7.75E-07
				Benzo(a)anthracene	4.21E+00	mg/kg	4.28E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.12E-08	--	4.28E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.43E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.04E-07	--	1.43E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	2.41E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.76E-08	--	2.41E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	6.58E-09	mg/kg-day	--	--	--	--	6.58E-08	mg/kg-day	3.00E-02	mg/kg-day	2.19E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	2.87E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	2.09E-09	--	2.87E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.78E-11	mg/kg-day	--	--	--	--	1.78E-10	mg/kg-day	2.00E-03	mg/kg-day	8.89E-08
				Beta-BHC	2.20E-03	mg/kg	1.72E-12	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.09E-12	--	1.72E-11	mg/kg-day	2.00E-04	mg/kg-day	8.59E-08
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	4.13E-09	mg/kg-day	1.40E-02	(mg/kg-day)-1	5.79E-11	--	4.13E-08	mg/kg-day	2.00E-02	mg/kg-day	2.07E-06
				Cadmium	8.65E+00	mg/kg	6.75E-10	mg/kg-day	--	--	--	--	6.75E-09	mg/kg-day	5.00E-04	mg/kg-day	1.35E-05
				Carbon disulfide	2.40E-04	mg/kg	4.68E-12	mg/kg-day	--	--	--	--	4.68E-11	mg/kg-day	1.00E-01	mg/kg-day	4.68E-10
				Chlorobenzene	1.10E-01	mg/kg	8.59E-11	mg/kg-day	--	--	--	--	8.59E-10	mg/kg-day	2.00E-02	mg/kg-day	4.29E-08
				Chromium	1.00E+02	mg/kg	7.81E-09	mg/kg-day	--	--	--	--	7.81E-08	mg/kg-day	1.50E+00	mg/kg-day	5.20E-08
				Chrysene	4.80E+00	mg/kg	4.87E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	3.55E-10	--	4.87E-07	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	5.81E-10	mg/kg-day	--	--	--	--	5.81E-09	mg/kg-day	2.00E-02	mg/kg-day	2.91E-07
				Copper	6.01E+01	mg/kg	4.69E-09	mg/kg-day	--	--	--	--	4.69E-08	mg/kg-day	3.70E-02	mg/kg-day	1.27E-06
				Delta-BHC	8.40E-03	mg/kg	3.28E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	5.90E-11	--	3.28E-10	mg/kg-day	2.00E-04	mg/kg-day	1.64E-06
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	2.80E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.04E-08	--	2.80E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	1.02E-08	mg/kg-day	--	--	--	--	1.02E-07	mg/kg-day	2.00E-03	mg/kg-day	5.08E-05
				Dieldrin	4.89E-02	mg/kg	3.82E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.11E-10	--	3.82E-10	mg/kg-day	5.00E-05	mg/kg-day	7.64E-06
				Dimethylphthalate	3.80E-02	mg/kg	2.97E-11	mg/kg-day	--	--	--	--	2.97E-10	mg/kg-day	1.00E+01	mg/kg-day	2.97E-11
				di-n-Butylphthalate	2.30E+00	mg/kg	1.80E-09	mg/kg-day	--	--	--	--	1.80E-08	mg/kg-day	1.00E-01	mg/kg-day	1.80E-07
				Endosulfan I	2.30E-02	mg/kg	8.98E-11	mg/kg-day	--	--	--	--	8.98E-10	mg/kg-day	6.00E-03	mg/kg-day	1.50E-07
				Endosulfan II	2.34E-02	mg/kg	9.12E-11	mg/kg-day	--	--	--	--	9.12E-10	mg/kg-day	6.00E-03	mg/kg-day	1.52E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	1.68E-10	mg/kg-day	--	--	--	--	1.68E-09	mg/kg-day	6.00E-03	mg/kg-day	2.80E-07
				Endrin aldehyde	6.30E-02	mg/kg	2.46E-10	mg/kg-day	--	--	--	--	2.46E-09	mg/kg-day	3.00E-04	mg/kg-day	8.20E-06
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	2.26E-07	mg/kg-day	--	--	--	--	2.26E-06	mg/kg-day	4.00E-02	mg/kg-day	5.65E-05
				Fluorene	2.53E+00	mg/kg	2.57E-08	mg/kg-day	--	--	--	--	2.57E-07	mg/kg-day	4.00E-02	mg/kg-day	6.41E-06
				gamma-BHC (Lindane)	2.60E-03	mg/kg	8.12E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.06E-11	--	8.12E-11	mg/kg-day	3.00E-04	mg/kg-day	2.71E-07
gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Heptachlor	6.90E-03	mg/kg	5.39E-12	mg/kg-day	4.50E+00	(mg/kg-day)-1	2.42E-11	--	5.39E-11	mg/kg-day	5.00E-04	mg/kg-day	1.08E-07				
Heptachlor Epoxide	9.86E-03	mg/kg	7.70E-12	mg/kg-day	9.10E+00	(mg/kg-day)-1	7.00E-11	--	7.70E-11	mg/kg-day	1.30E-05	mg/kg-day	5.92E-06				
Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	5.05E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.88E-09	--	5.05E-08	mg/kg-day	--	--	--				
Iron	3.68E+04	mg/kg	2.87E-06	mg/kg-day	--	--	--	--	2.87E-05	mg/kg-day	3.00E-01	mg/kg-day	9.57E-05				
Isophorone	2.00E-01	mg/kg	1.56E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.48E-12	--	1.56E-08	mg/kg-day	2.00E-01	mg/kg-day	7.81E-08				

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	1.87E-07	mg/kg-day	--	--	--	1.87E-06	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	2.38E-08	mg/kg-day	--	--	--	2.38E-07	mg/kg-day	2.40E-02	mg/kg-day	9.90E-06
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	9.37E-11	mg/kg-day	--	--	--	9.37E-10	mg/kg-day	5.00E-03	mg/kg-day	1.87E-07
				Methylene chloride	2.40E-03	mg/kg	1.87E-12	mg/kg-day	7.50E-03	(mg/kg-day) <sup>-1</sup>	1.41E-14	1.87E-11	mg/kg-day	6.00E-02	mg/kg-day	3.12E-10
				Molybdenum	2.18E+00	mg/kg	1.70E-10	mg/kg-day	--	--	--	1.70E-09	mg/kg-day	5.00E-03	mg/kg-day	3.40E-07
				Naphthalene	1.30E+01	mg/kg	1.32E-07	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	2.00E-02	mg/kg-day	6.60E-05
				Nickel	3.89E+01	mg/kg	3.04E-09	mg/kg-day	--	--	--	3.04E-08	mg/kg-day	2.00E-02	mg/kg-day	1.52E-06
				Phenanthrene	1.17E+01	mg/kg	9.12E-09	mg/kg-day	--	--	--	9.12E-08	mg/kg-day	3.00E-01	mg/kg-day	3.04E-07
				Phenol	5.80E-01	mg/kg	4.53E-09	mg/kg-day	--	--	--	4.53E-08	mg/kg-day	3.00E-01	mg/kg-day	1.51E-07
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	2.06E-07	mg/kg-day	--	--	--	2.06E-06	mg/kg-day	3.00E-02	mg/kg-day	6.88E-05
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	2.21E-11	mg/kg-day	--	--	--	2.21E-10	mg/kg-day	5.00E-03	mg/kg-day	4.43E-08
				Silver	9.80E-01	mg/kg	7.65E-11	mg/kg-day	--	--	--	7.65E-10	mg/kg-day	5.00E-03	mg/kg-day	1.53E-07
				Technical Chlordane	5.41E-01	mg/kg	1.69E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	5.91E-10	1.69E-08	mg/kg-day	5.00E-04	mg/kg-day	3.38E-05
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	3.36E-13	mg/kg-day	--	--	--	3.36E-12	mg/kg-day	8.00E-02	mg/kg-day	4.20E-11
				Vanadium	3.37E+01	mg/kg	2.63E-09	mg/kg-day	--	--	--	2.63E-08	mg/kg-day	1.00E-03	mg/kg-day	2.63E-05
				Zinc	3.32E+02	mg/kg	2.59E-08	mg/kg-day	--	--	--	2.59E-07	mg/kg-day	3.00E-01	mg/kg-day	8.64E-07
				Exposure Route Total										2.63E-07		
Exposure Point Total										2.66E-06					2.66E-01	
	Homegrown Produce		Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--
				1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--
				1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	1.14E-03	mg/kg-day	--
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--
				1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				2,4-Dimethylphenol	2.10E-01	mg/kg	4.01E-06	mg/kg-day	--	--	--	4.01E-05	mg/kg-day	2.00E-02	mg/kg-day	2.01E-03
				2-Methylphenol	8.10E-02	mg/kg	3.68E-06	mg/kg-day	--	--	--	3.68E-05	mg/kg-day	5.00E-02	mg/kg-day	7.37E-04
				2-Methylnaphthalene	1.45E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-03	mg/kg-day	--
				4,4'-DDD	1.20E-03	mg/kg	3.91E-11	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	9.38E-12	3.91E-10	mg/kg-day	5.00E-04	mg/kg-day	7.81E-07
				4,4'-DDE	7.50E-02	mg/kg	1.77E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	6.01E-10	1.77E-08	mg/kg-day	5.00E-04	mg/kg-day	3.54E-05
				4,4'-DDT	4.20E-02	mg/kg	4.27E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.45E-09	4.27E-08	mg/kg-day	5.00E-04	mg/kg-day	8.54E-05
				4-Methylphenol	2.70E-01	mg/kg	1.26E-05	mg/kg-day	--	--	--	1.26E-04	mg/kg-day	5.00E-03	mg/kg-day	2.52E-02
				4-Nitroaniline	6.20E-01	mg/kg	1.98E-05	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	4.16E-07	1.98E-04	mg/kg-day	3.00E-03	mg/kg-day	6.61E-02
				4-Nitrophenol	4.20E-01	mg/kg	2.02E-05	mg/kg-day	--	--	--	2.02E-04	mg/kg-day	5.00E-04	mg/kg-day	4.03E-01
				Acenaphthene	3.47E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--
				Acenaphthylene	8.96E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--
				Aldrin	1.30E-02	mg/kg	6.93E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.18E-08	6.93E-09	mg/kg-day	3.00E-05	mg/kg-day	2.31E-04
				alpha-BHC	7.30E-04	mg/kg	8.40E-09	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	5.29E-08	8.40E-08	mg/kg-day	5.00E-04	mg/kg-day	1.68E-04
alpha-Chlordane	6.98E-03	mg/kg	8.17E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.86E-10	8.17E-09	mg/kg-day	5.00E-04	mg/kg-day	1.63E-05				
Aluminum	9.05E+03	mg/kg	1.44E-04	mg/kg-day	--	--	--	1.44E-03	mg/kg-day	1.00E+00	mg/kg-day	1.44E-03				
Anthracene	9.13E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Antimony	2.72E+00	mg/kg	2.00E-06	mg/kg-day	--	--	--	2.00E-05	mg/kg-day	4.00E-04	mg/kg-day	5.01E-02				
Aroclor-1248	1.20E+00	mg/kg	3.92E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	7.84E-08	3.92E-07	mg/kg-day	2.00E-05	mg/kg-day	1.96E-02				
Aroclor-1254	4.38E-01	mg/kg	1.91E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.83E-07	1.91E-06	mg/kg-day	2.00E-05	mg/kg-day	9.56E-02				
Aroclor-1260	4.88E-01	mg/kg	7.63E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.53E-08	7.63E-08	mg/kg-day	2.00E-05	mg/kg-day	3.82E-03				
Aroclor-1268	2.72E-02	mg/kg	1.19E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.38E-08	1.19E-07	mg/kg-day	2.00E-05	mg/kg-day	5.94E-03				

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	1.40E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.10E-06	1.40E-05	mg/kg-day	3.00E-04	mg/kg-day	4.67E-02
				Barium	6.94E+01	mg/kg	2.55E-05	mg/kg-day	--	--	--	2.55E-04	mg/kg-day	7.00E-02	mg/kg-day	3.65E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	2.65E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.93E-08	2.65E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	5.02E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.66E-08	5.02E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	8.47E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.18E-08	8.47E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E+01	mg/kg	1.76E-08	mg/kg-day	--	--	--	1.76E-07	mg/kg-day	3.00E-02	mg/kg-day	5.89E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.01E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	7.36E-09	1.01E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	8.38E-09	mg/kg-day	--	--	--	8.38E-08	mg/kg-day	2.00E-03	mg/kg-day	4.19E-05
				Beta-BHC	2.20E-03	mg/kg	2.53E-08	mg/kg-day	1.80E+00	(mg/kg-day)-1	4.55E-08	2.53E-07	mg/kg-day	2.00E-04	mg/kg-day	1.27E-03
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	4.49E-05	mg/kg-day	1.40E-02	(mg/kg-day)-1	6.28E-07	4.49E-04	mg/kg-day	2.00E-02	mg/kg-day	2.24E-02
				Cadmium	8.65E+00	mg/kg	3.18E-05	mg/kg-day	--	--	--	3.18E-04	mg/kg-day	5.00E-04	mg/kg-day	6.30E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	1.10E-05	mg/kg-day	--	--	--	1.10E-04	mg/kg-day	1.50E+00	mg/kg-day	7.35E-05
				Chrysene	4.80E+00	mg/kg	2.12E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.55E-09	2.12E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.28E-06	mg/kg-day	--	--	--	1.28E-05	mg/kg-day	2.00E-02	mg/kg-day	6.39E-04
				Copper	6.01E+01	mg/kg	3.68E-04	mg/kg-day	--	--	--	3.68E-03	mg/kg-day	3.70E-02	mg/kg-day	9.95E-02
				Delta-BHC	8.40E-03	mg/kg	7.87E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.42E-09	7.87E-09	mg/kg-day	2.00E-04	mg/kg-day	3.94E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	6.08E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.44E-08	6.08E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	6.36E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.02E-05	6.36E-06	mg/kg-day	5.00E-05	mg/kg-day	1.27E-01
				Dimethylphthalate	3.80E-02	mg/kg	1.39E-06	mg/kg-day	--	--	--	1.39E-05	mg/kg-day	1.00E+01	mg/kg-day	1.39E-06
				di-n-Butylphthalate	2.30E+00	mg/kg	1.17E-07	mg/kg-day	--	--	--	1.17E-06	mg/kg-day	1.00E-01	mg/kg-day	1.17E-05
				Endosulfan I	2.30E-02	mg/kg	2.53E-07	mg/kg-day	--	--	--	2.53E-06	mg/kg-day	6.00E-03	mg/kg-day	4.21E-04
				Endosulfan II	2.34E-02	mg/kg	2.46E-07	mg/kg-day	--	--	--	2.46E-06	mg/kg-day	6.00E-03	mg/kg-day	4.10E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	4.42E-07	mg/kg-day	--	--	--	4.42E-06	mg/kg-day	6.00E-03	mg/kg-day	3.73E-04
				Endrin aldehyde	6.30E-02	mg/kg	2.56E-09	mg/kg-day	--	--	--	2.56E-08	mg/kg-day	3.00E-04	mg/kg-day	8.54E-05
				Endrin Ketone	1.00E-02	mg/kg	4.07E-10	mg/kg-day	--	--	--	4.07E-09	mg/kg-day	3.00E-04	mg/kg-day	1.36E-05
				Fluoranthene	2.23E+01	mg/kg	1.47E-06	mg/kg-day	--	--	--	1.47E-05	mg/kg-day	4.00E-02	mg/kg-day	3.88E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.80E-03	mg/kg	1.05E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.37E-07	1.05E-06	mg/kg-day	3.00E-04	mg/kg-day	3.51E-03
				gamma-Chlordane	1.27E-02	mg/kg	1.49E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.20E-10	1.49E-08	mg/kg-day	5.00E-04	mg/kg-day	2.97E-05
				Heptachlor	6.90E-03	mg/kg	6.00E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	2.70E-09	6.00E-09	mg/kg-day	5.00E-04	mg/kg-day	1.20E-05
				Heptachlor Epoxide	9.86E-03	mg/kg	2.79E-07	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.54E-06	2.79E-06	mg/kg-day	1.30E-05	mg/kg-day	2.15E-01
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.33E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	9.70E-09	1.33E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	8.96E-04	mg/kg-day	--	--	--	8.96E-03	mg/kg-day	3.00E-01	mg/kg-day	2.99E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.39E+03	mg/kg	5.27E-04	mg/kg-day	--	--	--	5.27E-03	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	3.73E-04	mg/kg-day	--	--	--	3.73E-03	mg/kg-day	2.40E-02	mg/kg-day	1.55E-01
				Mercury	2.65E-01	mg/kg	1.30E-06	mg/kg-day	--	--	--	1.30E-05	mg/kg-day	3.00E-04	mg/kg-day	4.34E-02
				Methoxychlor	1.20E-01	mg/kg	2.55E-09	mg/kg-day	--	--	--	2.55E-08	mg/kg-day	5.00E-03	mg/kg-day	5.10E-06
				Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	7.50E-03	(mg/kg-day)-1	--	--	mg/kg-day	6.00E-02	mg/kg-day	--
				Molybdenum	2.18E+00	mg/kg	3.21E-06	mg/kg-day	--	--	--	3.21E-05	mg/kg-day	5.00E-03	mg/kg-day	6.41E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.89E+01	mg/kg	5.73E-05	mg/kg-day	--	--	--	5.73E-04	mg/kg-day	2.00E-02	mg/kg-day	2.86E-02
				Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
				Phenol	5.80E-01	mg/kg	7.01E-05	mg/kg-day	--	--	--	7.01E-04	mg/kg-day	3.00E-01	mg/kg-day	2.34E-03
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	1.74E-07	mg/kg-day	--	--	--	1.74E-06	mg/kg-day	5.00E-03	mg/kg-day	3.48E-04

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	2.40E-06	mg/kg-day	--	--	--	2.40E-05	mg/kg-day	5.00E-03	mg/kg-day	4.81E-03
				Technical Chlordane	5.41E-01	mg/kg	6.33E-08	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.21E-08	6.33E-07	mg/kg-day	5.00E-04	mg/kg-day	1.27E-03
				Thallium	4.83E-01	mg/kg	4.73E-09	mg/kg-day	--	--	--	4.73E-08	mg/kg-day	6.60E-05	mg/kg-day	7.17E-04
				Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--
				Vanadium	3.37E+01	mg/kg	2.48E-06	mg/kg-day	--	--	--	2.48E-05	mg/kg-day	1.00E-03	mg/kg-day	2.48E-02
				Zinc	3.32E+02	mg/kg	7.32E-03	mg/kg-day	--	--	--	7.32E-02	mg/kg-day	3.00E-01	mg/kg-day	2.44E-01
Exposure Point Total			Exposure Route Total							1.88E-05					2.37E+00	
Exposure Medium Total											1.88E-05					2.37E+00
Air			Outdoor Air	Inhalation (Particulates)							1.97E-05					2.84E+00
				2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	3.30E-12	mg/kg-day	--	--	--	3.30E-11	mg/kg-day	2.00E-02	mg/kg-day	1.65E-09
				2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	1.27E-12	mg/kg-day	--	--	--	1.27E-11	mg/kg-day	--	--	--
				4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.88E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	4.52E-15	1.88E-13	mg/kg-day	5.00E-04	mg/kg-day	3.77E-10
				4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	6.59E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.24E-13	6.59E-12	mg/kg-day	5.00E-04	mg/kg-day	1.32E-08
				4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	4.24E-12	mg/kg-day	--	--	--	4.24E-11	mg/kg-day	5.00E-03	mg/kg-day	8.47E-09
				4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	9.73E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.04E-13	9.73E-11	mg/kg-day	1.00E-03	mg/kg-day	9.73E-08
				4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	6.59E-12	mg/kg-day	--	--	--	6.59E-11	mg/kg-day	5.70E-04	mg/kg-day	1.16E-07
				Aluminum	6.86E-06	mg/m <sup>3</sup>	1.42E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	1.43E-03	mg/kg-day	9.94E-04
				Antimony	2.06E-09	mg/m <sup>3</sup>	4.27E-11	mg/kg-day	--	--	--	4.27E-10	mg/kg-day	--	--	--
				Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.88E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.77E-11	1.88E-10	mg/kg-day	2.00E-05	mg/kg-day	9.41E-06
				Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	6.87E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.37E-11	6.87E-11	mg/kg-day	2.00E-05	mg/kg-day	3.43E-06
				Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	7.66E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.53E-11	7.66E-11	mg/kg-day	2.00E-05	mg/kg-day	3.83E-06
				Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	4.27E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	8.53E-13	4.27E-12	mg/kg-day	2.00E-05	mg/kg-day	2.13E-07
				Arsenic	7.22E-09	mg/m <sup>3</sup>	1.50E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	2.24E-09	1.50E-09	mg/kg-day	--	--	--
				Barium	5.26E-08	mg/m <sup>3</sup>	1.09E-09	mg/kg-day	--	--	--	1.09E-08	mg/kg-day	1.40E-04	mg/kg-day	7.78E-05
				Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	6.81E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.83E-11	6.81E-10	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	2.21E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.61E-10	2.21E-10	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	1.02E-11	mg/kg-day	--	--	--	1.02E-10	mg/kg-day	3.00E-02	mg/kg-day	3.39E-09
				Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	4.43E-11	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	3.24E-12	4.43E-10	mg/kg-day	--	--	--
				Beryllium	1.73E-10	mg/m <sup>3</sup>	3.57E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	3.00E-11	3.57E-11	mg/kg-day	5.71E-06	mg/kg-day	6.26E-06
				Beta-BHC	1.67E-12	mg/m <sup>3</sup>	3.45E-14	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	6.40E-14	3.45E-13	mg/kg-day	2.00E-04	mg/kg-day	1.73E-09
				bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	8.31E-11	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.16E-12	8.31E-10	mg/kg-day	2.00E-02	mg/kg-day	4.15E-08
				Cadmium	6.55E-09	mg/m <sup>3</sup>	1.36E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	8.55E-10	1.36E-09	mg/kg-day	--	--	--
				Chromium	7.57E-08	mg/m <sup>3</sup>	1.57E-09	mg/kg-day	--	--	--	1.57E-08	mg/kg-day	--	--	--
				Cobalt	5.64E-09	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	1.14E-09	1.17E-09	mg/kg-day	5.71E-06	mg/kg-day	2.05E-04
				Copper	4.55E-08	mg/m <sup>3</sup>	9.43E-10	mg/kg-day	--	--	--	9.43E-09	mg/kg-day	--	--	--
				Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	4.32E-12	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	3.16E-11	4.32E-11	mg/kg-day	--	--	--
				Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	5.96E-13	mg/kg-day	--	--	--	5.96E-12	mg/kg-day	1.00E+01	mg/kg-day	5.96E-13
				di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	3.61E-11	mg/kg-day	--	--	--	3.61E-10	mg/kg-day	1.00E-01	mg/kg-day	3.61E-09
				Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	9.89E-13	mg/kg-day	--	--	--	9.89E-12	mg/kg-day	3.00E-04	mg/kg-day	3.30E-08
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.57E-13	mg/kg-day	--	--	--	1.57E-12	mg/kg-day	3.00E-04	mg/kg-day	5.23E-09
				Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	1.55E-13	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	1.41E-12	1.55E-12	mg/kg-day	1.30E-05	mg/kg-day	1.19E-07
				Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	7.80E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	5.69E-12	7.80E-11	mg/kg-day	--	--	--
				Iron	2.79E-05	mg/m <sup>3</sup>	5.77E-07	mg/kg-day	--	--	--	5.77E-06	mg/kg-day	--	--	--
				Isophorone	1.62E-10	mg/m <sup>3</sup>	3.14E-12	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	2.98E-15	3.14E-11	mg/kg-day	2.00E-01	mg/kg-day	1.57E-10
				Lead	1.81E-06	mg/m <sup>3</sup>	3.75E-08	mg/kg-day	--	--	--	3.75E-07	mg/kg-day	--	--	--
				Manganese	2.31E-07	mg/m <sup>3</sup>	4.78E-09	mg/kg-day	--	--	--	4.78E-08	mg/kg-day	1.43E-05	mg/kg-day	3.34E-03
				Mercury	2.01E-10	mg/m <sup>3</sup>	4.16E-12	mg/kg-day	--	--	--	4.16E-11	mg/kg-day	8.60E-05	mg/kg-day	4.84E-07
				Nickel	2.95E-08	mg/m <sup>3</sup>	6.11E-10	mg/kg-day	--	--	--	6.11E-09	mg/kg-day	--	--	--
				Phenol	4.39E-10	mg/m <sup>3</sup>	9.10E-12	mg/kg-day	--	--	--	9.10E-11	mg/kg-day	3.00E-01	mg/kg-day	3.03E-10
				Selenium	2.15E-10	mg/m <sup>3</sup>	4.45E-12	mg/kg-day	--	--	--	4.45E-11	mg/kg-day	--	--	--
				Silver	7.42E-10	mg/m <sup>3</sup>	1.54E-11	mg/kg-day	--	--	--	1.54E-10	mg/kg-day	--	--	--

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.68E-10	mg/m <sup>3</sup>	7.57E-12	mg/kg-day	--	--	--	7.57E-11	mg/kg-day	--	--	--
				Vanadium	2.55E-08	mg/m <sup>3</sup>	5.28E-10	mg/kg-day	--	--	--	5.28E-09	mg/kg-day	--	--	--
				Zinc	2.51E-07	mg/m <sup>3</sup>	5.21E-09	mg/kg-day	--	--	--	5.21E-08	mg/kg-day	--	--	--
			Exposure Route Total					4.59E-09					4.64E-03			
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.16E-06	mg/kg-day	--	--	--	2.16E-05	mg/kg-day	1.10E-03	mg/kg-day	1.97E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	7.35E-06	mg/kg-day	--	--	--	7.35E-05	mg/kg-day	1.10E-03	mg/kg-day	6.68E-02
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.43E-06	mg/kg-day	--	--	--	2.43E-05	mg/kg-day	1.71E-03	mg/kg-day	1.42E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.10E-04	mg/kg-day	--	--	--	1.10E-03	mg/kg-day	5.70E-02	mg/kg-day	1.93E-02
				1,2-Dichloropropane	2.86E-05	mg/m <sup>3</sup>	5.93E-08	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	4.03E-09	5.93E-07	mg/kg-day	1.14E-03	mg/kg-day	5.20E-04
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	7.57E-07	mg/kg-day	--	--	--	7.57E-06	mg/kg-day	1.71E-03	mg/kg-day	4.41E-03
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	3.37E-06	mg/kg-day	--	--	--	3.37E-05	mg/kg-day	3.00E-02	mg/kg-day	1.12E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	3.24E-05	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	7.12E-07	3.24E-04	mg/kg-day	2.30E-01	mg/kg-day	1.41E-03
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	1.33E-06	mg/kg-day	--	--	--	1.33E-05	mg/kg-day	5.00E-02	mg/kg-day	2.66E-04
				4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	1.83E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	6.22E-11	1.83E-09	mg/kg-day	5.00E-04	mg/kg-day	3.66E-06
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	9.87E-07	mg/kg-day	--	--	--	9.87E-06	mg/kg-day	6.00E-02	mg/kg-day	1.65E-04
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	2.55E-08	mg/kg-day	--	--	--	2.55E-07	mg/kg-day	6.00E-02	mg/kg-day	4.25E-06
				Aldrin	5.63E-09	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.98E-09	1.17E-09	mg/kg-day	3.00E-05	mg/kg-day	3.89E-05
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	7.53E-11	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	4.75E-10	7.53E-10	mg/kg-day	5.00E-04	mg/kg-day	1.51E-06
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	1.43E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	5.01E-11	1.43E-09	mg/kg-day	2.00E-04	mg/kg-day	7.16E-06
				Anthracene	1.25E-05	mg/m <sup>3</sup>	2.60E-07	mg/kg-day	--	--	--	2.60E-06	mg/kg-day	3.00E-01	mg/kg-day	8.66E-06
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	3.18E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	2.32E-08	3.18E-07	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	9.37E-09	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	2.00E-01	mg/kg-day	4.69E-07
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.07E-06	mg/kg-day	--	--	--	1.07E-05	mg/kg-day	1.70E-02	mg/kg-day	6.31E-04
				Chrysene	5.27E-06	mg/m <sup>3</sup>	1.09E-07	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	7.97E-10	1.09E-06	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	8.67E-10	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	1.61E-09	8.67E-09	mg/kg-day	2.00E-04	mg/kg-day	4.33E-05
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	9.29E-07	mg/kg-day	--	--	--	9.29E-06	mg/kg-day	2.00E-03	mg/kg-day	4.65E-03
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	1.36E-09	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.18E-08	1.36E-08	mg/kg-day	5.00E-05	mg/kg-day	2.73E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.67E-09	mg/kg-day	--	--	--	1.67E-08	mg/kg-day	6.00E-03	mg/kg-day	2.78E-06
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	1.70E-09	mg/kg-day	--	--	--	1.70E-08	mg/kg-day	6.00E-03	mg/kg-day	2.83E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	3.12E-09	mg/kg-day	--	--	--	3.12E-08	mg/kg-day	6.00E-03	mg/kg-day	5.20E-06
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	2.98E-07	mg/kg-day	--	--	--	2.98E-06	mg/kg-day	4.00E-02	mg/kg-day	7.45E-05
				Fluorene	1.48E-05	mg/m <sup>3</sup>	3.06E-07	mg/kg-day	--	--	--	3.06E-06	mg/kg-day	4.00E-02	mg/kg-day	7.66E-05
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	3.30E-10	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	4.29E-10	3.30E-09	mg/kg-day	3.00E-04	mg/kg-day	1.10E-05
gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>		2.60E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	9.11E-11	2.60E-09	mg/kg-day	2.00E-04	mg/kg-day	1.30E-05			
Heptachlor	3.38E-07	mg/m <sup>3</sup>	7.00E-09	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	3.19E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04				
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.79E-09	mg/kg-day	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	3.58E-06				
Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.45E-05	mg/kg-day	--	--	--	1.45E-04	mg/kg-day	8.57E-04	mg/kg-day	1.69E-01				
Phenanthrene	1.60E-04	mg/m <sup>3</sup>	3.32E-06	mg/kg-day	--	--	--	3.32E-05	mg/kg-day	3.00E-01	mg/kg-day	1.11E-04				
p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	3.97E-06	mg/kg-day	--	--	--	3.97E-05	mg/kg-day	1.10E-01	mg/kg-day	3.61E-04				
Pyrene	1.56E-05	mg/m <sup>3</sup>	3.22E-07	mg/kg-day	--	--	--	3.22E-06	mg/kg-day	3.00E-02	mg/kg-day	1.07E-04				
sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	5.82E-07	mg/kg-day	--	--	--	5.82E-06	mg/kg-day	4.00E-02	mg/kg-day	1.45E-04				
Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	1.11E-08	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	3.88E-12	1.11E-07	mg/kg-day	2.00E-04	mg/kg-day	5.54E-04				
Toluene	3.12E-07	mg/m <sup>3</sup>	6.47E-09	mg/kg-day	--	--	--	6.47E-08	mg/kg-day	1.43E+00	mg/kg-day	4.53E-08				
Exposure Route Total					7.98E-07					3.04E-01						
Exposure Point Total					8.03E-07					3.09E-01						
Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	1.82E-04	mg/kg-day	--	--	--	1.82E-03	mg/kg-day	1.10E-03	mg/kg-day	1.66E+00		
		1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	6.20E-04	mg/kg-day	--	--	--	6.20E-03	mg/kg-day	1.10E-03	mg/kg-day	5.64E+00		
		1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	6.08E-05	mg/kg-day	--	--	--	6.08E-04	mg/kg-day	1.71E-03	mg/kg-day	3.55E-01		
		1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	3.16E-03	mg/kg-day	--	--	--	3.16E-02	mg/kg-day	5.70E-02	mg/kg-day	5.55E-01		
		1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	4.38E-07	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	2.96E-08	4.38E-06	mg/kg-day	1.14E-03	mg/kg-day	3.84E-03		
1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	1.95E-05	mg/kg-day	--	--	--	1.95E-04	mg/kg-day	1.71E-03	mg/kg-day	1.14E-01				

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	1.34E-04	mg/kg-day	--	--	--	1.34E-03	mg/kg-day	3.00E-02	mg/kg-day	4.46E-02
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	8.27E-04	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.82E-05	8.27E-03	mg/kg-day	2.30E-01	mg/kg-day	3.60E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	1.00E-04	mg/kg-day	--	--	--	1.00E-03	mg/kg-day	5.00E-02	mg/kg-day	2.01E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	1.26E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.27E-11	1.26E-09	mg/kg-day	5.00E-04	mg/kg-day	2.51E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	3.51E-05	mg/kg-day	--	--	--	3.51E-04	mg/kg-day	6.00E-02	mg/kg-day	5.85E-03
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	9.06E-07	mg/kg-day	--	--	--	9.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.51E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	3.33E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	5.67E-09	3.33E-09	mg/kg-day	3.00E-05	mg/kg-day	1.11E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	2.23E-09	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.40E-08	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	1.12E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.93E-10	1.12E-08	mg/kg-day	2.00E-04	mg/kg-day	5.62E-05
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	9.23E-06	mg/kg-day	--	--	--	9.23E-05	mg/kg-day	3.00E-01	mg/kg-day	3.08E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	6.53E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.76E-08	6.53E-07	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.92E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	1.34E-05	mg/kg-day	--	--	--	1.34E-04	mg/kg-day	1.70E-02	mg/kg-day	7.87E-03
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	3.68E-07	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.69E-09	3.68E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	3.81E-08	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	7.07E-08	3.81E-07	mg/kg-day	2.00E-04	mg/kg-day	1.90E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	4.91E-07	mg/kg-day	--	--	--	4.91E-06	mg/kg-day	2.00E-03	mg/kg-day	2.45E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	1.09E-08	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.74E-07	1.09E-07	mg/kg-day	5.00E-05	mg/kg-day	2.17E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	4.47E-08	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	6.00E-03	mg/kg-day	7.45E-05
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	4.55E-08	mg/kg-day	--	--	--	4.55E-07	mg/kg-day	6.00E-03	mg/kg-day	7.58E-05
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	8.35E-08	mg/kg-day	--	--	--	8.35E-07	mg/kg-day	6.00E-03	mg/kg-day	1.39E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	1.02E-07	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	4.00E-02	mg/kg-day	2.54E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	5.55E-06	mg/kg-day	--	--	--	5.55E-05	mg/kg-day	4.00E-02	mg/kg-day	1.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	1.18E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.53E-08	1.18E-07	mg/kg-day	3.00E-04	mg/kg-day	3.93E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	2.04E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	7.16E-12	2.04E-10	mg/kg-day	2.00E-04	mg/kg-day	1.02E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	2.25E-09	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.02E-08	2.25E-08	mg/kg-day	5.00E-04	mg/kg-day	4.50E-05
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	6.14E-09	mg/kg-day	--	--	--	6.14E-08	mg/kg-day	5.00E-03	mg/kg-day	1.23E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.92E-07	mg/kg-day	1.60E-03	(mg/kg-day) <sup>-1</sup>	4.67E-10	2.92E-06	mg/kg-day	6.57E-01	mg/kg-day	3.41E-06
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	1.30E-03	mg/kg-day	--	--	--	1.30E-02	mg/kg-day	8.57E-04	mg/kg-day	1.52E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	1.18E-04	mg/kg-day	--	--	--	1.18E-03	mg/kg-day	3.00E-01	mg/kg-day	3.94E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	1.34E-05	mg/kg-day	--	--	--	1.34E-04	mg/kg-day	1.10E-01	mg/kg-day	1.22E-03
Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	8.24E-07	mg/kg-day	--	--	--	8.24E-06	mg/kg-day	3.00E-02	mg/kg-day	2.75E-04				
sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	4.74E-06	mg/kg-day	--	--	--	4.74E-05	mg/kg-day	4.00E-02	mg/kg-day	1.19E-03				
Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	8.71E-08	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	3.05E-11	8.71E-07	mg/kg-day	2.00E-04	mg/kg-day	4.36E-03				
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	5.23E-08	mg/kg-day	--	--	--	5.23E-07	mg/kg-day	1.43E+00	mg/kg-day	3.66E-07				
				Exposure Point Total											2.37E+01	
				Exposure Medium Total											2.40E+01	
				Medium Total											2.66E+01	
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	8.77E-09	mg/kg-day	--	--	--	8.77E-08	mg/kg-day	1.40E-01	mg/kg-day	6.26E-07
				1,2,4-Trimethylbenzene	1.28E-07	mg/m <sup>3</sup>	2.61E-09	mg/kg-day	--	--	--	2.61E-08	mg/kg-day	1.71E-03	mg/kg-day	1.53E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.71E-08	mg/kg-day	--	--	--	1.71E-07	mg/kg-day	5.70E-02	mg/kg-day	3.01E-06
				1,2-Dichloroethane	5.65E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	9.10E-02	--	1.12E-09	1.23E-07	mg/kg-day	1.40E-03	mg/kg-day	8.80E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	4.62E-09	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	3.14E-10	4.62E-08	mg/kg-day	1.14E-03	mg/kg-day	4.05E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.49E-09	mg/kg-day	--	--	--	1.49E-08	mg/kg-day	1.71E-03	mg/kg-day	8.69E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	5.83E-09	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.28E-10	5.83E-08	mg/kg-day	2.30E-01	mg/kg-day	2.54E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	2.25E-10	mg/kg-day	--	--	--	2.25E-09	mg/kg-day	1.43E+00	mg/kg-day	1.58E-09
				2-Methylnaphthalene	9.87E-10	mg/m <sup>3</sup>	2.00E-11	mg/kg-day	--	--	--	2.00E-10	mg/kg-day	5.00E-02	mg/kg-day	4.01E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.68E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	9.11E-12	2.68E-10	mg/kg-day	5.00E-04	mg/kg-day	5.36E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	8.38E-11	mg/kg-day	--	--	--	8.38E-10	mg/kg-day	8.60E-01	mg/kg-day	9.74E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	8.03E-10	mg/kg-day	--	--	--	8.03E-09	mg/kg-day	6.00E-02	mg/kg-day	1.34E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	3.42E-11	mg/kg-day	--	--	--	3.42E-10	mg/kg-day	6.00E-02	mg/kg-day	5.70E-09

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	4.83E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	7.87E-10	4.63E-10	mg/kg-day	3.00E-05	mg/kg-day	1.54E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	5.86E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	3.69E-11	5.86E-11	mg/kg-day	5.00E-04	mg/kg-day	1.17E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.39E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	4.86E-12	1.39E-10	mg/kg-day	2.00E-04	mg/kg-day	6.94E-07				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	6.80E-11	mg/kg-day	--	--	--	6.80E-10	mg/kg-day	3.00E-01	mg/kg-day	2.27E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	5.40E-09	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.48E-10	5.40E-08	mg/kg-day	8.60E-03	mg/kg-day	6.28E-06				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.01E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	7.36E-12	1.01E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.52E-10	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	5.87E-13	1.52E-09	mg/kg-day	2.00E-02	mg/kg-day	7.62E-08				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	9.33E-08	mg/kg-day	--	--	--	9.33E-07	mg/kg-day	2.00E-01	mg/kg-day	4.67E-06				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.52E-09	mg/kg-day	--	--	--	1.52E-08	mg/kg-day	1.70E-02	mg/kg-day	8.92E-07				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	4.28E-08	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	3.45E-09	4.28E-07	mg/kg-day	1.40E-02	mg/kg-day	3.06E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.55E-08	mg/kg-day	--	--	--	1.55E-07	mg/kg-day	2.60E-02	mg/kg-day	5.97E-06				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	2.73E-11	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	1.99E-13	2.73E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.10E-07	mg/kg-day	1.00E-02	mg/kg-day	1.10E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.03E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.26E-10	2.03E-10	mg/kg-day	5.00E-05	mg/kg-day	4.07E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	4.64E-12	mg/kg-day	--	--	--	4.64E-11	mg/kg-day	6.00E-03	mg/kg-day	7.73E-09				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	7.62E-15	mg/kg-day	--	--	--	7.62E-14	mg/kg-day	6.00E-03	mg/kg-day	1.27E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	4.13E-09	mg/kg-day	--	--	--	4.13E-08	mg/kg-day	2.90E-01	mg/kg-day	1.42E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.05E-11	mg/kg-day	--	--	--	1.05E-10	mg/kg-day	4.00E-02	mg/kg-day	2.62E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.07E-11	mg/kg-day	--	--	--	2.07E-10	mg/kg-day	4.00E-02	mg/kg-day	5.18E-09				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.57E-14	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	3.35E-14	2.57E-13	mg/kg-day	3.00E-04	mg/kg-day	8.58E-10				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	3.60E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.26E-11	3.60E-10	mg/kg-day	2.00E-04	mg/kg-day	1.80E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	3.70E-10	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.68E-09	3.70E-09	mg/kg-day	5.00E-04	mg/kg-day	7.40E-06				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	7.10E-07	mg/kg-day	--	--	--	7.10E-06	mg/kg-day	1.10E-01	mg/kg-day	8.45E-05				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.44E-08	mg/kg-day	--	--	--	1.44E-07	mg/kg-day	2.90E-02	mg/kg-day	4.96E-06				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	6.77E-11	mg/kg-day	--	--	--	6.77E-10	mg/kg-day	5.00E-03	mg/kg-day	1.35E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.13E-10	mg/kg-day	--	--	--	1.13E-09	mg/kg-day	8.57E-04	mg/kg-day	1.31E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	5.24E-09	mg/kg-day	--	--	--	5.24E-08	mg/kg-day	8.57E-04	mg/kg-day	6.11E-05				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	5.83E-09	mg/kg-day	--	--	--	5.83E-08	mg/kg-day	4.00E-02	mg/kg-day	1.46E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	5.42E-11	mg/kg-day	--	--	--	5.42E-10	mg/kg-day	3.00E-01	mg/kg-day	1.81E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	7.10E-07	mg/kg-day	--	--	--	7.10E-06	mg/kg-day	1.10E-01	mg/kg-day	6.45E-05				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	8.55E-12	mg/kg-day	--	--	--	8.55E-11	mg/kg-day	3.00E-02	mg/kg-day	3.18E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.66E-08	mg/kg-day	--	--	--	1.66E-07	mg/kg-day	4.00E-02	mg/kg-day	4.15E-06				
				tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	--	--	--	1.88E-07	mg/kg-day	4.00E-02	mg/kg-day	4.70E-06				
				Toluene	3.80E-07	mg/m <sup>3</sup>	7.87E-09	mg/kg-day	--	--	--	7.87E-08	mg/kg-day	1.43E+00	mg/kg-day	5.51E-08				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.86E-08	mg/kg-day	--	--	--	1.86E-07	mg/kg-day	2.00E-02	mg/kg-day	9.28E-06				
				Trichloroethene	0.32E-07	mg/m <sup>3</sup>	1.93E-08	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	7.72E-09	1.93E-07	mg/kg-day	1.00E-02	mg/kg-day	1.93E-05				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	3.99E-08	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	1.24E-09	3.99E-07	mg/kg-day	2.86E-02	mg/kg-day	1.40E-05				
				Exposure Route Total									1.70E-08						4.96E-04	
				Exposure Point Total									1.70E-08						4.96E-04	
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.54E-06	mg/kg-day	--	--	--	1.54E-05	mg/kg-day	1.40E-01	mg/kg-day	1.10E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	6.77E-08	mg/kg-day	--	--	--	6.77E-07	mg/kg-day	1.71E-03	mg/kg-day	3.95E-04
								1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	4.56E-07	mg/kg-day	--	--	--	4.56E-06	mg/kg-day	5.70E-02	mg/kg-day	7.99E-05
								1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	3.69E-07	mg/kg-day	9.10E-02	--	3.36E-08	3.69E-06	mg/kg-day	1.40E-03	mg/kg-day	2.64E-03
								1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	1.37E-07	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	9.30E-09	1.37E-06	mg/kg-day	1.14E-03	mg/kg-day	1.20E-03
								1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	3.87E-08	mg/kg-day	--	--	--	3.87E-07	mg/kg-day	1.71E-03	mg/kg-day	2.26E-04
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.56E-07					mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	3.44E-09	1.56E-06	mg/kg-day	2.30E-01	mg/kg-day	6.80E-06				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	1.16E-08					mg/kg-day	--	--	--	1.16E-07	mg/kg-day	1.43E+00	mg/kg-day	8.12E-08				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	5.62E-10					mg/kg-day	--	--	--	5.62E-09	mg/kg-day	5.00E-02	mg/kg-day	1.12E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	2.41E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	8.21E-13	2.41E-11	mg/kg-day	5.00E-04	mg/kg-day	4.83E-08				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	3.44E-09					mg/kg-day	--	--	--	3.44E-08	mg/kg-day	8.60E-01	mg/kg-day	4.00E-08				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	3.42E-08					mg/kg-day	--	--	--	3.42E-07	mg/kg-day	6.00E-02	mg/kg-day	5.70E-06				

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations										
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	1.46E-09	mg/kg-day	--	--	--	1.46E-08	mg/kg-day	6.00E-02	mg/kg-day	2.43E-07					
				Aldrin	2.44E-07	ug/m <sup>3</sup>	5.05E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	8.58E-11	5.05E-11	mg/kg-day	3.00E-05	mg/kg-day	1.68E-06					
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	7.52E-13	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	4.74E-12	7.52E-12	mg/kg-day	5.00E-04	mg/kg-day	1.50E-08					
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	4.56E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.60E-12	4.56E-11	mg/kg-day	2.00E-04	mg/kg-day	2.28E-07					
				Anthracene	1.40E-04	ug/m <sup>3</sup>	2.89E-09	mg/kg-day	--	--	--	2.89E-08	mg/kg-day	3.00E-01	mg/kg-day	9.64E-08					
				Benzene	7.66E-03	ug/m <sup>3</sup>	1.59E-07	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	4.33E-09	1.59E-06	mg/kg-day	8.60E-03	mg/kg-day	1.85E-04					
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	4.24E-10	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	3.09E-10	4.24E-09	mg/kg-day	--	--	--					
				Bromoform	3.95E-04	ug/m <sup>3</sup>	8.19E-09	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	3.15E-11	8.19E-08	mg/kg-day	2.00E-02	mg/kg-day	4.09E-06					
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	2.80E-06	mg/kg-day	--	--	--	2.80E-05	mg/kg-day	2.00E-01	mg/kg-day	1.40E-04					
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	4.25E-08	mg/kg-day	--	--	--	4.25E-07	mg/kg-day	1.70E-02	mg/kg-day	2.50E-05					
				Chloroform	6.13E-02	ug/m <sup>3</sup>	1.27E-06	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	1.02E-07	1.27E-05	mg/kg-day	1.40E-02	mg/kg-day	9.07E-04					
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	5.03E-07	mg/kg-day	--	--	--	5.03E-06	mg/kg-day	2.60E-02	mg/kg-day	1.93E-04					
				Chrysene	5.75E-05	ug/m <sup>3</sup>	1.19E-09	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	8.70E-12	1.19E-08	mg/kg-day	--	--	--					
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	7.12E-07	mg/kg-day	--	--	--	7.12E-06	mg/kg-day	1.00E-02	mg/kg-day	7.12E-04					
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	7.80E-13	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.25E-11	7.80E-12	mg/kg-day	5.00E-05	mg/kg-day	1.56E-07					
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	1.01E-11	mg/kg-day	6.00E-03	mg/kg-day	1.68E-09					
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	3.36E-13	mg/kg-day	--	--	--	3.36E-12	mg/kg-day	8.00E-03	mg/kg-day	5.59E-10					
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	1.12E-07	mg/kg-day	--	--	--	1.12E-06	mg/kg-day	2.90E-01	mg/kg-day	3.85E-06					
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	4.24E-10	mg/kg-day	--	--	--	4.24E-09	mg/kg-day	4.00E-02	mg/kg-day	1.06E-07					
				Fluorene	5.21E-05	ug/m <sup>3</sup>	1.08E-09	mg/kg-day	--	--	--	1.08E-08	mg/kg-day	4.00E-02	mg/kg-day	2.70E-07					
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	1.02E-12	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.32E-12	1.02E-11	mg/kg-day	3.00E-04	mg/kg-day	3.39E-08					
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	2.21E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	7.73E-13	2.21E-11	mg/kg-day	2.00E-04	mg/kg-day	1.10E-07					
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	9.97E-12	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	4.54E-11	9.97E-11	mg/kg-day	5.00E-04	mg/kg-day	1.99E-07					
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	3.73E-05	mg/kg-day	--	--	--	3.73E-04	mg/kg-day	1.10E-01	mg/kg-day	3.39E-03					
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	8.35E-07	mg/kg-day	--	--	--	8.35E-06	mg/kg-day	2.90E-02	mg/kg-day	2.88E-04					
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	2.93E-12	mg/kg-day	--	--	--	2.93E-11	mg/kg-day	5.00E-03	mg/kg-day	5.87E-09					
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	6.10E-09	mg/kg-day	--	--	--	6.10E-08	mg/kg-day	8.57E-04	mg/kg-day	7.12E-05					
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	2.94E-07	mg/kg-day	--	--	--	2.94E-06	mg/kg-day	8.57E-04	mg/kg-day	3.43E-03					
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	3.31E-07	mg/kg-day	--	--	--	3.31E-06	mg/kg-day	4.00E-02	mg/kg-day	8.28E-05					
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	3.01E-09	mg/kg-day	--	--	--	3.01E-08	mg/kg-day	3.00E-01	mg/kg-day	1.00E-07					
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	3.73E-05	mg/kg-day	--	--	--	3.73E-04	mg/kg-day	1.10E-01	mg/kg-day	3.39E-03					
				Pyrene	1.92E-05	ug/m <sup>3</sup>	3.98E-10	mg/kg-day	--	--	--	3.98E-09	mg/kg-day	3.00E-02	mg/kg-day	1.33E-07					
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	1.18E-08	mg/kg-day	--	--	--	1.18E-07	mg/kg-day	4.00E-02	mg/kg-day	2.94E-06					
				Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	1.18E-06	mg/kg-day	--	--	--	1.18E-05	mg/kg-day	4.00E-02	mg/kg-day	2.95E-04					
				Toluene	2.18E-03	ug/m <sup>3</sup>	4.51E-08	mg/kg-day	--	--	--	4.51E-07	mg/kg-day	1.43E+00	mg/kg-day	3.16E-07					
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	1.25E-06	mg/kg-day	--	--	--	1.25E-05	mg/kg-day	2.00E-02	mg/kg-day	6.25E-04					
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	1.18E-06	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	4.73E-07	1.18E-05	mg/kg-day	1.00E-02	mg/kg-day	1.18E-03					
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	2.69E-06	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	8.33E-08	2.69E-05	mg/kg-day	2.86E-02	mg/kg-day	9.40E-04					
								Exposure Route Total													
								Exposure Point Total					7.09E-07								2.05E-02
								Exposure Medium Total					7.26E-07								2.10E-02
				Medium Total					7.26E-07								2.10E-02				
									Total of Receptor Risks Across All Media							3.98E-05	Total of Receptor Hazards Across All Media	2.66E+01			

TABLE H2-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfC Reference concentration
  - RfD Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.74E-07	mg/kg-day	--	--	--	9.59E-06	mg/kg-day	1.00E-02	mg/kg-day	9.59E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	9.32E-07	mg/kg-day	--	--	--	3.26E-05	mg/kg-day	1.00E-02	mg/kg-day	3.26E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	9.13E-08	mg/kg-day	--	--	--	3.20E-08	mg/kg-day	5.00E-02	mg/kg-day	6.39E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.75E-06	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	9.00E-02	mg/kg-day	1.85E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	6.58E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	4.47E-11	2.30E-08	mg/kg-day	1.14E-03	mg/kg-day	2.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.92E-08	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	5.00E-02	mg/kg-day	2.05E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.01E-07	mg/kg-day	--	--	--	7.03E-06	mg/kg-day	3.00E-02	mg/kg-day	2.34E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.24E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	2.98E-08	4.35E-05	mg/kg-day	3.00E-02	mg/kg-day	1.45E-03
				2-Dimethylphenol	2.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	1.34E-06	mg/kg-day	2.00E-02	mg/kg-day	6.71E-05
				2-Methylphenol	8.10E-02	mg/kg	1.48E-08	mg/kg-day	--	--	--	5.18E-07	mg/kg-day	5.00E-02	mg/kg-day	1.04E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	3.05E-07	mg/kg-day	--	--	--	1.07E-05	mg/kg-day	4.00E-03	mg/kg-day	2.67E-03
				4,4'-DDD	1.20E-03	mg/kg	2.19E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	5.26E-11	7.67E-09	mg/kg-day	5.00E-04	mg/kg-day	1.53E-05
				4,4'-DDE	8.23E-02	mg/kg	1.50E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.11E-09	5.26E-07	mg/kg-day	5.00E-04	mg/kg-day	1.05E-03
				4,4'-DDT	4.45E-02	mg/kg	8.13E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.76E-09	2.84E-07	mg/kg-day	5.00E-04	mg/kg-day	5.69E-04
				4-Methylphenol	2.70E-01	mg/kg	4.93E-08	mg/kg-day	--	--	--	1.73E-06	mg/kg-day	5.00E-03	mg/kg-day	3.45E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.13E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.38E-09	3.96E-06	mg/kg-day	3.00E-03	mg/kg-day	1.32E-03
				4-Nitrophenol	4.20E-01	mg/kg	7.67E-08	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	5.00E-04	mg/kg-day	5.37E-03
				Acenaphthene	4.23E+00	mg/kg	7.73E-07	mg/kg-day	--	--	--	2.71E-05	mg/kg-day	6.00E-02	mg/kg-day	4.51E-04
				Acenaphthylene	1.04E-01	mg/kg	1.90E-08	mg/kg-day	--	--	--	6.66E-07	mg/kg-day	6.00E-02	mg/kg-day	1.11E-05
				Aldrin	1.30E-02	mg/kg	2.37E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.04E-08	8.31E-08	mg/kg-day	3.00E-05	mg/kg-day	2.77E-03
				alpha-BHC	7.30E-04	mg/kg	1.33E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	8.40E-10	4.67E-09	mg/kg-day	5.00E-04	mg/kg-day	9.33E-06
				alpha-Chlordane	8.14E-03	mg/kg	1.49E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.20E-10	5.20E-08	mg/kg-day	5.00E-04	mg/kg-day	1.04E-04
				Aluminum	8.82E+03	mg/kg	1.61E-03	mg/kg-day	--	--	--	5.64E-02	mg/kg-day	1.00E+00	mg/kg-day	5.64E-02
				Anthracene	1.05E+00	mg/kg	1.93E-07	mg/kg-day	--	--	--	6.74E-06	mg/kg-day	3.00E-01	mg/kg-day	2.25E-05
				Antimony	4.08E+00	mg/kg	7.45E-07	mg/kg-day	--	--	--	2.61E-05	mg/kg-day	4.00E-04	mg/kg-day	6.52E-02
				Aroclor-1248	1.20E+00	mg/kg	2.19E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.38E-07	7.67E-06	mg/kg-day	2.00E-05	mg/kg-day	3.84E-01
				Aroclor-1254	4.44E-01	mg/kg	8.11E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.62E-07	2.84E-06	mg/kg-day	2.00E-05	mg/kg-day	1.42E-01
				Aroclor-1260	5.41E-01	mg/kg	9.89E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.98E-07	3.46E-06	mg/kg-day	2.00E-05	mg/kg-day	1.73E-01
				Aroclor-1268	2.78E-02	mg/kg	5.07E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.01E-08	1.77E-07	mg/kg-day	2.00E-05	mg/kg-day	8.87E-03
				Arsenic	6.17E+00	mg/kg	1.13E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.69E-06	3.94E-05	mg/kg-day	3.00E-04	mg/kg-day	1.31E-01
				Barium	6.78E+01	mg/kg	1.24E-05	mg/kg-day	--	--	--	4.34E-04	mg/kg-day	7.00E-02	mg/kg-day	6.19E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	9.14E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.67E-07	3.20E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	3.04E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.22E-06	1.06E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	5.00E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.65E-07	1.75E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.39E-07	mg/kg-day	--	--	--	4.88E-06	mg/kg-day	3.00E-02	mg/kg-day	1.63E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	5.95E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	4.35E-08	2.08E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	4.35E-08	mg/kg-day	--	--	--	1.52E-06	mg/kg-day	2.00E-03	mg/kg-day	7.61E-04
				Beta-BHC	2.20E-03	mg/kg	4.02E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	7.23E-10	1.41E-08	mg/kg-day	2.00E-04	mg/kg-day	7.03E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.43E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.00E-08	5.01E-05	mg/kg-day	2.00E-02	mg/kg-day	2.50E-03
				Cadmium	9.47E+00	mg/kg	1.73E-06	mg/kg-day	--	--	--	6.06E-05	mg/kg-day	5.00E-04	mg/kg-day	1.21E-01
				Carbon disulfide	2.40E-04	mg/kg	4.38E-11	mg/kg-day	--	--	--	1.53E-09	mg/kg-day	1.00E-01	mg/kg-day	1.53E-08
				Chlorobenzene	1.10E-01	mg/kg	2.01E-08	mg/kg-day	--	--	--	7.03E-07	mg/kg-day	2.00E-02	mg/kg-day	3.52E-05
				Chromium	1.11E+02	mg/kg	2.03E-05	mg/kg-day	--	--	--	7.11E-04	mg/kg-day	1.50E+00	mg/kg-day	4.74E-04
				Chrysene	5.68E+00	mg/kg	1.04E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	7.58E-09	3.63E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.38E-06	mg/kg-day	--	--	--	4.84E-05	mg/kg-day	2.00E-02	mg/kg-day	2.42E-03
				Copper	5.71E+01	mg/kg	1.04E-05	mg/kg-day	--	--	--	3.65E-04	mg/kg-day	3.70E-02	mg/kg-day	9.86E-03
				Delta-BHC	8.40E-03	mg/kg	1.53E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.76E-09	5.37E-08	mg/kg-day	2.00E-04	mg/kg-day	2.68E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	5.80E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.23E-07	2.03E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.37E-06	mg/kg-day	--	--	--	8.31E-05	mg/kg-day	2.00E-03	mg/kg-day	4.16E-02
				Dieldrin	5.51E-02	mg/kg	1.01E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.61E-07	3.53E-07	mg/kg-day	5.00E-05	mg/kg-day	7.05E-03
				Dimethylphthalate	3.80E-02	mg/kg	6.94E-09	mg/kg-day	--	--	--	2.43E-07	mg/kg-day	1.00E+01	mg/kg-day	2.43E-08

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations											
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient							
							Value	Units	Value	Units		Value	Units	Value	Units								
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	4.02E-07	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	1.00E-01	mg/kg-day	1.41E-04							
				Endosulfan I	2.30E-02	mg/kg	4.20E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	6.00E-03	mg/kg-day	2.45E-05							
				Endosulfan II	2.38E-02	mg/kg	4.35E-09	mg/kg-day	--	--	--	1.52E-07	mg/kg-day	6.00E-03	mg/kg-day	2.54E-05							
				Endosulfan Sulfate	4.30E-02	mg/kg	7.85E-09	mg/kg-day	--	--	--	2.75E-07	mg/kg-day	6.00E-03	mg/kg-day	4.58E-05							
				Endrin aldehyde	4.21E-02	mg/kg	7.69E-09	mg/kg-day	--	--	--	2.69E-07	mg/kg-day	3.00E-04	mg/kg-day	8.97E-04							
				Endrin Ketone	1.00E-02	mg/kg	1.83E-09	mg/kg-day	--	--	--	6.39E-08	mg/kg-day	3.00E-04	mg/kg-day	2.13E-04							
				Fluoranthene	2.65E+01	mg/kg	4.84E-06	mg/kg-day	--	--	--	1.69E-04	mg/kg-day	4.00E-02	mg/kg-day	4.24E-03							
				Fluorene	2.92E+00	mg/kg	5.33E-07	mg/kg-day	--	--	--	1.86E-05	mg/kg-day	4.00E-02	mg/kg-day	4.68E-04							
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.75E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	6.17E-10	1.66E-08	mg/kg-day	3.00E-04	mg/kg-day	5.54E-05							
				gamma-Chlordane	1.31E-02	mg/kg	2.39E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	8.38E-10	8.38E-08	mg/kg-day	5.00E-04	mg/kg-day	1.68E-04							
				Heptachlor	6.90E-03	mg/kg	1.26E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	5.67E-09	4.41E-08	mg/kg-day	5.00E-04	mg/kg-day	8.82E-05							
				Heptachlor Epoxide	1.12E-02	mg/kg	2.04E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.85E-08	7.13E-08	mg/kg-day	1.30E-05	mg/kg-day	5.49E-03							
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.59E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.16E-07	5.59E-06	mg/kg-day	--	--	--							
				Iron	4.07E+04	mg/kg	7.44E-03	mg/kg-day	--	--	--	2.60E-01	mg/kg-day	3.00E-01	mg/kg-day	8.68E-01							
				Isophorone	2.00E-01	mg/kg	3.65E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.47E-11	1.28E-08	mg/kg-day	2.00E-01	mg/kg-day	6.39E-06							
				Lead	2.90E+03	mg/kg	5.30E-04	mg/kg-day	--	--	--	1.86E-02	mg/kg-day	--	--	--							
				Manganese	3.31E+02	mg/kg	6.05E-05	mg/kg-day	--	--	--	2.12E-03	mg/kg-day	2.40E-02	mg/kg-day	8.82E-02							
				Mercury	3.10E-01	mg/kg	5.65E-08	mg/kg-day	--	--	--	1.98E-08	mg/kg-day	3.00E-04	mg/kg-day	6.60E-03							
				Methoxychlor	1.20E-01	mg/kg	2.19E-08	mg/kg-day	--	--	--	7.87E-07	mg/kg-day	5.00E-03	mg/kg-day	1.53E-04							
				Molybdenum	2.50E+00	mg/kg	4.57E-07	mg/kg-day	--	--	--	1.60E-05	mg/kg-day	5.00E-03	mg/kg-day	3.20E-03							
				Naphthalene	1.30E+01	mg/kg	2.37E-06	mg/kg-day	--	--	--	8.31E-05	mg/kg-day	2.00E-02	mg/kg-day	4.16E-03							
				Nickel	3.91E+01	mg/kg	7.15E-06	mg/kg-day	--	--	--	2.50E-04	mg/kg-day	2.00E-02	mg/kg-day	1.25E-02							
				Phenanthrene	1.39E+01	mg/kg	2.54E-06	mg/kg-day	--	--	--	8.90E-05	mg/kg-day	3.00E-01	mg/kg-day	2.97E-04							
				Phenol	5.80E-01	mg/kg	1.06E-07	mg/kg-day	--	--	--	3.71E-06	mg/kg-day	3.00E-01	mg/kg-day	1.24E-05							
				p-Isopropyltoluene	1.10E-01	mg/kg	2.01E-08	mg/kg-day	--	--	--	7.03E-07	mg/kg-day	1.00E-01	mg/kg-day	7.03E-06							
				Pyrene	2.41E+01	mg/kg	4.41E-08	mg/kg-day	--	--	--	1.54E-04	mg/kg-day	3.00E-02	mg/kg-day	5.15E-03							
				sec-Butylbenzene	7.10E-02	mg/kg	1.30E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.13E-05							
				Selenium	2.24E-01	mg/kg	4.10E-08	mg/kg-day	--	--	--	1.43E-06	mg/kg-day	5.00E-03	mg/kg-day	2.87E-04							
				Silver	1.16E+00	mg/kg	2.12E-07	mg/kg-day	--	--	--	7.41E-06	mg/kg-day	5.00E-03	mg/kg-day	1.48E-03							
				Technical Chlordane	5.51E-01	mg/kg	1.01E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.52E-08	3.52E-06	mg/kg-day	5.00E-04	mg/kg-day	7.05E-03							
				Thallium	4.97E-01	mg/kg	9.08E-08	mg/kg-day	--	--	--	3.18E-06	mg/kg-day	6.60E-05	mg/kg-day	4.81E-02							
				Toluene	4.30E-04	mg/kg	7.85E-11	mg/kg-day	--	--	--	2.75E-09	mg/kg-day	8.00E-02	mg/kg-day	3.44E-08							
				Vanadium	3.41E+01	mg/kg	6.24E-06	mg/kg-day	--	--	--	2.18E-04	mg/kg-day	1.00E-03	mg/kg-day	2.18E-01							
				Zinc	4.53E+02	mg/kg	8.28E-05	mg/kg-day	--	--	--	2.90E-03	mg/kg-day	3.00E-01	mg/kg-day	9.66E-03							
				Exposure Route Total																6.87E-08			2.46E+00
							Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.07E-08	mg/kg-day	--	--	--	1.07E-06	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04			
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.04E-08	mg/kg-day	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05			
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.02E-09	mg/kg-day	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07			
								1,2-Dichlorobenzene	2.60E+01	mg/kg	5.32E-08	mg/kg-day	--	--	--	1.86E-06	mg/kg-day	9.00E-02	mg/kg-day	2.07E-05			
								1,2-Dichloropropane	3.60E-03	mg/kg	7.36E-12	mg/kg-day	6.80E-02	(mg/kg-day)-1	5.01E-13	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07			
								1,3,5-Trimethylbenzene	1.60E-01	mg/kg	3.27E-10	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07			
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.25E-09	mg/kg-day	--	--	--	7.88E-08	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06							
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--							
				2,4-Dimethylphenol	2.10E-01	mg/kg	4.30E-10	mg/kg-day	--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07							
				2-Methylphenol	8.10E-02	mg/kg	1.66E-09	mg/kg-day	--	--	--	5.80E-08	mg/kg-day	5.00E-02	mg/kg-day	1.16E-08							
				2-Methylnaphthalene	1.67E+00	mg/kg	3.42E-09	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	4.00E-03	mg/kg-day	2.99E-05							
				4,4'-DDD	1.20E-03	mg/kg	2.45E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	5.89E-13	8.59E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07							
				4,4'-DDE	8.23E-02	mg/kg	1.68E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.73E-11	5.89E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05							
				4,4'-DDT	4.45E-02	mg/kg	2.73E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.28E-11	9.56E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05							
				4-Methylphenol	2.70E-01	mg/kg	5.52E-09	mg/kg-day	--	--	--	1.93E-07	mg/kg-day	5.00E-03	mg/kg-day	3.87E-05							
				4-Nitroaniline	6.20E-01	mg/kg	1.27E-08	mg/kg-day	2.10E-02	--	--	2.66E-10	mg/kg-day	3.00E-03	mg/kg-day	1.46E-04							

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	8.59E-09	mg/kg-day	--	--	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	4.23E+00	mg/kg	1.13E-07	mg/kg-day	--	--	--	--	3.94E-08	mg/kg-day	6.00E-02	mg/kg-day	6.57E-05
				Acenaphthylene	1.04E-01	mg/kg	2.13E-10	mg/kg-day	--	--	--	--	7.48E-09	mg/kg-day	6.00E-02	mg/kg-day	1.24E-07
				Aldrin	1.30E-02	mg/kg	2.66E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.52E-09	9.31E-09	mg/kg-day	3.00E-05	mg/kg-day	3.10E-04	
				alpha-BHC	7.30E-04	mg/kg	1.49E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	9.41E-12	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07	
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	5.00E-04	mg/kg-day	--	
				Aluminum	8.82E+03	mg/kg	1.80E-08	mg/kg-day	--	--	--	--	6.32E-05	mg/kg-day	1.00E+00	mg/kg-day	6.32E-05
				Anthracene	1.05E+00	mg/kg	2.81E-08	mg/kg-day	--	--	--	--	9.82E-07	mg/kg-day	3.00E-01	mg/kg-day	3.27E-08
				Antimony	4.08E+00	mg/kg	8.34E-10	mg/kg-day	--	--	--	--	2.92E-08	mg/kg-day	4.00E-04	mg/kg-day	7.30E-05
				Aroclor-1248	1.20E+00	mg/kg	3.44E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.87E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02	
				Aroclor-1254	4.44E-01	mg/kg	1.27E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.54E-08	4.45E-07	mg/kg-day	2.00E-05	mg/kg-day	2.23E-02	
				Aroclor-1260	5.41E-01	mg/kg	1.55E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.10E-08	5.43E-07	mg/kg-day	2.00E-05	mg/kg-day	2.71E-02	
				Aroclor-1268	2.78E-02	mg/kg	7.95E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.59E-09	2.78E-08	mg/kg-day	2.00E-05	mg/kg-day	1.39E-03	
				Arsenic	6.17E+00	mg/kg	3.78E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.68E-08	1.32E-06	mg/kg-day	3.00E-04	mg/kg-day	4.41E-03	
				Barium	6.78E+01	mg/kg	1.39E-08	mg/kg-day	--	--	--	--	4.86E-07	mg/kg-day	7.00E-02	mg/kg-day	6.94E-08
				Benzo(a)anthracene	5.00E+00	mg/kg	1.33E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	9.72E-08	4.66E-08	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.67E+00	mg/kg	4.43E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.23E-07	1.55E-06	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.74E+00	mg/kg	7.28E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.32E-08	2.55E-06	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.03E-08	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	3.00E-02	mg/kg-day	2.37E-05	
				Benzo(k)fluoranthene	3.26E+00	mg/kg	8.67E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	6.33E-09	3.03E-06	mg/kg-day	--	--	--	
				Beryllium	2.38E-01	mg/kg	4.87E-11	mg/kg-day	--	--	--	1.70E-09	mg/kg-day	2.00E-03	mg/kg-day	8.52E-07	
				Beta-BHC	2.20E-03	mg/kg	4.50E-12	mg/kg-day	1.80E+00	(mg/kg-day)-1	8.10E-12	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07	
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.60E-08	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.24E-10	5.61E-07	mg/kg-day	2.00E-02	mg/kg-day	2.80E-05	
				Cadmium	9.47E+00	mg/kg	1.94E-09	mg/kg-day	--	--	--	6.78E-08	mg/kg-day	5.00E-04	mg/kg-day	1.36E-04	
				Carbon disulfide	2.40E-04	mg/kg	1.23E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09	
				Chlorobenzene	1.10E-01	mg/kg	2.25E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07	
				Chromium	1.11E+02	mg/kg	2.27E-08	mg/kg-day	--	--	--	7.96E-07	mg/kg-day	1.50E+00	mg/kg-day	5.31E-07	
				Chrysene	5.68E+00	mg/kg	1.51E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.10E-09	5.29E-08	mg/kg-day	--	--	--	
				Cobalt	7.57E+00	mg/kg	1.55E-09	mg/kg-day	--	--	--	5.42E-08	mg/kg-day	2.00E-02	mg/kg-day	2.71E-06	
				Copper	5.71E+01	mg/kg	1.17E-08	mg/kg-day	--	--	--	4.09E-07	mg/kg-day	3.70E-02	mg/kg-day	1.10E-05	
				Delta-BHC	8.40E-03	mg/kg	8.59E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.55E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.50E-05	
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	8.44E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	6.16E-08	2.96E-07	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	2.66E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04	
				Dieldrin	5.51E-02	mg/kg	1.13E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.80E-09	3.95E-09	mg/kg-day	5.00E-05	mg/kg-day	7.90E-05	
				Dimethylphthalate	3.80E-02	mg/kg	7.77E-11	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	1.00E+01	mg/kg-day	2.72E-10	
				di-n-Butylphthalate	2.20E+00	mg/kg	4.50E-09	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	1.00E-01	mg/kg-day	1.58E-06	
				Endosulfan I	2.30E-02	mg/kg	2.35E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06	
				Endosulfan II	2.38E-02	mg/kg	2.44E-10	mg/kg-day	--	--	--	8.53E-09	mg/kg-day	6.00E-03	mg/kg-day	1.42E-06	
				Endosulfan Sulfate	4.30E-02	mg/kg	4.40E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-08	
				Endrin aldehyde	4.21E-02	mg/kg	4.30E-10	mg/kg-day	--	--	--	1.51E-08	mg/kg-day	3.00E-04	mg/kg-day	5.02E-05	
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	--	--	
				Fluoranthene	2.65E+01	mg/kg	7.05E-07	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	4.00E-02	mg/kg-day	6.17E-04	
				Fluorene	2.92E+00	mg/kg	7.76E-08	mg/kg-day	--	--	--	2.71E-06	mg/kg-day	4.00E-02	mg/kg-day	6.79E-05	
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.13E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.77E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06	
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	5.00E-04	mg/kg-day	--	--	
				Heptachlor	6.90E-03	mg/kg	1.41E-11	mg/kg-day	4.50E+00	(mg/kg-day)-1	6.35E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07	
				Heptachlor Epoxide	1.12E-02	mg/kg	2.28E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.08E-10	7.99E-10	mg/kg-day	1.30E-05	mg/kg-day	6.14E-05	
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.32E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.69E-08	8.13E-07	mg/kg-day	--	--	--	
				Iron	4.07E+04	mg/kg	8.33E-06	mg/kg-day	--	--	--	2.92E-04	mg/kg-day	3.00E-01	mg/kg-day	9.72E-04	
				Isophorone	2.00E-01	mg/kg	4.09E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.89E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07	
				Lead	2.90E+03	mg/kg	5.94E-07	mg/kg-day	--	--	--	2.08E-05	mg/kg-day	--	--	--	

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	6.77E-08	mg/kg-day	--	--	--	2.37E-06	mg/kg-day	2.40E-02	mg/kg-day	9.88E-05				
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	3.00E-04	mg/kg-day	--			
				Methoxychlor	1.20E-01	mg/kg	2.45E-10	mg/kg-day	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06		
				Molybdenum	2.50E+00	mg/kg	5.12E-10	mg/kg-day	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	5.00E-03	mg/kg-day	3.59E-06		
				Naphthalene	1.30E+01	mg/kg	3.46E-07	mg/kg-day	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04		
				Nickel	3.91E+01	mg/kg	8.00E-09	mg/kg-day	--	--	--	2.80E-07	mg/kg-day	2.00E-02	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05		
				Phenanthrene	1.39E+01	mg/kg	2.85E-08	mg/kg-day	--	--	--	9.97E-07	mg/kg-day	3.00E-01	mg/kg-day	3.00E-01	mg/kg-day	3.32E-08		
				Phenol	5.80E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06		
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	1.00E-01	mg/kg-day	--		
				Pyrene	2.41E+01	mg/kg	6.42E-07	mg/kg-day	--	--	--	2.25E-05	mg/kg-day	3.00E-02	mg/kg-day	3.00E-02	mg/kg-day	7.49E-04		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	4.00E-02	mg/kg-day	--		
				Selenium	2.24E-01	mg/kg	4.59E-11	mg/kg-day	--	--	--	1.61E-09	mg/kg-day	5.00E-03	mg/kg-day	5.00E-03	mg/kg-day	3.21E-07		
				Silver	1.18E+00	mg/kg	2.37E-10	mg/kg-day	--	--	--	8.30E-09	mg/kg-day	5.00E-03	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06		
				Technical Chlordane	5.51E-01	mg/kg	4.51E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.58E-09	1.58E-07	mg/kg-day	5.00E-04	mg/kg-day	5.00E-04	mg/kg-day	3.16E-04		
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	6.60E-05	mg/kg-day	--		
				Toluene	4.30E-04	mg/kg	8.80E-13	mg/kg-day	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	8.00E-02	mg/kg-day	3.85E-10		
				Vanadium	3.41E+01	mg/kg	6.99E-09	mg/kg-day	--	--	--	2.44E-07	mg/kg-day	1.00E-03	mg/kg-day	1.00E-03	mg/kg-day	2.44E-04		
				Zinc	4.53E+02	mg/kg	9.28E-08	mg/kg-day	--	--	--	3.25E-06	mg/kg-day	3.00E-01	mg/kg-day	3.00E-01	mg/kg-day	1.08E-05		
				Exposure Point Total								7.52E-07							1.21E-01	
				Exposure Route Total								7.42E-08								2.58E+00
				Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--	
1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--					
1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--					
1,2-Dichlorobenzene	2.60E+01	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--					
1,2-Dichloropropane	3.60E-03	mg/kg	--			mg/kg-day	6.80E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--					
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--					
1,3-Dichlorobenzene	1.10E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--					
1,4-Dichlorobenzene	6.80E+00	mg/kg	--			mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--					
2,4-Dimethylphenol	2.10E-01	mg/kg	9.99E-07			mg/kg-day	--	--	--	--	3.50E-05	mg/kg-day	2.00E-02	mg/kg-day	1.75E-03					
2-Methylphenol	8.10E-02	mg/kg	9.17E-07			mg/kg-day	--	--	--	--	3.21E-05	mg/kg-day	5.00E-02	mg/kg-day	6.42E-04					
2-Methylnaphthalene	1.67E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-03	mg/kg-day	--					
4,4'-DDD	1.20E-03	mg/kg	9.73E-12			mg/kg-day	2.40E-01	(mg/kg-day)-1	2.33E-12	3.40E-10	mg/kg-day	5.00E-04	mg/kg-day	5.00E-04	mg/kg-day	6.81E-07				
4,4'-DDE	8.23E-02	mg/kg	4.83E-10			mg/kg-day	3.40E-01	(mg/kg-day)-1	1.64E-10	1.69E-08	mg/kg-day	5.00E-04	mg/kg-day	5.00E-04	mg/kg-day	3.38E-05				
4,4'-DDT	4.45E-02	mg/kg	1.13E-09			mg/kg-day	3.40E-01	(mg/kg-day)-1	3.83E-10	3.94E-08	mg/kg-day	5.00E-04	mg/kg-day	5.00E-04	mg/kg-day	7.88E-05				
4-Methylphenol	2.70E-01	mg/kg	3.14E-08			mg/kg-day	--	--	--	1.10E-04	mg/kg-day	5.00E-03	mg/kg-day	5.00E-03	mg/kg-day	2.20E-02				
4-Nitroaniline	6.20E-01	mg/kg	4.94E-08			mg/kg-day	2.10E-02	(mg/kg-day)-1	1.04E-07	1.73E-04	mg/kg-day	3.00E-03	mg/kg-day	3.00E-03	mg/kg-day	5.76E-02				
4-Nitrophenol	4.20E-01	mg/kg	5.02E-08			mg/kg-day	--	--	--	1.76E-04	mg/kg-day	5.00E-04	mg/kg-day	5.00E-04	mg/kg-day	3.51E-01				
Acenaphthene	4.23E+00	mg/kg	--			mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	6.00E-02	mg/kg-day	--				
Acenaphthylene	1.04E-01	mg/kg	--			mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	6.00E-02	mg/kg-day	--				
Aldrin	1.30E-02	mg/kg	1.72E-10			mg/kg-day	1.70E+01	(mg/kg-day)-1	2.93E-09	6.03E-09	mg/kg-day	3.00E-05	mg/kg-day	3.00E-05	mg/kg-day	2.01E-04				
alpha-BHC	7.30E-04	mg/kg	2.09E-09			mg/kg-day	3.09E+00	(mg/kg-day)-1	1.32E-08	7.31E-08	mg/kg-day	5.00E-04	mg/kg-day	5.00E-04	mg/kg-day	1.46E-04				
alpha-Chlordane	8.14E-03	mg/kg	2.37E-10			mg/kg-day	3.50E-01	(mg/kg-day)-1	8.30E-11	8.30E-09	mg/kg-day	5.00E-04	mg/kg-day	5.00E-04	mg/kg-day	1.66E-05				
Aluminum	8.82E+03	mg/kg	3.50E-05			mg/kg-day	--	--	--	1.22E-03	mg/kg-day	1.00E+00	mg/kg-day	1.00E+00	mg/kg-day	1.22E-03				
Anthracene	1.05E+00	mg/kg	--			mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	3.00E-01	mg/kg-day	--				
Antimony	4.08E+00	mg/kg	7.47E-07			mg/kg-day	--	--	--	2.61E-05	mg/kg-day	4.00E-04	mg/kg-day	4.00E-04	mg/kg-day	6.53E-02				
Aroclor-1248	1.20E+00	mg/kg	9.75E-09			mg/kg-day	2.00E+00	(mg/kg-day)-1	1.95E-08	3.41E-07	mg/kg-day	2.00E-05	mg/kg-day	2.00E-05	mg/kg-day	1.71E-02				
Aroclor-1254	4.44E-01	mg/kg	4.83E-08			mg/kg-day	2.00E+00	(mg/kg-day)-1	9.66E-08	1.69E-06	mg/kg-day	2.00E-05	mg/kg-day	2.00E-05	mg/kg-day	8.45E-02				
Aroclor-1260	5.41E-01	mg/kg	2.11E-09			mg/kg-day	2.00E+00	(mg/kg-day)-1	4.21E-09	7.37E-08	mg/kg-day	2.00E-05	mg/kg-day	2.00E-05	mg/kg-day	3.68E-03				
Aroclor-1268	2.78E-02	mg/kg	3.02E-09			mg/kg-day	2.00E+00	(mg/kg-day)-1	6.04E-09	1.06E-07	mg/kg-day	2.00E-05	mg/kg-day	2.00E-05	mg/kg-day	5.28E-03				
Arsenic	6.17E+00	mg/kg	2.26E-07			mg/kg-day	1.50E+00	(mg/kg-day)-1	3.39E-07	7.80E-06	mg/kg-day	3.00E-04	mg/kg-day	3.00E-04	mg/kg-day	2.63E-02				
Barium	6.78E+01	mg/kg	6.21E-06	mg/kg-day	--	--	--	2.17E-04	mg/kg-day	7.00E-02	mg/kg-day	7.00E-02	mg/kg-day	3.10E-03						

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	7.83E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.72E-09	2.74E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.48E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.08E-08	5.18E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.43E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.78E-08	8.52E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	5.18E-09	mg/kg-day	--	--	--	1.81E-07	mg/kg-day	3.00E-02	mg/kg-day	6.04E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	2.90E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	2.11E-09	1.01E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.18E-09	mg/kg-day	--	--	--	7.63E-08	mg/kg-day	2.00E-03	mg/kg-day	3.81E-05
				Beta-BHC	2.20E-03	mg/kg	6.30E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.13E-08	2.20E-07	mg/kg-day	2.00E-04	mg/kg-day	1.10E-03
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.65E-05	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.31E-07	5.78E-04	mg/kg-day	2.00E-02	mg/kg-day	2.89E-02
				Cadmium	9.47E+00	mg/kg	8.67E-06	mg/kg-day	--	--	--	3.03E-04	mg/kg-day	5.00E-04	mg/kg-day	6.07E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	3.05E-06	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	1.50E+00	mg/kg-day	7.12E-05
				Chrysene	5.68E+00	mg/kg	6.25E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.56E-10	2.19E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.23E-07	mg/kg-day	--	--	--	1.13E-05	mg/kg-day	2.00E-02	mg/kg-day	5.66E-04
				Copper	5.71E+01	mg/kg	8.70E-05	mg/kg-day	--	--	--	3.05E-03	mg/kg-day	3.70E-02	mg/kg-day	8.23E-02
				Delta-BHC	8.40E-03	mg/kg	1.96E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.53E-10	6.86E-09	mg/kg-day	2.00E-04	mg/kg-day	3.43E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.74E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.27E-08	6.10E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	1.78E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.85E-06	6.24E-06	mg/kg-day	5.00E-05	mg/kg-day	1.25E-01
				Dimethylphthalate	3.80E-02	mg/kg	3.45E-07	mg/kg-day	--	--	--	1.21E-05	mg/kg-day	1.00E+01	mg/kg-day	1.21E-06
				di-n-Butylphthalate	2.20E+00	mg/kg	2.80E-08	mg/kg-day	--	--	--	9.79E-07	mg/kg-day	1.00E-01	mg/kg-day	9.79E-06
				Endosulfan I	2.30E-02	mg/kg	6.29E-08	mg/kg-day	--	--	--	2.20E-06	mg/kg-day	6.00E-03	mg/kg-day	3.67E-04
				Endosulfan II	2.38E-02	mg/kg	6.24E-08	mg/kg-day	--	--	--	2.18E-06	mg/kg-day	6.00E-03	mg/kg-day	3.64E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.10E-07	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	6.00E-03	mg/kg-day	6.42E-04
				Endrin aldehyde	4.21E-02	mg/kg	4.26E-10	mg/kg-day	--	--	--	1.49E-08	mg/kg-day	3.00E-04	mg/kg-day	4.97E-05
				Endrin Ketone	1.00E-02	mg/kg	1.01E-10	mg/kg-day	--	--	--	3.54E-09	mg/kg-day	3.00E-04	mg/kg-day	1.18E-05
				Fluoranthene	2.65E+01	mg/kg	4.37E-07	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	4.00E-02	mg/kg-day	3.82E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.62E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.40E-08	9.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.06E-03
				gamma-Chlordane	1.31E-02	mg/kg	3.82E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.34E-10	1.34E-08	mg/kg-day	5.00E-04	mg/kg-day	2.67E-05
				Heptachlor	6.90E-03	mg/kg	1.49E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	6.72E-10	5.23E-09	mg/kg-day	5.00E-04	mg/kg-day	1.05E-05
				Heptachlor Epoxide	1.12E-02	mg/kg	7.85E-08	mg/kg-day	9.10E+00	(mg/kg-day)-1	7.15E-07	2.75E-06	mg/kg-day	1.30E-05	mg/kg-day	2.11E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	5.80E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.24E-09	2.03E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	2.47E-04	mg/kg-day	--	--	--	8.65E-03	mg/kg-day	3.00E-01	mg/kg-day	2.88E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	1.59E-04	mg/kg-day	--	--	--	5.58E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	1.01E-04	mg/kg-day	--	--	--	3.54E-03	mg/kg-day	2.40E-02	mg/kg-day	1.47E-01
				Mercury	3.10E-01	mg/kg	3.78E-07	mg/kg-day	--	--	--	1.32E-05	mg/kg-day	3.00E-04	mg/kg-day	4.41E-02
				Methoxychlor	1.20E-01	mg/kg	6.34E-10	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.00E-03	mg/kg-day	4.44E-06
				Molybdenum	2.50E+00	mg/kg	9.17E-07	mg/kg-day	--	--	--	3.21E-05	mg/kg-day	5.00E-03	mg/kg-day	6.42E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.91E+01	mg/kg	1.43E-05	mg/kg-day	--	--	--	5.01E-04	mg/kg-day	2.00E-02	mg/kg-day	2.51E-02
Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	1.75E-05	mg/kg-day	--	--	--	6.11E-04	mg/kg-day	3.00E-01	mg/kg-day	2.04E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.24E-01	mg/kg	3.42E-08	mg/kg-day	--	--	--	1.20E-06	mg/kg-day	5.00E-03	mg/kg-day	2.40E-04				
Silver	1.16E+00	mg/kg	7.07E-07	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	5.00E-03	mg/kg-day	4.95E-03				
Technical Chlordane	5.51E-01	mg/kg	1.60E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.62E-09	5.62E-07	mg/kg-day	5.00E-04	mg/kg-day	1.12E-03				
Thallium	4.97E-01	mg/kg	1.21E-09	mg/kg-day	--	--	--	4.25E-08	mg/kg-day	6.60E-05	mg/kg-day	6.43E-04				

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	8.00E-02	mg/kg-day	--		
				Vanadium	3.41E+01	mg/kg	6.25E-07	mg/kg-day	--	--	--	2.19E-05	mg/kg-day	1.00E-03	mg/kg-day	2.19E-02	
				Zinc	4.53E+02	mg/kg	2.49E-03	mg/kg-day	--	--	--	8.72E-02	mg/kg-day	3.00E-01	mg/kg-day	2.91E-01	
Exposure Route Total													2.27E+00				
Exposure Point Total													2.27E+00				
Exposure Medium Total													4.86E+00				
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.30E-12	mg/kg-day	--	--	--	--	8.05E-11	mg/kg-day	2.00E-02	mg/kg-day	4.03E-09	
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	8.88E-13	mg/kg-day	--	--	--	--	--	3.11E-11	mg/kg-day	--	--	--
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.32E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	3.16E-15	4.60E-13	mg/kg-day	5.00E-04	mg/kg-day	mg/kg-day	9.21E-10	
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	4.88E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.66E-13	1.71E-11	mg/kg-day	5.00E-04	mg/kg-day	mg/kg-day	3.41E-08	
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	2.96E-12	mg/kg-day	--	--	--	1.04E-10	mg/kg-day	5.00E-03	mg/kg-day	mg/kg-day	2.07E-08	
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	6.79E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.43E-13	2.38E-10	mg/kg-day	1.00E-03	mg/kg-day	mg/kg-day	2.38E-07	
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	4.60E-12	mg/kg-day	--	--	--	1.61E-10	mg/kg-day	5.70E-04	mg/kg-day	mg/kg-day	2.83E-07	
			Aluminum	6.68E-06	mg/m <sup>3</sup>	9.67E-08	mg/kg-day	--	--	--	3.38E-06	mg/kg-day	1.43E-03	mg/kg-day	mg/kg-day	2.37E-03	
			Antimony	3.09E-09	mg/m <sup>3</sup>	4.47E-11	mg/kg-day	--	--	--	1.56E-09	mg/kg-day	--	--	mg/kg-day	--	
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.63E-11	4.60E-10	mg/kg-day	2.00E-05	mg/kg-day	mg/kg-day	2.30E-05	
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	4.87E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	9.73E-12	1.70E-10	mg/kg-day	2.00E-05	mg/kg-day	mg/kg-day	8.52E-06	
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	5.93E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.19E-11	2.08E-10	mg/kg-day	2.00E-05	mg/kg-day	mg/kg-day	1.04E-05	
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.04E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.08E-13	1.06E-11	mg/kg-day	2.00E-05	mg/kg-day	mg/kg-day	5.32E-07	
			Arsenic	4.67E-09	mg/m <sup>3</sup>	6.76E-11	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.01E-09	2.37E-09	mg/kg-day	--	--	mg/kg-day	--	
			Barium	5.14E-08	mg/m <sup>3</sup>	7.43E-10	mg/kg-day	--	--	--	2.60E-08	mg/kg-day	1.40E-04	mg/kg-day	mg/kg-day	1.86E-04	
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	5.48E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.00E-11	1.92E-09	mg/kg-day	--	--	mg/kg-day	--	
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	1.82E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.33E-10	6.39E-10	mg/kg-day	--	--	mg/kg-day	--	
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	8.37E-12	mg/kg-day	--	--	--	2.93E-10	mg/kg-day	3.00E-02	mg/kg-day	mg/kg-day	9.76E-09	
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	3.57E-11	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	2.61E-12	1.25E-09	mg/kg-day	--	--	mg/kg-day	--	
			Beryllium	1.80E-10	mg/m <sup>3</sup>	2.61E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	2.19E-11	9.13E-11	mg/kg-day	5.71E-06	mg/kg-day	mg/kg-day	1.60E-05	
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.41E-14	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	4.47E-14	8.44E-13	mg/kg-day	2.00E-04	mg/kg-day	mg/kg-day	4.22E-09	
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	8.58E-11	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.20E-12	3.00E-09	mg/kg-day	2.00E-02	mg/kg-day	mg/kg-day	1.50E-07	
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.04E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	6.54E-10	3.63E-09	mg/kg-day	--	--	mg/kg-day	--	
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.22E-09	mg/kg-day	--	--	--	4.27E-08	mg/kg-day	--	--	mg/kg-day	--	
			Cobalt	5.74E-09	mg/m <sup>3</sup>	8.30E-11	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	8.13E-10	2.90E-09	mg/kg-day	5.71E-06	mg/kg-day	mg/kg-day	5.09E-04	
			Copper	4.32E-08	mg/m <sup>3</sup>	6.25E-10	mg/kg-day	--	--	--	2.19E-08	mg/kg-day	--	--	mg/kg-day	--	
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	3.48E-12	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	2.54E-11	1.22E-10	mg/kg-day	--	--	mg/kg-day	--	
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.16E-13	mg/kg-day	--	--	--	1.46E-11	mg/kg-day	1.00E+01	mg/kg-day	mg/kg-day	1.46E-12	
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	2.41E-11	mg/kg-day	--	--	--	8.44E-10	mg/kg-day	1.00E-01	mg/kg-day	mg/kg-day	8.44E-09	
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	4.61E-13	mg/kg-day	--	--	--	1.61E-11	mg/kg-day	3.00E-04	mg/kg-day	mg/kg-day	5.38E-08	
			Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.10E-13	mg/kg-day	--	--	--	3.84E-12	mg/kg-day	3.00E-04	mg/kg-day	mg/kg-day	1.28E-08	
			Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.22E-13	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	1.11E-12	4.28E-12	mg/kg-day	1.30E-05	mg/kg-day	mg/kg-day	3.29E-07	
			Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	9.57E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	6.98E-12	3.35E-10	mg/kg-day	--	--	mg/kg-day	--	
Iron	3.09E-05	mg/m <sup>3</sup>	4.46E-07	mg/kg-day	--	--	--	1.56E-05	mg/kg-day	--	--	mg/kg-day	--				
Isophorone	1.52E-10	mg/m <sup>3</sup>	2.19E-12	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	2.08E-15	7.67E-11	mg/kg-day	2.00E-01	mg/kg-day	mg/kg-day	3.84E-10				
Lead	2.20E-06	mg/m <sup>3</sup>	3.18E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	--	--	mg/kg-day	--				
Manganese	2.51E-07	mg/m <sup>3</sup>	3.63E-09	mg/kg-day	--	--	--	1.27E-07	mg/kg-day	1.43E-05	mg/kg-day	mg/kg-day	8.89E-03				
Mercury	2.34E-10	mg/m <sup>3</sup>	3.39E-12	mg/kg-day	--	--	--	1.19E-10	mg/kg-day	6.60E-05	mg/kg-day	mg/kg-day	1.38E-06				
Molybdenum	1.90E-09	mg/m <sup>3</sup>	2.74E-11	mg/kg-day	--	--	--	9.61E-10	mg/kg-day	--	--	mg/kg-day	--				
Nickel	2.96E-08	mg/m <sup>3</sup>	4.29E-10	mg/kg-day	--	--	--	1.50E-08	mg/kg-day	--	--	mg/kg-day	--				
Phenol	4.39E-10	mg/m <sup>3</sup>	6.36E-12	mg/kg-day	--	--	--	2.22E-10	mg/kg-day	3.00E-01	mg/kg-day	mg/kg-day	7.42E-10				
Selenium	1.70E-10	mg/m <sup>3</sup>	2.46E-12	mg/kg-day	--	--	--	8.61E-11	mg/kg-day	--	--	mg/kg-day	--				
Silver	8.78E-10	mg/m <sup>3</sup>	1.27E-11	mg/kg-day	--	--	--	4.45E-10	mg/kg-day	--	--	mg/kg-day	--				

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.77E-10	mg/m <sup>3</sup>	5.45E-12	mg/kg-day	--	--	--	1.91E-10	mg/kg-day	--	--	--
			Vanadium	2.59E-08	mg/m <sup>3</sup>	3.74E-10	mg/kg-day	--	--	--	1.31E-08	mg/kg-day	--	--	--	
			Zinc	3.44E-07	mg/m <sup>3</sup>	4.97E-09	mg/kg-day	--	--	--	1.74E-07	mg/kg-day	--	--	--	
<b>Exposure Route Total</b>										<b>2.76E-09</b>					<b>1.20E-02</b>	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.51E-06	mg/kg-day	--	--	--	5.29E-05	mg/kg-day	1.10E-03	mg/kg-day	4.81E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	5.14E-06	mg/kg-day	--	--	--	1.80E-04	mg/kg-day	1.10E-03	mg/kg-day	1.63E-01
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.70E-06	mg/kg-day	--	--	--	5.93E-05	mg/kg-day	1.71E-03	mg/kg-day	3.46E-02
1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	7.70E-05	mg/kg-day	--	--	--	2.70E-03	mg/kg-day	5.70E-02	mg/kg-day	4.73E-02				
1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.14E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.81E-09	1.45E-06	mg/kg-day	1.14E-03	mg/kg-day	1.27E-03				
1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	5.29E-07	mg/kg-day	--	--	--	1.85E-05	mg/kg-day	1.71E-03	mg/kg-day	1.08E-02				
1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.36E-06	mg/kg-day	--	--	--	8.25E-05	mg/kg-day	3.00E-02	mg/kg-day	2.75E-03				
1,4-Dichlorobenzene	1.58E-03	mg/m <sup>3</sup>	2.26E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	4.97E-07	7.91E-04	mg/kg-day	2.30E-01	mg/kg-day	3.44E-03				
2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.07E-06	mg/kg-day	--	--	--	3.75E-05	mg/kg-day	5.00E-02	mg/kg-day	7.49E-04				
4,4-DDE	9.70E-09	mg/m <sup>3</sup>	1.40E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.77E-11	4.91E-09	mg/kg-day	5.00E-04	mg/kg-day	9.82E-06				
Acenaphthene	5.81E-05	mg/m <sup>3</sup>	8.41E-07	mg/kg-day	--	--	--	2.94E-05	mg/kg-day	6.00E-02	mg/kg-day	4.91E-04				
Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.07E-08	mg/kg-day	--	--	--	7.24E-07	mg/kg-day	6.00E-02	mg/kg-day	1.21E-05				
Aldrin	5.63E-09	mg/m <sup>3</sup>	8.15E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.39E-09	2.85E-09	mg/kg-day	3.00E-05	mg/kg-day	9.51E-05				
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	5.26E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.32E-10	1.84E-09	mg/kg-day	5.00E-04	mg/kg-day	3.68E-06				
alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.08E-11	4.08E-09	mg/kg-day	2.00E-04	mg/kg-day	2.04E-05				
Anthracene	1.45E-05	mg/m <sup>3</sup>	2.09E-07	mg/kg-day	--	--	--	7.33E-06	mg/kg-day	3.00E-01	mg/kg-day	2.44E-05				
Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	2.56E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.87E-08	8.96E-07	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	6.54E-09	mg/kg-day	--	--	--	2.29E-07	mg/kg-day	2.00E-01	mg/kg-day	1.15E-06				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	7.49E-07	mg/kg-day	--	--	--	2.62E-05	mg/kg-day	1.70E-02	mg/kg-day	1.54E-03				
Chrysene	6.25E-06	mg/m <sup>3</sup>	9.04E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	6.80E-10	3.16E-06	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	6.06E-10	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.12E-09	2.12E-08	mg/kg-day	2.00E-04	mg/kg-day	1.06E-04				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	6.49E-07	mg/kg-day	--	--	--	2.27E-05	mg/kg-day	2.00E-03	mg/kg-day	1.14E-02				
Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.07E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.72E-08	3.76E-08	mg/kg-day	5.00E-05	mg/kg-day	7.51E-04				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.17E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	6.00E-03	mg/kg-day	6.80E-06				
Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.21E-09	mg/kg-day	--	--	--	4.22E-08	mg/kg-day	6.00E-03	mg/kg-day	7.04E-06				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.18E-09	mg/kg-day	--	--	--	7.63E-08	mg/kg-day	6.00E-03	mg/kg-day	1.27E-05				
Fluoranthene	1.71E-05	mg/m <sup>3</sup>	2.48E-07	mg/kg-day	--	--	--	8.68E-06	mg/kg-day	4.00E-02	mg/kg-day	2.17E-04				
Fluorene	1.71E-05	mg/m <sup>3</sup>	2.47E-07	mg/kg-day	--	--	--	8.64E-06	mg/kg-day	4.00E-02	mg/kg-day	2.16E-04				
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.31E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.00E-10	8.07E-09	mg/kg-day	3.00E-04	mg/kg-day	2.69E-05				
gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	1.88E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.57E-11	6.57E-09	mg/kg-day	2.00E-04	mg/kg-day	3.28E-05				
Heptachlor	3.38E-07	mg/m <sup>3</sup>	4.89E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.22E-08	1.71E-07	mg/kg-day	5.00E-04	mg/kg-day	3.42E-04				
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.25E-09	mg/kg-day	--	--	--	4.37E-08	mg/kg-day	5.00E-03	mg/kg-day	6.74E-06				
Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.01E-05	mg/kg-day	--	--	--	3.54E-04	mg/kg-day	8.57E-04	mg/kg-day	4.13E-01				
Phenanthrene	1.91E-04	mg/m <sup>3</sup>	2.76E-06	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	3.00E-01	mg/kg-day	3.23E-04				
p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	2.77E-06	mg/kg-day	--	--	--	9.70E-05	mg/kg-day	1.10E-01	mg/kg-day	8.82E-04				
Pyrene	1.85E-05	mg/m <sup>3</sup>	2.67E-07	mg/kg-day	--	--	--	9.35E-06	mg/kg-day	3.00E-02	mg/kg-day	3.12E-04				
sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.06E-07	mg/kg-day	--	--	--	1.42E-05	mg/kg-day	4.00E-02	mg/kg-day	3.55E-04				
Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	7.89E-09	mg/kg-day	3.50E-04	(mg/kg-day)-1	2.76E-12	2.76E-07	mg/kg-day	2.00E-04	mg/kg-day	1.38E-03				
Toluene	3.12E-07	mg/m <sup>3</sup>	4.52E-09	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	1.43E+00	mg/kg-day	1.11E-07				
<b>Exposure Route Total</b>										<b>5.62E-07</b>					<b>7.44E-01</b>	
<b>Exposure Point Total</b>										<b>5.65E-07</b>					<b>7.56E-01</b>	
Soil (0-2 ft bgs) (continued)	Indoor Air (Vapor Intrusion)	Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	1.27E-04	mg/kg-day	--	--	--	4.46E-03	mg/kg-day	1.10E-03	mg/kg-day	4.05E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	4.33E-04	mg/kg-day	--	--	--	1.52E-02	mg/kg-day	1.10E-03	mg/kg-day	1.38E+01
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	4.25E-05	mg/kg-day	--	--	--	1.49E-03	mg/kg-day	1.71E-03	mg/kg-day	8.67E-01
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	2.21E-03	mg/kg-day	--	--	--	7.73E-02	mg/kg-day	5.70E-02	mg/kg-day	1.36E+00
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	3.06E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.08E-08	1.07E-05	mg/kg-day	1.14E-03	mg/kg-day	9.39E-03
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	1.36E-05	mg/kg-day	--	--	--	4.76E-04	mg/kg-day	1.71E-03	mg/kg-day	2.77E-01

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	9.34E-05	mg/kg-day	--	--	--	3.27E-03	mg/kg-day	3.00E-02	mg/kg-day	1.09E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	5.78E-04	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.27E-05	2.02E-02	mg/kg-day	2.30E-01	mg/kg-day	8.79E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	7.01E-05	mg/kg-day	--	--	--	2.46E-03	mg/kg-day	5.00E-02	mg/kg-day	4.91E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	8.78E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.98E-11	3.07E-09	mg/kg-day	5.00E-04	mg/kg-day	6.14E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	2.45E-05	mg/kg-day	--	--	--	8.57E-04	mg/kg-day	6.00E-02	mg/kg-day	1.43E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	6.33E-07	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	6.00E-02	mg/kg-day	3.69E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	2.33E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.98E-09	8.15E-09	mg/kg-day	3.00E-05	mg/kg-day	2.72E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.56E-09	mg/kg-day	6.30E+00	(mg/kg-day)-1	9.81E-09	5.45E-08	mg/kg-day	5.00E-04	mg/kg-day	1.09E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	7.85E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.75E-10	2.75E-08	mg/kg-day	2.00E-04	mg/kg-day	1.37E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	6.45E-06	mg/kg-day	--	--	--	2.26E-04	mg/kg-day	3.00E-01	mg/kg-day	7.52E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	4.56E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.33E-08	1.60E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.04E-08	mg/kg-day	--	--	--	7.14E-07	mg/kg-day	2.00E-01	mg/kg-day	3.57E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	9.34E-06	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.70E-02	mg/kg-day	1.92E-02
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	2.57E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.88E-09	9.09E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	2.66E-08	mg/kg-day	1.86E+00	(mg/kg-day)-1	4.93E-08	9.31E-07	mg/kg-day	2.00E-04	mg/kg-day	4.66E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	3.43E-07	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	2.00E-03	mg/kg-day	6.00E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	7.59E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.21E-07	2.66E-07	mg/kg-day	5.00E-05	mg/kg-day	5.31E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	3.12E-08	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	6.00E-03	mg/kg-day	1.82E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	3.17E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	6.00E-03	mg/kg-day	1.85E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	5.83E-08	mg/kg-day	--	--	--	2.04E-06	mg/kg-day	6.00E-03	mg/kg-day	3.40E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	7.10E-08	mg/kg-day	--	--	--	2.48E-06	mg/kg-day	4.00E-02	mg/kg-day	6.21E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	3.87E-06	mg/kg-day	--	--	--	1.36E-04	mg/kg-day	4.00E-02	mg/kg-day	3.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	8.23E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.07E-08	2.88E-07	mg/kg-day	3.00E-04	mg/kg-day	9.61E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	1.43E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.00E-12	5.00E-10	mg/kg-day	2.00E-04	mg/kg-day	2.50E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.57E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	7.15E-09	5.50E-08	mg/kg-day	5.00E-04	mg/kg-day	1.10E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	4.29E-09	mg/kg-day	--	--	--	1.50E-07	mg/kg-day	5.00E-03	mg/kg-day	3.00E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.04E-07	mg/kg-day	1.60E-03	(mg/kg-day)-1	3.26E-10	7.14E-06	mg/kg-day	8.57E-01	mg/kg-day	8.32E-06
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	9.10E-04	mg/kg-day	--	--	--	3.18E-02	mg/kg-day	8.57E-04	mg/kg-day	3.72E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	8.26E-05	mg/kg-day	--	--	--	2.89E-03	mg/kg-day	3.00E-01	mg/kg-day	9.64E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	9.34E-06	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.10E-01	mg/kg-day	2.97E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	5.75E-07	mg/kg-day	--	--	--	2.01E-05	mg/kg-day	3.00E-02	mg/kg-day	6.71E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	3.31E-06	mg/kg-day	--	--	--	1.16E-04	mg/kg-day	4.00E-02	mg/kg-day	2.90E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	6.08E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	2.13E-11	2.13E-06	mg/kg-day	2.00E-04	mg/kg-day	1.06E-02
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	3.65E-08	mg/kg-day	--	--	--	1.28E-06	mg/kg-day	1.43E+00	mg/kg-day	8.95E-07				
				Exposure Route Total							1.30E-05					5.78E+01
				Exposure Point Total							1.30E-05					5.78E+01
				Exposure Medium Total							1.35E-05					5.86E+01
				Medium Total							2.54E-05					6.34E+01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.12E-09	mg/kg-day	--	--	--	2.14E-07	mg/kg-day	1.40E-01	mg/kg-day	1.53E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.83E-09	mg/kg-day	--	--	--	6.39E-08	mg/kg-day	1.71E-03	mg/kg-day	3.73E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	4.19E-07	mg/kg-day	5.70E-02	mg/kg-day	7.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	8.61E-09	mg/kg-day	9.10E-02	--	7.83E-10	3.01E-07	mg/kg-day	1.40E-03	mg/kg-day	2.15E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.23E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.19E-10	1.13E-07	mg/kg-day	1.14E-03	mg/kg-day	9.91E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.04E-09	mg/kg-day	--	--	--	3.64E-08	mg/kg-day	1.71E-03	mg/kg-day	2.12E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.07E-09	mg/kg-day	2.20E-02	(mg/kg-day)-1	8.96E-11	1.43E-07	mg/kg-day	2.30E-01	mg/kg-day	6.20E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.57E-10	mg/kg-day	--	--	--	5.51E-09	mg/kg-day	1.43E+00	mg/kg-day	3.86E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.40E-11	mg/kg-day	--	--	--	4.90E-10	mg/kg-day	5.00E-02	mg/kg-day	9.79E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.87E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.36E-12	6.55E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	5.85E-11	mg/kg-day	--	--	--	2.05E-09	mg/kg-day	8.60E-01	mg/kg-day	2.38E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	5.61E-10	mg/kg-day	--	--	--	1.96E-08	mg/kg-day	6.00E-02	mg/kg-day	3.27E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.39E-11	mg/kg-day	--	--	--	8.36E-10	mg/kg-day	6.00E-02	mg/kg-day	1.39E-08

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	3.23E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	5.50E-10	1.13E-09	mg/kg-day	3.00E-05	mg/kg-day	3.77E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.10E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	2.58E-11	1.43E-10	mg/kg-day	5.00E-04	mg/kg-day	2.87E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	9.69E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.39E-12	3.39E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	4.75E-11	mg/kg-day	--	--	--	1.66E-09	mg/kg-day	3.00E-01	mg/kg-day	5.54E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	3.77E-09	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.03E-10	1.32E-07	mg/kg-day	8.60E-03	mg/kg-day	1.54E-05				
				Benzo(a)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.04E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	5.14E-12	2.46E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.06E-10	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	4.10E-13	3.73E-09	mg/kg-day	2.00E-02	mg/kg-day	1.66E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	6.52E-08	mg/kg-day	--	--	--	2.28E-06	mg/kg-day	2.00E-01	mg/kg-day	1.14E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	3.71E-08	mg/kg-day	1.70E-02	mg/kg-day	2.18E-06				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	2.99E-08	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	2.41E-09	1.05E-06	mg/kg-day	1.40E-02	mg/kg-day	7.48E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.08E-08	mg/kg-day	--	--	--	3.79E-07	mg/kg-day	2.60E-02	mg/kg-day	1.46E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.90E-11	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	1.39E-13	6.66E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	7.67E-09	mg/kg-day	--	--	--	2.68E-07	mg/kg-day	1.00E-02	mg/kg-day	2.68E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.42E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.27E-10	4.97E-10	mg/kg-day	5.00E-05	mg/kg-day	9.95E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.24E-12	mg/kg-day	--	--	--	1.13E-10	mg/kg-day	6.00E-03	mg/kg-day	1.89E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.32E-15	mg/kg-day	--	--	--	1.86E-13	mg/kg-day	6.00E-03	mg/kg-day	3.11E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	2.89E-09	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	2.90E-01	mg/kg-day	3.48E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	7.31E-12	mg/kg-day	--	--	--	2.56E-10	mg/kg-day	4.00E-02	mg/kg-day	6.40E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.45E-11	mg/kg-day	--	--	--	5.06E-10	mg/kg-day	4.00E-02	mg/kg-day	1.27E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.80E-14	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	2.34E-14	6.29E-13	mg/kg-day	3.00E-04	mg/kg-day	2.10E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.52E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	8.81E-12	8.81E-10	mg/kg-day	2.00E-04	mg/kg-day	4.40E-06				
				Heptachlor	1.79E-06	mg/m <sup>3</sup>	2.58E-10	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.18E-09	9.04E-09	mg/kg-day	5.00E-04	mg/kg-day	1.81E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	4.96E-07	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.00E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	2.90E-02	mg/kg-day	1.21E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	4.72E-11	mg/kg-day	--	--	--	1.65E-09	mg/kg-day	5.00E-03	mg/kg-day	3.31E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	7.86E-11	mg/kg-day	--	--	--	2.75E-09	mg/kg-day	8.57E-04	mg/kg-day	3.21E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	3.66E-09	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	8.57E-04	mg/kg-day	1.49E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.07E-09	mg/kg-day	--	--	--	1.43E-07	mg/kg-day	4.00E-02	mg/kg-day	3.57E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	3.79E-11	mg/kg-day	--	--	--	1.33E-09	mg/kg-day	3.00E-01	mg/kg-day	4.42E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	4.96E-07	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	6.67E-12	mg/kg-day	--	--	--	2.33E-10	mg/kg-day	3.00E-02	mg/kg-day	7.78E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.16E-08	mg/kg-day	--	--	--	4.06E-07	mg/kg-day	4.00E-02	mg/kg-day	1.01E-05				
				tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.31E-08	mg/kg-day	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	5.50E-09	mg/kg-day	--	--	--	1.92E-07	mg/kg-day	1.43E+00	mg/kg-day	1.35E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.30E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	2.00E-02	mg/kg-day	2.27E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.35E-08	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	5.39E-09	4.72E-07	mg/kg-day	1.00E-02	mg/kg-day	4.72E-05				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	2.79E-08	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	8.65E-10	9.76E-07	mg/kg-day	2.86E-02	mg/kg-day	3.42E-05				
				Exposure Route Total										1.19E-08				1.21E-03		
				Exposure Point Total										1.19E-08				1.21E-03		
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.08E-06	mg/kg-day	--	--	--	3.77E-05	mg/kg-day	1.40E-01	mg/kg-day	2.69E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	4.72E-08	mg/kg-day	--	--	--	1.65E-06	mg/kg-day	1.71E-03	mg/kg-day	9.65E-04
								1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	3.18E-07	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	5.70E-02	mg/kg-day	1.95E-04
								1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	2.58E-07	mg/kg-day	9.10E-02	--	2.35E-08	9.02E-06	mg/kg-day	1.40E-03	mg/kg-day	6.44E-03
								1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	9.55E-08	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	6.49E-09	3.34E-06	mg/kg-day	1.14E-03	mg/kg-day	2.93E-03
								1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	2.70E-08	mg/kg-day	--	--	--	9.47E-07	mg/kg-day	1.71E-03	mg/kg-day	5.52E-04
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.09E-07					mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	2.40E-09	3.82E-06	mg/kg-day	2.30E-01	mg/kg-day	1.66E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	8.10E-09					mg/kg-day	--	--	--	2.84E-07	mg/kg-day	1.43E+00	mg/kg-day	1.99E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	3.93E-10					mg/kg-day	--	--	--	1.37E-08	mg/kg-day	5.00E-02	mg/kg-day	2.75E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	1.69E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	5.73E-13	5.60E-11	mg/kg-day	5.00E-04	mg/kg-day	1.18E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	2.41E-09					mg/kg-day	--	--	--	8.42E-08	mg/kg-day	8.60E-01	mg/kg-day	9.79E-08				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	2.39E-08					mg/kg-day	--	--	--	8.36E-07	mg/kg-day	6.00E-02	mg/kg-day	1.39E-05				

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	1.02E-09	mg/kg-day	--	--	--	3.56E-08	mg/kg-day	6.00E-02	mg/kg-day	5.93E-07
				Aldrin	2.44E-07	ug/m <sup>3</sup>	3.53E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.00E-11	1.23E-10	mg/kg-day	3.00E-05	mg/kg-day	4.11E-06
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	5.26E-13	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.31E-12	1.84E-11	mg/kg-day	5.00E-04	mg/kg-day	3.68E-08
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	3.19E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.12E-12	1.12E-10	mg/kg-day	2.00E-04	mg/kg-day	5.56E-07
				Anthracene	1.40E-04	ug/m <sup>3</sup>	2.02E-09	mg/kg-day	--	--	--	7.07E-08	mg/kg-day	3.00E-01	mg/kg-day	2.36E-07
				Benzene	7.66E-03	ug/m <sup>3</sup>	1.11E-07	mg/kg-day	2.73E-02	(mg/kg-day)-1	3.03E-09	3.88E-08	mg/kg-day	8.60E-03	mg/kg-day	4.51E-04
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	2.96E-10	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.16E-10	1.04E-08	mg/kg-day	--	--	--
				Bromoform	3.95E-04	ug/m <sup>3</sup>	5.72E-09	mg/kg-day	3.85E-03	(mg/kg-day)-1	2.20E-11	2.00E-07	mg/kg-day	2.00E-02	mg/kg-day	1.00E-05
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	1.96E-06	mg/kg-day	--	--	--	6.84E-05	mg/kg-day	2.00E-01	mg/kg-day	3.42E-04
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	2.97E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	1.70E-02	mg/kg-day	6.12E-05
				Chloroform	6.13E-02	ug/m <sup>3</sup>	8.87E-07	mg/kg-day	8.05E-02	(mg/kg-day)-1	7.14E-08	3.10E-05	mg/kg-day	1.40E-02	mg/kg-day	2.22E-03
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	3.51E-07	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.60E-02	mg/kg-day	4.73E-04
				Chrysene	5.75E-05	ug/m <sup>3</sup>	8.33E-10	mg/kg-day	7.30E-03	(mg/kg-day)-1	6.08E-12	2.91E-08	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	4.97E-07	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	1.00E-02	mg/kg-day	1.74E-03
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	5.44E-13	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.71E-12	1.91E-11	mg/kg-day	5.00E-05	mg/kg-day	3.81E-07
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	7.02E-13	mg/kg-day	--	--	--	2.46E-11	mg/kg-day	6.00E-03	mg/kg-day	4.10E-09
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	2.34E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	7.80E-08	mg/kg-day	--	--	--	2.73E-06	mg/kg-day	2.90E-01	mg/kg-day	9.41E-06
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	2.96E-10	mg/kg-day	--	--	--	1.04E-08	mg/kg-day	4.00E-02	mg/kg-day	2.59E-07
				Fluorene	5.21E-05	ug/m <sup>3</sup>	7.54E-10	mg/kg-day	--	--	--	2.64E-08	mg/kg-day	4.00E-02	mg/kg-day	6.59E-07
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	7.10E-13	mg/kg-day	1.30E+00	(mg/kg-day)-1	9.23E-13	2.48E-11	mg/kg-day	3.00E-04	mg/kg-day	8.28E-08
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	1.54E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.40E-13	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	6.96E-12	mg/kg-day	4.55E+00	(mg/kg-day)-1	3.17E-11	2.44E-10	mg/kg-day	5.00E-04	mg/kg-day	4.87E-07
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	2.60E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	5.83E-07	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	2.90E-02	mg/kg-day	7.04E-04
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	2.05E-12	mg/kg-day	--	--	--	7.17E-11	mg/kg-day	5.00E-03	mg/kg-day	1.43E-08
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	4.26E-09	mg/kg-day	--	--	--	1.49E-07	mg/kg-day	8.57E-04	mg/kg-day	1.74E-04
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	2.05E-07	mg/kg-day	--	--	--	7.18E-06	mg/kg-day	8.57E-04	mg/kg-day	8.38E-03
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	2.31E-07	mg/kg-day	--	--	--	8.10E-06	mg/kg-day	4.00E-02	mg/kg-day	2.02E-04
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	2.10E-09	mg/kg-day	--	--	--	7.36E-08	mg/kg-day	3.00E-01	mg/kg-day	2.45E-07
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	2.60E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03
				Pyrene	1.92E-05	ug/m <sup>3</sup>	2.78E-10	mg/kg-day	--	--	--	9.73E-09	mg/kg-day	3.00E-02	mg/kg-day	3.24E-07
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	8.22E-09	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	4.00E-02	mg/kg-day	7.20E-06
Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	8.23E-07	mg/kg-day	--	--	--	2.88E-05	mg/kg-day	4.00E-02	mg/kg-day	7.20E-04				
Toluene	2.18E-03	ug/m <sup>3</sup>	3.15E-08	mg/kg-day	--	--	--	1.10E-06	mg/kg-day	1.43E+00	mg/kg-day	7.72E-07				
trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	8.73E-07	mg/kg-day	--	--	--	3.05E-05	mg/kg-day	2.00E-02	mg/kg-day	1.53E-03				
Trichloroethene	5.71E-02	ug/m <sup>3</sup>	8.25E-07	mg/kg-day	4.00E-01	(mg/kg-day)-1	3.30E-07	2.89E-05	mg/kg-day	1.00E-02	mg/kg-day	2.89E-03				
Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	1.88E-06	mg/kg-day	3.10E-02	(mg/kg-day)-1	5.82E-08	6.57E-05	mg/kg-day	2.86E-02	mg/kg-day	2.30E-03				
				Exposure Route Total											5.02E-02	
				Exposure Point Total											5.02E-02	
				Exposure Medium Total											5.14E-02	
Medium Total														5.14E-02		
									Total of Receptor Risks Across All Media	2.60E-05		Total of Receptor Hazards Across All Media			6.35E+01	

TABLE H2-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RIC Reference concentration
  - RID Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.74E-07	mg/kg-day	--	--	--	--	9.59E-06	mg/kg-day	1.00E-02	mg/kg-day	9.59E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	9.32E-07	mg/kg-day	--	--	--	--	3.26E-05	mg/kg-day	1.00E-02	mg/kg-day	3.26E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	9.13E-08	mg/kg-day	--	--	--	--	3.20E-06	mg/kg-day	5.00E-02	mg/kg-day	6.39E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.75E-06	mg/kg-day	--	--	--	--	1.66E-04	mg/kg-day	9.00E-02	mg/kg-day	1.85E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	6.58E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	4.47E-11	--	2.30E-08	mg/kg-day	1.14E-03	mg/kg-day	2.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.92E-08	mg/kg-day	--	--	--	--	1.02E-06	mg/kg-day	5.00E-02	mg/kg-day	2.05E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.01E-07	mg/kg-day	--	--	--	--	7.03E-06	mg/kg-day	3.00E-02	mg/kg-day	2.34E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.24E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	2.98E-08	--	4.35E-05	mg/kg-day	3.00E-02	mg/kg-day	1.45E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	--	1.34E-06	mg/kg-day	2.00E-02	mg/kg-day	6.71E-05
				2-Methylphenol	8.10E-02	mg/kg	1.48E-08	mg/kg-day	--	--	--	--	5.18E-07	mg/kg-day	5.00E-02	mg/kg-day	1.04E-05
				2-Methylnaphthalene	1.45E+00	mg/kg	2.65E-07	mg/kg-day	--	--	--	--	9.27E-06	mg/kg-day	4.00E-03	mg/kg-day	2.32E-03
				4,4'-DDD	1.20E-03	mg/kg	2.19E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	5.26E-11	--	7.67E-09	mg/kg-day	5.00E-04	mg/kg-day	1.53E-05
				4,4'-DDE	7.50E-02	mg/kg	1.37E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.66E-09	--	4.79E-07	mg/kg-day	5.00E-04	mg/kg-day	9.59E-04
				4,4'-DDT	4.20E-02	mg/kg	7.67E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.61E-09	--	2.68E-07	mg/kg-day	5.00E-04	mg/kg-day	5.37E-04
				4-Methylphenol	2.70E-01	mg/kg	4.93E-08	mg/kg-day	--	--	--	--	1.73E-06	mg/kg-day	5.00E-03	mg/kg-day	3.45E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.13E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.38E-09	--	3.96E-06	mg/kg-day	3.00E-03	mg/kg-day	1.32E-03
				4-Nitrophenol	4.20E-01	mg/kg	7.67E-08	mg/kg-day	--	--	--	--	2.68E-06	mg/kg-day	5.00E-04	mg/kg-day	5.37E-03
				Acenaphthene	3.47E+00	mg/kg	6.34E-07	mg/kg-day	--	--	--	--	2.22E-05	mg/kg-day	6.00E-02	mg/kg-day	3.70E-04
				Acenaphthylene	8.96E-02	mg/kg	1.64E-08	mg/kg-day	--	--	--	--	5.73E-07	mg/kg-day	6.00E-02	mg/kg-day	9.54E-06
				Aldrin	1.30E-02	mg/kg	2.37E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.04E-08	--	8.31E-08	mg/kg-day	3.00E-05	mg/kg-day	2.77E-03
				alpha-BHC	7.30E-04	mg/kg	1.33E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	8.40E-10	--	4.67E-09	mg/kg-day	5.00E-04	mg/kg-day	9.33E-06
				alpha-Chlordane	6.98E-03	mg/kg	1.28E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.46E-10	--	4.46E-08	mg/kg-day	5.00E-04	mg/kg-day	8.93E-05
				Aluminum	9.05E+03	mg/kg	1.65E-03	mg/kg-day	--	--	--	--	5.79E-02	mg/kg-day	1.00E+00	mg/kg-day	5.79E-02
				Anthracene	9.13E-01	mg/kg	1.67E-07	mg/kg-day	--	--	--	--	5.84E-06	mg/kg-day	3.00E-01	mg/kg-day	1.95E-05
				Antimony	2.72E+00	mg/kg	4.97E-07	mg/kg-day	--	--	--	--	1.74E-05	mg/kg-day	4.00E-04	mg/kg-day	4.35E-02
				Aroclor-1248	1.20E+00	mg/kg	2.19E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.38E-07	--	7.67E-06	mg/kg-day	2.00E-05	mg/kg-day	3.84E-01
				Aroclor-1254	4.38E-01	mg/kg	7.99E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.60E-07	--	2.80E-06	mg/kg-day	2.00E-05	mg/kg-day	1.40E-01
				Aroclor-1260	4.88E-01	mg/kg	8.92E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.78E-07	--	3.12E-06	mg/kg-day	2.00E-05	mg/kg-day	1.56E-01
				Aroclor-1268	2.72E-02	mg/kg	4.96E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.93E-09	--	1.74E-07	mg/kg-day	2.00E-05	mg/kg-day	8.69E-03
				Arsenic	9.53E+00	mg/kg	1.74E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.61E-06	--	6.09E-05	mg/kg-day	3.00E-04	mg/kg-day	2.03E-01
				Barium	6.94E+01	mg/kg	1.27E-05	mg/kg-day	--	--	--	--	4.44E-04	mg/kg-day	7.00E-02	mg/kg-day	6.34E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	7.69E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.62E-07	--	2.69E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	2.57E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.87E-06	--	8.99E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	4.33E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.16E-07	--	1.52E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.18E-07	mg/kg-day	--	--	--	--	4.14E-06	mg/kg-day	3.00E-02	mg/kg-day	1.38E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	5.16E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	3.77E-08	--	1.81E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	4.16E-08	mg/kg-day	--	--	--	--	1.46E-06	mg/kg-day	2.00E-03	mg/kg-day	7.28E-04
				Beta-BHC	2.20E-03	mg/kg	4.02E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	7.23E-10	--	1.41E-08	mg/kg-day	2.00E-04	mg/kg-day	7.03E-05
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	9.67E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.35E-08	--	3.39E-05	mg/kg-day	2.00E-02	mg/kg-day	1.69E-03
				Cadmium	8.65E+00	mg/kg	1.58E-06	mg/kg-day	--	--	--	--	5.53E-05	mg/kg-day	5.00E-04	mg/kg-day	1.11E-01
				Carbon disulfide	2.40E-04	mg/kg	4.38E-11	mg/kg-day	--	--	--	--	1.53E-09	mg/kg-day	1.00E-01	mg/kg-day	1.53E-08
				Chlorobenzene	1.10E-01	mg/kg	2.01E-08	mg/kg-day	--	--	--	--	7.03E-07	mg/kg-day	2.00E-02	mg/kg-day	3.52E-05
				Chromium	1.00E+02	mg/kg	1.83E-05	mg/kg-day	--	--	--	--	6.39E-04	mg/kg-day	1.50E+00	mg/kg-day	4.26E-04
				Chrysene	4.80E+00	mg/kg	8.76E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	6.39E-09	--	3.07E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.36E-06	mg/kg-day	--	--	--	--	4.76E-05	mg/kg-day	2.00E-02	mg/kg-day	2.38E-03
				Copper	6.01E+01	mg/kg	1.10E-05	mg/kg-day	--	--	--	--	3.84E-04	mg/kg-day	3.70E-02	mg/kg-day	1.04E-02
				Delta-BHC	8.40E-03	mg/kg	1.53E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.76E-09	--	5.37E-08	mg/kg-day	2.00E-04	mg/kg-day	2.68E-04
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	5.03E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.68E-07	--	1.76E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.37E-06	mg/kg-day	--	--	--	--	8.31E-05	mg/kg-day	2.00E-03	mg/kg-day	4.16E-02
				Dieldrin	4.89E-02	mg/kg	8.94E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.43E-07	--	3.13E-07	mg/kg-day	5.00E-05	mg/kg-day	6.26E-03
Dimethylphthalate	3.80E-02	mg/kg	6.94E-09	mg/kg-day	--	--	--	--	2.43E-07	mg/kg-day	1.00E+01	mg/kg-day	2.43E-08				

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	4.20E-07	mg/kg-day	--	--	--	--	1.47E-05	mg/kg-day	1.00E-01	mg/kg-day	1.47E-04				
				Endosulfan I	2.30E-02	mg/kg	4.20E-09	mg/kg-day	--	--	--	--	1.47E-07	mg/kg-day	6.00E-03	mg/kg-day	2.45E-05				
				Endosulfan II	2.34E-02	mg/kg	4.27E-09	mg/kg-day	--	--	--	--	1.49E-07	mg/kg-day	6.00E-03	mg/kg-day	2.49E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	7.85E-09	mg/kg-day	--	--	--	--	2.75E-07	mg/kg-day	6.00E-03	mg/kg-day	4.58E-05				
				Endrin aldehyde	6.30E-02	mg/kg	1.15E-08	mg/kg-day	--	--	--	--	4.03E-07	mg/kg-day	3.00E-04	mg/kg-day	1.34E-03				
				Endrin Ketone	1.00E-02	mg/kg	1.83E-09	mg/kg-day	--	--	--	--	6.39E-08	mg/kg-day	3.00E-04	mg/kg-day	2.13E-04				
				Fluoranthene	2.23E+01	mg/kg	4.06E-06	mg/kg-day	--	--	--	--	1.42E-04	mg/kg-day	4.00E-02	mg/kg-day	3.56E-03				
				Fluorene	2.53E+00	mg/kg	4.62E-07	mg/kg-day	--	--	--	--	1.62E-05	mg/kg-day	4.00E-02	mg/kg-day	4.04E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.75E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	6.17E-10	1.66E-08	mg/kg-day	3.00E-04	mg/kg-day	5.54E-05					
				gamma-Chlordane	1.27E-02	mg/kg	2.32E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	8.12E-10	8.12E-08	mg/kg-day	5.00E-04	mg/kg-day	1.62E-04					
				Heptachlor	6.90E-03	mg/kg	1.26E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	5.67E-09	4.41E-08	mg/kg-day	5.00E-04	mg/kg-day	8.82E-05					
				Heptachlor Epoxide	9.86E-03	mg/kg	1.80E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.64E-08	6.30E-08	mg/kg-day	1.30E-05	mg/kg-day	4.85E-03					
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	9.08E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.63E-08	3.18E-06	mg/kg-day	--	--	--					
				Iron	3.68E+04	mg/kg	6.71E-03	mg/kg-day	--	--	--	--	2.35E-01	mg/kg-day	3.00E-01	mg/kg-day	7.83E-01				
				Isophorone	2.00E-01	mg/kg	3.65E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.47E-11	1.28E-06	mg/kg-day	2.00E-01	mg/kg-day	6.39E-06					
				Lead	2.39E+03	mg/kg	4.36E-04	mg/kg-day	--	--	--	--	1.53E-02	mg/kg-day	--	--	--				
				Manganese	3.04E+02	mg/kg	5.56E-05	mg/kg-day	--	--	--	--	1.95E-03	mg/kg-day	2.40E-02	mg/kg-day	8.11E-02				
				Mercury	2.65E-01	mg/kg	4.85E-08	mg/kg-day	--	--	--	--	1.70E-06	mg/kg-day	3.00E-04	mg/kg-day	5.65E-03				
				Methoxychlor	1.20E-01	mg/kg	2.19E-08	mg/kg-day	--	--	--	--	7.67E-07	mg/kg-day	5.00E-03	mg/kg-day	1.53E-04				
				Methylene chloride	2.40E-03	mg/kg	4.38E-10	mg/kg-day	7.50E-03	(mg/kg-day)-1	3.29E-12	1.53E-08	mg/kg-day	6.00E-02	mg/kg-day	2.56E-07					
				Molybdenum	2.18E+00	mg/kg	3.98E-07	mg/kg-day	--	--	--	--	1.39E-05	mg/kg-day	5.00E-03	mg/kg-day	2.79E-03				
				Naphthalene	1.30E+01	mg/kg	2.37E-06	mg/kg-day	--	--	--	--	8.31E-05	mg/kg-day	2.00E-02	mg/kg-day	4.16E-03				
				Nickel	3.89E+01	mg/kg	7.11E-06	mg/kg-day	--	--	--	--	2.49E-04	mg/kg-day	2.00E-02	mg/kg-day	1.24E-02				
				Phenanthrene	1.17E+01	mg/kg	2.13E-06	mg/kg-day	--	--	--	--	7.47E-05	mg/kg-day	3.00E-01	mg/kg-day	2.49E-04				
				Phenol	5.80E-01	mg/kg	1.06E-07	mg/kg-day	--	--	--	--	3.71E-06	mg/kg-day	3.00E-01	mg/kg-day	1.24E-05				
				p-Isopropyltoluene	1.10E-01	mg/kg	2.01E-08	mg/kg-day	--	--	--	--	7.03E-07	mg/kg-day	1.00E-01	mg/kg-day	7.03E-06				
				Pyrene	2.03E+01	mg/kg	3.72E-06	mg/kg-day	--	--	--	--	1.30E-04	mg/kg-day	3.00E-02	mg/kg-day	4.33E-03				
				sec-Butylbenzene	7.10E-02	mg/kg	1.30E-08	mg/kg-day	--	--	--	--	4.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.13E-05				
				Selenium	2.84E-01	mg/kg	5.18E-08	mg/kg-day	--	--	--	--	1.81E-06	mg/kg-day	5.00E-03	mg/kg-day	3.63E-04				
				Silver	9.80E-01	mg/kg	1.79E-07	mg/kg-day	--	--	--	--	6.26E-06	mg/kg-day	5.00E-03	mg/kg-day	1.25E-03				
				Technical Chlordane	5.41E-01	mg/kg	9.88E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.46E-08	3.46E-06	mg/kg-day	5.00E-04	mg/kg-day	6.91E-03					
				Thallium	4.83E-01	mg/kg	8.81E-08	mg/kg-day	--	--	--	--	3.09E-06	mg/kg-day	6.00E-05	mg/kg-day	4.67E-02				
				Toluene	4.30E-04	mg/kg	7.85E-11	mg/kg-day	--	--	--	--	2.75E-09	mg/kg-day	8.00E-02	mg/kg-day	3.44E-08				
				Vanadium	3.37E+01	mg/kg	6.15E-06	mg/kg-day	--	--	--	--	2.15E-04	mg/kg-day	1.00E-03	mg/kg-day	2.15E-01				
				Zinc	3.32E+02	mg/kg	6.06E-05	mg/kg-day	--	--	--	--	2.12E-03	mg/kg-day	3.00E-01	mg/kg-day	7.07E-03				
				<b>Exposure Route Total</b>																	
							Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.07E-08	mg/kg-day	--	--	--	--	1.07E-08	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.04E-08	mg/kg-day	--	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.02E-09	mg/kg-day	--	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07
								1,2-Dichlorobenzene	2.60E-01	mg/kg	5.32E-08	mg/kg-day	--	--	--	--	1.86E-06	mg/kg-day	9.00E-02	mg/kg-day	2.07E-05
				1,2-Dichloropropane	3.60E-03	mg/kg	7.36E-12	mg/kg-day	6.80E-02	(mg/kg-day)-1	5.01E-13	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07					
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	3.27E-10	mg/kg-day	--	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07				
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.25E-09	mg/kg-day	--	--	--	--	7.88E-08	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06				
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
				2,4-Dimethylphenol	2.10E-01	mg/kg	4.30E-10	mg/kg-day	--	--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07				
				2-Methylphenol	8.10E-02	mg/kg	1.69E-09	mg/kg-day	--	--	--	--	5.80E-08	mg/kg-day	5.00E-02	mg/kg-day	1.16E-06				
				2-Methylnaphthalene	1.45E+00	mg/kg	2.96E-09	mg/kg-day	--	--	--	--	1.04E-07	mg/kg-day	4.00E-03	mg/kg-day	2.59E-05				
				4,4'-DDD	1.20E-03	mg/kg	2.45E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	5.89E-13	8.59E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07					
				4,4'-DDE	7.50E-02	mg/kg	1.53E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.22E-11	5.37E-09	mg/kg-day	5.00E-04	mg/kg-day	1.07E-05					
				4,4'-DDT	4.20E-02	mg/kg	2.58E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	8.76E-11	9.02E-09	mg/kg-day	5.00E-04	mg/kg-day	1.80E-05					
				4-Methylphenol	2.70E-01	mg/kg	5.52E-09	mg/kg-day	--	--	--	--	1.93E-07	mg/kg-day	5.00E-03	mg/kg-day	3.87E-05				

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Dermal	4-Nitroaniline	6.20E-01	mg/kg	1.27E-08	mg/kg-day	2.10E-02	--	2.66E-10	4.44E-07	mg/kg-day	3.00E-03	mg/kg-day	1.48E-04
(continued)	(continued)	(continued)	(continued)	4-Nitrophenol	4.20E-01	mg/kg	8.59E-09	mg/kg-day	2.10E-02	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	3.47E+00	mg/kg	9.23E-08	mg/kg-day	--	--	--	3.23E-06	mg/kg-day	6.00E-02	mg/kg-day	5.39E-05
				Acenaphthylene	8.96E-02	mg/kg	1.83E-10	mg/kg-day	--	--	--	6.41E-09	mg/kg-day	6.00E-02	mg/kg-day	1.07E-07
				Aldrin	1.30E-02	mg/kg	2.66E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.52E-09	9.31E-09	mg/kg-day	3.00E-05	mg/kg-day	3.10E-04
				alpha-BHC	7.30E-04	mg/kg	1.49E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	9.41E-12	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	1.85E-06	mg/kg-day	--	--	--	6.48E-05	mg/kg-day	1.00E+00	mg/kg-day	6.48E-05
				Anthracene	9.13E-01	mg/kg	2.43E-08	mg/kg-day	--	--	--	8.50E-07	mg/kg-day	3.00E-01	mg/kg-day	2.83E-06
				Antimony	2.72E+00	mg/kg	5.57E-10	mg/kg-day	--	--	--	1.95E-08	mg/kg-day	4.00E-04	mg/kg-day	4.88E-05
				Aroclor-1248	1.20E+00	mg/kg	3.44E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.87E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02
				Aroclor-1254	4.38E-01	mg/kg	1.25E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.51E-08	4.39E-07	mg/kg-day	2.00E-05	mg/kg-day	2.19E-02
				Aroclor-1260	4.88E-01	mg/kg	1.40E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.80E-08	4.89E-07	mg/kg-day	2.00E-05	mg/kg-day	2.45E-02
				Aroclor-1268	2.72E-02	mg/kg	7.78E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.56E-09	2.72E-08	mg/kg-day	2.00E-05	mg/kg-day	1.36E-03
				Arsenic	9.53E+00	mg/kg	5.85E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	8.78E-08	2.05E-06	mg/kg-day	3.00E-04	mg/kg-day	6.83E-03
				Barium	6.94E+01	mg/kg	1.42E-08	mg/kg-day	--	--	--	4.97E-07	mg/kg-day	7.00E-02	mg/kg-day	7.10E-06
				Benzo(a)anthracene	4.21E+00	mg/kg	1.12E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.18E-08	3.92E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	3.74E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.73E-07	1.31E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	6.31E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.61E-08	2.21E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.72E-08	mg/kg-day	--	--	--	6.03E-07	mg/kg-day	3.00E-02	mg/kg-day	2.01E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	7.51E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	5.48E-09	2.63E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	4.66E-11	mg/kg-day	--	--	--	1.63E-09	mg/kg-day	2.00E-03	mg/kg-day	8.15E-07
				Beta-BHC	2.20E-03	mg/kg	4.50E-12	mg/kg-day	1.80E+00	(mg/kg-day)-1	8.10E-12	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.08E-08	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.52E-10	3.79E-07	mg/kg-day	2.00E-02	mg/kg-day	1.90E-05
				Cadmium	8.65E+00	mg/kg	1.77E-09	mg/kg-day	--	--	--	6.19E-08	mg/kg-day	5.00E-04	mg/kg-day	1.24E-04
				Carbon disulfide	2.40E-04	mg/kg	1.23E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09
				Chlorobenzene	1.10E-01	mg/kg	2.25E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07
				Chromium	1.00E+02	mg/kg	2.04E-08	mg/kg-day	--	--	--	7.16E-07	mg/kg-day	1.50E+00	mg/kg-day	4.77E-07
				Chrysene	4.80E+00	mg/kg	1.28E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	9.31E-10	4.46E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.52E-09	mg/kg-day	--	--	--	5.33E-08	mg/kg-day	2.00E-02	mg/kg-day	2.66E-06
				Copper	6.01E+01	mg/kg	1.23E-08	mg/kg-day	--	--	--	4.30E-07	mg/kg-day	3.70E-02	mg/kg-day	1.16E-05
				Delta-BHC	8.40E-03	mg/kg	8.59E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.55E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.50E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	7.33E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.35E-08	2.57E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.68E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04
				Dieldrin	4.89E-02	mg/kg	1.00E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.60E-09	3.50E-09	mg/kg-day	5.00E-05	mg/kg-day	7.01E-05
				Dimethylphthalate	3.80E-02	mg/kg	7.77E-11	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	1.00E+01	mg/kg-day	2.72E-10
				di-n-Butylphthalate	2.30E+00	mg/kg	4.71E-09	mg/kg-day	--	--	--	1.65E-07	mg/kg-day	1.00E-01	mg/kg-day	1.65E-06
				Endosulfan I	2.30E-02	mg/kg	2.35E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06
				Endosulfan II	2.34E-02	mg/kg	2.39E-10	mg/kg-day	--	--	--	8.37E-09	mg/kg-day	6.00E-03	mg/kg-day	1.39E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	4.40E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-06
				Endrin aldehyde	6.30E-02	mg/kg	6.44E-10	mg/kg-day	--	--	--	2.26E-08	mg/kg-day	3.00E-04	mg/kg-day	7.52E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	5.92E-07	mg/kg-day	--	--	--	2.07E-05	mg/kg-day	4.00E-02	mg/kg-day	5.18E-04
				Fluorene	2.53E+00	mg/kg	6.72E-08	mg/kg-day	--	--	--	2.35E-06	mg/kg-day	4.00E-02	mg/kg-day	5.88E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.13E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.77E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.41E-11	mg/kg-day	4.50E+00	(mg/kg-day)-1	6.95E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07
				Heptachlor Epoxide	9.86E-03	mg/kg	2.02E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.84E-10	7.06E-10	mg/kg-day	1.30E-05	mg/kg-day	5.43E-05
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.32E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	9.65E-09	4.63E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	7.52E-06	mg/kg-day	--	--	--	2.63E-04	mg/kg-day	3.00E-01	mg/kg-day	8.77E-04
				Isophorone	2.00E-01	mg/kg	4.09E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.89E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	4.89E-07	mg/kg-day	--	--	--	--	1.71E-05	mg/kg-day	--	--	--			
				Manganese	3.04E+02	mg/kg	6.23E-08	mg/kg-day	--	--	--	--	2.18E-06	mg/kg-day	2.40E-02	mg/kg-day	9.08E-05			
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--			
				Methoxychlor	1.20E-01	mg/kg	2.45E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06			
				Methylene chloride	2.40E-03	mg/kg	4.91E-12	mg/kg-day	7.50E-03	(mg/kg-day) <sup>-1</sup>	3.68E-14	--	1.72E-10	mg/kg-day	6.00E-02	mg/kg-day	2.86E-09			
				Molybdenum	2.18E+00	mg/kg	4.46E-10	mg/kg-day	--	--	--	--	1.56E-08	mg/kg-day	5.00E-03	mg/kg-day	3.12E-06			
				Naphthalene	1.30E+01	mg/kg	3.46E-07	mg/kg-day	--	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04			
				Nickel	3.89E+01	mg/kg	7.97E-09	mg/kg-day	--	--	--	--	2.79E-07	mg/kg-day	2.00E-02	mg/kg-day	1.39E-05			
				Phenanthrene	1.17E+01	mg/kg	2.39E-08	mg/kg-day	--	--	--	--	8.36E-07	mg/kg-day	3.00E-01	mg/kg-day	2.79E-06			
				Phenol	5.80E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06			
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--			
				Pyrene	2.03E+01	mg/kg	5.41E-07	mg/kg-day	--	--	--	--	1.89E-05	mg/kg-day	3.00E-02	mg/kg-day	6.31E-04			
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--			
				Selenium	2.84E-01	mg/kg	5.80E-11	mg/kg-day	--	--	--	--	2.03E-09	mg/kg-day	5.00E-03	mg/kg-day	4.06E-07			
				Silver	9.80E-01	mg/kg	2.00E-10	mg/kg-day	--	--	--	--	7.02E-09	mg/kg-day	5.00E-03	mg/kg-day	1.40E-06			
				Technical Chlordane	5.41E-01	mg/kg	4.43E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.55E-09	--	1.55E-07	mg/kg-day	5.00E-04	mg/kg-day	3.10E-04			
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--			
				Toluene	4.30E-04	mg/kg	8.80E-13	mg/kg-day	--	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.65E-10			
				Vanadium	3.37E+01	mg/kg	6.89E-09	mg/kg-day	--	--	--	--	2.41E-07	mg/kg-day	1.00E-03	mg/kg-day	2.41E-04			
				Zinc	3.32E+02	mg/kg	6.79E-08	mg/kg-day	--	--	--	--	2.38E-06	mg/kg-day	3.00E-01	mg/kg-day	7.92E-06			
				Exposure Point Total							6.90E-07					1.20E-01				
				Exposure Route Total							7.62E-06					2.50E+00				
				Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--	
						1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--	
						1,2,4-Trimethylbenzene	5.00E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--	
						1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--	
						1,3-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--	
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--					
1,3-Dichlorobenzene	1.10E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--					
1,4-Dichlorobenzene	6.80E+00	mg/kg	--			mg/kg-day	2.40E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--					
2,4-Dimethylphenol	2.10E-01	mg/kg	9.99E-07			mg/kg-day	--	--	--	--	3.50E-05	mg/kg-day	2.00E-02	mg/kg-day	1.75E-03					
2-Methylphenol	8.10E-02	mg/kg	9.17E-07			mg/kg-day	--	--	--	--	3.21E-05	mg/kg-day	5.00E-02	mg/kg-day	6.42E-04					
2-Methylnaphthalene	1.45E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-03	mg/kg-day	--					
4,4'-DDD	1.20E-03	mg/kg	9.73E-12			mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	2.33E-12	--	3.40E-10	mg/kg-day	5.00E-04	mg/kg-day	6.81E-07					
4,4'-DDE	7.50E-02	mg/kg	4.40E-10			mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.50E-10	--	1.54E-08	mg/kg-day	5.00E-04	mg/kg-day	3.08E-05					
4,4'-DDT	4.20E-02	mg/kg	1.06E-09			mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.61E-10	--	3.72E-08	mg/kg-day	5.00E-04	mg/kg-day	7.44E-05					
4-Methylphenol	2.70E-01	mg/kg	3.14E-06			mg/kg-day	--	--	--	--	1.10E-04	mg/kg-day	5.00E-03	mg/kg-day	2.20E-02					
4-Nitroaniline	6.20E-01	mg/kg	4.94E-06			mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.04E-07	--	1.73E-04	mg/kg-day	3.00E-03	mg/kg-day	5.76E-02					
4-Nitrophenol	4.20E-01	mg/kg	5.02E-06			mg/kg-day	--	--	--	--	1.76E-04	mg/kg-day	5.00E-04	mg/kg-day	3.51E-01					
Acenaphthene	3.47E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--					
Acenaphthylene	8.96E-02	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--					
Aldrin	1.30E-02	mg/kg	1.72E-10			mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	2.93E-09	--	6.03E-09	mg/kg-day	3.00E-05	mg/kg-day	2.01E-04					
alpha-BHC	7.30E-04	mg/kg	2.09E-09			mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.32E-08	--	7.31E-08	mg/kg-day	5.00E-04	mg/kg-day	1.46E-04					
alpha-Chlordane	6.98E-03	mg/kg	2.03E-10			mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	7.11E-11	--	7.11E-09	mg/kg-day	5.00E-04	mg/kg-day	1.42E-05					
Aluminum	9.05E+03	mg/kg	3.59E-05			mg/kg-day	--	--	--	--	1.26E-03	mg/kg-day	1.00E+00	mg/kg-day	1.26E-03					
Anthracene	9.13E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--					
Antimony	2.72E+00	mg/kg	4.99E-07			mg/kg-day	--	--	--	--	1.75E-05	mg/kg-day	4.00E-04	mg/kg-day	4.36E-02					
Aroclor-1248	1.20E+00	mg/kg	9.75E-09			mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.95E-08	--	3.41E-07	mg/kg-day	2.00E-05	mg/kg-day	1.71E-02					
Aroclor-1254	4.38E-01	mg/kg	4.76E-08			mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	9.52E-08	--	1.67E-06	mg/kg-day	2.00E-05	mg/kg-day	8.33E-02					
Aroclor-1260	4.88E-01	mg/kg	1.90E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.80E-09	--	6.65E-08	mg/kg-day	2.00E-05	mg/kg-day	3.32E-03							
Aroclor-1268	2.72E-02	mg/kg	2.96E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	5.91E-09	--	1.03E-07	mg/kg-day	2.00E-05	mg/kg-day	5.17E-03							

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	3.49E-07	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	5.24E-07	1.22E-05	mg/kg-day	3.00E-04	mg/kg-day	4.07E-02
				Barium	6.94E+01	mg/kg	6.36E-06	mg/kg-day	--	--	--	2.22E-04	mg/kg-day	7.00E-02	mg/kg-day	3.18E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	8.60E-09	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.81E-09	2.31E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.25E-09	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	9.12E-09	4.37E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	2.11E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.54E-08	7.38E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	4.39E-09	mg/kg-day	--	--	--	1.54E-07	mg/kg-day	3.00E-02	mg/kg-day	5.12E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	2.51E-08	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	1.83E-09	8.78E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	2.08E-09	mg/kg-day	--	--	--	7.30E-08	mg/kg-day	2.00E-03	mg/kg-day	3.65E-05
				Beta-BHC	2.20E-03	mg/kg	6.30E-09	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	1.13E-08	2.20E-07	mg/kg-day	2.00E-04	mg/kg-day	1.10E-03
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.12E-05	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.56E-07	3.91E-04	mg/kg-day	2.00E-02	mg/kg-day	1.95E-02
				Cadmium	8.65E+00	mg/kg	7.92E-06	mg/kg-day	--	--	--	2.77E-04	mg/kg-day	5.00E-04	mg/kg-day	5.54E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	2.74E-06	mg/kg-day	--	--	--	--	mg/kg-day	1.50E+00	mg/kg-day	6.40E-05
				Chrysene	4.80E+00	mg/kg	5.27E-08	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	3.85E-10	1.84E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	3.18E-07	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	2.00E-02	mg/kg-day	5.56E-04
				Copper	6.01E+01	mg/kg	9.16E-05	mg/kg-day	--	--	--	3.21E-03	mg/kg-day	3.70E-02	mg/kg-day	8.67E-02
				Delta-BHC	8.40E-03	mg/kg	1.96E-10	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	3.53E-10	6.86E-09	mg/kg-day	2.00E-04	mg/kg-day	3.43E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.51E-09	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.10E-08	5.30E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	1.58E-07	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.53E-08	5.54E-06	mg/kg-day	5.00E-05	mg/kg-day	1.11E-01
				Dimethylphthalate	3.80E-02	mg/kg	3.45E-07	mg/kg-day	--	--	--	1.21E-05	mg/kg-day	1.00E+01	mg/kg-day	1.21E-06
				di-n-Butylphthalate	2.30E+00	mg/kg	2.92E-08	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	1.00E-01	mg/kg-day	1.02E-05
				Endosulfan I	2.30E-02	mg/kg	6.29E-08	mg/kg-day	--	--	--	2.20E-06	mg/kg-day	6.00E-03	mg/kg-day	3.67E-04
				Endosulfan II	2.34E-02	mg/kg	6.12E-08	mg/kg-day	--	--	--	2.14E-06	mg/kg-day	6.00E-03	mg/kg-day	3.57E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.10E-07	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	6.00E-03	mg/kg-day	6.42E-04
				Endrin aldehyde	6.30E-02	mg/kg	6.37E-10	mg/kg-day	--	--	--	2.23E-08	mg/kg-day	3.00E-04	mg/kg-day	7.44E-05
				Endrin Ketone	1.00E-02	mg/kg	1.01E-10	mg/kg-day	--	--	--	3.54E-09	mg/kg-day	3.00E-04	mg/kg-day	1.18E-05
				Fluoranthene	2.23E+01	mg/kg	3.67E-07	mg/kg-day	--	--	--	1.28E-05	mg/kg-day	4.00E-02	mg/kg-day	3.21E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.62E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	3.40E-08	9.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.06E-03
				gamma-Chlordane	1.27E-02	mg/kg	3.70E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.29E-10	1.29E-08	mg/kg-day	5.00E-04	mg/kg-day	2.59E-05
				Heptachlor	6.90E-03	mg/kg	1.49E-10	mg/kg-day	4.50E+00	(mg/kg-day) <sup>-1</sup>	6.72E-10	5.23E-09	mg/kg-day	5.00E-04	mg/kg-day	1.05E-05
				Heptachlor Epoxide	9.86E-03	mg/kg	6.94E-08	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	6.32E-07	2.43E-06	mg/kg-day	1.30E-05	mg/kg-day	1.87E-01
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	3.31E-09	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	2.41E-09	1.16E-07	mg/kg-day	--	--	--
Iron	3.68E+04	mg/kg	2.23E-04	mg/kg-day	--	--	--	7.61E-03	mg/kg-day	3.00E-01	mg/kg-day	2.60E-02				
Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	2.00E-01	mg/kg-day	--				
Lead	2.39E+03	mg/kg	1.31E-04	mg/kg-day	--	--	--	4.59E-03	mg/kg-day	--	--	--				
Manganese	3.04E+02	mg/kg	9.29E-05	mg/kg-day	--	--	--	3.25E-03	mg/kg-day	2.40E-02	mg/kg-day	1.35E-01				
Mercury	2.65E-01	mg/kg	3.24E-07	mg/kg-day	--	--	--	1.13E-05	mg/kg-day	3.00E-04	mg/kg-day	3.78E-02				
Methoxychlor	1.20E-01	mg/kg	6.34E-10	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.00E-03	mg/kg-day	4.44E-06				
Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	7.50E-03	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	6.00E-02	mg/kg-day	--				
Molybdenum	2.18E+00	mg/kg	7.98E-07	mg/kg-day	--	--	--	2.79E-05	mg/kg-day	5.00E-03	mg/kg-day	5.59E-03				
Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--				
Nickel	3.89E+01	mg/kg	1.43E-05	mg/kg-day	--	--	--	4.99E-04	mg/kg-day	2.00E-02	mg/kg-day	2.50E-02				
Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	1.75E-05	mg/kg-day	--	--	--	6.11E-04	mg/kg-day	3.00E-01	mg/kg-day	2.04E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.84E-01	mg/kg	4.33E-08	mg/kg-day	--	--	--	1.51E-06	mg/kg-day	5.00E-03	mg/kg-day	3.03E-04				

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	5.98E-07	mg/kg-day	--	--	--	2.09E-05	mg/kg-day	5.00E-03	mg/kg-day	4.19E-03				
				Technical Chlordane	5.41E-01	mg/kg	1.57E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.51E-09	5.51E-07	mg/kg-day	5.00E-04	mg/kg-day	1.10E-03				
				Thallium	4.83E-01	mg/kg	1.18E-09	mg/kg-day	--	--	--	4.12E-08	mg/kg-day	6.60E-05	mg/kg-day	6.25E-04				
				Toluene	4.30E-04	mg/kg	--	--	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--				
				Vanadium	3.37E+01	mg/kg	6.17E-07	mg/kg-day	--	--	--	2.16E-05	mg/kg-day	1.00E-03	mg/kg-day	2.16E-02				
				Zinc	3.32E+02	mg/kg	1.82E-03	mg/kg-day	--	--	--	6.38E-02	mg/kg-day	3.00E-01	mg/kg-day	2.13E-01				
				Exposure Route Total															2.07E+00	
				Exposure Point Total																2.07E+00
				Exposure Medium Total																4.57E+00
				Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.30E-12	mg/kg-day	--	--	--	8.05E-11	mg/kg-day	2.00E-02	mg/kg-day	4.03E-09	
2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	8.88E-13				mg/kg-day	--	--	--	3.11E-11	mg/kg-day	--	--	--					
4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.32E-14				mg/kg-day	2.40E-01	(mg/kg-day)-1	3.16E-15	4.60E-13	mg/kg-day	5.00E-04	mg/kg-day	9.21E-10					
4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	4.60E-13				mg/kg-day	3.40E-01	(mg/kg-day)-1	1.56E-13	1.61E-11	mg/kg-day	5.00E-04	mg/kg-day	3.22E-08					
4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	2.96E-12				mg/kg-day	--	--	--	1.04E-10	mg/kg-day	5.00E-03	mg/kg-day	2.07E-08					
4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	6.79E-12				mg/kg-day	2.10E-02	(mg/kg-day)-1	1.43E-13	2.38E-10	mg/kg-day	1.00E-03	mg/kg-day	2.38E-07					
4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	4.60E-12				mg/kg-day	--	--	--	1.61E-10	mg/kg-day	5.70E-04	mg/kg-day	2.83E-07					
Aluminum	6.86E-06	mg/m <sup>3</sup>	9.92E-08				mg/kg-day	--	--	--	3.47E-06	mg/kg-day	1.43E-03	mg/kg-day	2.43E-03					
Antimony	2.06E-09	mg/m <sup>3</sup>	2.98E-11				mg/kg-day	--	--	--	1.04E-09	mg/kg-day	--	--	--					
Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.32E-11				mg/kg-day	2.00E+00	(mg/kg-day)-1	2.63E-11	4.60E-10	mg/kg-day	2.00E-05	mg/kg-day	2.30E-05					
Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	4.80E-12				mg/kg-day	2.00E+00	(mg/kg-day)-1	9.59E-12	1.68E-10	mg/kg-day	2.00E-05	mg/kg-day	8.39E-06					
Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	5.35E-12				mg/kg-day	2.00E+00	(mg/kg-day)-1	1.07E-11	1.87E-10	mg/kg-day	2.00E-05	mg/kg-day	9.36E-06					
Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	2.98E-13				mg/kg-day	2.00E+00	(mg/kg-day)-1	5.96E-13	1.04E-11	mg/kg-day	2.00E-05	mg/kg-day	5.21E-07					
Arsenic	7.22E-09	mg/m <sup>3</sup>	1.04E-10				mg/kg-day	1.50E+01	(mg/kg-day)-1	1.57E-09	3.66E-09	mg/kg-day	--	--	--					
Barium	5.26E-08	mg/m <sup>3</sup>	7.61E-10				mg/kg-day	--	--	--	2.66E-08	mg/kg-day	1.40E-04	mg/kg-day	1.90E-04					
Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	4.62E-11				mg/kg-day	7.30E-01	(mg/kg-day)-1	3.37E-11	1.62E-09	mg/kg-day	--	--	--					
Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	1.54E-11				mg/kg-day	7.30E+00	(mg/kg-day)-1	1.12E-10	5.39E-10	mg/kg-day	--	--	--					
Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	7.10E-12				mg/kg-day	--	--	--	2.48E-10	mg/kg-day	3.00E-02	mg/kg-day	8.28E-09					
Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	3.10E-11				mg/kg-day	7.30E-02	(mg/kg-day)-1	2.26E-12	1.08E-09	mg/kg-day	--	--	--					
Beryllium	1.73E-10	mg/m <sup>3</sup>	2.50E-12				mg/kg-day	8.40E+00	(mg/kg-day)-1	2.10E-11	8.74E-11	mg/kg-day	5.71E-06	mg/kg-day	1.53E-05					
Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.41E-14				mg/kg-day	1.86E+00	(mg/kg-day)-1	4.47E-14	8.44E-13	mg/kg-day	2.00E-04	mg/kg-day	4.22E-09					
bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	5.80E-11				mg/kg-day	1.40E-02	(mg/kg-day)-1	8.12E-13	2.03E-09	mg/kg-day	2.00E-02	mg/kg-day	1.02E-07					
Cadmium	6.55E-09	mg/m <sup>3</sup>	9.48E-11				mg/kg-day	6.30E+00	(mg/kg-day)-1	5.97E-10	3.32E-09	mg/kg-day	--	--	--					
Chromium	7.57E-08	mg/m <sup>3</sup>	1.10E-09				mg/kg-day	--	--	--	3.83E-08	mg/kg-day	--	--	--					
Cobalt	5.64E-09	mg/m <sup>3</sup>	8.16E-11				mg/kg-day	9.80E+00	(mg/kg-day)-1	7.99E-10	2.86E-09	mg/kg-day	5.71E-06	mg/kg-day	5.00E-04					
Copper	4.55E-08	mg/m <sup>3</sup>	6.58E-10				mg/kg-day	--	--	--	2.30E-08	mg/kg-day	--	--	--					
Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	3.02E-12				mg/kg-day	7.30E+00	(mg/kg-day)-1	2.21E-11	1.06E-10	mg/kg-day	--	--	--					
Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.16E-13				mg/kg-day	--	--	--	1.46E-11	mg/kg-day	1.00E+01	mg/kg-day	1.46E-12					
di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	2.52E-11				mg/kg-day	--	--	--	8.82E-10	mg/kg-day	1.00E-01	mg/kg-day	8.82E-09					
Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	6.90E-13				mg/kg-day	--	--	--	2.42E-11	mg/kg-day	3.00E-04	mg/kg-day	8.05E-08					
Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.10E-13				mg/kg-day	--	--	--	3.84E-12	mg/kg-day	3.00E-04	mg/kg-day	1.28E-08					
Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	1.08E-13				mg/kg-day	9.10E+00	(mg/kg-day)-1	9.83E-13	3.78E-12	mg/kg-day	1.30E-05	mg/kg-day	2.91E-07					
Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	5.45E-12				mg/kg-day	7.30E-01	(mg/kg-day)-1	3.98E-12	1.91E-10	mg/kg-day	--	--	--					
Iron	2.79E-05	mg/m <sup>3</sup>	4.03E-07				mg/kg-day	--	--	--	1.41E-05	mg/kg-day	--	--	--					
Isophorone	1.52E-10	mg/m <sup>3</sup>	2.18E-12				mg/kg-day	9.50E-04	(mg/kg-day)-1	2.08E-15	7.67E-11	mg/kg-day	2.00E-01	mg/kg-day	3.84E-10					
Lead	1.81E-06	mg/m <sup>3</sup>	2.62E-08				mg/kg-day	--	--	--	9.17E-07	mg/kg-day	--	--	--					
Manganese	2.31E-07	mg/m <sup>3</sup>	3.34E-09				mg/kg-day	--	--	--	1.17E-07	mg/kg-day	1.43E-05	mg/kg-day	8.17E-03					
Mercury	2.01E-10	mg/m <sup>3</sup>	2.91E-12				mg/kg-day	--	--	--	1.02E-10	mg/kg-day	8.60E-05	mg/kg-day	1.18E-06					
Nickel	2.95E-08	mg/m <sup>3</sup>	4.27E-10				mg/kg-day	--	--	--	1.49E-08	mg/kg-day	--	--	--					
Phenol	4.39E-10	mg/m <sup>3</sup>	6.36E-12				mg/kg-day	--	--	--	2.22E-10	mg/kg-day	3.00E-01	mg/kg-day	7.42E-10					
Selenium	2.15E-10	mg/m <sup>3</sup>	3.11E-12	mg/kg-day	--	--	--	1.09E-10	mg/kg-day	--	--	--								
Silver	7.42E-10	mg/m <sup>3</sup>	1.07E-11	mg/kg-day	--	--	--	3.76E-10	mg/kg-day	--	--	--								

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.66E-10	mg/m <sup>3</sup>	5.29E-12	mg/kg-day	--	--	--	1.85E-10	mg/kg-day	--	--	--
			Vanadium	2.55E-08	mg/m <sup>3</sup>	3.69E-10	mg/kg-day	--	--	--	1.29E-08	mg/kg-day	--	--	--	
			Zinc	2.51E-07	mg/m <sup>3</sup>	3.64E-09	mg/kg-day	--	--	--	1.27E-07	mg/kg-day	--	--	--	
Exposure Route Total							3.21E-09					1.13E-02				
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.51E-06	mg/kg-day	--	--	--	5.29E-05	mg/kg-day	1.10E-03	mg/kg-day	4.81E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	5.14E-06	mg/kg-day	--	--	--	1.80E-04	mg/kg-day	1.10E-03	mg/kg-day	1.63E-01
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.70E-06	mg/kg-day	--	--	--	5.93E-05	mg/kg-day	1.71E-03	mg/kg-day	3.46E-02
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	7.70E-05	mg/kg-day	--	--	--	2.70E-03	mg/kg-day	5.70E-02	mg/kg-day	4.73E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.14E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.81E-09	1.45E-06	mg/kg-day	1.14E-03	mg/kg-day	1.27E-03
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	5.29E-07	mg/kg-day	--	--	--	1.85E-05	mg/kg-day	1.71E-03	mg/kg-day	1.08E-02
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.36E-06	mg/kg-day	--	--	--	8.25E-05	mg/kg-day	3.00E-02	mg/kg-day	2.75E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.26E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	4.97E-07	7.91E-04	mg/kg-day	2.30E-01	mg/kg-day	3.44E-03
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	9.28E-07	mg/kg-day	--	--	--	3.25E-05	mg/kg-day	5.00E-02	mg/kg-day	6.49E-04
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	4,4-DDE	8.84E-09	mg/m <sup>3</sup>	1.28E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.35E-11	4.47E-09	mg/kg-day	5.00E-04	mg/kg-day	8.95E-06
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	6.89E-07	mg/kg-day	--	--	--	2.41E-05	mg/kg-day	6.00E-02	mg/kg-day	4.02E-04
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	1.78E-08	mg/kg-day	--	--	--	6.23E-07	mg/kg-day	6.00E-02	mg/kg-day	1.04E-05
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	Aldrin	5.63E-09	mg/m <sup>3</sup>	8.15E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.39E-09	2.85E-09	mg/kg-day	3.00E-05	mg/kg-day	9.51E-05
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	5.26E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.32E-10	1.84E-09	mg/kg-day	5.00E-04	mg/kg-day	3.68E-06
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	1.00E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.50E-11	3.50E-09	mg/kg-day	2.00E-04	mg/kg-day	1.75E-05
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	Anthracene	1.25E-05	mg/m <sup>3</sup>	1.81E-07	mg/kg-day	--	--	--	6.35E-06	mg/kg-day	3.00E-01	mg/kg-day	2.12E-05
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	2.22E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.62E-08	7.77E-07	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	6.54E-09	mg/kg-day	--	--	--	2.29E-07	mg/kg-day	2.00E-01	mg/kg-day	1.15E-06
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	7.49E-07	mg/kg-day	--	--	--	2.62E-05	mg/kg-day	1.70E-02	mg/kg-day	1.54E-03
				Chrysene	5.27E-06	mg/m <sup>3</sup>	7.63E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	5.57E-10	2.67E-06	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	6.06E-10	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.12E-09	2.12E-08	mg/kg-day	2.00E-04	mg/kg-day	1.06E-04
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	6.49E-07	mg/kg-day	--	--	--	2.27E-05	mg/kg-day	2.00E-03	mg/kg-day	1.14E-02
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	9.52E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.52E-08	3.33E-08	mg/kg-day	5.00E-05	mg/kg-day	6.66E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.17E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	6.00E-03	mg/kg-day	6.80E-06
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	Endosulfan II	8.19E-08	mg/m <sup>3</sup>	1.18E-09	mg/kg-day	--	--	--	4.14E-08	mg/kg-day	6.00E-03	mg/kg-day	6.91E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.18E-09	mg/kg-day	--	--	--	7.63E-08	mg/kg-day	6.00E-03	mg/kg-day	1.27E-05
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	2.08E-07	mg/kg-day	--	--	--	7.28E-06	mg/kg-day	4.00E-02	mg/kg-day	1.82E-04
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	Fluorene	1.48E-05	mg/m <sup>3</sup>	2.14E-07	mg/kg-day	--	--	--	7.49E-06	mg/kg-day	4.00E-02	mg/kg-day	1.87E-04
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.31E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.00E-10	8.07E-09	mg/kg-day	3.00E-04	mg/kg-day	2.69E-05
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	1.82E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.36E-11	6.36E-09	mg/kg-day	2.00E-04	mg/kg-day	3.18E-05
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	Heptachlor	3.38E-07	mg/m <sup>3</sup>	4.89E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.22E-08	1.71E-07	mg/kg-day	5.00E-04	mg/kg-day	3.42E-04
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.25E-09	mg/kg-day	--	--	--	4.37E-08	mg/kg-day	5.00E-03	mg/kg-day	8.74E-06
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.01E-05	mg/kg-day	--	--	--	3.54E-04	mg/kg-day	8.57E-04	mg/kg-day	4.13E-01
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	Phenanthrene	1.60E-04	mg/m <sup>3</sup>	2.32E-06	mg/kg-day	--	--	--	8.12E-05	mg/kg-day	3.00E-01	mg/kg-day	2.71E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	2.77E-06	mg/kg-day	--	--	--	9.70E-05	mg/kg-day	1.10E-01	mg/kg-day	8.82E-04
				Pyrene	1.56E-05	mg/m <sup>3</sup>	2.25E-07	mg/kg-day	--	--	--	7.88E-06	mg/kg-day	3.00E-02	mg/kg-day	2.63E-04
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles)	sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.06E-07	mg/kg-day	--	--	--	1.42E-05	mg/kg-day	4.00E-02	mg/kg-day	3.55E-04
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	7.74E-09	mg/kg-day	3.50E-04	(mg/kg-day)-1	2.71E-12	2.71E-07	mg/kg-day	2.00E-04	mg/kg-day	1.36E-03
				Toluene	3.12E-07	mg/m <sup>3</sup>	4.52E-09	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	1.43E+00	mg/kg-day	1.11E-07
Exposure Route Total							5.58E-07					7.44E-01				
Exposure Point Total							5.81E-07					7.55E-01				
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	1.27E-04	mg/kg-day	--	--	--	4.46E-03	mg/kg-day	1.10E-03	mg/kg-day	4.05E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	4.33E-04	mg/kg-day	--	--	--	1.52E-02	mg/kg-day	1.10E-03	mg/kg-day	1.38E+01
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	4.25E-05	mg/kg-day	--	--	--	1.49E-03	mg/kg-day	1.71E-03	mg/kg-day	8.67E-01
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	2.21E-03	mg/kg-day	--	--	--	7.73E-02	mg/kg-day	5.70E-02	mg/kg-day	1.36E+00
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	3.06E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.08E-08	1.07E-05	mg/kg-day	1.14E-03	mg/kg-day	9.39E-03
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	1.36E-05	mg/kg-day	--	--	--	4.76E-04	mg/kg-day	1.71E-03	mg/kg-day	2.77E-01

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	9.34E-05	mg/kg-day	--	--	--	3.27E-03	mg/kg-day	3.00E-02	mg/kg-day	1.09E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	5.78E-04	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.27E-05	2.02E-02	mg/kg-day	2.30E-01	mg/kg-day	8.79E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	7.01E-05	mg/kg-day	--	--	--	2.46E-03	mg/kg-day	5.00E-02	mg/kg-day	4.91E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	8.78E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.98E-11	3.07E-09	mg/kg-day	5.00E-04	mg/kg-day	6.14E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	2.45E-05	mg/kg-day	--	--	--	8.57E-04	mg/kg-day	6.00E-02	mg/kg-day	1.43E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	6.33E-07	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	6.00E-02	mg/kg-day	3.69E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	2.33E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.96E-09	8.15E-09	mg/kg-day	3.00E-05	mg/kg-day	2.72E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.56E-09	mg/kg-day	6.30E+00	(mg/kg-day)-1	9.81E-09	5.45E-08	mg/kg-day	5.00E-04	mg/kg-day	1.09E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	7.85E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.75E-10	2.75E-08	mg/kg-day	2.00E-04	mg/kg-day	1.37E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	6.45E-06	mg/kg-day	--	--	--	2.26E-04	mg/kg-day	3.00E-01	mg/kg-day	7.52E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	4.56E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.33E-08	1.60E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.04E-08	mg/kg-day	--	--	--	7.14E-07	mg/kg-day	2.00E-01	mg/kg-day	3.57E-06
				Chlorobenzene	6.48E-01	(a) ug/m <sup>3</sup>	9.34E-08	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.70E-02	mg/kg-day	1.92E-02
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	2.57E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.88E-09	9.00E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	2.66E-08	mg/kg-day	1.86E+00	(mg/kg-day)-1	4.93E-08	9.31E-07	mg/kg-day	2.00E-04	mg/kg-day	4.66E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	3.43E-07	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	2.00E-03	mg/kg-day	6.00E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	7.59E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.21E-07	2.66E-07	mg/kg-day	5.00E-05	mg/kg-day	5.31E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	3.12E-08	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	6.00E-03	mg/kg-day	1.82E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	3.17E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	6.00E-03	mg/kg-day	1.65E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	5.83E-08	mg/kg-day	--	--	--	2.04E-06	mg/kg-day	6.00E-03	mg/kg-day	3.40E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	7.10E-08	mg/kg-day	--	--	--	2.48E-06	mg/kg-day	4.00E-02	mg/kg-day	6.21E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	3.87E-06	mg/kg-day	--	--	--	1.36E-04	mg/kg-day	4.00E-02	mg/kg-day	3.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	8.23E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.07E-08	2.88E-07	mg/kg-day	3.00E-04	mg/kg-day	9.61E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	1.43E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.00E-12	5.00E-10	mg/kg-day	2.00E-04	mg/kg-day	2.50E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.57E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	7.15E-09	5.50E-08	mg/kg-day	5.00E-04	mg/kg-day	1.10E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	4.29E-09	mg/kg-day	--	--	--	1.50E-07	mg/kg-day	5.00E-03	mg/kg-day	3.00E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.04E-07	mg/kg-day	1.60E-03	(mg/kg-day)-1	3.26E-10	7.14E-06	mg/kg-day	8.57E-01	mg/kg-day	8.32E-06
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	9.10E-04	mg/kg-day	--	--	--	3.18E-02	mg/kg-day	8.57E-04	mg/kg-day	3.72E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	8.26E-05	mg/kg-day	--	--	--	2.89E-03	mg/kg-day	3.00E-01	mg/kg-day	9.64E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	9.34E-06	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.10E-01	mg/kg-day	2.97E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	5.75E-07	mg/kg-day	--	--	--	2.01E-05	mg/kg-day	3.00E-02	mg/kg-day	6.71E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	3.31E-06	mg/kg-day	--	--	--	1.16E-04	mg/kg-day	4.00E-02	mg/kg-day	2.90E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	6.08E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	2.13E-11	2.13E-06	mg/kg-day	2.00E-04	mg/kg-day	1.06E-02
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	3.65E-08	mg/kg-day	--	--	--	1.28E-06	mg/kg-day	1.43E+00	mg/kg-day	8.95E-07				
				Exposure Route Total							1.30E-05			5.78E+01		
				Exposure Point Total							1.30E-05			5.78E+01		
				Exposure Medium Total							1.35E-05			5.86E+01		
				Medium Total							2.53E-05			6.32E+01		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.12E-09	mg/kg-day	--	--	--	2.14E-07	mg/kg-day	1.40E-01	mg/kg-day	1.53E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.83E-09	mg/kg-day	--	--	--	6.39E-08	mg/kg-day	1.71E-03	mg/kg-day	3.73E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	4.19E-07	mg/kg-day	5.70E-02	mg/kg-day	7.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	8.61E-09	mg/kg-day	9.10E-02	--	7.83E-10	3.01E-07	mg/kg-day	1.40E-03	mg/kg-day	2.15E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.23E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.19E-10	1.13E-07	mg/kg-day	1.14E-03	mg/kg-day	9.91E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.04E-09	mg/kg-day	--	--	--	3.64E-08	mg/kg-day	1.71E-03	mg/kg-day	2.12E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.07E-09	mg/kg-day	2.20E-02	(mg/kg-day)-1	8.96E-11	1.43E-07	mg/kg-day	2.30E-01	mg/kg-day	6.20E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.57E-10	mg/kg-day	--	--	--	5.51E-09	mg/kg-day	1.43E+00	mg/kg-day	3.86E-09
				2-Methylnaphthalene	9.87E-10	mg/m <sup>3</sup>	1.40E-11	mg/kg-day	--	--	--	4.90E-10	mg/kg-day	5.00E-02	mg/kg-day	9.79E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.87E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.36E-12	6.55E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	5.85E-11	mg/kg-day	--	--	--	2.05E-09	mg/kg-day	8.60E-01	mg/kg-day	2.38E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	5.61E-10	mg/kg-day	--	--	--	1.96E-08	mg/kg-day	6.00E-02	mg/kg-day	3.27E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.39E-11	mg/kg-day	--	--	--	8.36E-10	mg/kg-day	6.00E-02	mg/kg-day	1.39E-08

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	3.23E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.50E-10	1.13E-09	mg/kg-day	3.00E-05	mg/kg-day	3.77E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.10E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.58E-11	1.43E-10	mg/kg-day	5.00E-04	mg/kg-day	2.87E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	9.69E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.39E-12	3.39E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	4.75E-11	mg/kg-day	--	--	--	1.66E-09	mg/kg-day	3.00E-01	mg/kg-day	5.54E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	3.77E-09	mg/kg-day	2.73E-02	(mg/kg-day)-1	1.03E-10	1.32E-07	mg/kg-day	8.60E-03	mg/kg-day	1.54E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.04E-12	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.14E-12	2.46E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.06E-10	mg/kg-day	3.85E-03	(mg/kg-day)-1	4.10E-13	3.73E-09	mg/kg-day	2.00E-02	mg/kg-day	1.86E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	6.52E-08	mg/kg-day	--	--	--	2.28E-08	mg/kg-day	2.00E-01	mg/kg-day	1.14E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	3.71E-08	mg/kg-day	1.70E-02	mg/kg-day	2.18E-06				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	2.99E-08	mg/kg-day	8.05E-02	(mg/kg-day)-1	2.41E-09	1.05E-08	mg/kg-day	1.40E-02	mg/kg-day	7.48E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.08E-08	mg/kg-day	--	--	--	3.79E-07	mg/kg-day	2.60E-02	mg/kg-day	1.46E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.90E-11	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.39E-13	6.66E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	7.67E-09	mg/kg-day	--	--	--	2.68E-07	mg/kg-day	1.00E-02	mg/kg-day	2.68E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.42E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.27E-10	4.97E-10	mg/kg-day	5.00E-05	mg/kg-day	9.95E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.24E-12	mg/kg-day	--	--	--	1.13E-10	mg/kg-day	6.00E-03	mg/kg-day	1.89E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.32E-15	mg/kg-day	--	--	--	1.86E-13	mg/kg-day	6.00E-03	mg/kg-day	3.11E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	2.89E-09	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	2.90E-01	mg/kg-day	3.48E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	7.31E-12	mg/kg-day	--	--	--	2.56E-10	mg/kg-day	4.00E-02	mg/kg-day	6.40E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.45E-11	mg/kg-day	--	--	--	5.06E-10	mg/kg-day	4.00E-02	mg/kg-day	1.27E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.80E-14	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.34E-14	6.29E-13	mg/kg-day	3.00E-04	mg/kg-day	2.10E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.52E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	8.81E-12	8.81E-10	mg/kg-day	2.00E-04	mg/kg-day	4.40E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	2.58E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	1.18E-09	9.04E-09	mg/kg-day	5.00E-04	mg/kg-day	1.81E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	4.96E-07	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.00E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	2.90E-02	mg/kg-day	1.21E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	4.72E-11	mg/kg-day	--	--	--	1.65E-09	mg/kg-day	5.00E-03	mg/kg-day	3.31E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	7.86E-11	mg/kg-day	--	--	--	2.75E-09	mg/kg-day	8.57E-04	mg/kg-day	3.21E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	3.86E-09	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	8.57E-04	mg/kg-day	1.49E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.07E-09	mg/kg-day	--	--	--	1.43E-07	mg/kg-day	4.00E-02	mg/kg-day	3.57E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	3.79E-11	mg/kg-day	--	--	--	1.33E-09	mg/kg-day	3.00E-01	mg/kg-day	4.42E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	4.96E-07	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	6.67E-12	mg/kg-day	--	--	--	2.33E-10	mg/kg-day	3.00E-02	mg/kg-day	7.78E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.16E-08	mg/kg-day	--	--	--	4.06E-07	mg/kg-day	4.00E-02	mg/kg-day	1.01E-05				
				Teri-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.31E-08	mg/kg-day	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	5.50E-09	mg/kg-day	--	--	--	1.92E-07	mg/kg-day	1.43E+00	mg/kg-day	1.35E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.30E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	2.00E-02	mg/kg-day	2.27E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.35E-08	mg/kg-day	4.00E-01	(mg/kg-day)-1	5.39E-09	4.72E-07	mg/kg-day	1.00E-02	mg/kg-day	4.72E-05				
				Vinyl chloride	1.93E-05	mg/m <sup>3</sup>	2.79E-08	mg/kg-day	3.10E-02	(mg/kg-day)-1	8.65E-10	9.76E-07	mg/kg-day	2.86E-02	mg/kg-day	3.42E-05				
				Exposure Route Total										1.19E-08					1.21E-03	
				Exposure Point Total										1.19E-08						1.21E-03
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.09E-06	mg/kg-day	--	--	--	3.77E-05	mg/kg-day	1.40E-01	mg/kg-day	2.69E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	4.72E-08	mg/kg-day	--	--	--	1.65E-06	mg/kg-day	1.71E-03	mg/kg-day	9.65E-04
								1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	3.18E-07	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	5.70E-02	mg/kg-day	1.95E-04
								1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	2.58E-07	mg/kg-day	9.10E-02	--	2.35E-08	9.02E-06	mg/kg-day	1.40E-03	mg/kg-day	6.44E-03
								1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	9.55E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	6.49E-09	3.34E-08	mg/kg-day	1.14E-03	mg/kg-day	2.93E-03
								1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	2.70E-08	mg/kg-day	--	--	--	9.47E-07	mg/kg-day	1.71E-03	mg/kg-day	5.52E-04
								1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.09E-07	mg/kg-day	2.20E-02	(mg/kg-day)-1	2.40E-09	3.82E-06	mg/kg-day	2.30E-01	mg/kg-day	1.66E-05
								2-Hexanone	5.60E-04	ug/m <sup>3</sup>	8.10E-09	mg/kg-day	--	--	--	2.84E-07	mg/kg-day	1.43E+00	mg/kg-day	1.99E-07
								2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	3.93E-10	mg/kg-day	--	--	--	1.37E-08	mg/kg-day	5.00E-02	mg/kg-day	2.75E-07
								4,4-DDE	1.17E-07	ug/m <sup>3</sup>	1.69E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.73E-13	5.90E-11	mg/kg-day	5.00E-04	mg/kg-day	1.18E-07
								4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	2.41E-09	mg/kg-day	--	--	--	8.42E-08	mg/kg-day	8.60E-01	mg/kg-day	9.79E-08
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	2.39E-08					mg/kg-day	--	--	--	8.36E-07	mg/kg-day	6.00E-02	mg/kg-day	1.39E-05				

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations										
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	1.02E-09	mg/kg-day	--	--	--	3.56E-08	mg/kg-day	6.00E-02	mg/kg-day	5.93E-07					
				Aldrin	2.44E-07	ug/m <sup>3</sup>	3.53E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.00E-11	1.23E-10	mg/kg-day	3.00E-05	mg/kg-day	4.11E-06					
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	5.28E-13	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.31E-12	1.84E-11	mg/kg-day	5.00E-04	mg/kg-day	3.68E-08					
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	3.19E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.12E-12	1.12E-10	mg/kg-day	2.00E-04	mg/kg-day	5.58E-07					
				Anthracene	1.40E-04	ug/m <sup>3</sup>	2.02E-09	mg/kg-day	--	--	--	7.07E-08	mg/kg-day	3.00E-01	mg/kg-day	2.36E-07					
				Benzene	7.66E-03	ug/m <sup>3</sup>	1.11E-07	mg/kg-day	2.73E-02	(mg/kg-day)-1	3.03E-09	3.88E-08	mg/kg-day	8.60E-03	mg/kg-day	4.51E-04					
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	2.96E-10	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.16E-10	1.04E-08	mg/kg-day	--	--	--					
				Bromoform	3.95E-04	ug/m <sup>3</sup>	5.72E-09	mg/kg-day	3.85E-03	(mg/kg-day)-1	2.20E-11	2.00E-07	mg/kg-day	2.00E-02	mg/kg-day	1.00E-05					
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	1.96E-06	mg/kg-day	--	--	--	6.84E-05	mg/kg-day	2.00E-01	mg/kg-day	3.42E-04					
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	2.97E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	1.70E-02	mg/kg-day	6.12E-05					
				Chloroform	6.13E-02	ug/m <sup>3</sup>	8.87E-07	mg/kg-day	8.05E-02	(mg/kg-day)-1	7.14E-08	3.10E-05	mg/kg-day	1.40E-02	mg/kg-day	2.22E-03					
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	3.51E-07	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.60E-02	mg/kg-day	4.73E-04					
				Chrysene	5.75E-05	ug/m <sup>3</sup>	8.33E-10	mg/kg-day	7.30E-03	(mg/kg-day)-1	6.08E-12	2.91E-08	mg/kg-day	--	--	--					
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	4.97E-07	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	1.00E-02	mg/kg-day	1.74E-03					
				Dieldrin	3.78E-08	ug/m <sup>3</sup>	5.44E-13	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.71E-12	1.91E-11	mg/kg-day	5.00E-05	mg/kg-day	3.81E-07					
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	7.02E-13	mg/kg-day	--	--	--	2.48E-11	mg/kg-day	6.00E-03	mg/kg-day	4.10E-09					
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	2.34E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09					
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	7.80E-08	mg/kg-day	--	--	--	2.73E-06	mg/kg-day	2.90E-01	mg/kg-day	9.41E-06					
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	2.96E-10	mg/kg-day	--	--	--	1.04E-08	mg/kg-day	4.00E-02	mg/kg-day	2.59E-07					
				Fluorene	5.21E-05	ug/m <sup>3</sup>	7.54E-10	mg/kg-day	--	--	--	2.64E-08	mg/kg-day	4.00E-02	mg/kg-day	6.59E-07					
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	7.10E-13	mg/kg-day	1.30E+00	(mg/kg-day)-1	9.23E-13	2.48E-11	mg/kg-day	3.00E-04	mg/kg-day	8.28E-08					
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	1.54E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.40E-13	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07					
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	8.96E-12	mg/kg-day	4.55E+00	(mg/kg-day)-1	3.17E-11	2.44E-10	mg/kg-day	5.00E-04	mg/kg-day	4.87E-07					
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	2.60E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03					
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	5.83E-07	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	2.90E-02	mg/kg-day	7.04E-04					
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	2.05E-12	mg/kg-day	--	--	--	7.17E-11	mg/kg-day	5.00E-03	mg/kg-day	1.43E-08					
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	4.26E-09	mg/kg-day	--	--	--	1.49E-07	mg/kg-day	8.57E-04	mg/kg-day	1.74E-04					
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	2.05E-07	mg/kg-day	--	--	--	7.18E-06	mg/kg-day	8.57E-04	mg/kg-day	8.38E-03					
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	2.31E-07	mg/kg-day	--	--	--	8.10E-06	mg/kg-day	4.00E-02	mg/kg-day	2.02E-04					
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	2.10E-09	mg/kg-day	--	--	--	7.36E-08	mg/kg-day	3.00E-01	mg/kg-day	2.45E-07					
				p-isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	2.60E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03					
				Pyrene	1.92E-05	ug/m <sup>3</sup>	2.78E-10	mg/kg-day	--	--	--	9.73E-09	mg/kg-day	3.00E-02	mg/kg-day	3.24E-07					
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	8.22E-09	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	4.00E-02	mg/kg-day	7.20E-06					
				Terf-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	8.23E-07	mg/kg-day	--	--	--	2.88E-05	mg/kg-day	4.00E-02	mg/kg-day	7.20E-04					
				Toluene	2.18E-03	ug/m <sup>3</sup>	3.15E-08	mg/kg-day	--	--	--	1.10E-06	mg/kg-day	1.43E+00	mg/kg-day	7.72E-07					
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	8.73E-07	mg/kg-day	--	--	--	3.05E-05	mg/kg-day	2.00E-02	mg/kg-day	1.53E-03					
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	8.25E-07	mg/kg-day	4.00E-01	(mg/kg-day)-1	3.30E-07	2.89E-05	mg/kg-day	1.00E-02	mg/kg-day	2.89E-03					
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	1.88E-06	mg/kg-day	3.10E-02	(mg/kg-day)-1	5.82E-08	6.57E-05	mg/kg-day	2.86E-02	mg/kg-day	2.30E-03					
				Exposure Route Total																5.02E-02	
				Exposure Point Total																	5.02E-02
				Exposure Medium Total																	5.14E-02
Medium Total																	5.14E-02				
Total of Receptor Risks Across All Media										2.58E-05	Total of Receptor Hazards Across All Media					6.32E+01					

TABLE H2-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfC Reference concentration
  - RfD Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.77E-07	mg/kg-day	--	--	--	9.59E-06	mg/kg-day	1.00E-02	mg/kg-day	9.59E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.28E-06	mg/kg-day	--	--	--	3.26E-05	mg/kg-day	1.00E-02	mg/kg-day	3.26E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.26E-07	mg/kg-day	--	--	--	3.20E-06	mg/kg-day	5.00E-02	mg/kg-day	6.39E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	6.53E-06	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	9.00E-02	mg/kg-day	1.85E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	9.04E-10	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	6.15E-11	2.30E-08	mg/kg-day	1.14E-03	mg/kg-day	2.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.02E-08	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	5.00E-02	mg/kg-day	2.05E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.76E-07	mg/kg-day	--	--	--	7.03E-06	mg/kg-day	3.00E-02	mg/kg-day	2.34E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.71E-06	mg/kg-day	2.40E-02	(mg/kg-day) <sup>-1</sup>	4.10E-08	4.35E-05	mg/kg-day	3.00E-02	mg/kg-day	1.45E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	5.27E-08	mg/kg-day	--	--	--	1.34E-06	mg/kg-day	2.00E-02	mg/kg-day	6.71E-05
				2-Methylphenol	8.10E-02	mg/kg	2.03E-08	mg/kg-day	--	--	--	5.18E-07	mg/kg-day	5.00E-02	mg/kg-day	1.04E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	4.20E-07	mg/kg-day	--	--	--	1.07E-05	mg/kg-day	4.00E-03	mg/kg-day	2.67E-03
				4,4'-DDD	1.20E-03	mg/kg	3.01E-10	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	7.23E-11	7.67E-09	mg/kg-day	5.00E-04	mg/kg-day	1.53E-05
				4,4'-DDE	8.23E-02	mg/kg	2.07E-08	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	7.03E-09	5.26E-07	mg/kg-day	5.00E-04	mg/kg-day	1.05E-03
				4,4'-DDT	4.45E-02	mg/kg	1.12E-08	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.80E-09	2.84E-07	mg/kg-day	5.00E-04	mg/kg-day	5.69E-04
				4-Methylphenol	2.70E-01	mg/kg	6.78E-08	mg/kg-day	--	--	--	1.73E-06	mg/kg-day	5.00E-03	mg/kg-day	3.45E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.56E-07	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	3.27E-09	3.98E-06	mg/kg-day	3.00E-03	mg/kg-day	1.32E-03
				4-Nitrophenol	4.20E-01	mg/kg	1.05E-07	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	5.00E-04	mg/kg-day	5.37E-03
				Acenaphthene	4.23E+00	mg/kg	1.06E-06	mg/kg-day	--	--	--	2.71E-05	mg/kg-day	6.00E-02	mg/kg-day	4.51E-04
				Acenaphthylene	1.04E-01	mg/kg	2.62E-08	mg/kg-day	--	--	--	6.66E-07	mg/kg-day	6.00E-02	mg/kg-day	1.11E-05
				Aldrin	1.30E-02	mg/kg	3.28E-09	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	5.55E-08	8.31E-08	mg/kg-day	3.00E-05	mg/kg-day	2.77E-03
				alpha-BHC	7.30E-04	mg/kg	1.83E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.16E-09	4.67E-09	mg/kg-day	5.00E-04	mg/kg-day	9.33E-06
				alpha-Chlordane	8.14E-03	mg/kg	2.04E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	7.16E-10	5.20E-08	mg/kg-day	5.00E-04	mg/kg-day	1.04E-04
				Aluminum	8.82E+03	mg/kg	2.22E-03	mg/kg-day	--	--	--	5.64E-02	mg/kg-day	1.00E+00	mg/kg-day	5.64E-02
				Anthracene	1.05E+00	mg/kg	2.65E-07	mg/kg-day	--	--	--	6.74E-06	mg/kg-day	3.00E-01	mg/kg-day	2.25E-05
				Antimony	4.08E+00	mg/kg	1.02E-06	mg/kg-day	--	--	--	2.61E-05	mg/kg-day	4.00E-04	mg/kg-day	6.52E-02
				Aroclor-1248	1.20E+00	mg/kg	3.01E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.03E-07	7.67E-06	mg/kg-day	2.00E-05	mg/kg-day	3.84E-01
				Aroclor-1254	4.44E-01	mg/kg	1.12E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.23E-07	2.84E-06	mg/kg-day	2.00E-05	mg/kg-day	1.42E-01
				Aroclor-1260	5.41E-01	mg/kg	1.36E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.72E-07	3.46E-06	mg/kg-day	2.00E-05	mg/kg-day	1.73E-01
				Aroclor-1268	2.78E-02	mg/kg	6.97E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.39E-08	1.77E-07	mg/kg-day	2.00E-05	mg/kg-day	8.87E-03
				Arsenic	6.17E+00	mg/kg	1.55E-06	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	2.32E-06	3.94E-05	mg/kg-day	3.00E-04	mg/kg-day	1.31E-01
				Barium	6.78E+01	mg/kg	1.70E-05	mg/kg-day	--	--	--	4.34E-04	mg/kg-day	7.00E-02	mg/kg-day	6.19E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	1.26E-06	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	9.18E-07	3.20E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.18E-07	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	3.05E-06	1.06E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	6.88E-07	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	5.02E-07	1.75E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.92E-07	mg/kg-day	--	--	--	4.88E-06	mg/kg-day	3.00E-02	mg/kg-day	1.63E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	8.19E-07	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	5.98E-08	2.08E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	5.98E-08	mg/kg-day	--	--	--	1.52E-08	mg/kg-day	2.00E-03	mg/kg-day	7.61E-04
				Beta-BHC	2.20E-03	mg/kg	5.53E-10	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	9.95E-10	1.41E-08	mg/kg-day	2.00E-04	mg/kg-day	7.03E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.97E-06	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	2.75E-08	5.01E-05	mg/kg-day	2.00E-02	mg/kg-day	2.50E-03
				Cadmium	9.47E+00	mg/kg	2.38E-06	mg/kg-day	--	--	--	6.06E-05	mg/kg-day	5.00E-04	mg/kg-day	1.21E-01
Carbon disulfide	2.40E-04	mg/kg	6.03E-11	mg/kg-day	--	--	--	1.53E-09	mg/kg-day	1.00E-01	mg/kg-day	1.53E-08				
Chlorobenzene	1.10E-01	mg/kg	2.76E-08	mg/kg-day	--	--	--	7.03E-07	mg/kg-day	2.00E-02	mg/kg-day	3.52E-05				
Chromium	1.11E+02	mg/kg	2.79E-05	mg/kg-day	--	--	--	7.11E-04	mg/kg-day	1.50E+00	mg/kg-day	4.74E-04				
Chrysene	5.68E+00	mg/kg	1.43E-06	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	1.04E-08	3.63E-05	mg/kg-day	--	--	--				
Cobalt	7.57E+00	mg/kg	1.90E-06	mg/kg-day	--	--	--	4.84E-05	mg/kg-day	2.00E-02	mg/kg-day	2.42E-03				
Copper	5.71E+01	mg/kg	1.43E-05	mg/kg-day	--	--	--	3.65E-04	mg/kg-day	3.70E-02	mg/kg-day	9.86E-03				
Delta-BHC	8.40E-03	mg/kg	2.11E-09	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	3.80E-09	5.37E-08	mg/kg-day	2.00E-04	mg/kg-day	2.68E-04				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	7.97E-08	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	5.82E-07	2.03E-06	mg/kg-day	--	--	--				
Dibenzofuran	1.30E-01	mg/kg	3.26E-06	mg/kg-day	--	--	--	8.31E-05	mg/kg-day	2.00E-03	mg/kg-day	4.16E-02				
Dieldrin	5.51E-02	mg/kg	1.38E-08	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.22E-07	3.53E-07	mg/kg-day	5.00E-05	mg/kg-day	7.05E-03				
Dimethylphthalate	3.80E-02	mg/kg	9.54E-09	mg/kg-day	--	--	--	2.43E-07	mg/kg-day	1.00E+01	mg/kg-day	2.43E-08				

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	5.53E-07	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	1.00E-01	mg/kg-day	1.41E-04				
				Endosulfan I	2.30E-02	mg/kg	5.78E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	6.00E-03	mg/kg-day	2.45E-05				
				Endosulfan II	2.38E-02	mg/kg	5.98E-09	mg/kg-day	--	--	--	1.52E-07	mg/kg-day	6.00E-03	mg/kg-day	2.54E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	1.08E-08	mg/kg-day	--	--	--	2.75E-07	mg/kg-day	6.00E-03	mg/kg-day	4.58E-05				
				Endrin aldehyde	4.21E-02	mg/kg	1.06E-08	mg/kg-day	--	--	--	2.69E-07	mg/kg-day	3.00E-04	mg/kg-day	8.97E-04				
				Endrin Ketone	1.00E-02	mg/kg	2.51E-09	mg/kg-day	--	--	--	6.39E-08	mg/kg-day	3.00E-04	mg/kg-day	2.13E-04				
				Fluoranthene	2.65E+01	mg/kg	6.66E-06	mg/kg-day	--	--	--	1.69E-04	mg/kg-day	4.00E-02	mg/kg-day	4.24E-03				
				Fluorene	2.92E+00	mg/kg	7.32E-07	mg/kg-day	--	--	--	1.86E-05	mg/kg-day	4.00E-02	mg/kg-day	4.66E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	6.53E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.49E-10	1.66E-08	mg/kg-day	3.00E-04	mg/kg-day	5.54E-05				
				gamma-Chlordane	1.31E-02	mg/kg	3.29E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.15E-09	8.38E-08	mg/kg-day	5.00E-04	mg/kg-day	1.68E-04				
				Heptachlor	6.90E-03	mg/kg	1.73E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	7.80E-09	4.41E-08	mg/kg-day	5.00E-04	mg/kg-day	8.82E-05				
				Heptachlor Epoxide	1.12E-02	mg/kg	2.80E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.55E-08	7.13E-08	mg/kg-day	1.30E-05	mg/kg-day	5.49E-03				
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.19E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.60E-07	5.58E-06	mg/kg-day	--	--	--				
				Iron	4.07E+04	mg/kg	1.02E-02	mg/kg-day	--	--	--	2.60E-01	mg/kg-day	3.00E-01	mg/kg-day	8.68E-01				
				Isophorone	2.00E-01	mg/kg	5.02E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	4.77E-11	1.28E-06	mg/kg-day	2.00E-01	mg/kg-day	6.39E-06				
				Lead	2.90E+03	mg/kg	7.29E-04	mg/kg-day	--	--	--	1.86E-02	mg/kg-day	--	--	--				
				Manganese	3.31E+02	mg/kg	8.31E-05	mg/kg-day	--	--	--	2.12E-03	mg/kg-day	2.40E-02	mg/kg-day	8.82E-02				
				Mercury	3.10E-01	mg/kg	7.77E-08	mg/kg-day	--	--	--	1.98E-06	mg/kg-day	3.00E-04	mg/kg-day	6.60E-03				
				Methoxychlor	1.20E-01	mg/kg	3.01E-08	mg/kg-day	--	--	--	7.67E-07	mg/kg-day	5.00E-03	mg/kg-day	1.53E-04				
				Molybdenum	2.50E+00	mg/kg	6.29E-07	mg/kg-day	--	--	--	1.60E-05	mg/kg-day	5.00E-03	mg/kg-day	3.20E-03				
				Naphthalene	1.30E+01	mg/kg	3.26E-06	mg/kg-day	--	--	--	8.31E-05	mg/kg-day	2.00E-02	mg/kg-day	4.16E-03				
				Nickel	3.91E+01	mg/kg	9.83E-06	mg/kg-day	--	--	--	2.50E-04	mg/kg-day	2.00E-02	mg/kg-day	1.25E-02				
				Phenanthrene	1.39E+01	mg/kg	3.50E-06	mg/kg-day	--	--	--	8.90E-05	mg/kg-day	3.00E-01	mg/kg-day	2.97E-04				
				Phenol	5.80E-01	mg/kg	1.46E-07	mg/kg-day	--	--	--	3.71E-06	mg/kg-day	3.00E-01	mg/kg-day	1.24E-05				
				p-isopropyltoluene	1.10E-01	mg/kg	2.76E-08	mg/kg-day	--	--	--	7.03E-07	mg/kg-day	1.00E-01	mg/kg-day	7.03E-06				
				Pyrene	2.41E+01	mg/kg	6.06E-06	mg/kg-day	--	--	--	1.54E-04	mg/kg-day	3.00E-02	mg/kg-day	5.15E-03				
				sec-Butylbenzene	7.10E-02	mg/kg	1.78E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.13E-05				
				Selenium	2.24E-01	mg/kg	5.64E-08	mg/kg-day	--	--	--	1.43E-06	mg/kg-day	5.00E-03	mg/kg-day	2.87E-04				
				Silver	1.16E+00	mg/kg	2.91E-07	mg/kg-day	--	--	--	7.41E-06	mg/kg-day	5.00E-03	mg/kg-day	1.48E-03				
				Technical Chlordane	5.51E-01	mg/kg	1.38E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.84E-08	3.52E-06	mg/kg-day	5.00E-04	mg/kg-day	7.05E-03				
				Thallium	4.97E-01	mg/kg	1.25E-07	mg/kg-day	--	--	--	3.18E-06	mg/kg-day	6.00E-05	mg/kg-day	4.81E-02				
				Toluene	4.30E-04	mg/kg	1.08E-10	mg/kg-day	--	--	--	2.75E-09	mg/kg-day	8.00E-02	mg/kg-day	3.44E-08				
				Vanadium	3.41E+01	mg/kg	8.58E-06	mg/kg-day	--	--	--	2.18E-04	mg/kg-day	1.00E-03	mg/kg-day	2.18E-01				
				Zinc	4.53E+02	mg/kg	1.14E-04	mg/kg-day	--	--	--	2.90E-03	mg/kg-day	3.00E-01	mg/kg-day	9.66E-03				
				<b>Exposure Route Total</b>							<b>9.17E-06</b>					<b>2.46E+00</b>				
				Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	4.24E-08	mg/kg-day	--	--	--	1.07E-06	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04			
					1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.44E-08	mg/kg-day	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05			
					1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.41E-09	mg/kg-day	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07			
					1,2-Dichlorobenzene	2.60E+01	mg/kg	7.35E-08	mg/kg-day	--	--	--	1.86E-06	mg/kg-day	9.00E-02	mg/kg-day	2.07E-05			
					1,2-Dichloropropane	3.60E-03	mg/kg	1.02E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	6.92E-13	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07			
					1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.52E-10	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07			
					1,3-Dichlorobenzene	1.10E+00	mg/kg	3.11E-09	mg/kg-day	--	--	--	7.88E-08	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06			
1,4-Dichlorobenzene	6.80E+00	mg/kg	--		mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--							
2,4-Dimethylphenol	2.10E-01	mg/kg	5.04E-10		mg/kg-day	--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07							
2-Methylphenol	8.10E-02	mg/kg	2.29E-09		mg/kg-day	--	--	--	5.80E-08	mg/kg-day	5.00E-02	mg/kg-day	1.16E-06							
2-Methylnaphthalene	1.67E+00	mg/kg	4.73E-09		mg/kg-day	--	--	--	1.20E-07	mg/kg-day	4.00E-03	mg/kg-day	2.99E-05							
4,4'-DDD	1.20E-03	mg/kg	3.39E-12		mg/kg-day	2.40E-01	(mg/kg-day)-1	8.14E-13	8.59E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07							
4,4'-DDE	8.23E-02	mg/kg	2.33E-10		mg/kg-day	3.40E-01	(mg/kg-day)-1	7.91E-11	5.89E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05							
4,4'-DDT	4.45E-02	mg/kg	3.77E-10		mg/kg-day	3.40E-01	(mg/kg-day)-1	1.28E-10	9.56E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05							
4-Methylphenol	2.70E-01	mg/kg	7.83E-09		mg/kg-day	--	--	--	1.93E-07	mg/kg-day	5.00E-03	mg/kg-day	3.87E-05							
4-Nitroaniline	6.20E-01	mg/kg	1.75E-08	mg/kg-day	2.10E-02	--	3.66E-10	4.44E-07	mg/kg-day	3.00E-03	mg/kg-day	1.48E-04								

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	4.23E+00	mg/kg	1.56E-07	mg/kg-day	--	--	--	3.94E-06	mg/kg-day	6.00E-02	mg/kg-day	6.57E-05
				Acenaphthylene	1.04E-01	mg/kg	2.94E-10	mg/kg-day	--	--	--	7.46E-09	mg/kg-day	6.00E-02	mg/kg-day	1.24E-07
				Aldrin	1.30E-02	mg/kg	3.67E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.25E-09	9.31E-09	mg/kg-day	3.00E-05	mg/kg-day	3.10E-04
				alpha-BHC	7.30E-04	mg/kg	2.06E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.30E-11	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	2.49E-06	mg/kg-day	--	--	--	6.32E-05	mg/kg-day	1.00E+00	mg/kg-day	6.32E-05
				Anthracene	1.05E+00	mg/kg	3.88E-08	mg/kg-day	--	--	--	9.82E-07	mg/kg-day	3.00E-01	mg/kg-day	3.27E-06
				Antimony	4.08E+00	mg/kg	1.15E-09	mg/kg-day	--	--	--	2.92E-08	mg/kg-day	4.00E-04	mg/kg-day	7.30E-05
				Aroclor-1248	1.20E+00	mg/kg	4.75E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.50E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02
				Aroclor-1254	4.44E+01	mg/kg	1.76E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.51E-08	4.45E-07	mg/kg-day	2.00E-05	mg/kg-day	2.23E-02
				Aroclor-1260	5.41E-01	mg/kg	2.14E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.28E-08	5.43E-07	mg/kg-day	2.00E-05	mg/kg-day	2.71E-02
				Aroclor-1268	2.78E-02	mg/kg	1.10E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.20E-09	2.78E-08	mg/kg-day	2.00E-05	mg/kg-day	1.39E-03
				Arsenic	6.17E+00	mg/kg	5.23E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	7.84E-08	1.32E-06	mg/kg-day	3.00E-04	mg/kg-day	4.41E-03
				Barium	6.78E+01	mg/kg	1.92E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	7.00E-02	mg/kg-day	6.94E-06
				Benzo(a)anthracene	5.00E+00	mg/kg	1.84E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.34E-07	4.66E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	6.12E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.47E-07	1.55E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.01E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.34E-08	2.55E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.81E-08	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	3.00E-02	mg/kg-day	2.37E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.20E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	8.75E-09	3.03E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	6.73E-11	mg/kg-day	--	--	--	1.70E-09	mg/kg-day	2.00E-03	mg/kg-day	8.52E-07
				Beta-BHC	2.20E-03	mg/kg	6.22E-12	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.12E-11	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.21E-08	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.10E-10	5.61E-07	mg/kg-day	2.00E-02	mg/kg-day	2.80E-05
				Cadmium	9.47E+00	mg/kg	2.68E-09	mg/kg-day	--	--	--	6.78E-08	mg/kg-day	5.00E-04	mg/kg-day	1.36E-04
				Carbon disulfide	2.40E-04	mg/kg	1.70E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09
				Chlorobenzene	1.10E-01	mg/kg	3.11E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07
				Chromium	1.11E+02	mg/kg	3.14E-08	mg/kg-day	--	--	--	7.96E-07	mg/kg-day	1.50E+00	mg/kg-day	5.31E-07
				Chrysene	5.68E+00	mg/kg	2.09E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.52E-09	5.29E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.14E-09	mg/kg-day	--	--	--	5.42E-08	mg/kg-day	2.00E-02	mg/kg-day	2.71E-06
				Copper	5.71E+01	mg/kg	1.61E-08	mg/kg-day	--	--	--	4.09E-07	mg/kg-day	3.70E-02	mg/kg-day	1.10E-05
				Delta-BHC	8.40E-03	mg/kg	1.19E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.14E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.60E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.17E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	8.52E-08	2.96E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.67E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04
				Dieldrin	5.51E-02	mg/kg	1.56E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.49E-09	3.95E-09	mg/kg-day	5.00E-05	mg/kg-day	7.90E-05
				Dimethylphthalate	3.80E-02	mg/kg	1.07E-10	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	1.00E+01	mg/kg-day	2.72E-10
				di-n-Butylphthalate	2.20E+00	mg/kg	6.22E-09	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	1.00E-01	mg/kg-day	1.58E-06
				Endosulfan I	2.30E-02	mg/kg	3.25E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06
				Endosulfan II	2.38E-02	mg/kg	3.37E-10	mg/kg-day	--	--	--	8.53E-09	mg/kg-day	6.00E-03	mg/kg-day	1.42E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.08E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-06
				Endrin aldehyde	4.21E-02	mg/kg	5.95E-10	mg/kg-day	--	--	--	1.51E-08	mg/kg-day	3.00E-04	mg/kg-day	5.02E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	9.74E-07	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	4.00E-02	mg/kg-day	6.17E-04
				Fluorene	2.92E+00	mg/kg	1.07E-07	mg/kg-day	--	--	--	2.71E-06	mg/kg-day	4.00E-02	mg/kg-day	6.79E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.94E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.82E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.95E-11	mg/kg-day	4.50E+00	(mg/kg-day)-1	8.78E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	3.15E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.87E-10	7.99E-10	mg/kg-day	1.30E-05	mg/kg-day	6.14E-05
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	3.21E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.34E-08	8.13E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	1.15E-05	mg/kg-day	--	--	--	2.92E-04	mg/kg-day	3.00E-01	mg/kg-day	9.72E-04
				Isothorone	2.00E-01	mg/kg	5.65E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.37E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07
Lead	2.90E+03	mg/kg	8.20E-07	mg/kg-day	--	--	--	2.08E-05	mg/kg-day	--	--	--				

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	9.36E-08	mg/kg-day	--	--	--	--	2.37E-06	mg/kg-day	2.40E-02	mg/kg-day	9.88E-05	
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	3.00E-04	mg/kg-day	--	--
				Methoxychlor	1.20E-01	mg/kg	3.39E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06	--
				Molybdenum	2.50E+00	mg/kg	7.08E-10	mg/kg-day	--	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	3.59E-06	--
				Naphthalene	1.30E+01	mg/kg	4.78E-07	mg/kg-day	--	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04	--
				Nickel	3.91E+01	mg/kg	1.11E-09	mg/kg-day	--	--	--	--	2.80E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05	--
				Phenanthrene	1.39E+01	mg/kg	3.93E-08	mg/kg-day	--	--	--	--	9.97E-07	mg/kg-day	3.00E-01	mg/kg-day	3.32E-06	--
				Phenol	5.80E-01	mg/kg	1.64E-08	mg/kg-day	--	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06	--
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	--	--
				Pyrene	2.41E+01	mg/kg	8.87E-07	mg/kg-day	--	--	--	--	2.25E-05	mg/kg-day	3.00E-02	mg/kg-day	7.49E-04	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	--	--
				Selenium	2.24E-01	mg/kg	6.34E-11	mg/kg-day	--	--	--	--	1.61E-09	mg/kg-day	5.00E-03	mg/kg-day	3.21E-07	--
				Silver	1.16E+00	mg/kg	3.28E-10	mg/kg-day	--	--	--	--	8.30E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06	--
				Technical Chlordane	5.51E-01	mg/kg	6.23E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.18E-09	1.58E-07	mg/kg-day	5.00E-04	mg/kg-day	3.16E-04	--	
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	6.60E-05	mg/kg-day	--	--	--
				Toluene	4.30E-04	mg/kg	1.22E-12	mg/kg-day	--	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.85E-10	--
				Vanadium	3.41E+01	mg/kg	9.65E-09	mg/kg-day	--	--	--	--	2.44E-07	mg/kg-day	1.00E-03	mg/kg-day	2.44E-04	--
				Zinc	4.53E+02	mg/kg	1.28E-07	mg/kg-day	--	--	--	--	3.25E-06	mg/kg-day	3.00E-01	mg/kg-day	1.08E-05	--
				<b>Exposure Point Total</b>									1.04E-06					1.21E-01
													1.02E-05					2.58E+00
				Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-02	mg/kg-day	--
1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	1.00E-02	mg/kg-day	--	--			
1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	5.00E-02	mg/kg-day	--	--			
1,2-Dichlorobenzene	2.60E+01	mg/kg	--			mg/kg-day	--	--	--	--	--	9.00E-02	mg/kg-day	--	--			
1,2-Dichloropropane	3.60E-03	mg/kg	--			mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	1.14E-03	mg/kg-day	--	--			
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	5.00E-02	mg/kg-day	--	--			
1,3-Dichlorobenzene	1.10E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	3.00E-02	mg/kg-day	--	--			
1,4-Dichlorobenzene	6.80E+00	mg/kg	--			mg/kg-day	2.40E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	3.00E-02	mg/kg-day	--	--			
2,4-Dimethylphenol	2.10E-01	mg/kg	5.01E-06			mg/kg-day	--	--	--	--	3.50E-05	mg/kg-day	2.00E-02	mg/kg-day	1.75E-03	--		
2-Methylphenol	8.10E-02	mg/kg	4.60E-06			mg/kg-day	--	--	--	--	3.21E-05	mg/kg-day	5.00E-02	mg/kg-day	6.42E-04	--		
2-Methylnaphthalene	1.67E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	4.00E-03	mg/kg-day	--	--			
4,4'-DDD	1.20E-03	mg/kg	4.88E-11			mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	1.17E-11	3.40E-10	mg/kg-day	5.00E-04	mg/kg-day	6.81E-07	--			
4,4'-DDE	8.23E-02	mg/kg	2.42E-09			mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	8.24E-10	1.69E-08	mg/kg-day	5.00E-04	mg/kg-day	3.38E-05	--			
4,4'-DDT	4.45E-02	mg/kg	5.65E-09			mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.92E-09	3.94E-08	mg/kg-day	5.00E-04	mg/kg-day	7.88E-05	--			
4-Methylphenol	2.70E-01	mg/kg	1.58E-05			mg/kg-day	--	--	--	--	1.10E-04	mg/kg-day	5.00E-03	mg/kg-day	2.20E-02	--		
4-Nitroaniline	6.20E-01	mg/kg	2.48E-05			mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	5.20E-07	1.73E-04	mg/kg-day	3.00E-03	mg/kg-day	5.76E-02	--			
4-Nitrophenol	4.20E-01	mg/kg	2.52E-05			mg/kg-day	--	--	--	--	1.76E-04	mg/kg-day	5.00E-04	mg/kg-day	3.51E-01	--		
Acenaphthene	4.23E+00	mg/kg	--			mg/kg-day	--	--	--	--	--	6.00E-02	mg/kg-day	--	--			
Acenaphthylene	1.04E-01	mg/kg	--			mg/kg-day	--	--	--	--	--	6.00E-02	mg/kg-day	--	--			
Aldrin	1.30E-02	mg/kg	8.65E-10			mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.47E-08	6.03E-09	mg/kg-day	3.00E-05	mg/kg-day	2.01E-04	--			
alpha-BHC	7.30E-04	mg/kg	1.05E-08			mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	6.61E-08	7.31E-08	mg/kg-day	5.00E-04	mg/kg-day	1.46E-04	--			
alpha-Chlordane	8.14E-03	mg/kg	1.19E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	4.16E-10	8.30E-09	mg/kg-day	5.00E-04	mg/kg-day	1.66E-05	--					
Aluminum	8.82E+03	mg/kg	1.76E-04	mg/kg-day	--	--	--	--	1.22E-03	mg/kg-day	1.00E+00	mg/kg-day	1.22E-03	--				
Anthracene	1.05E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-01	mg/kg-day	--	--					
Antimony	4.08E+00	mg/kg	3.75E-06	mg/kg-day	--	--	--	--	2.61E-05	mg/kg-day	4.00E-04	mg/kg-day	6.53E-02	--				
Aroclor-1248	1.20E+00	mg/kg	4.89E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	9.79E-08	3.41E-07	mg/kg-day	2.00E-05	mg/kg-day	1.71E-02	--					
Aroclor-1254	4.44E-01	mg/kg	2.42E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.85E-07	1.69E-06	mg/kg-day	2.00E-05	mg/kg-day	8.45E-02	--					
Aroclor-1260	5.41E-01	mg/kg	1.06E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.11E-08	7.37E-08	mg/kg-day	2.00E-05	mg/kg-day	3.68E-03	--					
Aroclor-1268	2.78E-02	mg/kg	1.52E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.03E-08	1.06E-07	mg/kg-day	2.00E-05	mg/kg-day	5.28E-03	--					
Arsenic	6.17E+00	mg/kg	1.13E-06	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.70E-06	7.90E-06	mg/kg-day	3.00E-04	mg/kg-day	2.63E-02	--					
Barium	6.78E+01	mg/kg	3.11E-05	mg/kg-day	--	--	--	--	2.17E-04	mg/kg-day	7.00E-02	mg/kg-day	3.10E-03	--				

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	3.93E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.87E-08	2.74E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	7.42E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.42E-08	5.18E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.22E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.91E-08	8.52E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.60E-08	mg/kg-day	--	--	--	1.81E-07	mg/kg-day	3.00E-02	mg/kg-day	6.04E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.45E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.06E-08	1.01E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.09E-08	mg/kg-day	--	--	--	7.63E-08	mg/kg-day	2.00E-03	mg/kg-day	3.81E-05
				Beta-BHC	2.20E-03	mg/kg	3.16E-08	mg/kg-day	1.80E+00	(mg/kg-day)-1	5.69E-08	2.20E-07	mg/kg-day	2.00E-04	mg/kg-day	1.10E-03
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	8.29E-05	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.16E-06	5.78E-04	mg/kg-day	2.00E-02	mg/kg-day	2.89E-02
				Cadmium	9.47E+00	mg/kg	4.35E-05	mg/kg-day	--	--	--	3.03E-04	mg/kg-day	5.00E-04	mg/kg-day	6.07E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	1.53E-05	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	1.50E+00	mg/kg-day	7.12E-05
				Chrysene	5.68E+00	mg/kg	3.13E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.29E-09	2.19E-08	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.62E-06	mg/kg-day	--	--	--	1.13E-05	mg/kg-day	2.00E-02	mg/kg-day	5.86E-04
				Copper	5.71E+01	mg/kg	4.37E-04	mg/kg-day	--	--	--	3.05E-03	mg/kg-day	3.70E-02	mg/kg-day	8.23E-02
				Delta-BHC	8.40E-03	mg/kg	9.83E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.77E-09	6.86E-09	mg/kg-day	2.00E-04	mg/kg-day	3.43E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	8.75E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	6.39E-08	6.10E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	8.95E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.43E-05	6.24E-06	mg/kg-day	5.00E-05	mg/kg-day	1.25E-01
				Dimethylphthalate	3.80E-02	mg/kg	1.73E-06	mg/kg-day	--	--	--	1.21E-05	mg/kg-day	1.00E+01	mg/kg-day	1.21E-06
				di-n-Butylphthalate	2.20E+00	mg/kg	1.40E-07	mg/kg-day	--	--	--	9.79E-07	mg/kg-day	1.00E-01	mg/kg-day	9.79E-06
				Endosulfan I	2.30E-02	mg/kg	3.16E-07	mg/kg-day	--	--	--	2.20E-06	mg/kg-day	6.00E-03	mg/kg-day	3.67E-04
				Endosulfan II	2.38E-02	mg/kg	3.13E-07	mg/kg-day	--	--	--	2.18E-06	mg/kg-day	6.00E-03	mg/kg-day	3.64E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	5.52E-07	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	6.00E-03	mg/kg-day	6.42E-04
				Endrin aldehyde	4.21E-02	mg/kg	2.14E-09	mg/kg-day	--	--	--	1.49E-08	mg/kg-day	3.00E-04	mg/kg-day	4.97E-05
				Endrin Ketone	1.00E-02	mg/kg	5.08E-10	mg/kg-day	--	--	--	3.54E-09	mg/kg-day	3.00E-04	mg/kg-day	1.18E-05
				Fluoranthene	2.65E+01	mg/kg	2.19E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	4.00E-02	mg/kg-day	3.82E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.31E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.71E-07	9.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.06E-03
				gamma-Chlordane	1.31E-02	mg/kg	1.91E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.70E-10	1.34E-08	mg/kg-day	5.00E-04	mg/kg-day	2.67E-05
				Heptachlor	6.90E-03	mg/kg	7.50E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	3.37E-09	5.23E-09	mg/kg-day	5.00E-04	mg/kg-day	1.05E-05
				Heptachlor Epoxide	1.12E-02	mg/kg	3.94E-07	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.59E-06	2.75E-06	mg/kg-day	1.30E-05	mg/kg-day	2.11E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.91E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.13E-08	2.03E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	1.24E-03	mg/kg-day	--	--	--	8.65E-03	mg/kg-day	3.00E-01	mg/kg-day	2.88E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	8.00E-04	mg/kg-day	--	--	--	5.58E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	5.07E-04	mg/kg-day	--	--	--	3.54E-03	mg/kg-day	2.40E-02	mg/kg-day	1.47E-01
				Mercury	3.10E-01	mg/kg	1.90E-08	mg/kg-day	--	--	--	1.32E-05	mg/kg-day	3.00E-04	mg/kg-day	4.41E-02
				Methoxychlor	1.20E-01	mg/kg	3.18E-09	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.00E-03	mg/kg-day	4.44E-06
				Molybdenum	2.50E+00	mg/kg	4.60E-06	mg/kg-day	--	--	--	3.21E-05	mg/kg-day	5.00E-03	mg/kg-day	6.42E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.91E+01	mg/kg	7.19E-05	mg/kg-day	--	--	--	5.01E-04	mg/kg-day	2.00E-02	mg/kg-day	2.51E-02
Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	8.76E-05	mg/kg-day	--	--	--	6.11E-04	mg/kg-day	3.00E-01	mg/kg-day	2.04E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.24E-01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.20E-06	mg/kg-day	5.00E-03	mg/kg-day	2.40E-04				
Silver	1.16E+00	mg/kg	3.55E-06	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	5.00E-03	mg/kg-day	4.95E-03				
Technical Chlordane	5.51E-01	mg/kg	8.05E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.82E-08	5.62E-07	mg/kg-day	5.00E-04	mg/kg-day	1.12E-03				
Thallium	4.97E-01	mg/kg	6.09E-09	mg/kg-day	--	--	--	4.25E-08	mg/kg-day	6.60E-05	mg/kg-day	6.43E-04				

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--
				Vanadium	3.41E+01	mg/kg	3.14E-06	mg/kg-day	--	--	--	2.19E-05	mg/kg-day	1.00E-03	mg/kg-day	2.19E-02
				Zinc	4.53E+02	mg/kg	1.25E-02	mg/kg-day	--	--	--	8.72E-02	mg/kg-day	3.00E-01	mg/kg-day	2.91E-01
				<b>Exposure Route Total</b>												
		<b>Exposure Point Total</b>														
	<b>Exposure Medium Total</b>															
	Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	5.60E-12	mg/kg-day	--	--	--	8.05E-11	mg/kg-day	2.00E-02	mg/kg-day	4.03E-09
				2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	2.16E-12	mg/kg-day	--	--	--	3.11E-11	mg/kg-day	--	--	--
				4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	3.20E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	7.68E-15	mg/kg-day	5.00E-04	mg/kg-day	9.21E-10	
				4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	1.19E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.03E-13	mg/kg-day	5.00E-04	mg/kg-day	3.41E-08	
				4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	7.20E-12	mg/kg-day	--	--	--	1.04E-10	mg/kg-day	5.00E-03	mg/kg-day	2.07E-08
				4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	1.65E-11	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.47E-13	mg/kg-day	1.00E-03	mg/kg-day	2.38E-07	
				4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.12E-11	mg/kg-day	--	--	--	1.61E-10	mg/kg-day	5.70E-04	mg/kg-day	2.83E-07
				Aluminum	6.68E-06	mg/m <sup>3</sup>	2.35E-07	mg/kg-day	--	--	--	3.38E-06	mg/kg-day	1.43E-03	mg/kg-day	2.37E-03
				Antimony	3.09E-09	mg/m <sup>3</sup>	1.09E-10	mg/kg-day	--	--	--	1.56E-09	mg/kg-day	--	--	--
				Arcochlor-1248	9.09E-10	mg/m <sup>3</sup>	3.20E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.40E-11	mg/kg-day	2.00E-05	mg/kg-day	2.30E-05	
				Arcochlor-1254	3.36E-10	mg/m <sup>3</sup>	1.18E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.37E-11	mg/kg-day	2.00E-05	mg/kg-day	8.52E-06	
				Arcochlor-1260	4.10E-10	mg/m <sup>3</sup>	1.44E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.89E-11	mg/kg-day	2.00E-05	mg/kg-day	1.04E-05	
				Arcochlor-1268	2.10E-11	mg/m <sup>3</sup>	7.40E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.48E-12	mg/kg-day	2.00E-05	mg/kg-day	5.32E-07	
				Arsenic	4.67E-09	mg/m <sup>3</sup>	1.64E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	2.46E-09	mg/kg-day	--	--	--	
				Barium	5.14E-08	mg/m <sup>3</sup>	1.81E-09	mg/kg-day	--	--	--	2.60E-08	mg/kg-day	1.40E-04	mg/kg-day	1.86E-04
				Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	1.33E-10	mg/kg-day	7.30E-01	(mg/kg-day)-1	9.74E-11	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	4.44E-11	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.24E-10	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	2.03E-11	mg/kg-day	--	--	--	2.93E-10	mg/kg-day	3.00E-02	mg/kg-day	9.76E-09
				Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	8.69E-11	mg/kg-day	7.30E-02	(mg/kg-day)-1	6.34E-12	mg/kg-day	1.25E-09	mg/kg-day	--	
				Beryllium	1.80E-10	mg/m <sup>3</sup>	6.35E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	5.33E-11	mg/kg-day	5.71E-06	mg/kg-day	1.60E-05	
				Beta-BHC	1.67E-12	mg/m <sup>3</sup>	5.86E-14	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.09E-13	mg/kg-day	2.00E-04	mg/kg-day	4.22E-09	
				bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	2.09E-10	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.92E-12	mg/kg-day	2.00E-02	mg/kg-day	1.50E-07	
				Cadmium	7.18E-09	mg/m <sup>3</sup>	2.52E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.59E-09	mg/kg-day	--	--	--	
				Chromium	8.42E-08	mg/m <sup>3</sup>	2.96E-09	mg/kg-day	--	--	--	4.27E-08	mg/kg-day	--	--	
				Cobalt	5.74E-09	mg/m <sup>3</sup>	2.02E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	1.98E-09	mg/kg-day	5.71E-06	mg/kg-day	5.09E-04	
				Copper	4.32E-08	mg/m <sup>3</sup>	1.52E-09	mg/kg-day	--	--	--	2.19E-08	mg/kg-day	--	--	
				Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	8.46E-12	mg/kg-day	7.30E+00	(mg/kg-day)-1	6.18E-11	mg/kg-day	--	--	--	
				Dimethylphthalate	2.68E-11	mg/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	1.46E-11	mg/kg-day	1.00E+01	mg/kg-day	1.46E-12
				di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	5.86E-11	mg/kg-day	--	--	--	8.44E-10	mg/kg-day	1.00E-01	mg/kg-day	8.44E-09
				Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	--	--	--	1.61E-11	mg/kg-day	3.00E-04	mg/kg-day	5.38E-08
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	2.67E-13	mg/kg-day	--	--	--	3.84E-12	mg/kg-day	3.00E-04	mg/kg-day	1.28E-08
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	2.97E-13	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.71E-12	mg/kg-day	1.30E-05	mg/kg-day	3.29E-07	
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	2.33E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.70E-11	mg/kg-day	--	--	--	
				Iron	3.09E-05	mg/m <sup>3</sup>	1.09E-06	mg/kg-day	--	--	--	1.56E-05	mg/kg-day	--	--	
				Isophorone	1.52E-10	mg/m <sup>3</sup>	5.33E-12	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.06E-15	mg/kg-day	2.00E-01	mg/kg-day	3.84E-10	
				Lead	2.20E-06	mg/m <sup>3</sup>	7.73E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	--	--	
				Manganese	2.51E-07	mg/m <sup>3</sup>	8.82E-09	mg/kg-day	--	--	--	1.27E-07	mg/kg-day	1.43E-05	mg/kg-day	8.89E-03
				Mercury	2.34E-10	mg/m <sup>3</sup>	8.25E-12	mg/kg-day	--	--	--	1.10E-10	mg/kg-day	8.60E-05	mg/kg-day	1.38E-06
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	6.67E-11	mg/kg-day	--	--	--	9.61E-10	mg/kg-day	--	--	
				Nickel	2.96E-08	mg/m <sup>3</sup>	1.04E-09	mg/kg-day	--	--	--	1.50E-08	mg/kg-day	--	--	
				Phenol	4.39E-10	mg/m <sup>3</sup>	1.55E-11	mg/kg-day	--	--	--	2.22E-10	mg/kg-day	3.00E-01	mg/kg-day	7.42E-10
				Selenium	1.70E-10	mg/m <sup>3</sup>	5.98E-12	mg/kg-day	--	--	--	8.61E-11	mg/kg-day	--	--	
				Silver	8.78E-10	mg/m <sup>3</sup>	3.09E-11	mg/kg-day	--	--	--	4.45E-10	mg/kg-day	--	--	

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.77E-10	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	--	--	--	1.91E-10	mg/kg-day	--	--	--
				Vanadium	2.59E-08	mg/m <sup>3</sup>	9.10E-10	mg/kg-day	--	--	--	1.31E-08	mg/kg-day	--	--	--
				Zinc	3.44E-07	mg/m <sup>3</sup>	1.21E-08	mg/kg-day	--	--	--	1.74E-07	mg/kg-day	--	--	--
			Exposure Route Total										6.72E-09			1.20E-02
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	3.67E-06	mg/kg-day	--	--	--	5.29E-05	mg/kg-day	1.10E-03	mg/kg-day	4.81E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.25E-05	mg/kg-day	--	--	--	1.80E-04	mg/kg-day	1.10E-03	mg/kg-day	1.63E-01
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	4.12E-06	mg/kg-day	--	--	--	5.93E-05	mg/kg-day	1.71E-03	mg/kg-day	3.46E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.87E-04	mg/kg-day	--	--	--	2.70E-03	mg/kg-day	5.70E-02	mg/kg-day	4.73E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.01E-07	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	6.84E-09	1.45E-06	mg/kg-day	1.14E-03	mg/kg-day	1.27E-03
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.29E-06	mg/kg-day	--	--	--	1.85E-05	mg/kg-day	1.71E-03	mg/kg-day	1.08E-02
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	5.73E-06	mg/kg-day	--	--	--	8.25E-05	mg/kg-day	3.00E-02	mg/kg-day	2.75E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	5.50E-05	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.21E-06	7.91E-04	mg/kg-day	2.30E-01	mg/kg-day	3.44E-03
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	2.60E-06	mg/kg-day	--	--	--	3.75E-05	mg/kg-day	5.00E-02	mg/kg-day	7.49E-04
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	3.41E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.16E-10	4.91E-09	mg/kg-day	5.00E-04	mg/kg-day	9.82E-06
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	2.05E-06	mg/kg-day	--	--	--	2.94E-05	mg/kg-day	8.00E-02	mg/kg-day	4.91E-04
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	5.03E-08	mg/kg-day	--	--	--	7.24E-07	mg/kg-day	6.00E-02	mg/kg-day	1.21E-05
				Aldrin	5.63E-09	mg/m <sup>3</sup>	1.98E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	3.37E-09	2.85E-09	mg/kg-day	3.00E-05	mg/kg-day	9.51E-05
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.28E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	8.06E-10	1.84E-09	mg/kg-day	5.00E-04	mg/kg-day	3.68E-06
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	2.84E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	9.92E-11	4.68E-09	mg/kg-day	2.00E-04	mg/kg-day	2.04E-05
				Anthracene	1.45E-05	mg/m <sup>3</sup>	5.09E-07	mg/kg-day	--	--	--	7.33E-06	mg/kg-day	3.00E-01	mg/kg-day	2.44E-05
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	6.23E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.55E-08	8.96E-07	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.59E-08	mg/kg-day	--	--	--	2.29E-07	mg/kg-day	2.00E-01	mg/kg-day	1.15E-06
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.82E-06	mg/kg-day	--	--	--	2.82E-05	mg/kg-day	1.70E-02	mg/kg-day	1.54E-03
				Chrysene	6.25E-06	mg/m <sup>3</sup>	2.20E-07	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	1.60E-09	3.16E-06	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	1.47E-09	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	2.73E-09	2.12E-08	mg/kg-day	2.00E-04	mg/kg-day	1.06E-04
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.58E-06	mg/kg-day	--	--	--	2.27E-05	mg/kg-day	2.00E-03	mg/kg-day	1.14E-02
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	2.61E-09	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	4.17E-08	3.76E-08	mg/kg-day	5.00E-05	mg/kg-day	7.51E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	2.83E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	6.00E-03	mg/kg-day	6.80E-06
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	2.93E-09	mg/kg-day	--	--	--	4.22E-08	mg/kg-day	6.00E-03	mg/kg-day	7.04E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	5.30E-09	mg/kg-day	--	--	--	7.63E-08	mg/kg-day	6.00E-03	mg/kg-day	1.27E-05
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	6.03E-07	mg/kg-day	--	--	--	8.68E-06	mg/kg-day	4.00E-02	mg/kg-day	2.17E-04
				Fluorene	1.71E-05	mg/m <sup>3</sup>	6.00E-07	mg/kg-day	--	--	--	8.64E-06	mg/kg-day	4.00E-02	mg/kg-day	2.16E-04
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	5.61E-10	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	7.29E-10	8.07E-09	mg/kg-day	3.00E-04	mg/kg-day	2.69E-05
gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>		4.56E-10	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.60E-10	6.57E-09	mg/kg-day	2.00E-04	mg/kg-day	3.28E-05			
Heptachlor	3.38E-07	mg/m <sup>3</sup>		1.19E-08	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	5.41E-08	1.71E-07	mg/kg-day	5.00E-04	mg/kg-day	3.42E-04			
Methoxychlor	8.63E-08	mg/m <sup>3</sup>		3.04E-09	mg/kg-day	--	--	--	4.37E-08	mg/kg-day	5.00E-03	mg/kg-day	8.74E-06			
Naphthalene	6.99E-04	mg/m <sup>3</sup>		2.46E-05	mg/kg-day	--	--	--	3.54E-04	mg/kg-day	8.57E-04	mg/kg-day	4.13E-01			
Phenanthrene	1.91E-04	mg/m <sup>3</sup>	6.72E-06	mg/kg-day	--	--	--	9.68E-05	mg/kg-day	3.00E-01	mg/kg-day	3.23E-04				
p-isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	6.74E-06	mg/kg-day	--	--	--	9.70E-05	mg/kg-day	1.10E-01	mg/kg-day	8.82E-04				
Pyrene	1.85E-05	mg/m <sup>3</sup>	6.50E-07	mg/kg-day	--	--	--	9.35E-06	mg/kg-day	3.00E-02	mg/kg-day	3.12E-04				
sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	9.88E-07	mg/kg-day	--	--	--	1.42E-05	mg/kg-day	4.00E-02	mg/kg-day	3.55E-04				
Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	1.92E-08	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	6.72E-12	2.76E-07	mg/kg-day	2.00E-04	mg/kg-day	1.38E-03				
Toluene	3.12E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	1.43E+00	mg/kg-day	1.11E-07				
Exposure Route Total										1.37E-06			7.44E-01			
Exposure Point Total										1.37E-06			7.56E-01			
Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	3.10E-04	mg/kg-day	--	--	--	4.46E-03	mg/kg-day	1.10E-03	mg/kg-day	4.05E+00		
		1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	1.05E-03	mg/kg-day	--	--	--	1.52E-02	mg/kg-day	1.10E-03	mg/kg-day	1.38E+01		
		1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	1.03E-04	mg/kg-day	--	--	--	1.49E-03	mg/kg-day	1.71E-03	mg/kg-day	8.67E-01		
		1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	5.37E-03	mg/kg-day	--	--	--	7.73E-02	mg/kg-day	5.70E-02	mg/kg-day	1.36E+00		
		1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	7.44E-07	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	5.06E-08	1.07E-05	mg/kg-day	1.14E-03	mg/kg-day	9.39E-03		
1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	3.31E-05	mg/kg-day	--	--	--	4.76E-04	mg/kg-day	1.71E-03	mg/kg-day	2.77E-01				

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.48E+00	(a) ug/m <sup>3</sup>	2.27E-04	mg/kg-day	--	--	--	3.27E-03	mg/kg-day	3.00E-02	mg/kg-day	1.09E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	1.40E-03	mg/kg-day	2.20E-02	(mg/kg-day)-1	3.09E-05	2.02E-02	mg/kg-day	2.30E-01	mg/kg-day	8.79E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	1.71E-04	mg/kg-day	--	--	--	2.46E-03	mg/kg-day	5.00E-02	mg/kg-day	4.91E-02
				4,4'-DDE	6.07E-08	(a) ug/m <sup>3</sup>	2.13E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.26E-11	3.07E-09	mg/kg-day	5.00E-04	mg/kg-day	6.14E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	5.96E-05	mg/kg-day	--	--	--	8.57E-04	mg/kg-day	6.00E-02	mg/kg-day	1.43E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	1.54E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	6.00E-02	mg/kg-day	3.69E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	5.66E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	9.63E-09	8.15E-09	mg/kg-day	3.00E-05	mg/kg-day	2.72E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	3.79E-09	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.39E-08	5.45E-08	mg/kg-day	5.00E-04	mg/kg-day	1.09E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	1.91E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.68E-10	2.75E-08	mg/kg-day	2.00E-04	mg/kg-day	1.37E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	1.57E-05	mg/kg-day	--	--	--	2.26E-04	mg/kg-day	3.00E-01	mg/kg-day	7.52E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	1.11E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.09E-08	1.60E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	4.96E-08	mg/kg-day	--	--	--	7.14E-07	mg/kg-day	2.00E-01	mg/kg-day	3.57E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	2.27E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.70E-02	mg/kg-day	1.92E-02
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	8.25E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.56E-09	9.00E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	6.47E-08	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.20E-07	9.31E-07	mg/kg-day	2.00E-04	mg/kg-day	4.66E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	8.33E-07	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	2.00E-03	mg/kg-day	6.00E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	1.85E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.95E-07	2.66E-07	mg/kg-day	5.00E-05	mg/kg-day	5.31E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	7.59E-08	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	6.00E-03	mg/kg-day	1.82E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	7.72E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	6.00E-03	mg/kg-day	1.85E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	1.42E-07	mg/kg-day	--	--	--	2.04E-06	mg/kg-day	6.00E-03	mg/kg-day	3.40E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	1.73E-07	mg/kg-day	--	--	--	2.48E-06	mg/kg-day	4.00E-02	mg/kg-day	6.21E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	9.42E-06	mg/kg-day	--	--	--	1.36E-04	mg/kg-day	4.00E-02	mg/kg-day	3.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	2.00E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.60E-08	2.88E-07	mg/kg-day	3.00E-04	mg/kg-day	9.61E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	3.47E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.22E-11	5.00E-10	mg/kg-day	2.00E-04	mg/kg-day	2.50E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	3.82E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	1.74E-08	5.50E-08	mg/kg-day	5.00E-04	mg/kg-day	1.10E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	1.50E-07	mg/kg-day	5.00E-03	mg/kg-day	3.00E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	4.96E-07	mg/kg-day	1.60E-03	(mg/kg-day)-1	7.93E-10	7.14E-06	mg/kg-day	8.57E-01	mg/kg-day	8.32E-06
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	2.21E-03	mg/kg-day	--	--	--	3.18E-02	mg/kg-day	8.57E-04	mg/kg-day	3.72E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	2.01E-04	mg/kg-day	--	--	--	2.89E-03	mg/kg-day	3.00E-01	mg/kg-day	9.64E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	2.27E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.10E-01	mg/kg-day	2.97E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	1.40E-06	mg/kg-day	--	--	--	2.01E-05	mg/kg-day	3.00E-02	mg/kg-day	6.71E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	8.05E-06	mg/kg-day	--	--	--	1.16E-04	mg/kg-day	4.00E-02	mg/kg-day	2.90E-03
Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	1.48E-07	mg/kg-day	3.50E-04	(mg/kg-day)-1	5.18E-11	2.13E-06	mg/kg-day	2.00E-04	mg/kg-day	1.06E-02				
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	8.88E-08	mg/kg-day	--	--	--	1.28E-06	mg/kg-day	1.43E+00	mg/kg-day	8.95E-07				
Exposure Route Total										3.15E-05					5.78E+01	
Exposure Point Total										3.15E-05						5.78E+01
Exposure Medium Total										3.29E-05						5.86E+01
Medium Total																6.34E+01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	1.49E-08	mg/kg-day	--	--	--	2.14E-07	mg/kg-day	1.40E-01	mg/kg-day	1.53E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	4.44E-09	mg/kg-day	--	--	--	6.39E-08	mg/kg-day	1.71E-03	mg/kg-day	3.73E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	2.91E-08	mg/kg-day	--	--	--	4.19E-07	mg/kg-day	5.70E-02	mg/kg-day	7.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	2.09E-08	mg/kg-day	9.10E-02	--	1.90E-09	3.01E-07	mg/kg-day	1.40E-03	mg/kg-day	2.15E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	7.85E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	5.34E-10	1.13E-07	mg/kg-day	1.14E-03	mg/kg-day	9.91E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	2.53E-09	mg/kg-day	--	--	--	3.64E-08	mg/kg-day	1.71E-03	mg/kg-day	2.12E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	9.91E-09	mg/kg-day	2.20E-02	(mg/kg-day)-1	2.18E-10	1.43E-07	mg/kg-day	2.30E-01	mg/kg-day	6.20E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	3.83E-10	mg/kg-day	--	--	--	5.51E-09	mg/kg-day	1.43E+00	mg/kg-day	3.86E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	3.40E-11	mg/kg-day	--	--	--	4.90E-10	mg/kg-day	5.00E-02	mg/kg-day	9.79E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	4.55E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.55E-11	6.55E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	1.42E-10	mg/kg-day	--	--	--	2.05E-09	mg/kg-day	8.60E-01	mg/kg-day	2.38E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.36E-09	mg/kg-day	--	--	--	1.96E-08	mg/kg-day	6.00E-02	mg/kg-day	3.27E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	5.81E-11	mg/kg-day	--	--	--	8.36E-10	mg/kg-day	6.00E-02	mg/kg-day	1.39E-08

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations										
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	7.86E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.34E-09	1.13E-09	mg/kg-day	3.00E-05	mg/kg-day	3.77E-05					
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	9.96E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	6.27E-11	1.43E-10	mg/kg-day	5.00E-04	mg/kg-day	2.87E-07					
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	2.36E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	8.25E-12	3.39E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06					
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.16E-10	mg/kg-day	--	--	--	1.66E-09	mg/kg-day	3.00E-01	mg/kg-day	5.54E-09					
				Benzene	2.61E-07	mg/m <sup>3</sup>	9.18E-09	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	2.51E-10	1.32E-07	mg/kg-day	8.60E-03	mg/kg-day	1.54E-05					
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.71E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.25E-11	2.46E-10	mg/kg-day	--	--	--					
				Bromoform	7.36E-09	mg/m <sup>3</sup>	2.59E-10	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	9.97E-13	3.73E-09	mg/kg-day	2.00E-02	mg/kg-day	1.86E-07					
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.59E-07	mg/kg-day	--	--	--	2.28E-06	mg/kg-day	2.00E-01	mg/kg-day	1.14E-05					
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	2.58E-09	mg/kg-day	--	--	--	3.71E-08	mg/kg-day	1.70E-02	mg/kg-day	2.18E-06					
				Chloroform	2.07E-06	mg/m <sup>3</sup>	7.27E-08	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	5.85E-09	1.05E-06	mg/kg-day	1.40E-02	mg/kg-day	7.48E-05					
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	2.63E-08	mg/kg-day	--	--	--	3.79E-07	mg/kg-day	2.60E-02	mg/kg-day	1.40E-05					
				Chrysene	1.32E-09	mg/m <sup>3</sup>	4.63E-11	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	3.38E-13	6.66E-10	mg/kg-day	--	--	--					
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.86E-08	mg/kg-day	--	--	--	2.68E-07	mg/kg-day	1.00E-02	mg/kg-day	2.68E-05					
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	3.46E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	5.53E-10	4.97E-10	mg/kg-day	5.00E-05	mg/kg-day	9.95E-06					
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	7.88E-12	mg/kg-day	--	--	--	1.13E-10	mg/kg-day	6.00E-03	mg/kg-day	1.89E-08					
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.29E-14	mg/kg-day	--	--	--	1.86E-13	mg/kg-day	6.00E-03	mg/kg-day	3.11E-11					
				Ethylbenzene	1.98E-07	mg/m <sup>3</sup>	7.02E-09	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	2.90E-01	mg/kg-day	3.48E-07					
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.78E-11	mg/kg-day	--	--	--	2.56E-10	mg/kg-day	4.00E-02	mg/kg-day	6.40E-09					
				Fluorene	1.00E-09	mg/m <sup>3</sup>	3.52E-11	mg/kg-day	--	--	--	5.06E-10	mg/kg-day	4.00E-02	mg/kg-day	1.27E-08					
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	4.37E-14	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	5.68E-14	6.29E-13	mg/kg-day	3.00E-04	mg/kg-day	2.10E-09					
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	6.12E-11	mg/kg-day	3.60E-01	(mg/kg-day) <sup>-1</sup>	2.14E-11	8.81E-10	mg/kg-day	2.00E-04	mg/kg-day	4.40E-06					
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	6.28E-10	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	2.88E-09	9.04E-09	mg/kg-day	5.00E-04	mg/kg-day	1.81E-05					
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04					
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	2.44E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	2.90E-02	mg/kg-day	1.21E-05					
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.15E-10	mg/kg-day	--	--	--	1.65E-09	mg/kg-day	5.00E-03	mg/kg-day	3.31E-07					
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.91E-10	mg/kg-day	--	--	--	2.75E-09	mg/kg-day	8.57E-04	mg/kg-day	3.21E-06					
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	8.90E-09	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	8.57E-04	mg/kg-day	1.49E-04					
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	9.91E-09	mg/kg-day	--	--	--	1.43E-07	mg/kg-day	4.00E-02	mg/kg-day	3.57E-06					
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	9.21E-11	mg/kg-day	--	--	--	1.33E-09	mg/kg-day	3.00E-01	mg/kg-day	4.42E-09					
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04					
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.62E-11	mg/kg-day	--	--	--	2.33E-10	mg/kg-day	3.00E-02	mg/kg-day	7.78E-09					
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	2.82E-08	mg/kg-day	--	--	--	4.06E-07	mg/kg-day	4.00E-02	mg/kg-day	1.01E-05					
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	3.19E-08	mg/kg-day	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05					
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.34E-08	mg/kg-day	--	--	--	1.92E-07	mg/kg-day	1.43E+00	mg/kg-day	1.35E-07					
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	3.15E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	2.00E-02	mg/kg-day	2.27E-05					
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	3.28E-08	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	1.31E-08	4.72E-07	mg/kg-day	1.00E-02	mg/kg-day	4.72E-05					
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	6.78E-08	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	2.10E-09	9.76E-07	mg/kg-day	2.86E-02	mg/kg-day	3.42E-05					
				Exposure Route Total																	
				Exposure Point Total																	
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	2.62E-06	mg/kg-day	--	--	--	3.77E-05	mg/kg-day	1.40E-01	mg/kg-day	2.69E-04	
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	1.15E-07	mg/kg-day	--	--	--	1.65E-06	mg/kg-day	1.71E-03	mg/kg-day	9.65E-04	
								1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	7.74E-07	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	5.70E-02	mg/kg-day	1.95E-04	
								1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	6.27E-07	mg/kg-day	9.10E-02	--	5.70E-08	9.02E-06	mg/kg-day	1.40E-03	mg/kg-day	6.44E-03	
								1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	2.32E-07	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	1.58E-08	3.34E-06	mg/kg-day	1.14E-03	mg/kg-day	2.93E-03	
								1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	6.58E-08	mg/kg-day	--	--	--	9.47E-07	mg/kg-day	1.71E-03	mg/kg-day	5.52E-04	
								1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	2.65E-07	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	5.84E-09	3.82E-06	mg/kg-day	2.30E-01	mg/kg-day	1.68E-05	
								2-Hexanone	5.60E-04	ug/m <sup>3</sup>	1.97E-08	mg/kg-day	--	--	--	2.84E-07	mg/kg-day	1.43E+00	mg/kg-day	1.99E-07	
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	9.55E-10					mg/kg-day	--	--	--	1.37E-08	mg/kg-day	5.00E-02	mg/kg-day	2.75E-07					
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	4.10E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.39E-12	5.90E-11	mg/kg-day	5.00E-04	mg/kg-day	1.18E-07					
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	5.85E-09					mg/kg-day	--	--	--	8.42E-08	mg/kg-day	8.60E-01	mg/kg-day	9.79E-08					
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	5.81E-08					mg/kg-day	--	--	--	8.36E-07	mg/kg-day	6.00E-02	mg/kg-day	1.39E-05					

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	2.47E-09	mg/kg-day	--	--	--	3.56E-08	mg/kg-day	6.00E-02	mg/kg-day	5.93E-07
				Aldrin	2.44E-07	ug/m <sup>3</sup>	8.58E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.46E-10	1.23E-10	mg/kg-day	3.00E-05	mg/kg-day	4.11E-06
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	1.28E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	8.05E-12	1.84E-11	mg/kg-day	5.00E-04	mg/kg-day	3.68E-08
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	7.75E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.71E-12	1.12E-10	mg/kg-day	2.00E-04	mg/kg-day	5.58E-07
				Anthracene	1.40E-04	ug/m <sup>3</sup>	4.91E-09	mg/kg-day	--	--	--	7.07E-08	mg/kg-day	3.00E-01	mg/kg-day	2.36E-07
				Benzene	7.66E-03	ug/m <sup>3</sup>	2.70E-07	mg/kg-day	2.73E-02	(mg/kg-day)-1	7.36E-09	3.88E-06	mg/kg-day	8.60E-03	mg/kg-day	4.51E-04
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	7.20E-10	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.25E-10	1.04E-08	mg/kg-day	--	--	--
				Bromoform	3.95E-04	ug/m <sup>3</sup>	1.39E-08	mg/kg-day	3.85E-03	(mg/kg-day)-1	5.35E-11	2.00E-07	mg/kg-day	2.00E-02	mg/kg-day	1.00E-05
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	4.76E-06	mg/kg-day	--	--	--	6.84E-05	mg/kg-day	2.00E-01	mg/kg-day	3.42E-04
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	7.22E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	1.70E-02	mg/kg-day	6.12E-05
				Chloroform	6.13E-02	ug/m <sup>3</sup>	2.16E-06	mg/kg-day	8.05E-02	(mg/kg-day)-1	1.74E-07	3.10E-05	mg/kg-day	1.40E-02	mg/kg-day	2.22E-03
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	8.54E-07	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.60E-02	mg/kg-day	4.73E-04
				Chrysene	5.75E-05	ug/m <sup>3</sup>	2.02E-09	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.48E-11	2.91E-08	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	1.00E-02	mg/kg-day	1.74E-03
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	1.32E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.12E-11	1.91E-11	mg/kg-day	5.00E-05	mg/kg-day	3.81E-07
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	1.71E-12	mg/kg-day	--	--	--	2.46E-11	mg/kg-day	5.00E-03	mg/kg-day	4.10E-09
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	5.70E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	1.90E-07	mg/kg-day	--	--	--	2.73E-06	mg/kg-day	2.90E-01	mg/kg-day	9.41E-06
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	7.20E-10	mg/kg-day	--	--	--	1.04E-08	mg/kg-day	4.00E-02	mg/kg-day	2.59E-07
				Fluorene	5.21E-05	ug/m <sup>3</sup>	1.83E-09	mg/kg-day	--	--	--	2.64E-08	mg/kg-day	4.00E-02	mg/kg-day	6.59E-07
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	1.73E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.24E-12	2.48E-11	mg/kg-day	3.00E-04	mg/kg-day	8.28E-08
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	3.75E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.31E-12	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	1.69E-11	mg/kg-day	4.55E+00	(mg/kg-day)-1	7.71E-11	2.44E-10	mg/kg-day	5.00E-04	mg/kg-day	4.87E-07
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	6.33E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	1.42E-06	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	2.90E-02	mg/kg-day	7.04E-04
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	4.98E-12	mg/kg-day	--	--	--	7.17E-11	mg/kg-day	5.00E-03	mg/kg-day	1.43E-08
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	1.49E-07	mg/kg-day	8.57E-04	mg/kg-day	1.74E-07
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	4.99E-07	mg/kg-day	--	--	--	7.18E-06	mg/kg-day	8.57E-04	mg/kg-day	8.38E-03
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	5.63E-07	mg/kg-day	--	--	--	8.10E-06	mg/kg-day	4.00E-02	mg/kg-day	2.02E-04
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	5.11E-09	mg/kg-day	--	--	--	7.36E-08	mg/kg-day	3.00E-01	mg/kg-day	2.45E-07
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	6.33E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03
				Pyrene	1.92E-05	ug/m <sup>3</sup>	6.76E-10	mg/kg-day	--	--	--	9.73E-09	mg/kg-day	3.00E-02	mg/kg-day	3.24E-07
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	2.00E-08	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	4.00E-02	mg/kg-day	7.20E-06
Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	2.00E-06	mg/kg-day	--	--	--	2.88E-05	mg/kg-day	4.00E-02	mg/kg-day	7.20E-04				
Toluene	2.18E-03	ug/m <sup>3</sup>	7.66E-08	mg/kg-day	--	--	--	1.10E-06	mg/kg-day	1.43E+00	mg/kg-day	7.72E-07				
trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	2.12E-06	mg/kg-day	--	--	--	3.05E-05	mg/kg-day	2.00E-02	mg/kg-day	1.53E-03				
Trichloroethene	5.71E-02	ug/m <sup>3</sup>	2.01E-06	mg/kg-day	4.00E-01	(mg/kg-day)-1	8.03E-07	2.89E-05	mg/kg-day	1.00E-02	mg/kg-day	2.89E-03				
Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	4.56E-06	mg/kg-day	3.10E-02	(mg/kg-day)-1	1.41E-07	6.57E-05	mg/kg-day	2.66E-02	mg/kg-day	2.30E-03				
Exposure Route Total										1.20E-06					5.02E-02	
Exposure Point Total										1.20E-06						5.02E-02
Exposure Medium Total										1.23E-06						5.14E-02
Medium Total										1.23E-06						5.14E-02
Total of Receptor Risks Across All Media										6.69E-05	Total of Receptor Hazards Across All Media				6.35E+01	

TABLE H2-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfC Reference concentration
  - RfD Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units				
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.77E-07	mg/kg-day	--	--	--	--	9.59E-06	mg/kg-day	1.00E-02	mg/kg-day	9.59E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.28E-06	mg/kg-day	--	--	--	--	3.26E-05	mg/kg-day	1.00E-02	mg/kg-day	3.26E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.26E-07	mg/kg-day	--	--	--	--	3.20E-06	mg/kg-day	5.00E-02	mg/kg-day	6.39E-05
				1,2-Dichlorobenzene	2.80E+01	mg/kg	6.53E-06	mg/kg-day	--	--	--	--	1.66E-04	mg/kg-day	9.00E-02	mg/kg-day	1.85E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	9.04E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	6.15E-11	--	2.30E-08	mg/kg-day	1.14E-03	mg/kg-day	2.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.02E-08	mg/kg-day	--	--	--	--	1.02E-06	mg/kg-day	5.00E-02	mg/kg-day	2.05E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.76E-07	mg/kg-day	--	--	--	--	7.03E-06	mg/kg-day	3.00E-02	mg/kg-day	2.34E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.71E-06	mg/kg-day	2.40E-02	(mg/kg-day)-1	4.10E-08	--	4.35E-05	mg/kg-day	3.00E-02	mg/kg-day	1.45E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	5.27E-08	mg/kg-day	--	--	--	--	1.34E-06	mg/kg-day	2.00E-02	mg/kg-day	6.71E-05
				2-Methylphenol	8.10E-02	mg/kg	2.03E-08	mg/kg-day	--	--	--	--	5.18E-07	mg/kg-day	5.00E-02	mg/kg-day	1.04E-05
				2-Methylnaphthalene	1.45E+00	mg/kg	3.64E-07	mg/kg-day	--	--	--	--	9.27E-06	mg/kg-day	4.00E-03	mg/kg-day	2.32E-03
				4,4'-DDD	1.20E-03	mg/kg	3.01E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	7.23E-11	--	7.67E-09	mg/kg-day	5.00E-04	mg/kg-day	1.53E-05
				4,4'-DDE	7.50E-02	mg/kg	1.88E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.40E-09	--	4.79E-07	mg/kg-day	5.00E-04	mg/kg-day	9.59E-04
				4,4'-DDT	4.20E-02	mg/kg	1.05E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.59E-09	--	2.68E-07	mg/kg-day	5.00E-04	mg/kg-day	5.37E-04
				4-Methylphenol	2.70E-01	mg/kg	6.78E-08	mg/kg-day	--	--	--	--	1.73E-06	mg/kg-day	5.00E-03	mg/kg-day	3.45E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.56E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.27E-09	--	3.96E-06	mg/kg-day	3.00E-03	mg/kg-day	1.32E-03
				4-Nitrophenol	4.20E-01	mg/kg	1.05E-07	mg/kg-day	--	--	--	--	2.68E-06	mg/kg-day	5.00E-04	mg/kg-day	5.37E-03
				Acenaphthene	3.47E+00	mg/kg	8.72E-07	mg/kg-day	--	--	--	--	2.22E-05	mg/kg-day	6.00E-02	mg/kg-day	3.70E-04
				Acenaphthylene	8.96E-02	mg/kg	2.25E-08	mg/kg-day	--	--	--	--	5.73E-07	mg/kg-day	6.00E-02	mg/kg-day	9.54E-06
				Aldrin	1.30E-02	mg/kg	3.26E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.55E-08	--	8.31E-08	mg/kg-day	3.00E-05	mg/kg-day	2.77E-03
				alpha-BHC	7.30E-04	mg/kg	1.83E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.16E-09	--	4.67E-09	mg/kg-day	5.00E-04	mg/kg-day	9.33E-06
				alpha-Chlordane	6.98E-03	mg/kg	1.75E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.14E-10	--	4.46E-08	mg/kg-day	5.00E-04	mg/kg-day	8.93E-05
				Aluminum	9.05E+03	mg/kg	2.27E-03	mg/kg-day	--	--	--	--	5.79E-02	mg/kg-day	1.00E+00	mg/kg-day	5.79E-02
				Anthracene	9.13E-01	mg/kg	2.29E-07	mg/kg-day	--	--	--	--	5.84E-06	mg/kg-day	3.00E-01	mg/kg-day	1.95E-05
				Antimony	2.72E+00	mg/kg	6.84E-07	mg/kg-day	--	--	--	--	1.74E-05	mg/kg-day	4.00E-04	mg/kg-day	4.35E-02
				Aroclor-1248	1.20E+00	mg/kg	3.01E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.03E-07	--	7.67E-06	mg/kg-day	2.00E-05	mg/kg-day	3.84E-01
				Aroclor-1254	4.38E-01	mg/kg	1.10E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.20E-07	--	2.80E-06	mg/kg-day	2.00E-05	mg/kg-day	1.40E-01
				Aroclor-1260	4.88E-01	mg/kg	1.23E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.45E-07	--	3.12E-06	mg/kg-day	2.00E-05	mg/kg-day	1.56E-01
				Aroclor-1268	2.72E-02	mg/kg	6.83E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.37E-08	--	1.74E-07	mg/kg-day	2.00E-05	mg/kg-day	8.69E-03
				Arsenic	9.53E+00	mg/kg	2.39E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.59E-06	--	6.09E-05	mg/kg-day	3.00E-04	mg/kg-day	2.03E-01
				Barium	6.94E+01	mg/kg	1.74E-05	mg/kg-day	--	--	--	--	4.44E-04	mg/kg-day	7.00E-02	mg/kg-day	6.34E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	1.06E-06	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.72E-07	--	2.69E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	3.53E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.58E-06	--	8.99E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	5.96E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.35E-07	--	1.52E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.63E-07	mg/kg-day	--	--	--	--	4.14E-06	mg/kg-day	3.00E-02	mg/kg-day	1.38E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	7.09E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	5.18E-08	--	1.81E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	5.72E-08	mg/kg-day	--	--	--	--	1.46E-06	mg/kg-day	2.00E-03	mg/kg-day	7.28E-04
				Beta-BHC	2.20E-03	mg/kg	5.53E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	9.95E-10	--	1.41E-08	mg/kg-day	2.00E-04	mg/kg-day	7.03E-05
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.33E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.86E-08	--	3.39E-05	mg/kg-day	2.00E-02	mg/kg-day	1.69E-03
				Cadmium	8.65E+00	mg/kg	2.17E-06	mg/kg-day	--	--	--	--	5.53E-05	mg/kg-day	5.00E-04	mg/kg-day	1.11E-01
				Carbon disulfide	2.40E-04	mg/kg	6.03E-11	mg/kg-day	--	--	--	--	1.53E-09	mg/kg-day	1.00E-01	mg/kg-day	1.53E-08
				Chlorobenzene	1.10E-01	mg/kg	2.76E-08	mg/kg-day	--	--	--	--	7.03E-07	mg/kg-day	2.00E-02	mg/kg-day	3.52E-05
				Chromium	1.00E+02	mg/kg	2.51E-05	mg/kg-day	--	--	--	--	6.39E-04	mg/kg-day	1.50E+00	mg/kg-day	4.26E-04
				Chrysene	4.80E+00	mg/kg	1.20E-06	mg/kg-day	7.30E-03	(mg/kg-day)-1	8.79E-09	--	3.07E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.87E-06	mg/kg-day	--	--	--	--	4.76E-05	mg/kg-day	2.00E-02	mg/kg-day	2.38E-03
				Copper	6.01E+01	mg/kg	1.51E-05	mg/kg-day	--	--	--	--	3.84E-04	mg/kg-day	3.70E-02	mg/kg-day	1.04E-02
				Delta-BHC	8.40E-03	mg/kg	2.11E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.80E-09	--	5.37E-08	mg/kg-day	2.00E-04	mg/kg-day	2.68E-04
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	6.92E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.05E-07	--	1.76E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.26E-06	mg/kg-day	--	--	--	--	8.31E-05	mg/kg-day	2.00E-03	mg/kg-day	4.16E-02
				Diieldn	4.89E-02	mg/kg	1.23E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.97E-07	--	3.13E-07	mg/kg-day	5.00E-05	mg/kg-day	6.26E-03
Dimethylphthalate	3.80E-02	mg/kg	9.54E-09	mg/kg-day	--	--	--	--	2.43E-07	mg/kg-day	1.00E+01	mg/kg-day	2.43E-08				

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient																
							Value	Units	Value	Units		Value	Units	Value	Units																	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	5.78E-07	mg/kg-day	--	--	--	--	1.47E-05	mg/kg-day	1.00E-01	mg/kg-day	1.47E-04															
				Endosulfan I	2.30E-02	mg/kg	5.78E-09	mg/kg-day	--	--	--	--	1.47E-07	mg/kg-day	6.00E-03	mg/kg-day	2.45E-05															
				Endosulfan II	2.34E-02	mg/kg	5.87E-09	mg/kg-day	--	--	--	--	1.49E-07	mg/kg-day	6.00E-03	mg/kg-day	2.49E-05															
				Endosulfan Sulfate	4.30E-02	mg/kg	1.08E-08	mg/kg-day	--	--	--	--	2.75E-07	mg/kg-day	6.00E-03	mg/kg-day	4.58E-05															
				Endrin aldehyde	8.30E-02	mg/kg	1.58E-08	mg/kg-day	--	--	--	--	4.03E-07	mg/kg-day	3.00E-04	mg/kg-day	1.34E-03															
				Endrin Ketone	1.00E-02	mg/kg	2.51E-09	mg/kg-day	--	--	--	--	6.39E-08	mg/kg-day	3.00E-04	mg/kg-day	2.13E-04															
				Fluoranthene	2.23E+01	mg/kg	5.59E-06	mg/kg-day	--	--	--	--	1.42E-04	mg/kg-day	4.00E-02	mg/kg-day	3.56E-03															
				Fluorene	2.53E+00	mg/kg	6.35E-07	mg/kg-day	--	--	--	--	1.62E-05	mg/kg-day	4.00E-02	mg/kg-day	4.04E-04															
				gamma-BHC (Lindane)	2.60E-03	mg/kg	6.53E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.49E-10	--	1.66E-08	mg/kg-day	3.00E-04	mg/kg-day	5.54E-05															
				gamma-Chlordane	1.27E-02	mg/kg	3.19E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.12E-09	--	8.12E-08	mg/kg-day	5.00E-04	mg/kg-day	1.62E-04															
				Heptachlor	6.90E-03	mg/kg	1.73E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	7.80E-09	--	4.41E-08	mg/kg-day	5.00E-04	mg/kg-day	8.82E-05															
				Heptachlor Epoxide	9.86E-03	mg/kg	2.48E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.25E-08	--	6.30E-08	mg/kg-day	1.30E-05	mg/kg-day	4.65E-03															
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.25E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	9.11E-08	--	3.18E-06	mg/kg-day	--	--	--															
				Iron	3.68E+04	mg/kg	9.23E-03	mg/kg-day	--	--	--	--	2.35E-01	mg/kg-day	3.00E-01	mg/kg-day	7.83E-01															
				Isophorone	2.00E-01	mg/kg	5.02E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	4.77E-11	--	1.28E-08	mg/kg-day	2.00E-01	mg/kg-day	6.39E-06															
				Lead	2.39E+03	mg/kg	6.00E-04	mg/kg-day	--	--	--	--	1.53E-02	mg/kg-day	--	--	--															
				Manganese	3.04E+02	mg/kg	7.64E-05	mg/kg-day	--	--	--	--	1.95E-03	mg/kg-day	2.40E-02	mg/kg-day	8.11E-02															
				Mercury	2.65E+01	mg/kg	6.66E-08	mg/kg-day	--	--	--	--	1.70E-06	mg/kg-day	3.00E-04	mg/kg-day	5.65E-03															
				Methoxychlor	1.20E-01	mg/kg	3.01E-08	mg/kg-day	--	--	--	--	7.67E-07	mg/kg-day	5.00E-03	mg/kg-day	1.53E-04															
				Methylene chloride	2.40E-03	mg/kg	6.03E-10	mg/kg-day	7.50E-03	(mg/kg-day)-1	4.52E-12	--	1.53E-08	mg/kg-day	6.00E-02	mg/kg-day	2.56E-07															
				Molybdenum	2.18E+00	mg/kg	5.47E-07	mg/kg-day	--	--	--	--	1.39E-05	mg/kg-day	5.00E-03	mg/kg-day	2.79E-03															
				Naphthalene	1.30E+01	mg/kg	3.26E-06	mg/kg-day	--	--	--	--	8.31E-05	mg/kg-day	2.00E-02	mg/kg-day	4.16E-03															
				Nickel	3.89E+01	mg/kg	9.78E-06	mg/kg-day	--	--	--	--	2.49E-04	mg/kg-day	2.00E-02	mg/kg-day	1.24E-02															
				Phenanthrene	1.17E+01	mg/kg	2.93E-06	mg/kg-day	--	--	--	--	7.47E-05	mg/kg-day	3.00E-01	mg/kg-day	2.49E-04															
				Phenol	5.80E-01	mg/kg	1.48E-07	mg/kg-day	--	--	--	--	3.71E-06	mg/kg-day	3.00E-01	mg/kg-day	1.24E-05															
				p-Isopropyltoluene	1.10E-01	mg/kg	2.76E-08	mg/kg-day	--	--	--	--	7.03E-07	mg/kg-day	1.00E-01	mg/kg-day	7.03E-06															
				Pyrene	2.03E+01	mg/kg	5.11E-06	mg/kg-day	--	--	--	--	1.30E-04	mg/kg-day	3.00E-02	mg/kg-day	4.33E-03															
				sec-Butylbenzene	7.10E-02	mg/kg	1.78E-08	mg/kg-day	--	--	--	--	4.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.13E-05															
				Selenium	2.84E-01	mg/kg	7.12E-08	mg/kg-day	--	--	--	--	1.81E-06	mg/kg-day	5.00E-03	mg/kg-day	3.63E-04															
				Silver	9.80E-01	mg/kg	2.46E-07	mg/kg-day	--	--	--	--	6.26E-06	mg/kg-day	5.00E-03	mg/kg-day	1.25E-03															
				Technical Chlordane	5.41E-01	mg/kg	1.36E-07	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.75E-08	--	3.46E-06	mg/kg-day	5.00E-04	mg/kg-day	6.91E-03															
				Thallium	4.83E-01	mg/kg	1.21E-07	mg/kg-day	--	--	--	--	3.09E-06	mg/kg-day	6.00E-05	mg/kg-day	4.67E-02															
				Toluene	4.30E-04	mg/kg	1.08E-10	mg/kg-day	--	--	--	--	2.75E-09	mg/kg-day	8.00E-02	mg/kg-day	3.44E-08															
				Vanadium	3.37E+01	mg/kg	8.46E-06	mg/kg-day	--	--	--	--	2.15E-04	mg/kg-day	1.00E-03	mg/kg-day	2.15E-01															
				Zinc	3.32E+02	mg/kg	8.33E-05	mg/kg-day	--	--	--	--	2.12E-03	mg/kg-day	3.00E-01	mg/kg-day	7.07E-03															
				<b>Exposure Route Total</b>									<b>9.53E-06</b>						<b>2.38E+00</b>													
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4-DDD	4,4-DDE	4,4-DDT	4-Methylphenol	1.50E+00	mg/kg	4.24E-08	mg/kg-day	--	--	--	--	1.07E-06	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04
																				5.10E+00	mg/kg	1.44E-08	mg/kg-day	--	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05
																				5.00E-01	mg/kg	1.41E-09	mg/kg-day	--	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07
																				2.60E+01	mg/kg	7.35E-08	mg/kg-day	--	--	--	--	1.86E-06	mg/kg-day	9.00E-02	mg/kg-day	2.07E-05
																				3.60E-03	mg/kg	1.02E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	6.92E-13	--	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07
																				1.60E-01	mg/kg	4.52E-10	mg/kg-day	--	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07
																				1.10E+00	mg/kg	3.11E-09	mg/kg-day	--	--	--	--	7.88E-08	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06
																				6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
																				2.10E-01	mg/kg	5.94E-10	mg/kg-day	--	--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07
																				8.10E-02	mg/kg	2.29E-09	mg/kg-day	--	--	--	--	5.80E-08	mg/kg-day	5.00E-02	mg/kg-day	1.16E-06
																				1.45E+00	mg/kg	4.10E-09	mg/kg-day	--	--	--	--	1.04E-07	mg/kg-day	4.00E-03	mg/kg-day	2.59E-05
1.20E-03	mg/kg	3.39E-12	mg/kg-day																	2.40E-01	(mg/kg-day)-1	8.14E-13	--	8.59E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07				
7.50E-02	mg/kg	2.12E-10	mg/kg-day																	3.40E-01	(mg/kg-day)-1	7.21E-11	--	5.37E-09	mg/kg-day	5.00E-04	mg/kg-day	1.07E-05				
4.20E-02	mg/kg	3.56E-10	mg/kg-day																	3.40E-01	(mg/kg-day)-1	1.21E-10	--	9.02E-09	mg/kg-day	5.00E-04	mg/kg-day	1.80E-05				
2.70E-01	mg/kg	7.63E-09	mg/kg-day																	--	--	--	--	1.93E-07	mg/kg-day	5.00E-03	mg/kg-day	3.67E-05				

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	1.75E-08	mg/kg-day	2.10E-02	--	3.68E-10	4.44E-07	mg/kg-day	3.00E-03	mg/kg-day	1.48E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	3.47E+00	mg/kg	1.28E-07	mg/kg-day	--	--	--	3.23E-06	mg/kg-day	6.00E-02	mg/kg-day	5.39E-05
				Acenaphthylene	8.96E-02	mg/kg	2.53E-10	mg/kg-day	--	--	--	6.41E-09	mg/kg-day	6.00E-02	mg/kg-day	1.07E-07
				Aldrin	1.30E-02	mg/kg	3.67E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.25E-09	9.31E-09	mg/kg-day	3.00E-05	mg/kg-day	3.10E-04
				alpha-BHC	7.30E-04	mg/kg	2.06E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.30E-11	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	2.56E-06	mg/kg-day	--	--	--	6.48E-05	mg/kg-day	1.00E+00	mg/kg-day	6.48E-05
				Anthracene	9.13E-01	mg/kg	3.36E-08	mg/kg-day	--	--	--	8.50E-07	mg/kg-day	3.00E-01	mg/kg-day	2.83E-06
				Antimony	2.72E+00	mg/kg	7.70E-10	mg/kg-day	--	--	--	1.95E-08	mg/kg-day	4.00E-04	mg/kg-day	4.88E-05
				Aroclor-1248	1.20E+00	mg/kg	4.75E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.50E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02
				Aroclor-1254	4.38E-01	mg/kg	1.73E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.46E-08	4.39E-07	mg/kg-day	2.00E-05	mg/kg-day	2.19E-02
				Aroclor-1260	4.88E-01	mg/kg	1.93E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.86E-08	4.89E-07	mg/kg-day	2.00E-05	mg/kg-day	2.45E-02
				Aroclor-1268	2.72E-02	mg/kg	1.08E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.15E-09	2.72E-08	mg/kg-day	2.00E-05	mg/kg-day	1.36E-03
				Arsenic	9.53E+00	mg/kg	8.08E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.21E-07	2.05E-06	mg/kg-day	3.00E-04	mg/kg-day	6.83E-03
				Barium	6.94E+01	mg/kg	1.96E-08	mg/kg-day	--	--	--	4.97E-07	mg/kg-day	7.00E-02	mg/kg-day	7.10E-06
				Benzo(a)anthracene	4.21E+00	mg/kg	1.55E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.13E-07	3.92E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	5.17E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.77E-07	1.31E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	8.72E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.36E-08	2.21E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	2.38E-08	mg/kg-day	--	--	--	6.03E-07	mg/kg-day	3.00E-02	mg/kg-day	2.01E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.04E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	7.58E-09	2.63E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	6.44E-11	mg/kg-day	--	--	--	1.63E-09	mg/kg-day	2.00E-03	mg/kg-day	8.15E-07
				Beta-BHC	2.20E-03	mg/kg	6.22E-12	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.12E-11	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.50E-08	mg/kg-day	1.40E-02	(mg/kg-day)-1	2.10E-10	3.79E-07	mg/kg-day	2.00E-02	mg/kg-day	1.90E-05
				Cadmium	8.65E+00	mg/kg	2.44E-09	mg/kg-day	--	--	--	6.19E-08	mg/kg-day	5.00E-04	mg/kg-day	1.24E-04
				Carbon disulfide	2.40E-04	mg/kg	1.70E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09
				Chlorobenzene	1.10E-01	mg/kg	3.11E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07
				Chromium	1.00E+02	mg/kg	2.83E-08	mg/kg-day	--	--	--	7.16E-07	mg/kg-day	1.50E+00	mg/kg-day	4.77E-07
				Chrysene	4.80E+00	mg/kg	1.76E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.29E-09	4.46E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.10E-09	mg/kg-day	--	--	--	5.33E-08	mg/kg-day	2.00E-02	mg/kg-day	2.66E-06
				Copper	6.01E+01	mg/kg	1.70E-08	mg/kg-day	--	--	--	4.30E-07	mg/kg-day	3.70E-02	mg/kg-day	1.16E-05
				Delta-BHC	8.40E-03	mg/kg	1.19E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.14E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.50E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.01E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	7.39E-08	2.57E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.67E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04
				Dieldrin	4.89E-02	mg/kg	1.38E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.21E-09	3.50E-09	mg/kg-day	5.00E-05	mg/kg-day	7.01E-05
				Dimethylphthalate	3.80E-02	mg/kg	1.07E-10	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	1.00E+01	mg/kg-day	2.72E-10
				di-n-Butylphthalate	2.30E+00	mg/kg	6.50E-09	mg/kg-day	--	--	--	1.65E-07	mg/kg-day	1.00E-01	mg/kg-day	1.65E-06
				Endosulfan I	2.30E-02	mg/kg	3.25E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06
				Endosulfan II	2.34E-02	mg/kg	3.30E-10	mg/kg-day	--	--	--	8.37E-09	mg/kg-day	6.00E-03	mg/kg-day	1.39E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.08E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-06
				Endrin aldehyde	6.30E-02	mg/kg	8.90E-10	mg/kg-day	--	--	--	2.26E-08	mg/kg-day	3.00E-04	mg/kg-day	7.52E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	8.18E-07	mg/kg-day	--	--	--	2.07E-05	mg/kg-day	4.00E-02	mg/kg-day	5.18E-04
				Fluorene	2.53E+00	mg/kg	9.29E-08	mg/kg-day	--	--	--	2.35E-06	mg/kg-day	4.00E-02	mg/kg-day	5.88E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.94E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.82E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.95E-11	mg/kg-day	4.50E+00	(mg/kg-day)-1	8.78E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07
				Heptachlor Epoxide	9.86E-03	mg/kg	2.79E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.54E-10	7.06E-10	mg/kg-day	1.00E-05	mg/kg-day	5.43E-05
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.83E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.33E-08	4.63E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	1.04E-05	mg/kg-day	--	--	--	2.63E-04	mg/kg-day	3.00E-01	mg/kg-day	8.77E-04
				Isophorone	2.00E-01	mg/kg	5.65E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.37E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	6.75E-07	mg/kg-day	--	--	--	--	1.71E-05	mg/kg-day	--	--	--	
				Manganese	3.04E+02	mg/kg	8.60E-08	mg/kg-day	--	--	--	--	2.18E-06	mg/kg-day	2.40E-02	mg/kg-day	9.08E-05	
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	--	--
				Methoxychlor	1.20E-01	mg/kg	3.39E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06	
				Methylene chloride	2.40E-03	mg/kg	6.78E-12	mg/kg-day	7.50E-03	(mg/kg-day) <sup>-1</sup>	5.09E-14	--	1.72E-10	mg/kg-day	8.00E-02	mg/kg-day	2.86E-09	
				Molybdenum	2.18E+00	mg/kg	6.16E-10	mg/kg-day	--	--	--	--	1.58E-08	mg/kg-day	5.00E-03	mg/kg-day	3.12E-06	
				Naphthalene	1.30E+01	mg/kg	4.78E-07	mg/kg-day	--	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04	
				Nickel	3.89E+01	mg/kg	1.10E-08	mg/kg-day	--	--	--	--	2.79E-07	mg/kg-day	2.00E-02	mg/kg-day	1.39E-05	
				Phenanthrene	1.17E+01	mg/kg	3.30E-08	mg/kg-day	--	--	--	--	8.36E-07	mg/kg-day	3.00E-01	mg/kg-day	2.79E-06	
				Phenol	5.80E-01	mg/kg	1.64E-08	mg/kg-day	--	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	--	--
				Pyrene	2.03E+01	mg/kg	7.47E-07	mg/kg-day	--	--	--	--	1.89E-05	mg/kg-day	3.00E-02	mg/kg-day	6.31E-04	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	--	--
				Selenium	2.84E-01	mg/kg	8.02E-11	mg/kg-day	--	--	--	--	2.03E-09	mg/kg-day	5.00E-03	mg/kg-day	4.06E-07	
				Silver	9.80E-01	mg/kg	2.77E-10	mg/kg-day	--	--	--	--	7.02E-09	mg/kg-day	5.00E-03	mg/kg-day	1.40E-06	
				Technical Chlordane	5.41E-01	mg/kg	6.11E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	2.14E-09	--	1.55E-07	mg/kg-day	5.00E-04	mg/kg-day	3.10E-04	
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	6.60E-05	mg/kg-day	--	--	--
				Toluene	4.30E-04	mg/kg	1.22E-12	mg/kg-day	--	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.85E-10	
				Vanadium	3.37E+01	mg/kg	9.52E-09	mg/kg-day	--	--	--	--	2.41E-07	mg/kg-day	1.00E-03	mg/kg-day	2.41E-04	
				Zinc	3.32E+02	mg/kg	9.38E-08	mg/kg-day	--	--	--	--	2.38E-06	mg/kg-day	3.00E-01	mg/kg-day	7.92E-06	
				Exposure Point Total							9.54E-07				1.20E-01			
Exposure Route Total							1.05E-05				2.50E+00							
	Homegrown Produce		Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--	
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--	
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--	
				1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--	
				1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--	
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--	
				1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--	
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--	
				2,4-Dimethylphenol	2.10E-01	mg/kg	5.01E-06	mg/kg-day	--	--	--	--	3.50E-05	mg/kg-day	2.00E-02	mg/kg-day	1.75E-03	
				2-Methylphenol	8.10E-02	mg/kg	4.60E-06	mg/kg-day	--	--	--	--	3.21E-05	mg/kg-day	5.00E-02	mg/kg-day	6.42E-04	
				2-Methylnaphthalene	1.45E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-03	mg/kg-day	--	
				4,4'-DDD	1.20E-03	mg/kg	4.88E-11	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	1.17E-11	--	3.40E-10	mg/kg-day	5.00E-04	mg/kg-day	6.81E-07	
				4,4'-DDE	7.50E-02	mg/kg	2.21E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	7.51E-10	--	1.54E-08	mg/kg-day	5.00E-04	mg/kg-day	3.08E-05	
				4,4'-DDT	4.20E-02	mg/kg	5.33E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.81E-09	--	3.72E-08	mg/kg-day	5.00E-04	mg/kg-day	7.44E-05	
				4-Methylphenol	2.70E-01	mg/kg	1.58E-05	mg/kg-day	--	--	--	--	1.10E-04	mg/kg-day	5.00E-03	mg/kg-day	2.20E-02	
				4-Nitroaniline	6.20E-01	mg/kg	2.48E-05	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	5.20E-07	--	1.73E-04	mg/kg-day	3.00E-03	mg/kg-day	5.76E-02	
				4-Nitrophenol	4.20E-01	mg/kg	2.52E-05	mg/kg-day	--	--	--	--	1.78E-04	mg/kg-day	5.00E-04	mg/kg-day	3.51E-01	
				Acenaphthene	3.47E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--	
				Acenaphthylene	8.98E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--	
				Aldrin	1.30E-02	mg/kg	8.65E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.47E-08	--	6.03E-09	mg/kg-day	3.00E-05	mg/kg-day	2.01E-04	
				alpha-BHC	7.30E-04	mg/kg	1.05E-08	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	6.61E-08	--	7.31E-08	mg/kg-day	5.00E-04	mg/kg-day	1.46E-04	
alpha-Chlordane	6.98E-03	mg/kg	1.02E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	3.57E-10	--	7.11E-09	mg/kg-day	5.00E-04	mg/kg-day	1.42E-05					
Aluminum	9.05E+03	mg/kg	1.80E-04	mg/kg-day	--	--	--	--	1.26E-03	mg/kg-day	1.00E+00	mg/kg-day	1.26E-03					
Anthracene	9.13E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--					
Antimony	2.72E+00	mg/kg	2.50E-06	mg/kg-day	--	--	--	--	1.75E-05	mg/kg-day	4.00E-04	mg/kg-day	4.36E-02					
Aroclor-1248	1.20E+00	mg/kg	4.89E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	9.79E-08	--	3.41E-07	mg/kg-day	2.00E-05	mg/kg-day	1.71E-02					
Aroclor-1254	4.38E-01	mg/kg	2.39E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.78E-07	--	1.67E-06	mg/kg-day	2.00E-05	mg/kg-day	8.33E-02					
Aroclor-1260	4.88E-01	mg/kg	9.53E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.91E-08	--	6.65E-08	mg/kg-day	2.00E-05	mg/kg-day	3.32E-03					
Aroclor-1268	2.72E-02	mg/kg	1.48E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.97E-08	--	1.03E-07	mg/kg-day	2.00E-05	mg/kg-day	5.17E-03					

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	1.75E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.63E-06	1.22E-05	mg/kg-day	3.00E-04	mg/kg-day	4.07E-02
				Barium	6.94E+01	mg/kg	3.19E-05	mg/kg-day	--	--	--	2.22E-04	mg/kg-day	7.00E-02	mg/kg-day	3.18E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	3.31E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.42E-08	2.31E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	6.27E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.58E-08	4.37E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.06E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.72E-08	7.38E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	2.20E-08	mg/kg-day	--	--	--	1.54E-07	mg/kg-day	3.00E-02	mg/kg-day	5.12E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.26E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	9.19E-09	8.78E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.05E-08	mg/kg-day	--	--	--	7.30E-08	mg/kg-day	2.00E-03	mg/kg-day	3.65E-05
				Beta-BHC	2.20E-03	mg/kg	3.16E-08	mg/kg-day	1.80E+00	(mg/kg-day)-1	5.69E-08	2.20E-07	mg/kg-day	2.00E-04	mg/kg-day	1.10E-03
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	5.61E-05	mg/kg-day	1.40E-02	(mg/kg-day)-1	7.85E-07	3.91E-04	mg/kg-day	2.00E-02	mg/kg-day	1.95E-02
				Cadmium	8.65E+00	mg/kg	3.97E-05	mg/kg-day	--	--	--	2.77E-04	mg/kg-day	5.00E-04	mg/kg-day	5.54E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	1.38E-05	mg/kg-day	--	--	--	9.61E-05	mg/kg-day	1.50E+00	mg/kg-day	6.40E-05
				Chrysene	4.80E+00	mg/kg	2.64E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.93E-09	1.84E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.60E-06	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	2.00E-02	mg/kg-day	5.66E-04
				Copper	6.01E+01	mg/kg	4.60E-04	mg/kg-day	--	--	--	3.21E-03	mg/kg-day	3.70E-02	mg/kg-day	6.67E-02
				Delta-BHC	8.40E-03	mg/kg	9.83E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.77E-09	6.86E-09	mg/kg-day	2.00E-04	mg/kg-day	3.43E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	7.59E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.54E-08	5.30E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	7.94E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.27E-05	5.54E-06	mg/kg-day	5.00E-05	mg/kg-day	1.11E-01
				Dimethylphthalate	3.80E-02	mg/kg	1.73E-06	mg/kg-day	--	--	--	1.21E-05	mg/kg-day	1.00E+01	mg/kg-day	1.21E-06
				di-n-Butylphthalate	2.30E+00	mg/kg	1.47E-07	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	1.00E-01	mg/kg-day	1.02E-05
				Endosulfan I	2.30E-02	mg/kg	3.16E-07	mg/kg-day	--	--	--	2.20E-06	mg/kg-day	6.00E-03	mg/kg-day	3.67E-04
				Endosulfan II	2.34E-02	mg/kg	3.07E-07	mg/kg-day	--	--	--	2.14E-06	mg/kg-day	6.00E-03	mg/kg-day	3.57E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	5.52E-07	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	6.00E-03	mg/kg-day	6.42E-04
				Endrin aldehyde	6.30E-02	mg/kg	3.20E-09	mg/kg-day	--	--	--	2.23E-08	mg/kg-day	3.00E-04	mg/kg-day	7.44E-05
				Endrin Ketone	1.00E-02	mg/kg	5.08E-10	mg/kg-day	--	--	--	3.54E-09	mg/kg-day	3.00E-04	mg/kg-day	1.18E-05
				Fluoranthene	2.23E+01	mg/kg	1.84E-06	mg/kg-day	--	--	--	1.28E-05	mg/kg-day	4.00E-02	mg/kg-day	3.21E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.31E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.71E-07	9.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.06E-03
				gamma-Chlordane	1.27E-02	mg/kg	1.86E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.49E-10	1.29E-08	mg/kg-day	5.00E-04	mg/kg-day	2.59E-05
				Heptachlor	6.90E-03	mg/kg	7.50E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	3.37E-09	5.23E-09	mg/kg-day	5.00E-04	mg/kg-day	1.05E-05
				Heptachlor Epoxide	9.86E-03	mg/kg	3.48E-07	mg/kg-day	9.10E+00	(mg/kg-day)-1	3.17E-06	2.43E-06	mg/kg-day	1.30E-05	mg/kg-day	1.87E-01
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.66E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.21E-08	1.16E-07	mg/kg-day	--	--	--
Iron	3.68E+04	mg/kg	1.12E-03	mg/kg-day	--	--	--	7.81E-03	mg/kg-day	3.00E-01	mg/kg-day	2.60E-02				
Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--				
Lead	2.39E+03	mg/kg	6.59E-04	mg/kg-day	--	--	--	4.59E-03	mg/kg-day	--	--	--				
Manganese	3.04E+02	mg/kg	4.66E-04	mg/kg-day	--	--	--	3.25E-03	mg/kg-day	2.40E-02	mg/kg-day	1.35E-01				
Mercury	2.65E-01	mg/kg	1.62E-06	mg/kg-day	--	--	--	1.13E-05	mg/kg-day	3.00E-04	mg/kg-day	3.78E-02				
Methoxychlor	1.20E-01	mg/kg	3.18E-09	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.00E-03	mg/kg-day	4.44E-06				
Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	7.50E-03	(mg/kg-day)-1	--	--	mg/kg-day	6.00E-02	mg/kg-day	--				
Molybdenum	2.18E+00	mg/kg	4.00E-06	mg/kg-day	--	--	--	2.79E-05	mg/kg-day	5.00E-03	mg/kg-day	5.59E-03				
Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--				
Nickel	3.89E+01	mg/kg	7.15E-05	mg/kg-day	--	--	--	4.99E-04	mg/kg-day	2.00E-02	mg/kg-day	2.60E-02				
Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	8.76E-05	mg/kg-day	--	--	--	6.11E-04	mg/kg-day	3.00E-01	mg/kg-day	2.04E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.84E-01	mg/kg	2.17E-07	mg/kg-day	--	--	--	--	mg/kg-day	1.51E-06	mg/kg-day	3.03E-04				

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	3.00E-06	mg/kg-day	--	--	--	2.09E-05	mg/kg-day	5.00E-03	mg/kg-day	4.19E-03
				Technical Chlordane	5.41E-01	mg/kg	7.90E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.77E-08	5.51E-07	mg/kg-day	5.00E-04	mg/kg-day	1.10E-03
				Thallium	4.83E-01	mg/kg	5.91E-09	mg/kg-day	--	--	--	4.12E-08	mg/kg-day	6.60E-05	mg/kg-day	6.25E-04
				Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--
				Vanadium	3.37E+01	mg/kg	3.09E-06	mg/kg-day	--	--	--	2.16E-05	mg/kg-day	1.00E-03	mg/kg-day	2.16E-02
				Zinc	3.32E+02	mg/kg	9.14E-03	mg/kg-day	--	--	--	8.38E-02	mg/kg-day	3.00E-01	mg/kg-day	2.13E-01
				Exposure Route Total							2.10E-05				2.07E+00	
				Exposure Point Total							2.10E-05				2.07E+00	
	Exposure Medium Total										3.15E-05				4.57E+00	
	Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	5.60E-12	mg/kg-day	--	--	--	8.05E-11	mg/kg-day	2.00E-02	mg/kg-day	4.03E-09
				2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	2.16E-12	mg/kg-day	--	--	--	3.11E-11	mg/kg-day	--	--	--
				4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	3.20E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	7.68E-15	4.60E-13	mg/kg-day	5.00E-04	mg/kg-day	9.21E-10
				4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.81E-13	1.61E-11	mg/kg-day	5.00E-04	mg/kg-day	3.22E-08
				4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	7.20E-12	mg/kg-day	--	--	--	1.04E-10	mg/kg-day	5.05E-03	mg/kg-day	2.07E-08
				4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	1.65E-11	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.47E-13	2.38E-10	mg/kg-day	1.00E-03	mg/kg-day	2.38E-07
				4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.12E-11	mg/kg-day	--	--	--	1.61E-10	mg/kg-day	5.70E-04	mg/kg-day	2.83E-07
				Aluminum	6.86E-06	mg/m <sup>3</sup>	2.41E-07	mg/kg-day	--	--	--	3.47E-06	mg/kg-day	1.43E-03	mg/kg-day	2.43E-03
				Antimony	2.06E-09	mg/m <sup>3</sup>	7.26E-11	mg/kg-day	--	--	--	1.04E-09	mg/kg-day	--	--	--
				Arcochlor-1248	9.09E-10	mg/m <sup>3</sup>	3.20E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.40E-11	4.60E-10	mg/kg-day	2.00E-05	mg/kg-day	2.30E-05
				Arcochlor-1254	3.32E-10	mg/m <sup>3</sup>	1.17E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.33E-11	1.68E-10	mg/kg-day	2.00E-05	mg/kg-day	8.39E-06
				Arcochlor-1260	3.70E-10	mg/m <sup>3</sup>	1.30E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.60E-11	1.87E-10	mg/kg-day	2.00E-05	mg/kg-day	9.36E-06
				Arcochlor-1268	2.06E-11	mg/m <sup>3</sup>	7.24E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.45E-12	1.04E-11	mg/kg-day	2.00E-05	mg/kg-day	5.21E-07
				Arsenic	7.22E-09	mg/m <sup>3</sup>	2.54E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	3.81E-09	3.66E-09	mg/kg-day	--	--	--
				Barium	5.26E-08	mg/m <sup>3</sup>	1.85E-09	mg/kg-day	--	--	--	2.66E-08	mg/kg-day	1.40E-04	mg/kg-day	1.90E-04
				Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	1.12E-10	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.20E-11	1.62E-09	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	3.75E-11	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.74E-10	5.39E-10	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	1.73E-11	mg/kg-day	--	--	--	2.48E-10	mg/kg-day	3.00E-02	mg/kg-day	8.28E-09
				Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	7.53E-11	mg/kg-day	7.30E-02	(mg/kg-day)-1	5.50E-12	1.08E-09	mg/kg-day	--	--	--
				Beryllium	1.73E-10	mg/m <sup>3</sup>	6.07E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	5.10E-11	8.74E-11	mg/kg-day	5.71E-06	mg/kg-day	1.53E-05
				Beta-BHC	1.67E-12	mg/m <sup>3</sup>	5.86E-14	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.09E-13	8.44E-13	mg/kg-day	2.00E-04	mg/kg-day	4.22E-09
				bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	1.41E-10	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.98E-12	2.03E-09	mg/kg-day	2.00E-02	mg/kg-day	1.02E-07
				Cadmium	6.55E-09	mg/m <sup>3</sup>	2.30E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.45E-09	3.32E-09	mg/kg-day	--	--	--
				Chromium	7.57E-08	mg/m <sup>3</sup>	2.66E-09	mg/kg-day	--	--	--	3.83E-08	mg/kg-day	--	--	--
				Cobalt	5.64E-09	mg/m <sup>3</sup>	1.98E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	1.94E-09	2.86E-09	mg/kg-day	5.71E-06	mg/kg-day	5.00E-04
				Copper	4.55E-08	mg/m <sup>3</sup>	1.60E-09	mg/kg-day	--	--	--	2.30E-08	mg/kg-day	--	--	--
				Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	7.35E-12	mg/kg-day	7.30E+00	(mg/kg-day)-1	5.36E-11	1.06E-10	mg/kg-day	--	--	--
				Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	1.46E-11	mg/kg-day	1.00E+01	mg/kg-day	1.46E-12
				di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	6.13E-11	mg/kg-day	--	--	--	8.82E-10	mg/kg-day	1.00E-01	mg/kg-day	8.82E-09
				Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	1.68E-12	mg/kg-day	--	--	--	2.42E-11	mg/kg-day	3.00E-04	mg/kg-day	8.05E-08
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	2.67E-13	mg/kg-day	--	--	--	3.84E-12	mg/kg-day	3.00E-04	mg/kg-day	1.28E-08
				Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	2.63E-13	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.39E-12	3.78E-12	mg/kg-day	1.30E-05	mg/kg-day	2.91E-07
				Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	9.67E-12	1.91E-10	mg/kg-day	--	--	--
				Iron	2.79E-05	mg/m <sup>3</sup>	9.80E-07	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	--	--	--
				Isophorone	1.52E-10	mg/m <sup>3</sup>	5.33E-12	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.06E-15	7.67E-11	mg/kg-day	2.00E-01	mg/kg-day	3.84E-10
				Lead	1.81E-06	mg/m <sup>3</sup>	6.37E-08	mg/kg-day	--	--	--	9.17E-07	mg/kg-day	--	--	--
				Manganese	2.31E-07	mg/m <sup>3</sup>	8.11E-09	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	1.43E-05	mg/kg-day	8.17E-03
				Mercury	2.01E-10	mg/m <sup>3</sup>	7.07E-12	mg/kg-day	--	--	--	1.02E-10	mg/kg-day	8.60E-05	mg/kg-day	1.18E-06
				Nickel	2.95E-08	mg/m <sup>3</sup>	1.04E-09	mg/kg-day	--	--	--	1.49E-08	mg/kg-day	--	--	--
				Phenol	4.39E-10	mg/m <sup>3</sup>	1.55E-11	mg/kg-day	--	--	--	2.22E-10	mg/kg-day	3.00E-01	mg/kg-day	7.42E-10
				Selenium	2.15E-10	mg/m <sup>3</sup>	7.56E-12	mg/kg-day	--	--	--	1.09E-10	mg/kg-day	--	--	--
				Silver	7.42E-10	mg/m <sup>3</sup>	2.61E-11	mg/kg-day	--	--	--	3.76E-10	mg/kg-day	--	--	--

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.66E-10	mg/m <sup>3</sup>	1.29E-11	mg/kg-day	--	--	--	1.85E-10	mg/kg-day	--	--	--	
				Vanadium	2.55E-08	mg/m <sup>3</sup>	8.98E-10	mg/kg-day	--	--	--	1.29E-08	mg/kg-day	--	--	--	
				Zinc	2.51E-07	mg/m <sup>3</sup>	8.84E-09	mg/kg-day	--	--	--	1.27E-07	mg/kg-day	--	--	--	
			Exposure Route Total										7.80E-09			1.13E-02	
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	3.67E-06	mg/kg-day	--	--	--	5.29E-05	mg/kg-day	1.10E-03	mg/kg-day	4.81E-02	
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.25E-05	mg/kg-day	--	--	--	1.80E-04	mg/kg-day	1.10E-03	mg/kg-day	1.63E-01	
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	4.12E-06	mg/kg-day	--	--	--	5.93E-05	mg/kg-day	1.71E-03	mg/kg-day	3.45E-02	
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.87E-04	mg/kg-day	--	--	--	2.70E-03	mg/kg-day	5.70E-02	mg/kg-day	4.73E-02	
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.01E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	6.84E-09	1.45E-08	mg/kg-day	1.14E-03	mg/kg-day	1.27E-03	
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.29E-06	mg/kg-day	--	--	--	1.85E-05	mg/kg-day	1.71E-03	mg/kg-day	1.08E-02	
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	5.73E-06	mg/kg-day	--	--	--	8.25E-05	mg/kg-day	3.00E-02	mg/kg-day	2.75E-03	
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	5.50E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	1.21E-06	7.91E-04	mg/kg-day	2.30E-01	mg/kg-day	3.44E-03	
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	2.26E-06	mg/kg-day	--	--	--	3.25E-05	mg/kg-day	5.00E-02	mg/kg-day	6.49E-04	
				4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.06E-10	4.47E-09	mg/kg-day	5.00E-04	mg/kg-day	8.95E-06	
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	1.68E-06	mg/kg-day	--	--	--	2.41E-05	mg/kg-day	6.00E-02	mg/kg-day	4.02E-04	
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	4.33E-08	mg/kg-day	--	--	--	6.23E-07	mg/kg-day	6.00E-02	mg/kg-day	1.04E-05	
				Aldrin	5.63E-09	mg/m <sup>3</sup>	1.98E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.37E-09	2.85E-09	mg/kg-day	3.00E-05	mg/kg-day	9.51E-05	
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.28E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	8.06E-10	1.84E-09	mg/kg-day	5.00E-04	mg/kg-day	3.68E-06	
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	2.43E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	8.51E-11	3.50E-09	mg/kg-day	2.00E-04	mg/kg-day	1.75E-05	
				Anthracene	1.25E-05	mg/m <sup>3</sup>	4.41E-07	mg/kg-day	--	--	--	6.35E-06	mg/kg-day	3.00E-01	mg/kg-day	2.12E-05	
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	5.40E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.94E-08	7.77E-07	mg/kg-day	--	--	--	
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.59E-08	mg/kg-day	--	--	--	2.29E-07	mg/kg-day	2.00E-01	mg/kg-day	1.15E-06	
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.82E-06	mg/kg-day	--	--	--	2.62E-05	mg/kg-day	1.70E-02	mg/kg-day	1.54E-03	
				Chrysene	5.27E-06	mg/m <sup>3</sup>	1.85E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.35E-09	2.67E-08	mg/kg-day	--	--	--	
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	1.47E-09	mg/kg-day	1.86E+00	(mg/kg-day)-1	2.73E-09	2.12E-08	mg/kg-day	2.00E-04	mg/kg-day	1.06E-04	
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.58E-06	mg/kg-day	--	--	--	2.27E-05	mg/kg-day	2.00E-03	mg/kg-day	1.14E-02	
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	2.32E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.70E-08	3.33E-08	mg/kg-day	5.00E-05	mg/kg-day	6.66E-04	
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	2.83E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	6.00E-03	mg/kg-day	6.80E-06	
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	2.88E-09	mg/kg-day	--	--	--	4.14E-08	mg/kg-day	6.00E-03	mg/kg-day	6.91E-06	
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	5.30E-09	mg/kg-day	--	--	--	7.63E-08	mg/kg-day	6.00E-03	mg/kg-day	1.27E-05	
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	5.06E-07	mg/kg-day	--	--	--	7.28E-06	mg/kg-day	4.00E-02	mg/kg-day	1.82E-04	
				Fluorene	1.48E-05	mg/m <sup>3</sup>	5.20E-07	mg/kg-day	--	--	--	7.49E-06	mg/kg-day	4.00E-02	mg/kg-day	1.87E-04	
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	5.61E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	7.29E-10	8.07E-09	mg/kg-day	3.00E-04	mg/kg-day	2.69E-05	
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	4.42E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.55E-10	6.36E-09	mg/kg-day	2.00E-04	mg/kg-day	3.18E-05	
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.19E-08	mg/kg-day	4.55E+00	(mg/kg-day)-1	5.41E-08	1.71E-07	mg/kg-day	5.00E-04	mg/kg-day	3.42E-04	
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	3.04E-09	mg/kg-day	--	--	--	4.37E-08	mg/kg-day	5.00E-03	mg/kg-day	8.74E-06	
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	2.46E-05	mg/kg-day	--	--	--	3.54E-04	mg/kg-day	8.57E-04	mg/kg-day	4.13E-01	
				Phenanthrene	1.60E-04	mg/m <sup>3</sup>	5.64E-06	mg/kg-day	--	--	--	8.12E-05	mg/kg-day	3.00E-01	mg/kg-day	2.71E-04	
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	6.74E-06	mg/kg-day	--	--	--	9.70E-05	mg/kg-day	1.10E-01	mg/kg-day	8.82E-04	
				Pyrene	1.56E-05	mg/m <sup>3</sup>	5.47E-07	mg/kg-day	--	--	--	7.88E-06	mg/kg-day	3.00E-02	mg/kg-day	2.63E-04	
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	9.88E-07	mg/kg-day	--	--	--	1.42E-05	mg/kg-day	4.00E-02	mg/kg-day	3.55E-04	
			Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	3.50E-04	(mg/kg-day)-1	6.59E-12	2.71E-07	mg/kg-day	2.00E-04	mg/kg-day	1.36E-03		
			Toluene	3.12E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	1.43E+00	mg/kg-day	1.11E-07		
			Exposure Route Total										1.36E-08			7.44E-01	
			Exposure Point Total										1.36E-08			7.55E-01	
			Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	3.10E-04	mg/kg-day	--	--	--	4.46E-03	mg/kg-day	1.10E-03	mg/kg-day	4.05E+00
					1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	1.05E-03	mg/kg-day	--	--	--	1.52E-02	mg/kg-day	1.10E-03	mg/kg-day	1.38E+01
1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>			1.03E-04	mg/kg-day	--	--	--	1.49E-03	mg/kg-day	1.71E-03	mg/kg-day	8.67E-01			
1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>			5.37E-03	mg/kg-day	--	--	--	7.73E-02	mg/kg-day	5.70E-02	mg/kg-day	1.36E+00			
1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>			7.44E-07	mg/kg-day	6.80E-02	(mg/kg-day)-1	5.06E-08	1.07E-05	mg/kg-day	1.14E-03	mg/kg-day	9.39E-03			
1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>			3.31E-05	mg/kg-day	--	--	--	4.76E-04	mg/kg-day	1.71E-03	mg/kg-day	2.77E-01			

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	2.27E-04	mg/kg-day	--	--	--	3.27E-03	mg/kg-day	3.00E-02	mg/kg-day	1.09E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	1.40E-03	mg/kg-day	2.20E-02	(mg/kg-day)-1	3.09E-05	2.02E-02	mg/kg-day	2.30E-01	mg/kg-day	8.79E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	1.71E-04	mg/kg-day	--	--	--	2.46E-03	mg/kg-day	5.00E-02	mg/kg-day	4.91E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	2.13E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.26E-11	3.07E-09	mg/kg-day	5.00E-04	mg/kg-day	6.14E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	5.96E-05	mg/kg-day	--	--	--	8.57E-04	mg/kg-day	6.00E-02	mg/kg-day	1.43E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	1.54E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	6.00E-02	mg/kg-day	3.69E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	5.66E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	9.63E-09	8.15E-09	mg/kg-day	3.00E-05	mg/kg-day	2.72E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	3.79E-09	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.39E-08	5.45E-08	mg/kg-day	5.00E-04	mg/kg-day	1.09E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	1.91E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.68E-10	2.75E-08	mg/kg-day	2.00E-04	mg/kg-day	1.37E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	1.57E-05	mg/kg-day	--	--	--	2.26E-04	mg/kg-day	3.00E-01	mg/kg-day	7.52E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	1.11E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.09E-08	1.60E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	4.96E-08	mg/kg-day	--	--	--	7.14E-07	mg/kg-day	2.00E-01	mg/kg-day	3.57E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	2.27E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.70E-02	mg/kg-day	1.92E-02
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	6.25E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.56E-09	9.00E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	6.47E-08	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.20E-07	9.31E-07	mg/kg-day	2.00E-04	mg/kg-day	4.66E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	8.33E-07	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	2.00E-03	mg/kg-day	6.00E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	1.85E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.95E-07	2.68E-07	mg/kg-day	5.00E-05	mg/kg-day	5.31E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	7.59E-08	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	6.00E-03	mg/kg-day	1.82E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	7.72E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	6.00E-03	mg/kg-day	1.85E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	1.42E-07	mg/kg-day	--	--	--	2.04E-06	mg/kg-day	6.00E-03	mg/kg-day	3.40E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	1.73E-07	mg/kg-day	--	--	--	2.48E-06	mg/kg-day	4.00E-02	mg/kg-day	6.21E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	9.42E-06	mg/kg-day	--	--	--	1.36E-04	mg/kg-day	4.00E-02	mg/kg-day	3.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	2.00E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.60E-08	2.88E-07	mg/kg-day	3.00E-04	mg/kg-day	9.61E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	3.47E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.22E-11	5.00E-10	mg/kg-day	2.00E-04	mg/kg-day	2.50E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	3.82E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	1.74E-08	5.50E-08	mg/kg-day	5.00E-04	mg/kg-day	1.10E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	1.50E-07	mg/kg-day	5.00E-03	mg/kg-day	3.00E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	4.96E-07	mg/kg-day	1.60E-03	(mg/kg-day)-1	7.93E-10	7.14E-06	mg/kg-day	8.57E-01	mg/kg-day	8.32E-06
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	2.21E-03	mg/kg-day	--	--	--	3.18E-02	mg/kg-day	8.57E-04	mg/kg-day	3.72E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	2.01E-04	mg/kg-day	--	--	--	2.89E-03	mg/kg-day	3.00E-01	mg/kg-day	9.64E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	2.27E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.10E-01	mg/kg-day	2.97E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	1.40E-06	mg/kg-day	--	--	--	2.01E-05	mg/kg-day	3.00E-02	mg/kg-day	6.71E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	8.05E-06	mg/kg-day	--	--	--	1.16E-04	mg/kg-day	4.00E-02	mg/kg-day	2.90E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	1.48E-07	mg/kg-day	3.50E-04	(mg/kg-day)-1	5.18E-11	2.13E-06	mg/kg-day	2.00E-04	mg/kg-day	1.06E-02
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	8.88E-08	mg/kg-day	--	--	--	1.28E-08	mg/kg-day	1.43E+00	mg/kg-day	8.95E-07				
				Exposure Route Total											3.15E-05	5.78E+01
				Exposure Point Total											3.15E-05	5.78E+01
				Exposure Medium Total											3.29E-05	5.86E+01
				Medium Total											6.44E-05	6.32E+01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	1.49E-08	mg/kg-day	--	--	--	2.14E-07	mg/kg-day	1.40E-01	mg/kg-day	1.53E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	4.44E-09	mg/kg-day	--	--	--	6.39E-08	mg/kg-day	1.71E-03	mg/kg-day	3.73E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	2.91E-08	mg/kg-day	--	--	--	4.19E-07	mg/kg-day	5.70E-02	mg/kg-day	7.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	2.09E-08	mg/kg-day	9.10E-02	--	1.90E-09	3.01E-07	mg/kg-day	1.40E-03	mg/kg-day	2.15E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	7.85E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	5.34E-10	1.13E-07	mg/kg-day	1.14E-03	mg/kg-day	9.91E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	2.53E-09	mg/kg-day	--	--	--	3.64E-08	mg/kg-day	1.71E-03	mg/kg-day	2.12E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	9.91E-09	mg/kg-day	2.20E-02	(mg/kg-day)-1	2.18E-10	1.43E-07	mg/kg-day	2.30E-01	mg/kg-day	6.20E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	3.83E-10	mg/kg-day	--	--	--	5.51E-09	mg/kg-day	1.43E+00	mg/kg-day	3.86E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	3.40E-11	mg/kg-day	--	--	--	4.90E-10	mg/kg-day	5.00E-02	mg/kg-day	9.79E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	4.55E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.55E-11	6.55E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	1.42E-10	mg/kg-day	--	--	--	2.05E-09	mg/kg-day	8.60E-01	mg/kg-day	2.38E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.36E-09	mg/kg-day	--	--	--	1.96E-08	mg/kg-day	6.00E-02	mg/kg-day	3.27E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	5.81E-11	mg/kg-day	--	--	--	8.36E-10	mg/kg-day	6.00E-02	mg/kg-day	1.39E-08

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	7.86E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.34E-09	1.13E-09	mg/kg-day	3.00E-05	mg/kg-day	3.77E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	9.96E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	6.27E-11	1.43E-10	mg/kg-day	5.00E-04	mg/kg-day	2.87E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	2.36E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	8.25E-12	3.39E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.16E-10	mg/kg-day	--	--	--	1.66E-09	mg/kg-day	3.00E-01	mg/kg-day	5.54E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	9.18E-09	mg/kg-day	2.73E-02	(mg/kg-day)-1	2.51E-10	1.32E-07	mg/kg-day	8.60E-03	mg/kg-day	1.54E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.71E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.25E-11	2.46E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	2.59E-10	mg/kg-day	3.85E-03	(mg/kg-day)-1	9.97E-13	3.73E-09	mg/kg-day	2.00E-02	mg/kg-day	1.86E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.59E-07	mg/kg-day	--	--	--	2.28E-06	mg/kg-day	2.00E-01	mg/kg-day	1.14E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	2.58E-09	mg/kg-day	--	--	--	3.71E-08	mg/kg-day	1.70E-02	mg/kg-day	2.18E-06				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	7.27E-08	mg/kg-day	8.05E-02	(mg/kg-day)-1	5.85E-09	1.05E-06	mg/kg-day	1.40E-02	mg/kg-day	7.48E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	2.63E-08	mg/kg-day	--	--	--	3.79E-07	mg/kg-day	2.60E-02	mg/kg-day	1.46E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	4.83E-11	mg/kg-day	7.30E-03	(mg/kg-day)-1	3.38E-13	6.66E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.86E-08	mg/kg-day	--	--	--	2.68E-07	mg/kg-day	1.00E-02	mg/kg-day	2.68E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	3.46E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	5.53E-10	4.97E-10	mg/kg-day	5.00E-05	mg/kg-day	9.95E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	7.88E-12	mg/kg-day	--	--	--	1.13E-10	mg/kg-day	6.00E-03	mg/kg-day	1.89E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.29E-14	mg/kg-day	--	--	--	1.86E-13	mg/kg-day	6.00E-03	mg/kg-day	3.11E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	7.02E-09	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	2.90E-01	mg/kg-day	3.48E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.78E-11	mg/kg-day	--	--	--	2.56E-10	mg/kg-day	4.00E-02	mg/kg-day	6.40E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	3.52E-11	mg/kg-day	--	--	--	5.06E-10	mg/kg-day	4.00E-02	mg/kg-day	1.27E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	4.37E-14	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.68E-14	6.29E-13	mg/kg-day	3.00E-04	mg/kg-day	2.10E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	6.12E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.14E-11	8.81E-10	mg/kg-day	2.00E-04	mg/kg-day	4.40E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	6.28E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.86E-09	9.04E-09	mg/kg-day	5.00E-04	mg/kg-day	1.81E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	2.44E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	2.90E-02	mg/kg-day	1.21E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.15E-10	mg/kg-day	--	--	--	1.65E-09	mg/kg-day	5.00E-03	mg/kg-day	3.31E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.91E-10	mg/kg-day	--	--	--	2.75E-09	mg/kg-day	8.57E-04	mg/kg-day	3.21E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	8.90E-09	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	8.57E-04	mg/kg-day	1.49E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	9.91E-09	mg/kg-day	--	--	--	1.43E-07	mg/kg-day	4.00E-02	mg/kg-day	3.57E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	9.21E-11	mg/kg-day	--	--	--	1.33E-09	mg/kg-day	3.00E-01	mg/kg-day	4.42E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.62E-11	mg/kg-day	--	--	--	2.33E-10	mg/kg-day	3.00E-02	mg/kg-day	7.78E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	2.82E-08	mg/kg-day	--	--	--	4.06E-07	mg/kg-day	4.00E-02	mg/kg-day	1.01E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	3.19E-08	mg/kg-day	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.34E-08	mg/kg-day	--	--	--	1.92E-07	mg/kg-day	1.43E+00	mg/kg-day	1.35E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	3.15E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	2.00E-02	mg/kg-day	2.27E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	3.28E-08	mg/kg-day	4.00E-01	(mg/kg-day)-1	1.31E-08	4.72E-07	mg/kg-day	1.00E-02	mg/kg-day	4.72E-05				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	6.78E-08	mg/kg-day	3.10E-02	(mg/kg-day)-1	2.10E-09	9.76E-07	mg/kg-day	2.86E-02	mg/kg-day	3.42E-05				
				Exposure Route Total									2.88E-08						1.21E-03	
				Exposure Point Total									2.88E-08						1.21E-03	
				Indoor Air	Indoor Air	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	2.62E-06	mg/kg-day	--	--	--	3.77E-05	mg/kg-day	1.40E-01	mg/kg-day	2.69E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	1.15E-07	mg/kg-day	--	--	--	1.65E-06	mg/kg-day	1.71E-03	mg/kg-day	9.65E-04
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	7.74E-07					mg/kg-day	--	--	--	1.11E-05	mg/kg-day	5.70E-02	mg/kg-day	1.95E-04				
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	6.27E-07					mg/kg-day	9.10E-02	--	5.70E-08	9.02E-06	mg/kg-day	1.40E-03	mg/kg-day	6.44E-03				
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	2.32E-07					mg/kg-day	6.80E-02	(mg/kg-day)-1	1.56E-08	3.34E-06	mg/kg-day	1.14E-03	mg/kg-day	2.93E-03				
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	6.58E-08					mg/kg-day	--	--	--	9.47E-07	mg/kg-day	1.71E-03	mg/kg-day	5.52E-04				
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	2.65E-07					mg/kg-day	2.20E-02	(mg/kg-day)-1	5.84E-09	3.82E-06	mg/kg-day	2.30E-01	mg/kg-day	1.66E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	1.97E-08					mg/kg-day	--	--	--	2.84E-07	mg/kg-day	1.43E+00	mg/kg-day	1.99E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	9.55E-10					mg/kg-day	--	--	--	1.37E-08	mg/kg-day	5.00E-02	mg/kg-day	2.75E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	4.10E-12					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.39E-12	5.90E-11	mg/kg-day	5.00E-04	mg/kg-day	1.18E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	5.85E-09					mg/kg-day	--	--	--	8.42E-08	mg/kg-day	8.60E-01	mg/kg-day	9.79E-08				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	5.81E-08					mg/kg-day	--	--	--	8.36E-07	mg/kg-day	6.00E-02	mg/kg-day	1.39E-05				

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	2.47E-09	mg/kg-day	--	--	--	3.56E-08	mg/kg-day	6.00E-02	mg/kg-day	5.93E-07			
				Aldrin	2.44E-07	ug/m <sup>3</sup>	8.58E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.46E-10	1.23E-10	mg/kg-day	3.00E-05	mg/kg-day	4.11E-06			
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	1.28E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	8.05E-12	1.84E-11	mg/kg-day	5.00E-04	mg/kg-day	3.68E-08			
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	7.75E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.71E-12	1.12E-10	mg/kg-day	2.00E-04	mg/kg-day	5.58E-07			
				Anthracene	1.40E-04	ug/m <sup>3</sup>	4.91E-09	mg/kg-day	--	--	--	7.07E-08	mg/kg-day	3.00E-01	mg/kg-day	2.36E-07			
				Benzene	7.66E-03	ug/m <sup>3</sup>	2.70E-07	mg/kg-day	2.73E-02	(mg/kg-day)-1	7.36E-09	7.36E-09	mg/kg-day	8.60E-03	mg/kg-day	4.51E-04			
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	7.20E-10	mg/kg-day	7.30E-01	(mg/kg-day)-1	5.25E-10	1.04E-08	mg/kg-day	--	--	--			
				Bromoform	3.95E-04	ug/m <sup>3</sup>	1.39E-08	mg/kg-day	3.85E-03	(mg/kg-day)-1	5.35E-11	2.00E-07	mg/kg-day	2.00E-02	mg/kg-day	1.00E-05			
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	4.78E-06	mg/kg-day	--	--	--	6.84E-05	mg/kg-day	2.00E-01	mg/kg-day	3.42E-04			
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	7.22E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	1.70E-02	mg/kg-day	6.12E-05			
				Chloroform	6.13E-02	ug/m <sup>3</sup>	2.16E-06	mg/kg-day	8.05E-02	(mg/kg-day)-1	1.74E-07	3.10E-05	mg/kg-day	1.40E-02	mg/kg-day	2.22E-03			
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	8.54E-07	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.60E-02	mg/kg-day	4.73E-04			
				Chrysene	5.75E-05	ug/m <sup>3</sup>	2.02E-09	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.48E-11	2.91E-08	mg/kg-day	--	--	--			
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	1.00E-02	mg/kg-day	1.74E-03			
				Dieldrin	3.78E-08	ug/m <sup>3</sup>	1.32E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.12E-11	1.91E-11	mg/kg-day	5.00E-05	mg/kg-day	3.81E-07			
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	1.71E-12	mg/kg-day	--	--	--	2.46E-11	mg/kg-day	6.00E-03	mg/kg-day	4.10E-09			
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	5.70E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09			
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	1.90E-07	mg/kg-day	--	--	--	2.73E-06	mg/kg-day	2.90E-01	mg/kg-day	9.41E-06			
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	7.20E-10	mg/kg-day	--	--	--	1.04E-08	mg/kg-day	4.00E-02	mg/kg-day	2.59E-07			
				Fluorene	5.21E-05	ug/m <sup>3</sup>	1.83E-09	mg/kg-day	--	--	--	2.64E-08	mg/kg-day	4.00E-02	mg/kg-day	6.59E-07			
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	1.73E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.24E-12	2.48E-11	mg/kg-day	3.00E-04	mg/kg-day	8.28E-08			
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	3.75E-12	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.31E-12	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07			
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	1.69E-11	mg/kg-day	4.55E+00	(mg/kg-day)-1	7.71E-11	2.44E-10	mg/kg-day	5.00E-04	mg/kg-day	4.87E-07			
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	6.33E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03			
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	1.42E-06	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	2.90E-02	mg/kg-day	7.04E-04			
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	4.98E-12	mg/kg-day	--	--	--	7.17E-11	mg/kg-day	5.00E-03	mg/kg-day	1.43E-08			
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	1.49E-07	mg/kg-day	8.57E-04	mg/kg-day	1.74E-04			
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	4.99E-07	mg/kg-day	--	--	--	7.18E-06	mg/kg-day	8.57E-04	mg/kg-day	8.38E-03			
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	5.63E-07	mg/kg-day	--	--	--	8.10E-06	mg/kg-day	4.00E-02	mg/kg-day	2.02E-04			
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	5.11E-09	mg/kg-day	--	--	--	7.36E-08	mg/kg-day	3.00E-01	mg/kg-day	2.45E-07			
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	6.33E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03			
				Pyrene	1.92E-05	ug/m <sup>3</sup>	6.76E-10	mg/kg-day	--	--	--	9.73E-09	mg/kg-day	3.00E-02	mg/kg-day	3.24E-07			
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	2.00E-08	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	4.00E-02	mg/kg-day	7.20E-06			
				Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	2.00E-06	mg/kg-day	--	--	--	2.88E-05	mg/kg-day	4.00E-02	mg/kg-day	7.20E-04			
				Toluene	2.18E-03	ug/m <sup>3</sup>	7.66E-08	mg/kg-day	--	--	--	1.10E-06	mg/kg-day	1.43E+00	mg/kg-day	7.72E-07			
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	2.12E-06	mg/kg-day	--	--	--	3.05E-05	mg/kg-day	2.00E-02	mg/kg-day	1.53E-03			
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	2.01E-06	mg/kg-day	4.00E-01	(mg/kg-day)-1	8.03E-07	2.89E-05	mg/kg-day	1.00E-02	mg/kg-day	2.89E-03			
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	4.56E-06	mg/kg-day	3.10E-02	(mg/kg-day)-1	1.41E-07	6.57E-05	mg/kg-day	2.86E-02	mg/kg-day	2.30E-03			
				Exposure Route Total										1.20E-06					5.02E-02
				Exposure Point Total										1.20E-06					
Exposure Medium Total										1.23E-06						5.14E-02			
Medium Total										1.23E-06						5.14E-02			
Total of Receptor Risks Across All Media										6.56E-05	Total of Receptor Hazards Across All Media				6.32E+01				

TABLE H2-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RIC Reference concentration
  - RID Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

**TABLE H2-7.11**  
**EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.55E-08	mg/kg-day	--	--	--	7.55E-07	mg/kg-day	1.00E-02	mg/kg-day	7.55E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.57E-07	mg/kg-day	--	--	--	2.57E-06	mg/kg-day	1.00E-02	mg/kg-day	2.57E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.52E-08	mg/kg-day	--	--	--	2.52E-07	mg/kg-day	5.00E-02	mg/kg-day	5.03E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.31E-08	mg/kg-day	--	--	--	1.31E-05	mg/kg-day	9.00E-02	mg/kg-day	1.45E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.81E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.23E-11	1.81E-09	mg/kg-day	1.14E-03	mg/kg-day	1.59E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	8.05E-09	mg/kg-day	--	--	--	8.05E-08	mg/kg-day	5.00E-02	mg/kg-day	1.61E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.54E-08	mg/kg-day	--	--	--	5.54E-07	mg/kg-day	3.00E-02	mg/kg-day	1.85E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.42E-07	mg/kg-day	2.40E-02	(mg/kg-day)-1	8.21E-09	3.42E-06	mg/kg-day	3.00E-02	mg/kg-day	1.14E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.06E-08	mg/kg-day	--	--	--	1.06E-07	mg/kg-day	2.00E-02	mg/kg-day	5.28E-06
				2-Methylphenol	8.10E-02	mg/kg	4.08E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	5.00E-02	mg/kg-day	8.15E-07
				2-Methylnaphthalene	1.67E+00	mg/kg	8.41E-08	mg/kg-day	--	--	--	8.41E-07	mg/kg-day	4.00E-03	mg/kg-day	2.10E-04
				4,4-DDD	1.20E-03	mg/kg	6.04E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-11	6.04E-10	mg/kg-day	5.00E-04	mg/kg-day	1.21E-06
				4,4-DDE	8.23E-02	mg/kg	4.14E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.41E-09	4.14E-08	mg/kg-day	5.00E-04	mg/kg-day	8.28E-05
				4,4-DDT	4.45E-02	mg/kg	2.24E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.61E-10	2.24E-08	mg/kg-day	5.00E-04	mg/kg-day	4.48E-05
				4-Methylphenol	2.70E-01	mg/kg	1.36E-08	mg/kg-day	--	--	--	1.36E-07	mg/kg-day	5.00E-03	mg/kg-day	2.72E-05
				4-Nitroaniline	8.20E-01	mg/kg	3.12E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.55E-10	3.12E-07	mg/kg-day	3.00E-03	mg/kg-day	1.04E-04
				4-Nitrophenol	4.20E-01	mg/kg	2.11E-08	mg/kg-day	--	--	--	2.11E-07	mg/kg-day	5.00E-04	mg/kg-day	4.23E-04
				Acenaphthene	4.23E+00	mg/kg	2.13E-07	mg/kg-day	--	--	--	2.13E-06	mg/kg-day	6.00E-02	mg/kg-day	3.55E-05
				Acenaphthylene	1.04E-01	mg/kg	5.24E-09	mg/kg-day	--	--	--	5.24E-08	mg/kg-day	6.00E-02	mg/kg-day	8.74E-07
				Aldrin	1.30E-02	mg/kg	6.54E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.11E-08	6.54E-09	mg/kg-day	3.00E-05	mg/kg-day	2.18E-04
				alpha-BHC	7.30E-04	mg/kg	3.67E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	2.31E-10	3.67E-10	mg/kg-day	5.00E-04	mg/kg-day	7.35E-07
				alpha-Chlordane	8.14E-03	mg/kg	4.10E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.43E-10	4.10E-09	mg/kg-day	5.00E-04	mg/kg-day	8.19E-06
				Aluminum	8.82E+03	mg/kg	4.44E-04	mg/kg-day	--	--	--	4.44E-03	mg/kg-day	1.00E+00	mg/kg-day	4.44E-03
				Anthracene	1.05E+00	mg/kg	5.31E-08	mg/kg-day	--	--	--	5.31E-07	mg/kg-day	3.00E-01	mg/kg-day	1.77E-06
				Antimony	4.08E+00	mg/kg	2.05E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	4.00E-04	mg/kg-day	5.13E-03
				Aroclor-1248	1.20E+00	mg/kg	6.04E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.21E-07	6.04E-07	mg/kg-day	2.00E-05	mg/kg-day	3.02E-02
				Aroclor-1254	4.44E-01	mg/kg	2.23E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.47E-08	2.23E-07	mg/kg-day	2.00E-05	mg/kg-day	1.12E-02
				Aroclor-1260	5.41E-01	mg/kg	2.72E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.45E-08	2.72E-07	mg/kg-day	2.00E-05	mg/kg-day	1.36E-02
				Aroclor-1268	2.78E-02	mg/kg	1.40E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.79E-09	1.40E-08	mg/kg-day	2.00E-05	mg/kg-day	6.98E-04
				Arsenic	6.17E+00	mg/kg	3.10E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.65E-07	3.10E-06	mg/kg-day	3.00E-04	mg/kg-day	1.03E-02
				Barium	6.78E+01	mg/kg	3.41E-06	mg/kg-day	--	--	--	3.41E-05	mg/kg-day	7.00E-02	mg/kg-day	4.88E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	2.52E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.84E-07	2.52E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	8.38E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	6.12E-07	8.38E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.38E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.01E-07	1.38E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	3.84E-07	mg/kg-day	3.00E-02	mg/kg-day	1.28E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.64E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	1.20E-08	1.64E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.20E-08	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	2.00E-03	mg/kg-day	5.99E-05
				Beta-BHC	2.20E-03	mg/kg	1.11E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.99E-10	1.11E-09	mg/kg-day	2.00E-04	mg/kg-day	5.54E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.94E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	5.52E-09	3.94E-06	mg/kg-day	2.00E-02	mg/kg-day	1.97E-04
				Cadmium	9.47E+00	mg/kg	4.77E-07	mg/kg-day	--	--	--	4.77E-06	mg/kg-day	5.00E-04	mg/kg-day	9.53E-03
				Carbon disulfide	2.40E-04	mg/kg	1.21E-11	mg/kg-day	--	--	--	1.21E-10	mg/kg-day	5.00E-01	mg/kg-day	1.21E-09
Chlorobenzene	1.10E-01	mg/kg	5.54E-09	mg/kg-day	--	--	--	5.54E-08	mg/kg-day	2.00E-02	mg/kg-day	2.77E-06				
Chromium	1.11E+02	mg/kg	5.60E-06	mg/kg-day	--	--	--	5.60E-05	mg/kg-day	1.50E+00	mg/kg-day	3.73E-05				
Chrysene	5.68E+00	mg/kg	2.86E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	2.09E-09	2.86E-06	mg/kg-day	--	--	--				
Cobalt	7.57E+00	mg/kg	3.81E-07	mg/kg-day	--	--	--	3.81E-06	mg/kg-day	2.00E-02	mg/kg-day	1.91E-04				
Copper	5.71E+01	mg/kg	2.87E-06	mg/kg-day	--	--	--	2.87E-05	mg/kg-day	3.70E-02	mg/kg-day	7.76E-04				
Delta-BHC	8.40E-03	mg/kg	4.23E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	7.61E-10	4.23E-09	mg/kg-day	2.00E-04	mg/kg-day	2.11E-05				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.60E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.17E-07	1.60E-07	mg/kg-day	--	--	--				
Dibenzofuran	1.30E-01	mg/kg	6.54E-07	mg/kg-day	--	--	--	6.54E-06	mg/kg-day	2.00E-03	mg/kg-day	3.27E-03				
Dieldrin	5.51E-02	mg/kg	2.77E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.44E-08	2.77E-08	mg/kg-day	5.00E-05	mg/kg-day	5.55E-04				
Dimethylphthalate	3.80E-02	mg/kg	1.91E-09	mg/kg-day	--	--	--	1.91E-08	mg/kg-day	1.00E+01	mg/kg-day	1.91E-09				

TABLE H2-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations																	
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient												
							Value	Units	Value	Units		Value	Units	Value	Units													
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	1.11E-07	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	1.00E-01	mg/kg-day	1.11E-05												
				Endosulfan I	2.30E-02	mg/kg	1.16E-09	mg/kg-day	--	--	--	1.16E-08	mg/kg-day	6.00E-03	mg/kg-day	1.93E-06												
				Endosulfan II	2.38E-02	mg/kg	1.20E-09	mg/kg-day	--	--	--	1.20E-08	mg/kg-day	6.00E-03	mg/kg-day	2.00E-06												
				Endosulfan Sulfate	4.30E-02	mg/kg	2.16E-09	mg/kg-day	--	--	--	2.16E-08	mg/kg-day	6.00E-03	mg/kg-day	3.61E-06												
				Endrin aldehyde	4.21E-02	mg/kg	2.12E-09	mg/kg-day	--	--	--	2.12E-08	mg/kg-day	3.00E-04	mg/kg-day	7.06E-05												
				Endrin Ketone	1.00E-02	mg/kg	5.03E-10	mg/kg-day	--	--	--	5.03E-09	mg/kg-day	3.00E-04	mg/kg-day	1.68E-05												
				Fluoranthene	2.65E+01	mg/kg	1.33E-06	mg/kg-day	--	--	--	1.33E-05	mg/kg-day	4.00E-02	mg/kg-day	3.33E-04												
				Fluorene	2.92E+00	mg/kg	1.47E-07	mg/kg-day	--	--	--	1.47E-06	mg/kg-day	4.00E-02	mg/kg-day	3.67E-05												
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.31E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.70E-10	1.31E-09	mg/kg-day	3.00E-04	mg/kg-day	4.36E-06												
				gamma-Chlordane	1.31E-02	mg/kg	6.59E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.31E-10	6.59E-09	mg/kg-day	5.00E-04	mg/kg-day	1.32E-05												
				Heptachlor	6.90E-03	mg/kg	3.47E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	1.56E-09	3.47E-09	mg/kg-day	5.00E-04	mg/kg-day	6.94E-06												
				Heptachlor Epoxide	1.12E-02	mg/kg	5.61E-10	mg/kg-day	9.10E+00	(mg/kg-day)-1	5.11E-09	5.61E-09	mg/kg-day	1.30E-05	mg/kg-day	4.32E-04												
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.39E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.21E-08	4.39E-07	mg/kg-day	--	--	--												
				Iron	4.07E+04	mg/kg	2.05E-03	mg/kg-day	--	--	--	2.05E-02	mg/kg-day	3.00E-01	mg/kg-day	6.83E-02												
				Isophorone	2.00E-01	mg/kg	1.01E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.56E-12	1.01E-07	mg/kg-day	2.00E-01	mg/kg-day	5.03E-07												
				Lead	2.90E+03	mg/kg	1.46E-04	mg/kg-day	--	--	--	1.46E-03	mg/kg-day	--	--	--												
				Manganese	3.31E+02	mg/kg	1.67E-05	mg/kg-day	--	--	--	1.67E-04	mg/kg-day	2.40E-02	mg/kg-day	6.94E-03												
				Mercury	3.10E-01	mg/kg	1.56E-08	mg/kg-day	--	--	--	1.56E-07	mg/kg-day	3.00E-04	mg/kg-day	5.19E-04												
				Methoxychlor	1.20E-01	mg/kg	6.04E-09	mg/kg-day	--	--	--	6.04E-08	mg/kg-day	5.00E-03	mg/kg-day	1.21E-05												
				Molybdenum	2.50E+00	mg/kg	1.26E-07	mg/kg-day	--	--	--	1.26E-06	mg/kg-day	5.00E-03	mg/kg-day	2.52E-04												
				Naphthalene	1.30E+01	mg/kg	6.54E-07	mg/kg-day	--	--	--	6.54E-06	mg/kg-day	2.00E-02	mg/kg-day	3.27E-04												
				Nickel	3.91E+01	mg/kg	1.97E-06	mg/kg-day	--	--	--	1.97E-05	mg/kg-day	2.00E-02	mg/kg-day	9.84E-04												
				Phenanthrene	1.39E+01	mg/kg	7.00E-07	mg/kg-day	--	--	--	7.00E-06	mg/kg-day	3.00E-01	mg/kg-day	2.33E-05												
				Phenol	5.80E-01	mg/kg	2.92E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	3.00E-01	mg/kg-day	9.73E-07												
				p-Isopropyltoluene	1.10E-01	mg/kg	5.54E-09	mg/kg-day	--	--	--	5.54E-08	mg/kg-day	1.00E-01	mg/kg-day	5.54E-07												
				Pyrene	2.41E+01	mg/kg	1.22E-06	mg/kg-day	--	--	--	1.22E-05	mg/kg-day	3.00E-02	mg/kg-day	4.05E-04												
				sec-Butylbenzene	7.10E-02	mg/kg	3.57E-09	mg/kg-day	--	--	--	3.57E-08	mg/kg-day	4.00E-02	mg/kg-day	8.93E-07												
				Selenium	2.24E-01	mg/kg	1.13E-08	mg/kg-day	--	--	--	1.13E-07	mg/kg-day	5.00E-03	mg/kg-day	2.26E-05												
				Silver	1.16E+00	mg/kg	5.83E-08	mg/kg-day	--	--	--	5.83E-07	mg/kg-day	5.00E-03	mg/kg-day	1.17E-04												
				Technical Chlordane	5.51E-01	mg/kg	2.77E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	9.71E-09	2.77E-07	mg/kg-day	5.00E-04	mg/kg-day	5.55E-04												
				Thallium	4.97E-01	mg/kg	2.50E-08	mg/kg-day	--	--	--	2.50E-07	mg/kg-day	6.60E-05	mg/kg-day	3.79E-03												
				Toluene	4.30E-04	mg/kg	2.16E-11	mg/kg-day	--	--	--	2.16E-10	mg/kg-day	8.00E-02	mg/kg-day	2.70E-09												
				Vanadium	3.41E+01	mg/kg	1.72E-06	mg/kg-day	--	--	--	1.72E-05	mg/kg-day	1.00E-03	mg/kg-day	1.72E-02												
Zinc	4.53E+02	mg/kg	2.28E-05	mg/kg-day	--	--	--	2.28E-04	mg/kg-day	3.00E-01	mg/kg-day	7.61E-04																
<b>Exposure Route Total</b>											<b>1.84E-06</b>				<b>1.84E-01</b>													
Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4'-DDD	4,4'-DDE	4,4'-DDT	4-Methylphenol	4-Nitroaniline	1.50E+00	mg/kg	1.17E-08	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	1.00E-02	mg/kg-day	1.17E-05
																	5.10E+00	mg/kg	3.98E-09	mg/kg-day	--	--	--	3.98E-08	mg/kg-day	1.00E-02	mg/kg-day	3.98E-06
																	5.00E-01	mg/kg	3.90E-10	mg/kg-day	--	--	--	3.90E-09	mg/kg-day	5.00E-02	mg/kg-day	7.81E-08
																	2.60E+01	mg/kg	2.03E-08	mg/kg-day	--	--	--	2.03E-07	mg/kg-day	9.00E-02	mg/kg-day	2.26E-06
																	3.60E-03	mg/kg	2.81E-12	mg/kg-day	6.80E-02	(mg/kg-day)-1	1.91E-13	2.81E-11	mg/kg-day	1.14E-03	mg/kg-day	2.47E-08
																	1.60E-01	mg/kg	1.25E-10	mg/kg-day	--	--	--	1.25E-09	mg/kg-day	5.00E-02	mg/kg-day	2.50E-08
																	1.10E+00	mg/kg	8.59E-10	mg/kg-day	--	--	--	8.59E-09	mg/kg-day	3.00E-02	mg/kg-day	2.86E-07
																	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
																	2.10E-01	mg/kg	1.64E-10	mg/kg-day	--	--	--	1.64E-09	mg/kg-day	2.00E-02	mg/kg-day	8.20E-08
																	8.10E-02	mg/kg	6.32E-10	mg/kg-day	--	--	--	6.32E-09	mg/kg-day	5.00E-02	mg/kg-day	1.26E-07
																	1.67E+00	mg/kg	1.31E-09	mg/kg-day	--	--	--	1.31E-08	mg/kg-day	4.00E-03	mg/kg-day	3.26E-06
																	1.20E-03	mg/kg	9.37E-13	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.25E-13	9.37E-12	mg/kg-day	5.00E-04	mg/kg-day	1.87E-08
																	8.23E-02	mg/kg	6.43E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.19E-11	6.43E-10	mg/kg-day	5.00E-04	mg/kg-day	1.29E-06
																	4.45E-02	mg/kg	1.04E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.54E-11	1.04E-09	mg/kg-day	5.00E-04	mg/kg-day	2.08E-06
																	2.70E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	2.11E-08	mg/kg-day	5.00E-03	mg/kg-day	4.22E-06
																	6.20E-01	mg/kg	4.84E-09	mg/kg-day	2.10E-02	--	--	1.02E-10	4.84E-08	mg/kg-day	3.00E-03	mg/kg-day

TABLE H2-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	3.28E-09	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	5.00E-04	mg/kg-day	6.58E-05
				Acenaphthene	4.23E+00	mg/kg	4.30E-08	mg/kg-day	--	--	--	4.30E-07	mg/kg-day	6.00E-02	mg/kg-day	7.16E-06
				Acenaphthylene	1.04E-01	mg/kg	8.13E-11	mg/kg-day	--	--	--	8.13E-10	mg/kg-day	6.00E-02	mg/kg-day	1.36E-08
				Aldrin	1.30E-02	mg/kg	1.02E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.73E-09	1.02E-09	mg/kg-day	3.00E-05	mg/kg-day	3.38E-05
				alpha-BHC	7.30E-04	mg/kg	5.70E-13	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.59E-12	5.70E-12	mg/kg-day	5.00E-04	mg/kg-day	1.14E-08
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	6.89E-07	mg/kg-day	--	--	--	6.89E-08	mg/kg-day	1.00E+00	mg/kg-day	6.89E-06
				Anthracene	1.05E+00	mg/kg	1.07E-08	mg/kg-day	--	--	--	1.07E-07	mg/kg-day	3.00E-01	mg/kg-day	3.57E-07
				Antimony	4.08E+00	mg/kg	3.18E-10	mg/kg-day	--	--	--	3.18E-09	mg/kg-day	4.00E-04	mg/kg-day	7.96E-06
				Aroclor-1248	1.20E+00	mg/kg	1.31E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.62E-08	1.31E-07	mg/kg-day	2.00E-05	mg/kg-day	6.56E-03
				Aroclor-1254	4.44E-01	mg/kg	4.85E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.71E-09	4.85E-08	mg/kg-day	2.00E-05	mg/kg-day	2.43E-03
				Aroclor-1260	5.41E-01	mg/kg	5.92E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.18E-08	5.92E-08	mg/kg-day	2.00E-05	mg/kg-day	2.96E-03
				Aroclor-1268	2.78E-02	mg/kg	3.03E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.07E-10	3.03E-09	mg/kg-day	2.00E-05	mg/kg-day	1.52E-04
				Arsenic	6.17E+00	mg/kg	1.44E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.17E-08	1.44E-07	mg/kg-day	3.00E-04	mg/kg-day	4.81E-04
				Barium	6.78E+01	mg/kg	5.30E-09	mg/kg-day	--	--	--	5.30E-08	mg/kg-day	7.00E-02	mg/kg-day	7.57E-07
				Benzo(a)anthracene	5.00E+00	mg/kg	5.08E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.71E-08	5.08E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.69E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.23E-07	1.69E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.78E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.03E-08	2.78E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	7.75E-09	mg/kg-day	--	--	--	7.75E-08	mg/kg-day	3.00E-02	mg/kg-day	2.58E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.31E-08	mg/kg-day	7.30E-02	(mg/kg-day)-1	2.42E-09	3.31E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.86E-11	mg/kg-day	--	--	--	1.86E-10	mg/kg-day	2.00E-03	mg/kg-day	9.30E-08
				Beta-BHC	2.20E-03	mg/kg	1.72E-12	mg/kg-day	1.80E+00	(mg/kg-day)-1	3.09E-12	1.72E-11	mg/kg-day	2.00E-04	mg/kg-day	8.59E-08
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	6.12E-09	mg/kg-day	1.40E-02	(mg/kg-day)-1	8.56E-11	6.12E-08	mg/kg-day	2.00E-02	mg/kg-day	3.06E-06
				Cadmium	9.47E+00	mg/kg	7.40E-10	mg/kg-day	--	--	--	7.40E-09	mg/kg-day	5.00E-04	mg/kg-day	1.48E-05
				Carbon disulfide	2.40E-04	mg/kg	4.68E-12	mg/kg-day	--	--	--	4.68E-11	mg/kg-day	1.00E-01	mg/kg-day	4.68E-10
				Chlorobenzene	1.10E-01	mg/kg	8.59E-11	mg/kg-day	--	--	--	8.59E-10	mg/kg-day	2.00E-02	mg/kg-day	4.29E-08
				Chromium	1.11E+02	mg/kg	8.68E-09	mg/kg-day	--	--	--	8.68E-08	mg/kg-day	1.50E+00	mg/kg-day	5.79E-08
				Chrysene	5.68E+00	mg/kg	5.77E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.21E-10	5.77E-07	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	5.91E-10	mg/kg-day	--	--	--	5.91E-09	mg/kg-day	2.00E-02	mg/kg-day	2.96E-07
				Copper	5.71E+01	mg/kg	4.46E-09	mg/kg-day	--	--	--	4.46E-08	mg/kg-day	3.70E-02	mg/kg-day	1.20E-06
				Delta-BHC	8.40E-03	mg/kg	3.28E-11	mg/kg-day	1.80E+00	(mg/kg-day)-1	5.90E-11	3.28E-10	mg/kg-day	2.00E-04	mg/kg-day	1.64E-06
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	3.22E-09	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.35E-08	3.22E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E-01	mg/kg	1.02E-08	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	2.00E-03	mg/kg-day	5.08E-05
				Dieldrin	5.51E-02	mg/kg	4.31E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.89E-10	4.31E-10	mg/kg-day	5.00E-05	mg/kg-day	8.61E-06
				Dimethylphthalate	3.80E-02	mg/kg	2.97E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	1.00E+01	mg/kg-day	2.97E-11
				di-n-Butylphthalate	2.20E+00	mg/kg	1.72E-09	mg/kg-day	--	--	--	1.72E-08	mg/kg-day	1.00E-01	mg/kg-day	1.72E-07
				Endosulfan I	2.30E-02	mg/kg	8.98E-11	mg/kg-day	--	--	--	8.98E-10	mg/kg-day	6.00E-03	mg/kg-day	1.50E-07
				Endosulfan II	2.38E-02	mg/kg	9.30E-11	mg/kg-day	--	--	--	9.30E-10	mg/kg-day	6.00E-03	mg/kg-day	1.55E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	1.68E-10	mg/kg-day	--	--	--	1.68E-09	mg/kg-day	6.00E-03	mg/kg-day	2.80E-07
				Endrin aldehyde	4.21E-02	mg/kg	1.64E-10	mg/kg-day	--	--	--	1.64E-09	mg/kg-day	3.00E-04	mg/kg-day	5.48E-06
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	2.69E-07	mg/kg-day	--	--	--	2.69E-06	mg/kg-day	4.00E-02	mg/kg-day	6.73E-05
				Fluorene	2.92E+00	mg/kg	2.96E-08	mg/kg-day	--	--	--	2.96E-07	mg/kg-day	4.00E-02	mg/kg-day	7.40E-06
				gamma-BHC (Lindane)	2.60E-03	mg/kg	8.12E-12	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.06E-11	8.12E-11	mg/kg-day	3.00E-04	mg/kg-day	2.71E-07
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	5.39E-12	mg/kg-day	4.50E+00	(mg/kg-day)-1	2.42E-11	5.39E-11	mg/kg-day	5.00E-04	mg/kg-day	1.08E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	8.71E-12	mg/kg-day	9.10E+00	(mg/kg-day)-1	7.93E-11	8.71E-11	mg/kg-day	1.30E-05	mg/kg-day	6.70E-06
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	8.86E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.47E-09	8.86E-08	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	3.18E-06	mg/kg-day	--	--	--	3.18E-05	mg/kg-day	3.00E-01	mg/kg-day	1.06E-04
				Isophorone	2.00E-04	mg/kg	1.56E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.48E-12	1.56E-08	mg/kg-day	2.00E-01	mg/kg-day	7.81E-08
				Lead	2.90E+03	mg/kg	2.27E-07	mg/kg-day	--	--	--	2.27E-06	mg/kg-day	--	--	--

TABLE H2-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	2.58E-08	mg/kg-day	--	--	--	2.58E-07	mg/kg-day	2.40E-02	mg/kg-day	1.08E-05			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	--	--	--		
				Methoxychlor	1.20E-01	mg/kg	9.37E-11	mg/kg-day	--	--	--	--	9.37E-10	mg/kg-day	5.00E-03	mg/kg-day	1.87E-07		
				Molybdenum	2.50E+00	mg/kg	1.96E-10	mg/kg-day	--	--	--	--	1.96E-09	mg/kg-day	5.00E-03	mg/kg-day	3.91E-07		
				Naphthalene	1.30E+01	mg/kg	1.32E-07	mg/kg-day	--	--	--	--	1.32E-06	mg/kg-day	2.00E-02	mg/kg-day	6.60E-05		
				Nickel	3.91E+01	mg/kg	3.05E-09	mg/kg-day	--	--	--	--	3.05E-08	mg/kg-day	2.00E-02	mg/kg-day	1.53E-06		
				Phenanthrene	1.39E+01	mg/kg	1.09E-08	mg/kg-day	--	--	--	--	1.09E-07	mg/kg-day	3.00E-01	mg/kg-day	3.62E-07		
				Phenol	5.80E-01	mg/kg	4.53E-09	mg/kg-day	--	--	--	--	4.53E-08	mg/kg-day	3.00E-01	mg/kg-day	1.51E-07		
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	--	--	
				Pyrene	2.41E+01	mg/kg	2.45E-07	mg/kg-day	--	--	--	--	2.45E-06	mg/kg-day	3.00E-02	mg/kg-day	8.17E-05		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	--	--	
				Selenium	2.24E-01	mg/kg	1.75E-11	mg/kg-day	--	--	--	--	1.75E-10	mg/kg-day	5.00E-03	mg/kg-day	3.51E-08		
				Silver	1.16E+00	mg/kg	9.05E-11	mg/kg-day	--	--	--	--	9.05E-10	mg/kg-day	5.00E-03	mg/kg-day	1.81E-07		
				Technical Chlordane	5.51E-01	mg/kg	1.72E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	6.02E-10	--	1.72E-08	mg/kg-day	5.00E-04	mg/kg-day	3.44E-05		
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	6.60E-05	mg/kg-day	--	--	--	
				Toluene	4.30E-04	mg/kg	3.36E-13	mg/kg-day	--	--	--	--	3.36E-12	mg/kg-day	8.00E-02	mg/kg-day	4.20E-11		
				Vanadium	3.41E+01	mg/kg	2.67E-09	mg/kg-day	--	--	--	--	2.67E-08	mg/kg-day	1.00E-03	mg/kg-day	2.67E-05		
				Zinc	4.53E+02	mg/kg	3.54E-08	mg/kg-day	--	--	--	--	3.54E-07	mg/kg-day	3.00E-01	mg/kg-day	1.18E-06		
				Exposure Point Total			Exposure Route Total							2.87E-07					1.32E-02
															2.12E-06				
Exposure Medium Total											2.12E-06					2.07E-01			
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.39E-12	mg/kg-day	--	--	--	2.39E-11	mg/kg-day	2.00E-02	mg/kg-day	1.19E-09				
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	9.21E-13	mg/kg-day	--	--	--	9.21E-12	mg/kg-day	--	--	--				
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.36E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	3.27E-15	1.36E-13	mg/kg-day	5.00E-04	mg/kg-day	2.73E-10				
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	5.06E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.72E-13	5.06E-12	mg/kg-day	5.00E-04	mg/kg-day	1.01E-08				
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.07E-12	mg/kg-day	--	--	--	3.07E-11	mg/kg-day	5.00E-03	mg/kg-day	6.14E-09				
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	7.05E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.48E-13	7.05E-11	mg/kg-day	1.00E-03	mg/kg-day	7.05E-08				
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	4.78E-12	mg/kg-day	--	--	--	4.78E-11	mg/kg-day	5.70E-04	mg/kg-day	8.38E-08				
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	1.00E-06	mg/kg-day	1.43E-03	mg/kg-day	7.02E-04				
			Antimony	3.09E-09	mg/m <sup>3</sup>	4.64E-11	mg/kg-day	--	--	--	4.64E-10	mg/kg-day	--	--	--				
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.36E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.73E-11	1.36E-10	mg/kg-day	2.00E-05	mg/kg-day	6.82E-06				
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	5.05E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.01E-11	5.05E-11	mg/kg-day	2.00E-05	mg/kg-day	2.52E-06				
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	6.16E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.23E-11	6.16E-11	mg/kg-day	2.00E-05	mg/kg-day	3.08E-06				
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.16E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.31E-13	3.16E-12	mg/kg-day	2.00E-05	mg/kg-day	1.58E-07				
			Arsenic	4.67E-09	mg/m <sup>3</sup>	7.01E-11	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.05E-09	7.01E-10	mg/kg-day	--	--	--				
			Barium	5.14E-08	mg/m <sup>3</sup>	7.71E-10	mg/kg-day	--	--	--	7.71E-09	mg/kg-day	1.40E-04	mg/kg-day	5.51E-05				
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	5.69E-11	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	4.15E-11	5.69E-10	mg/kg-day	--	--	--				
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	1.89E-11	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	1.38E-10	1.89E-10	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	8.68E-12	mg/kg-day	--	--	--	8.68E-11	mg/kg-day	3.00E-02	mg/kg-day	2.89E-09				
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	3.71E-11	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	2.71E-12	3.71E-10	mg/kg-day	--	--	--				
			Beryllium	1.80E-10	mg/m <sup>3</sup>	2.71E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	2.27E-11	2.71E-11	mg/kg-day	5.71E-06	mg/kg-day	4.74E-06				
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.50E-14	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	4.64E-14	2.50E-13	mg/kg-day	2.00E-04	mg/kg-day	1.25E-09				
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	8.91E-11	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.25E-12	8.91E-11	mg/kg-day	2.00E-02	mg/kg-day	4.45E-08				
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.08E-10	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	6.79E-10	1.08E-09	mg/kg-day	--	--	--				
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.26E-09	mg/kg-day	--	--	--	1.26E-08	mg/kg-day	--	--	--				
			Cobalt	5.74E-09	mg/m <sup>3</sup>	8.61E-11	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	8.44E-10	8.61E-10	mg/kg-day	5.71E-06	mg/kg-day	1.51E-04				
			Copper	4.32E-08	mg/m <sup>3</sup>	6.49E-10	mg/kg-day	--	--	--	6.49E-09	mg/kg-day	--	--	--				
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	3.61E-12	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	2.64E-11	3.61E-11	mg/kg-day	--	--	--				
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.32E-13	mg/kg-day	--	--	--	4.32E-12	mg/kg-day	1.00E+01	mg/kg-day	4.32E-13				
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	2.50E-11	mg/kg-day	--	--	--	2.50E-10	mg/kg-day	1.00E-01	mg/kg-day	2.50E-09				
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	4.78E-13	mg/kg-day	--	--	--	4.78E-12	mg/kg-day	3.00E-04	mg/kg-day	1.59E-08				

TABLE H2-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.14E-13	mg/kg-day	--	--	--	--	1.14E-12	mg/kg-day	3.00E-04	mg/kg-day	3.79E-09				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.27E-13	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.15E-12	1.27E-12	mg/kg-day	1.30E-05	mg/kg-day	9.76E-08					
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	9.93E-12	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.25E-12	9.93E-11	mg/kg-day	--	--	--					
				Iron	3.09E-05	mg/m <sup>3</sup>	4.63E-07	mg/kg-day	--	--	--	4.63E-06	mg/kg-day	--	--	--					
				Isophorone	1.52E-10	mg/m <sup>3</sup>	2.27E-12	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.16E-15	2.27E-11	mg/kg-day	2.00E-01	mg/kg-day	1.14E-10					
				Lead	2.20E-06	mg/m <sup>3</sup>	3.30E-08	mg/kg-day	--	--	--	3.30E-07	mg/kg-day	--	--	--					
				Manganese	2.51E-07	mg/m <sup>3</sup>	3.76E-09	mg/kg-day	--	--	--	3.76E-08	mg/kg-day	1.43E-05	mg/kg-day	2.63E-03					
				Mercury	2.34E-10	mg/m <sup>3</sup>	3.52E-12	mg/kg-day	--	--	--	3.52E-11	mg/kg-day	8.60E-05	mg/kg-day	4.09E-07					
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	2.85E-11	mg/kg-day	--	--	--	2.85E-10	mg/kg-day	--	--	--					
				Nickel	2.96E-08	mg/m <sup>3</sup>	4.45E-10	mg/kg-day	--	--	--	4.45E-09	mg/kg-day	--	--	--					
				Phenol	4.39E-10	mg/m <sup>3</sup>	6.59E-12	mg/kg-day	--	--	--	6.59E-11	mg/kg-day	3.00E-01	mg/kg-day	2.20E-10					
				Selenium	1.70E-10	mg/m <sup>3</sup>	2.55E-12	mg/kg-day	--	--	--	2.55E-11	mg/kg-day	--	--	--					
				Silver	8.78E-10	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	--	--	--	1.32E-10	mg/kg-day	--	--	--					
				Thallium	3.77E-10	mg/m <sup>3</sup>	5.65E-12	mg/kg-day	--	--	--	5.65E-11	mg/kg-day	--	--	--					
				Vanadium	2.59E-08	mg/m <sup>3</sup>	3.88E-10	mg/kg-day	--	--	--	3.88E-09	mg/kg-day	--	--	--					
				Zinc	3.44E-07	mg/m <sup>3</sup>	5.16E-09	mg/kg-day	--	--	--	5.16E-08	mg/kg-day	--	--	--					
				<b>Exposure Route Total</b>											<b>2.87E-09</b>				<b>3.56E-03</b>		
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.57E-06	mg/kg-day	--	--	--	--	1.57E-05	mg/kg-day	1.10E-03	mg/kg-day	1.42E-02
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	5.33E-06	mg/kg-day	--	--	--	5.33E-05	mg/kg-day	1.10E-03	mg/kg-day	4.84E-02	
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.76E-06	mg/kg-day	--	--	--	1.76E-05	mg/kg-day	1.71E-03	mg/kg-day	1.03E-02	
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	7.99E-05	mg/kg-day	--	--	--	7.99E-04	mg/kg-day	5.70E-02	mg/kg-day	1.40E-02	
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.29E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.92E-09	4.29E-07	mg/kg-day	1.14E-03	mg/kg-day	3.77E-04	
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	5.48E-07	mg/kg-day	--	--	--	5.48E-06	mg/kg-day	1.71E-03	mg/kg-day	3.20E-03	
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.44E-06	mg/kg-day	--	--	--	2.44E-05	mg/kg-day	3.00E-02	mg/kg-day	8.15E-04	
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.35E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	5.16E-07	2.35E-04	mg/kg-day	2.30E-01	mg/kg-day	1.02E-03	
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.11E-06	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	5.00E-02	mg/kg-day	2.22E-04	
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	1.46E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.95E-11	1.46E-09	mg/kg-day	5.00E-04	mg/kg-day	2.91E-06	
Acenaphthene	5.81E-05	mg/m <sup>3</sup>	8.72E-07					mg/kg-day	--	--	--	8.72E-06	mg/kg-day	6.00E-02	mg/kg-day	1.45E-04					
Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.15E-08					mg/kg-day	--	--	--	2.15E-07	mg/kg-day	6.00E-02	mg/kg-day	3.58E-06					
Aldrin	5.63E-09	mg/m <sup>3</sup>	8.45E-11					mg/kg-day	1.70E+01	(mg/kg-day)-1	1.44E-09	8.45E-10	mg/kg-day	3.00E-05	mg/kg-day	2.82E-05					
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	5.46E-11					mg/kg-day	6.30E+00	(mg/kg-day)-1	3.44E-10	5.46E-10	mg/kg-day	5.00E-04	mg/kg-day	1.09E-06					
alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.21E-10					mg/kg-day	3.50E-01	(mg/kg-day)-1	4.23E-11	1.21E-09	mg/kg-day	2.00E-04	mg/kg-day	6.05E-06					
Anthracene	1.45E-05	mg/m <sup>3</sup>	2.17E-07					mg/kg-day	--	--	--	2.17E-06	mg/kg-day	3.00E-01	mg/kg-day	7.25E-06					
Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	2.66E-08					mg/kg-day	7.30E-01	(mg/kg-day)-1	1.94E-08	2.66E-07	mg/kg-day	--	--	--					
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	6.79E-09					mg/kg-day	--	--	--	6.79E-08	mg/kg-day	2.00E-01	mg/kg-day	3.39E-07					
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	7.77E-07					mg/kg-day	--	--	--	7.77E-06	mg/kg-day	1.70E-02	mg/kg-day	4.57E-04					
Chrysene	6.25E-06	mg/m <sup>3</sup>	9.38E-08					mg/kg-day	7.30E-03	(mg/kg-day)-1	6.84E-10	9.38E-07	mg/kg-day	--	--	--					
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	6.28E-10					mg/kg-day	1.86E+00	(mg/kg-day)-1	1.17E-09	6.28E-09	mg/kg-day	2.00E-04	mg/kg-day	3.14E-05					
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	6.73E-07					mg/kg-day	--	--	--	6.73E-06	mg/kg-day	2.00E-03	mg/kg-day	3.37E-03					
Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.11E-09					mg/kg-day	1.60E+01	(mg/kg-day)-1	1.78E-08	1.11E-08	mg/kg-day	5.00E-05	mg/kg-day	2.23E-04					
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.21E-09					mg/kg-day	--	--	--	1.21E-08	mg/kg-day	6.00E-03	mg/kg-day	2.02E-06					
Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.25E-09					mg/kg-day	--	--	--	1.25E-08	mg/kg-day	6.00E-03	mg/kg-day	2.09E-06					
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.26E-09					mg/kg-day	--	--	--	2.26E-08	mg/kg-day	6.00E-03	mg/kg-day	3.77E-06					
Fluoranthene	1.71E-05	mg/m <sup>3</sup>	2.57E-07					mg/kg-day	--	--	--	2.57E-06	mg/kg-day	4.00E-02	mg/kg-day	6.43E-05					
Fluorene	1.71E-05	mg/m <sup>3</sup>	2.56E-07	mg/kg-day	--	--	--	2.56E-06	mg/kg-day	4.00E-02	mg/kg-day	6.40E-05									
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.39E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.11E-10	2.39E-09	mg/kg-day	3.00E-04	mg/kg-day	7.98E-06									
gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	1.95E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.81E-11	1.95E-09	mg/kg-day	2.00E-04	mg/kg-day	9.73E-06									
Heptachlor	3.38E-07	mg/m <sup>3</sup>	5.07E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.31E-08	5.07E-08	mg/kg-day	5.00E-04	mg/kg-day	1.01E-04									
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.30E-09	mg/kg-day	--	--	--	1.30E-08	mg/kg-day	5.00E-03	mg/kg-day	2.59E-06									
Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.05E-05	mg/kg-day	--	--	--	1.05E-04	mg/kg-day	8.57E-04	mg/kg-day	1.22E-01									
Phenanthrene	1.91E-04	mg/m <sup>3</sup>	2.87E-06	mg/kg-day	--	--	--	2.87E-05	mg/kg-day	3.00E-01	mg/kg-day	9.56E-05									



TABLE H2-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	5.14E-07	mg/kg-day	--	--	--	5.14E-08	mg/kg-day	1.10E-01	mg/kg-day	4.67E-05
				Pyrene	4.61E-10	mg/m <sup>3</sup>	6.92E-12	mg/kg-day	--	--	--	6.92E-11	mg/kg-day	3.00E-02	mg/kg-day	2.31E-09
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	4.00E-02	mg/kg-day	3.01E-06
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.36E-08	mg/kg-day	--	--	--	1.36E-07	mg/kg-day	4.00E-02	mg/kg-day	3.41E-06
				Toluene	3.80E-07	mg/m <sup>3</sup>	5.70E-09	mg/kg-day	--	--	--	5.70E-08	mg/kg-day	1.43E+00	mg/kg-day	3.99E-08
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.35E-08	mg/kg-day	--	--	--	1.35E-07	mg/kg-day	2.00E-02	mg/kg-day	6.73E-06
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.40E-08	mg/kg-day	4.00E-01	(mg/kg-day) <sup>-1</sup>	5.60E-09	1.40E-07	mg/kg-day	1.00E-02	mg/kg-day	1.40E-05
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	2.89E-08	mg/kg-day	3.10E-02	(mg/kg-day) <sup>-1</sup>	8.97E-10	2.89E-07	mg/kg-day	2.86E-02	mg/kg-day	1.01E-05
			Exposure Route Total												3.59E-04	
			Exposure Point Total							1.23E-08					3.59E-04	
			Exposure Medium Total							1.23E-08					3.59E-04	
Medium Total											1.23E-08				3.59E-04	
										Total of Receptor Risks Across All Media		2.72E-06		Total of Receptor Hazards Across All Media		4.31E-01

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RIC Reference concentration
  - RID Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H2-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.76E-07	mg/kg-day	--	--	--	6.16E-06	mg/kg-day	1.00E-02	mg/kg-day	6.16E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	5.99E-07	mg/kg-day	--	--	--	2.10E-05	mg/kg-day	1.00E-02	mg/kg-day	2.10E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	5.87E-08	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.11E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	3.05E-06	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	9.00E-02	mg/kg-day	1.19E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	4.23E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	2.87E-11	1.48E-08	mg/kg-day	1.14E-03	mg/kg-day	1.30E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.88E-08	mg/kg-day	--	--	--	6.58E-07	mg/kg-day	5.00E-02	mg/kg-day	1.32E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.29E-07	mg/kg-day	--	--	--	4.52E-06	mg/kg-day	3.00E-02	mg/kg-day	1.51E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	7.98E-07	mg/kg-day	2.40E-02	(mg/kg-day)-1	1.92E-08	2.79E-05	mg/kg-day	3.00E-02	mg/kg-day	9.32E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	2.47E-08	mg/kg-day	--	--	--	8.63E-07	mg/kg-day	2.00E-02	mg/kg-day	4.32E-05
				2-Methylphenol	8.10E-02	mg/kg	9.51E-09	mg/kg-day	--	--	--	3.33E-07	mg/kg-day	5.00E-02	mg/kg-day	6.66E-06
				2-Methylnaphthalene	1.67E+00	mg/kg	1.96E-07	mg/kg-day	--	--	--	6.87E-06	mg/kg-day	4.00E-03	mg/kg-day	1.72E-03
				4,4'-DDD	1.20E-03	mg/kg	1.41E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.38E-11	4.93E-09	mg/kg-day	5.00E-04	mg/kg-day	9.86E-08
				4,4'-DDE	8.23E-02	mg/kg	9.66E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.29E-09	3.38E-07	mg/kg-day	5.00E-04	mg/kg-day	6.77E-04
				4,4'-DDT	4.45E-02	mg/kg	5.22E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.78E-09	1.83E-07	mg/kg-day	5.00E-04	mg/kg-day	3.66E-04
				4-Methylphenol	2.70E-01	mg/kg	3.17E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	5.00E-03	mg/kg-day	2.22E-04
				4-Nitroaniline	6.20E-01	mg/kg	7.28E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.53E-09	2.55E-06	mg/kg-day	3.00E-03	mg/kg-day	8.49E-04
				4-Nitrophenol	4.20E-01	mg/kg	4.93E-08	mg/kg-day	--	--	--	1.73E-06	mg/kg-day	5.00E-04	mg/kg-day	3.45E-03
				Acenaphthene	4.23E+00	mg/kg	4.97E-07	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	6.00E-02	mg/kg-day	2.90E-04
				Acenaphthylene	1.04E-01	mg/kg	1.22E-08	mg/kg-day	--	--	--	4.28E-07	mg/kg-day	6.00E-02	mg/kg-day	7.14E-06
				Aldrin	1.30E-02	mg/kg	1.53E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.59E-08	5.34E-08	mg/kg-day	3.00E-05	mg/kg-day	1.78E-03
				alpha-BHC	7.30E-04	mg/kg	8.57E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	5.40E-10	3.00E-09	mg/kg-day	5.00E-04	mg/kg-day	6.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	9.56E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.35E-10	3.35E-08	mg/kg-day	5.00E-04	mg/kg-day	6.69E-05
				Aluminum	8.82E+03	mg/kg	1.04E-03	mg/kg-day	--	--	--	3.63E-02	mg/kg-day	1.00E+00	mg/kg-day	3.63E-02
				Anthracene	1.05E+00	mg/kg	1.24E-07	mg/kg-day	--	--	--	4.34E-06	mg/kg-day	3.00E-01	mg/kg-day	1.45E-05
				Antimony	4.08E+00	mg/kg	4.79E-07	mg/kg-day	--	--	--	1.68E-05	mg/kg-day	4.00E-04	mg/kg-day	4.19E-02
				Aroclor-1248	1.20E+00	mg/kg	1.41E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.82E-07	4.93E-06	mg/kg-day	2.00E-05	mg/kg-day	2.47E-01
				Aroclor-1254	4.44E-01	mg/kg	5.21E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.04E-07	1.83E-06	mg/kg-day	2.00E-05	mg/kg-day	9.13E-02
				Aroclor-1260	5.41E-01	mg/kg	6.36E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.27E-07	2.22E-06	mg/kg-day	2.00E-05	mg/kg-day	1.11E-01
				Aroclor-1268	2.78E-02	mg/kg	3.26E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.52E-09	1.14E-07	mg/kg-day	2.00E-05	mg/kg-day	5.70E-03
				Arsenic	6.17E+00	mg/kg	7.24E-07	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.09E-06	2.53E-05	mg/kg-day	3.00E-04	mg/kg-day	8.45E-02
				Barium	6.78E+01	mg/kg	7.96E-06	mg/kg-day	--	--	--	2.79E-04	mg/kg-day	7.00E-02	mg/kg-day	3.98E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	5.88E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.29E-07	2.06E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.96E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.43E-06	6.84E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	3.22E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.35E-07	1.13E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	8.97E-08	mg/kg-day	--	--	--	3.14E-06	mg/kg-day	3.00E-02	mg/kg-day	1.05E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.83E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	2.79E-08	1.34E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.80E-08	mg/kg-day	--	--	--	9.79E-07	mg/kg-day	2.00E-03	mg/kg-day	4.89E-04
				Beta-BHC	2.20E-03	mg/kg	2.58E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	4.65E-10	9.04E-09	mg/kg-day	2.00E-04	mg/kg-day	4.52E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	9.20E-07	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.29E-08	3.22E-05	mg/kg-day	2.00E-02	mg/kg-day	1.61E-03
				Cadmium	9.47E+00	mg/kg	1.11E-06	mg/kg-day	--	--	--	3.89E-05	mg/kg-day	5.00E-04	mg/kg-day	7.79E-02
				Carbon disulfide	2.40E-04	mg/kg	2.82E-11	mg/kg-day	--	--	--	9.86E-10	mg/kg-day	1.00E-01	mg/kg-day	9.86E-09
				Chlorobenzene	1.10E-01	mg/kg	1.29E-08	mg/kg-day	--	--	--	4.52E-07	mg/kg-day	2.00E-02	mg/kg-day	2.26E-05
				Chromium	1.11E+02	mg/kg	1.31E-05	mg/kg-day	--	--	--	4.57E-04	mg/kg-day	1.50E+00	mg/kg-day	3.05E-04
				Chrysene	5.68E+00	mg/kg	6.67E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	4.87E-09	2.34E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	8.89E-07	mg/kg-day	--	--	--	3.11E-05	mg/kg-day	2.00E-02	mg/kg-day	1.56E-03
				Copper	5.71E+01	mg/kg	6.70E-06	mg/kg-day	--	--	--	2.34E-04	mg/kg-day	3.70E-02	mg/kg-day	6.34E-03
				Delta-BHC	8.40E-03	mg/kg	9.86E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.78E-09	3.45E-08	mg/kg-day	2.00E-04	mg/kg-day	1.73E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	3.73E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.72E-07	1.30E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	1.53E-06	mg/kg-day	--	--	--	5.34E-05	mg/kg-day	2.00E-03	mg/kg-day	2.67E-02
				Dieldrin	5.51E-02	mg/kg	6.47E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.04E-07	2.27E-07	mg/kg-day	5.00E-05	mg/kg-day	4.53E-03
				Dimethylphthalate	3.80E-02	mg/kg	4.46E-09	mg/kg-day	--	--	--	1.56E-07	mg/kg-day	1.00E+01	mg/kg-day	1.56E-08

TABLE H2-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	2.58E-07	mg/kg-day	--	--	--	--	9.04E-06	mg/kg-day	1.00E-01	mg/kg-day	9.04E-05				
				Endosulfan I	2.30E-02	mg/kg	2.70E-09	mg/kg-day	--	--	--	--	9.45E-08	mg/kg-day	6.00E-03	mg/kg-day	1.58E-05				
				Endosulfan II	2.38E-02	mg/kg	2.80E-09	mg/kg-day	--	--	--	--	9.79E-08	mg/kg-day	6.00E-03	mg/kg-day	1.63E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	5.05E-09	mg/kg-day	--	--	--	--	1.77E-07	mg/kg-day	6.00E-03	mg/kg-day	2.95E-05				
				Endrin aldehyde	4.21E-02	mg/kg	4.94E-09	mg/kg-day	--	--	--	--	1.73E-07	mg/kg-day	3.00E-04	mg/kg-day	5.76E-04				
				Endrin Ketone	1.00E-02	mg/kg	1.17E-09	mg/kg-day	--	--	--	--	4.11E-08	mg/kg-day	3.00E-04	mg/kg-day	1.37E-04				
				Fluoranthene	2.65E+01	mg/kg	3.11E-06	mg/kg-day	--	--	--	--	1.09E-04	mg/kg-day	4.00E-02	mg/kg-day	2.72E-03				
				Fluorene	2.92E+00	mg/kg	3.42E-07	mg/kg-day	--	--	--	--	1.20E-05	mg/kg-day	4.00E-02	mg/kg-day	3.00E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.05E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.97E-10	1.07E-08	mg/kg-day	3.00E-04	mg/kg-day	3.56E-05					
				gamma-Chlordane	1.31E-02	mg/kg	1.54E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	5.38E-10	5.38E-08	mg/kg-day	5.00E-04	mg/kg-day	1.08E-04					
				Heptachlor	6.90E-03	mg/kg	8.10E-10	mg/kg-day	4.50E+00	(mg/kg-day)-1	3.65E-09	2.84E-08	mg/kg-day	5.00E-04	mg/kg-day	5.67E-05					
				Heptachlor Epoxide	1.12E-02	mg/kg	1.31E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.19E-08	4.58E-08	mg/kg-day	1.30E-05	mg/kg-day	3.53E-03					
				indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.02E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.48E-08	3.59E-06	mg/kg-day	--	--	--					
				Iron	4.07E+04	mg/kg	4.78E-03	mg/kg-day	--	--	--	1.67E-01	mg/kg-day	3.00E-01	mg/kg-day	5.58E-01					
				Isophorone	2.00E-01	mg/kg	2.35E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.23E-11	8.22E-07	mg/kg-day	2.00E-01	mg/kg-day	4.11E-06					
				Lead	2.90E+03	mg/kg	3.41E-04	mg/kg-day	--	--	--	1.19E-02	mg/kg-day	--	--	--					
				Manganese	3.31E+02	mg/kg	3.89E-05	mg/kg-day	--	--	--	1.36E-03	mg/kg-day	2.40E-02	mg/kg-day	5.67E-02					
				Mercury	3.10E-01	mg/kg	3.63E-08	mg/kg-day	--	--	--	1.27E-06	mg/kg-day	3.00E-04	mg/kg-day	4.24E-03					
				Methoxychlor	1.20E-01	mg/kg	1.41E-08	mg/kg-day	--	--	--	4.93E-07	mg/kg-day	5.00E-03	mg/kg-day	9.86E-05					
				Molybdenum	2.50E+00	mg/kg	2.94E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	5.00E-03	mg/kg-day	2.06E-03					
				Naphthalene	1.30E+01	mg/kg	1.53E-06	mg/kg-day	--	--	--	5.34E-05	mg/kg-day	2.00E-02	mg/kg-day	2.67E-03					
				Nickel	3.91E+01	mg/kg	4.59E-06	mg/kg-day	--	--	--	1.61E-04	mg/kg-day	2.00E-02	mg/kg-day	8.04E-03					
				Phenanthrene	1.39E+01	mg/kg	1.63E-06	mg/kg-day	--	--	--	5.72E-05	mg/kg-day	3.00E-01	mg/kg-day	1.91E-04					
				Phenol	5.80E-01	mg/kg	6.81E-08	mg/kg-day	--	--	--	2.38E-06	mg/kg-day	3.00E-01	mg/kg-day	7.95E-06					
				p-Isopropyltoluene	1.10E-01	mg/kg	1.29E-08	mg/kg-day	--	--	--	4.52E-07	mg/kg-day	1.00E-01	mg/kg-day	4.52E-06					
				Pyrene	2.41E+01	mg/kg	2.84E-06	mg/kg-day	--	--	--	9.92E-05	mg/kg-day	3.00E-02	mg/kg-day	3.31E-03					
				sec-Butylbenzene	7.10E-02	mg/kg	8.34E-09	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	4.00E-02	mg/kg-day	7.29E-06					
				Selenium	2.24E-01	mg/kg	2.64E-08	mg/kg-day	--	--	--	9.22E-07	mg/kg-day	5.00E-03	mg/kg-day	1.84E-04					
				Silver	1.16E+00	mg/kg	1.36E-07	mg/kg-day	--	--	--	4.76E-06	mg/kg-day	5.00E-03	mg/kg-day	9.53E-04					
				Technical Chlordane	5.51E-01	mg/kg	6.47E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.26E-08	2.26E-06	mg/kg-day	5.00E-04	mg/kg-day	4.53E-03					
				Thallium	4.97E-01	mg/kg	5.84E-08	mg/kg-day	--	--	--	2.04E-06	mg/kg-day	6.60E-05	mg/kg-day	3.09E-02					
				Toluene	4.30E-04	mg/kg	5.05E-11	mg/kg-day	--	--	--	1.77E-09	mg/kg-day	8.00E-02	mg/kg-day	2.21E-08					
				Vanadium	3.41E+01	mg/kg	4.01E-06	mg/kg-day	--	--	--	1.40E-04	mg/kg-day	1.00E-03	mg/kg-day	1.40E-01					
				Zinc	4.53E+02	mg/kg	5.32E-05	mg/kg-day	--	--	--	1.86E-03	mg/kg-day	3.00E-01	mg/kg-day	6.21E-03					
				<b>Exposure Route Total</b>																	
							Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.07E-08	mg/kg-day	--	--	--	--	1.07E-06	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.04E-08	mg/kg-day	--	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.02E-09	mg/kg-day	--	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07
								1,2-Dichlorobenzene	2.60E+01	mg/kg	5.32E-08	mg/kg-day	--	--	--	--	1.86E-06	mg/kg-day	9.00E-02	mg/kg-day	2.07E-05
								1,2-Dichloropropane	3.60E-03	mg/kg	7.36E-12	mg/kg-day	6.80E-02	(mg/kg-day)-1	5.01E-13	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07	
								1,3,5-Trimethylbenzene	1.60E-01	mg/kg	3.27E-10	mg/kg-day	--	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.25E-09	mg/kg-day	--	--	--	--	7.88E-09	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06				
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
				2,4-Dimethylphenol	2.10E-01	mg/kg	4.30E-10	mg/kg-day	--	--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07				
				2-Methylphenol	8.10E-02	mg/kg	1.66E-09	mg/kg-day	--	--	--	--	5.80E-08	mg/kg-day	5.00E-02	mg/kg-day	1.16E-06				
				2-Methylnaphthalene	1.67E+00	mg/kg	3.42E-09	mg/kg-day	--	--	--	--	1.20E-07	mg/kg-day	4.00E-03	mg/kg-day	2.99E-05				
				4,4'-DDD	1.20E-03	mg/kg	2.45E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	5.89E-13	5.89E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07					
				4,4'-DDE	8.23E-02	mg/kg	1.68E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.73E-11	5.89E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05					
				4,4'-DDT	4.45E-02	mg/kg	2.73E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.28E-11	9.56E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05					
				4-Methylphenol	2.70E-01	mg/kg	5.52E-09	mg/kg-day	--	--	--	--	1.93E-07	mg/kg-day	5.00E-03	mg/kg-day	3.87E-05				
				4-Nitroaniline	6.20E-01	mg/kg	1.27E-08	mg/kg-day	2.10E-02	--	--	--	2.66E-10	mg/kg-day	3.00E-03	mg/kg-day	1.48E-04				

TABLE H2-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	8.59E-09	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	4.23E+00	mg/kg	1.13E-07	mg/kg-day	--	--	--	3.94E-06	mg/kg-day	6.00E-02	mg/kg-day	6.57E-05
				Acenaphthylene	1.04E-01	mg/kg	2.13E-10	mg/kg-day	--	--	--	7.46E-09	mg/kg-day	6.00E-02	mg/kg-day	1.24E-07
				Aldrin	1.30E-02	mg/kg	2.66E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	4.52E-09	9.31E-09	mg/kg-day	3.00E-05	mg/kg-day	3.10E-04
				alpha-BHC	7.30E-04	mg/kg	1.49E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	9.41E-12	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	1.80E-06	mg/kg-day	--	--	--	6.32E-05	mg/kg-day	1.00E+00	mg/kg-day	6.32E-05
				Anthracene	1.05E+00	mg/kg	2.81E-08	mg/kg-day	--	--	--	9.82E-07	mg/kg-day	3.00E-01	mg/kg-day	3.27E-06
				Antimony	4.08E+00	mg/kg	8.34E-10	mg/kg-day	--	--	--	2.92E-08	mg/kg-day	4.00E-04	mg/kg-day	7.30E-05
				Aroclor-1248	1.20E+00	mg/kg	3.44E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.87E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02
				Aroclor-1254	4.44E-01	mg/kg	1.27E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.54E-08	4.45E-07	mg/kg-day	2.00E-05	mg/kg-day	2.23E-02
				Aroclor-1260	5.41E-01	mg/kg	1.55E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.10E-08	5.43E-07	mg/kg-day	2.00E-05	mg/kg-day	2.71E-02
				Aroclor-1268	2.78E-02	mg/kg	7.95E-10	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.59E-09	2.78E-08	mg/kg-day	2.00E-05	mg/kg-day	1.39E-03
				Arsenic	6.17E+00	mg/kg	3.78E-08	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	5.68E-08	1.32E-06	mg/kg-day	3.00E-04	mg/kg-day	4.41E-03
				Barium	6.78E+01	mg/kg	1.39E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	7.00E-02	mg/kg-day	6.94E-06
				Benzo(a)anthracene	5.00E+00	mg/kg	1.33E-07	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	9.72E-08	4.66E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.43E-08	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	3.23E-07	1.55E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	7.28E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	5.32E-08	2.55E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.03E-08	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	3.00E-02	mg/kg-day	2.37E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	8.67E-08	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	6.33E-09	3.03E-08	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	4.87E-11	mg/kg-day	--	--	--	1.70E-09	mg/kg-day	2.00E-03	mg/kg-day	8.52E-07
				Beta-BHC	2.20E-03	mg/kg	4.50E-12	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	8.10E-12	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.60E-08	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	2.24E-10	5.61E-07	mg/kg-day	2.00E-02	mg/kg-day	2.80E-05
				Cadmium	9.47E+00	mg/kg	1.94E-09	mg/kg-day	--	--	--	6.78E-08	mg/kg-day	5.00E-04	mg/kg-day	1.36E-04
				Carbon disulfide	2.40E-04	mg/kg	1.23E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09
				Chlorobenzene	1.10E-01	mg/kg	2.25E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07
				Chromium	1.11E+02	mg/kg	2.27E-08	mg/kg-day	--	--	--	7.96E-07	mg/kg-day	1.50E+00	mg/kg-day	5.31E-07
				Chrysene	5.68E+00	mg/kg	1.51E-07	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	1.10E-09	5.29E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.55E-09	mg/kg-day	--	--	--	5.42E-08	mg/kg-day	2.00E-02	mg/kg-day	2.71E-06
				Copper	5.71E+01	mg/kg	1.17E-08	mg/kg-day	--	--	--	4.09E-07	mg/kg-day	3.70E-02	mg/kg-day	1.10E-05
				Delta-BHC	8.40E-03	mg/kg	8.59E-11	mg/kg-day	1.80E+00	(mg/kg-day) <sup>-1</sup>	1.55E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.50E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	8.44E-09	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	6.16E-08	2.96E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.66E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04
				Dieldrin	5.51E-02	mg/kg	1.13E-10	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.80E-09	3.95E-09	mg/kg-day	5.00E-05	mg/kg-day	7.90E-05
				Dimethylphthalate	3.80E-02	mg/kg	7.77E-11	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	1.00E+01	mg/kg-day	2.72E-10
				di-n-Butylphthalate	2.20E+00	mg/kg	4.50E-09	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	1.00E-01	mg/kg-day	1.58E-06
				Endosulfan I	2.30E-02	mg/kg	2.35E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06
				Endosulfan II	2.38E-02	mg/kg	2.44E-10	mg/kg-day	--	--	--	8.53E-09	mg/kg-day	6.00E-03	mg/kg-day	1.42E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	4.40E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-06
				Endrin aldehyde	4.21E-02	mg/kg	4.30E-10	mg/kg-day	--	--	--	1.51E-08	mg/kg-day	3.00E-04	mg/kg-day	5.02E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	7.05E-07	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	4.00E-02	mg/kg-day	6.17E-04
Fluorene	2.92E+00	mg/kg	7.76E-08	mg/kg-day	--	--	--	2.71E-06	mg/kg-day	4.00E-02	mg/kg-day	6.79E-05				
gamma-BHC (Lindane)	2.60E-03	mg/kg	2.13E-11	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	2.77E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06				
gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Heptachlor	6.90E-03	mg/kg	1.41E-11	mg/kg-day	4.50E+00	(mg/kg-day) <sup>-1</sup>	6.35E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07				
Heptachlor Epoxide	1.12E-02	mg/kg	2.26E-11	mg/kg-day	9.10E+00	(mg/kg-day) <sup>-1</sup>	2.08E-10	7.99E-10	mg/kg-day	1.30E-05	mg/kg-day	6.14E-05				
Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.32E-08	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	1.69E-08	8.13E-07	mg/kg-day	--	--	--				
Iron	4.07E+04	mg/kg	8.33E-06	mg/kg-day	--	--	--	2.92E-04	mg/kg-day	3.00E-01	mg/kg-day	9.72E-04				
Isophorone	2.00E-01	mg/kg	4.09E-09	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	3.89E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07				
Lead	2.90E+03	mg/kg	5.94E-07	mg/kg-day	--	--	--	2.08E-05	mg/kg-day	--	--	--				

TABLE H2-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	6.77E-08	mg/kg-day	--	--	--	--	2.37E-06	mg/kg-day	2.40E-02	mg/kg-day	9.88E-05			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	--	--		
				Methoxychlor	1.20E-01	mg/kg	2.45E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06	mg/kg-day	1.72E-06	
				Molybdenum	2.50E+00	mg/kg	5.12E-10	mg/kg-day	--	--	--	--	1.78E-08	mg/kg-day	5.00E-03	mg/kg-day	3.59E-08	mg/kg-day	3.59E-08	
				Naphthalene	1.30E+01	mg/kg	3.46E-07	mg/kg-day	--	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04	mg/kg-day	6.05E-04	
				Nickel	3.91E+01	mg/kg	8.00E-09	mg/kg-day	--	--	--	--	2.80E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05	mg/kg-day	1.40E-05	
				Phenanthrene	1.39E+01	mg/kg	2.85E-08	mg/kg-day	--	--	--	--	9.97E-07	mg/kg-day	3.00E-01	mg/kg-day	3.32E-06	mg/kg-day	3.32E-06	
				Phenol	5.80E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06	mg/kg-day	1.38E-06	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	1.00E-01	mg/kg-day	--	--	--	--	
				Pyrene	2.41E+01	mg/kg	6.42E-07	mg/kg-day	--	--	--	--	2.25E-05	mg/kg-day	3.00E-02	mg/kg-day	7.49E-04	mg/kg-day	7.49E-04	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	4.00E-02	mg/kg-day	--	--	--	--	
				Selenium	2.24E-01	mg/kg	4.59E-11	mg/kg-day	--	--	--	--	1.61E-09	mg/kg-day	5.00E-03	mg/kg-day	3.21E-07	mg/kg-day	3.21E-07	
				Silver	1.16E+00	mg/kg	2.37E-10	mg/kg-day	--	--	--	--	8.30E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-08	mg/kg-day	1.66E-08	
				Technical Chlordane	5.51E-01	mg/kg	4.51E-09	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.58E-09	1.58E-09	1.58E-07	mg/kg-day	5.00E-04	mg/kg-day	3.10E-04	mg/kg-day	3.10E-04	
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	6.60E-05	mg/kg-day	--	--	--	--	
				Toluene	4.30E-04	mg/kg	8.80E-13	mg/kg-day	--	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.65E-10	mg/kg-day	3.65E-10	
				Vanadium	3.41E+01	mg/kg	6.99E-09	mg/kg-day	--	--	--	--	2.44E-07	mg/kg-day	1.00E-03	mg/kg-day	2.44E-04	mg/kg-day	2.44E-04	
				Zinc	4.53E+02	mg/kg	9.28E-08	mg/kg-day	--	--	--	--	3.25E-06	mg/kg-day	3.00E-01	mg/kg-day	1.08E-05	mg/kg-day	1.08E-05	
				Exposure Point Total										7.52E-07					1.21E-01	
				Exposure Medium Total										5.04E-08					1.70E+00	
Exposure Medium Total										5.04E-08					1.70E+00					
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	3.66E-13	mg/kg-day	--	--	--	--	1.28E-11	mg/kg-day	2.00E-02	mg/kg-day	8.41E-10				
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	1.41E-13	mg/kg-day	--	--	--	--	4.94E-12	mg/kg-day	--	--	--	--			
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	2.09E-15	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	5.02E-16	5.02E-16	7.32E-14	mg/kg-day	5.00E-04	mg/kg-day	1.46E-10	mg/kg-day	1.46E-10		
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	7.76E-14	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.64E-14	2.64E-14	2.71E-12	mg/kg-day	5.00E-04	mg/kg-day	5.43E-09	mg/kg-day	5.43E-09		
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	4.71E-13	mg/kg-day	--	--	--	--	1.65E-11	mg/kg-day	5.00E-03	mg/kg-day	3.30E-09	mg/kg-day	3.30E-09		
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	1.08E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.27E-14	2.27E-14	3.78E-11	mg/kg-day	1.00E-03	mg/kg-day	3.78E-08	mg/kg-day	3.78E-08		
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	7.32E-13	mg/kg-day	--	--	--	--	2.56E-11	mg/kg-day	5.70E-04	mg/kg-day	4.50E-08	mg/kg-day	4.50E-08		
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.54E-08	mg/kg-day	--	--	--	--	5.38E-07	mg/kg-day	1.43E-03	mg/kg-day	3.77E-04	mg/kg-day	3.77E-04		
			Antimony	3.09E-09	mg/m <sup>3</sup>	7.11E-12	mg/kg-day	--	--	--	--	2.49E-10	mg/kg-day	--	--	--	--	--		
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	2.09E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.18E-12	4.18E-12	7.32E-11	mg/kg-day	2.00E-05	mg/kg-day	3.66E-06	mg/kg-day	3.66E-06		
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	7.74E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.55E-12	1.55E-12	2.71E-11	mg/kg-day	2.00E-05	mg/kg-day	1.35E-06	mg/kg-day	1.35E-06		
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	9.44E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.89E-12	1.89E-12	3.30E-11	mg/kg-day	2.00E-05	mg/kg-day	1.65E-06	mg/kg-day	1.65E-06		
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	4.84E-14	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	9.68E-14	9.68E-14	1.69E-12	mg/kg-day	2.00E-05	mg/kg-day	8.47E-08	mg/kg-day	8.47E-08		
			Arsenic	4.67E-09	mg/m <sup>3</sup>	1.08E-11	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.61E-10	1.61E-10	3.76E-10	mg/kg-day	--	--	--	--	--		
			Barium	5.14E-08	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	--	--	--	--	4.14E-09	mg/kg-day	1.40E-04	mg/kg-day	2.96E-05	mg/kg-day	2.96E-05		
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	8.73E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	6.37E-12	6.37E-12	3.05E-10	mg/kg-day	--	--	--	--	--		
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	2.90E-12	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	2.12E-11	2.12E-11	1.02E-10	mg/kg-day	--	--	--	--	--		
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	1.33E-12	mg/kg-day	--	--	--	--	4.66E-11	mg/kg-day	3.00E-02	mg/kg-day	1.55E-09	mg/kg-day	1.55E-09		
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	5.68E-12	mg/kg-day	7.30E-02	(mg/kg-day) <sup>-1</sup>	4.15E-13	4.15E-13	1.99E-10	mg/kg-day	--	--	--	--	--		
			Beryllium	1.80E-10	mg/m <sup>3</sup>	4.15E-13	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	3.49E-12	3.49E-12	1.45E-11	mg/kg-day	5.71E-06	mg/kg-day	2.54E-06	mg/kg-day	2.54E-06		
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	3.84E-15	mg/kg-day	1.86E+00	(mg/kg-day) <sup>-1</sup>	7.12E-15	7.12E-15	1.34E-13	mg/kg-day	2.00E-04	mg/kg-day	6.71E-10	mg/kg-day	6.71E-10		
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	1.37E-11	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.91E-13	1.91E-13	4.78E-10	mg/kg-day	2.00E-02	mg/kg-day	2.39E-08	mg/kg-day	2.39E-08		
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.65E-11	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	1.04E-10	1.04E-10	5.78E-10	mg/kg-day	--	--	--	--	--		
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.94E-10	mg/kg-day	--	--	--	--	6.79E-09	mg/kg-day	--	--	--	--	--		
			Cobalt	5.74E-09	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	1.29E-10	1.29E-10	4.62E-10	mg/kg-day	5.71E-06	mg/kg-day	8.09E-05	mg/kg-day	8.09E-05		
			Copper	4.32E-08	mg/m <sup>3</sup>	9.95E-11	mg/kg-day	--	--	--	--	3.48E-09	mg/kg-day	--	--	--	--	--		
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	5.54E-13	mg/kg-day	7.30E+00	(mg/kg-day) <sup>-1</sup>	4.04E-12	4.04E-12	1.94E-11	mg/kg-day	--	--	--	--	--		
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	6.63E-14	mg/kg-day	--	--	--	--	2.32E-12	mg/kg-day	1.00E+01	mg/kg-day	2.32E-13	mg/kg-day	2.32E-13		
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	3.84E-12	mg/kg-day	--	--	--	--	1.34E-10	mg/kg-day	1.00E-01	mg/kg-day	1.34E-09	mg/kg-day	1.34E-09		
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	7.34E-14	mg/kg-day	--	--	--	--	2.57E-12	mg/kg-day	3.00E-04	mg/kg-day	8.56E-09	mg/kg-day	8.56E-09		

TABLE H2-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endnn Ketone	7.58E-12	mg/m <sup>3</sup>	1.74E-14	mg/kg-day	--	--	--	--	6.10E-13	mg/kg-day	3.00E-04	mg/kg-day	2.03E-09				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.94E-14	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.77E-13	6.81E-13	mg/kg-day	1.30E-05	mg/kg-day	5.24E-08					
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	1.52E-12	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.11E-12	5.33E-11	mg/kg-day	--	--	--					
				Iron	3.09E-05	mg/m <sup>3</sup>	7.10E-08	mg/kg-day	--	--	--	2.49E-06	mg/kg-day	--	--	--					
				Isophorone	1.52E-10	mg/m <sup>3</sup>	3.49E-13	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.31E-16	1.22E-11	mg/kg-day	2.00E-01	mg/kg-day	6.10E-11					
				Lead	2.20E-06	mg/m <sup>3</sup>	5.06E-09	mg/kg-day	--	--	--	1.77E-07	mg/kg-day	--	--	--					
				Manganese	2.51E-07	mg/m <sup>3</sup>	5.77E-10	mg/kg-day	--	--	--	2.02E-08	mg/kg-day	1.43E-05	mg/kg-day	1.41E-03					
				Mercury	2.34E-10	mg/m <sup>3</sup>	5.40E-13	mg/kg-day	--	--	--	1.89E-11	mg/kg-day	8.60E-05	mg/kg-day	2.20E-07					
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	4.37E-12	mg/kg-day	--	--	--	1.53E-10	mg/kg-day	--	--	--					
				Nickel	2.96E-08	mg/m <sup>3</sup>	6.82E-11	mg/kg-day	--	--	--	2.39E-09	mg/kg-day	--	--	--					
				Phenol	4.39E-10	mg/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	3.54E-11	mg/kg-day	3.00E-01	mg/kg-day	1.18E-10					
				Selenium	1.70E-10	mg/m <sup>3</sup>	3.91E-13	mg/kg-day	--	--	--	1.37E-11	mg/kg-day	--	--	--					
				Silver	8.78E-10	mg/m <sup>3</sup>	2.02E-12	mg/kg-day	--	--	--	7.07E-11	mg/kg-day	--	--	--					
				Thallium	3.77E-10	mg/m <sup>3</sup>	8.67E-13	mg/kg-day	--	--	--	3.03E-11	mg/kg-day	--	--	--					
				Vanadium	2.59E-08	mg/m <sup>3</sup>	5.95E-11	mg/kg-day	--	--	--	2.08E-09	mg/kg-day	--	--	--					
				Zinc	3.44E-07	mg/m <sup>3</sup>	7.91E-10	mg/kg-day	--	--	--	2.77E-08	mg/kg-day	--	--	--					
				<b>Exposure Route Total</b>																	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.40E-07	mg/kg-day	--	--	--	--	8.41E-06	mg/kg-day	1.10E-03	mg/kg-day	7.65E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	8.17E-07	mg/kg-day	--	--	--	--	2.86E-05	mg/kg-day	1.10E-03	mg/kg-day	2.60E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.70E-07	mg/kg-day	--	--	--	--	9.44E-06	mg/kg-day	1.71E-03	mg/kg-day	5.51E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.23E-05	mg/kg-day	--	--	--	--	4.29E-04	mg/kg-day	5.70E-02	mg/kg-day	7.52E-03
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	6.59E-09	mg/kg-day	6.80E-02	(mg/kg-day)-1	4.48E-10	2.30E-07	mg/kg-day	1.14E-03	mg/kg-day	2.02E-04	
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	8.41E-08	mg/kg-day	--	--	--	--	2.94E-06	mg/kg-day	1.71E-03	mg/kg-day	1.72E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	3.75E-07	mg/kg-day	--	--	--	--	1.31E-05	mg/kg-day	3.00E-02	mg/kg-day	4.37E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	3.60E-06	mg/kg-day	2.20E-02	(mg/kg-day)-1	7.91E-08	1.26E-04	mg/kg-day	2.30E-01	mg/kg-day	5.47E-04	
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.70E-07	mg/kg-day	--	--	--	--	5.96E-06	mg/kg-day	5.00E-02	mg/kg-day	1.19E-04
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	2.23E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.59E-12	7.81E-10	mg/kg-day	5.00E-04	mg/kg-day	1.56E-06	
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.34E-07	mg/kg-day	--	--	--	--	4.68E-06	mg/kg-day	6.00E-02	mg/kg-day	7.80E-05				
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	3.29E-09	mg/kg-day	--	--	--	--	1.15E-07	mg/kg-day	6.00E-02	mg/kg-day	1.92E-06				
				Aldrin	5.63E-09	mg/m <sup>3</sup>	1.30E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.20E-10	4.54E-10	mg/kg-day	3.00E-05	mg/kg-day	1.51E-05					
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	8.37E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	5.27E-11	2.93E-10	mg/kg-day	5.00E-04	mg/kg-day	5.86E-07					
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.85E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	6.49E-12	6.49E-10	mg/kg-day	2.00E-04	mg/kg-day	3.25E-06					
				Anthracene	1.45E-05	mg/m <sup>3</sup>	3.33E-08	mg/kg-day	--	--	--	--	1.17E-06	mg/kg-day	3.00E-01	mg/kg-day	3.89E-06				
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	4.07E-09	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.97E-09	1.43E-07	mg/kg-day	--	--	--					
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.04E-09	mg/kg-day	--	--	--	--	3.64E-08	mg/kg-day	2.00E-01	mg/kg-day	1.82E-07				
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.19E-07	mg/kg-day	--	--	--	--	4.17E-06	mg/kg-day	1.70E-02	mg/kg-day	2.45E-04				
				Chrysene	6.25E-06	mg/m <sup>3</sup>	1.44E-08	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.05E-10	5.03E-07	mg/kg-day	--	--	--					
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	9.63E-11	mg/kg-day	1.86E+00	(mg/kg-day)-1	1.79E-10	3.37E-09	mg/kg-day	2.00E-04	mg/kg-day	1.69E-05					
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.03E-07	mg/kg-day	--	--	--	--	3.61E-06	mg/kg-day	2.00E-03	mg/kg-day	1.81E-03				
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.71E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.73E-09	5.97E-09	mg/kg-day	5.00E-05	mg/kg-day	1.19E-04					
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.85E-10	mg/kg-day	--	--	--	--	6.49E-09	mg/kg-day	6.00E-03	mg/kg-day	1.08E-06				
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.92E-10	mg/kg-day	--	--	--	--	6.72E-09	mg/kg-day	6.00E-03	mg/kg-day	1.12E-06				
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	3.47E-10	mg/kg-day	--	--	--	--	1.21E-08	mg/kg-day	6.00E-03	mg/kg-day	2.02E-06				
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	3.94E-08	mg/kg-day	--	--	--	--	1.38E-06	mg/kg-day	4.00E-02	mg/kg-day	3.45E-05				
				Fluorene	1.71E-05	mg/m <sup>3</sup>	3.93E-08	mg/kg-day	--	--	--	--	1.37E-06	mg/kg-day	4.00E-02	mg/kg-day	3.44E-05				
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	3.67E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.77E-11	1.28E-09	mg/kg-day	3.00E-04	mg/kg-day	4.28E-06					
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.98E-11	mg/kg-day	3.50E-01	(mg/kg-day)-1	1.04E-11	1.04E-09	mg/kg-day	2.00E-04	mg/kg-day	5.22E-06					
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	7.78E-10	mg/kg-day	4.55E+00	(mg/kg-day)-1	3.54E-09	2.72E-08	mg/kg-day	5.00E-04	mg/kg-day	5.45E-05					
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.99E-10	mg/kg-day	--	--	--	--	6.95E-09	mg/kg-day	5.00E-03	mg/kg-day	1.39E-06				
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.61E-06	mg/kg-day	--	--	--	--	5.63E-05	mg/kg-day	8.57E-04	mg/kg-day	6.57E-02				
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	4.40E-07	mg/kg-day	--	--	--	--	1.54E-05	mg/kg-day	3.00E-01	mg/kg-day	5.13E-05				

TABLE H2-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	4.41E-07	mg/kg-day	--	--	--	1.54E-05	mg/kg-day	1.10E-01	mg/kg-day	1.40E-04
				Pyrene	1.85E-05	mg/m <sup>3</sup>	4.25E-08	mg/kg-day	--	--	--	1.49E-06	mg/kg-day	3.00E-02	mg/kg-day	4.96E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	6.46E-08	mg/kg-day	--	--	--	2.26E-06	mg/kg-day	4.00E-02	mg/kg-day	5.65E-05
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	1.26E-09	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	4.39E-13	4.39E-08	mg/kg-day	2.00E-04	mg/kg-day	2.20E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	7.19E-10	mg/kg-day	--	--	--	2.52E-08	mg/kg-day	1.43E+00	mg/kg-day	1.76E-08
				<b>Exposure Route Total</b>												
		<b>Exposure Point Total</b>														
	<b>Exposure Medium Total</b>															
<b>Medium Total</b>																
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	9.74E-10	mg/kg-day	--	--	--	3.41E-08	mg/kg-day	1.40E-01	mg/kg-day	2.44E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.90E-10	mg/kg-day	--	--	--	1.02E-08	mg/kg-day	1.71E-03	mg/kg-day	5.93E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.90E-09	mg/kg-day	--	--	--	6.66E-08	mg/kg-day	5.70E-02	mg/kg-day	1.17E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.37E-09	mg/kg-day	9.10E-02	--	1.25E-10	4.79E-08	mg/kg-day	1.40E-03	mg/kg-day	3.42E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	5.13E-10	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	3.49E-11	1.80E-08	mg/kg-day	1.14E-03	mg/kg-day	1.58E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.65E-10	mg/kg-day	--	--	--	5.79E-09	mg/kg-day	1.71E-03	mg/kg-day	3.38E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	6.48E-10	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.43E-11	2.27E-08	mg/kg-day	2.30E-01	mg/kg-day	9.86E-08
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	2.51E-11	mg/kg-day	--	--	--	8.77E-10	mg/kg-day	1.43E+00	mg/kg-day	6.14E-10
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	2.23E-12	mg/kg-day	--	--	--	7.79E-11	mg/kg-day	5.00E-02	mg/kg-day	1.56E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.99E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.01E-12	1.04E-10	mg/kg-day	5.00E-04	mg/kg-day	2.08E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	9.31E-12	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	8.60E-01	mg/kg-day	3.79E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	8.92E-11	mg/kg-day	--	--	--	3.12E-09	mg/kg-day	6.00E-02	mg/kg-day	5.20E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	3.80E-12	mg/kg-day	--	--	--	1.33E-10	mg/kg-day	6.00E-02	mg/kg-day	2.22E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	5.14E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	8.74E-11	1.80E-10	mg/kg-day	3.00E-05	mg/kg-day	6.00E-06
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	6.52E-13	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	4.11E-12	2.28E-11	mg/kg-day	5.00E-04	mg/kg-day	4.56E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.54E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	5.40E-13	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	7.56E-12	mg/kg-day	--	--	--	2.65E-10	mg/kg-day	3.00E-01	mg/kg-day	8.82E-10
				Benzene	2.61E-07	mg/m <sup>3</sup>	6.01E-10	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.64E-11	2.10E-08	mg/kg-day	8.60E-03	mg/kg-day	2.44E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	8.17E-13	3.92E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.69E-11	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	6.52E-14	5.93E-10	mg/kg-day	2.00E-02	mg/kg-day	2.96E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	3.63E-07	mg/kg-day	2.00E-01	mg/kg-day	1.81E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.69E-10	mg/kg-day	--	--	--	5.90E-09	mg/kg-day	1.70E-02	mg/kg-day	3.47E-07
				Chloroform	2.07E-06	mg/m <sup>3</sup>	4.76E-09	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	3.83E-10	1.67E-07	mg/kg-day	1.40E-02	mg/kg-day	1.19E-05
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.72E-09	mg/kg-day	--	--	--	6.03E-08	mg/kg-day	2.60E-02	mg/kg-day	2.32E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	3.03E-12	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	2.21E-14	1.06E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethane	5.30E-07	mg/m <sup>3</sup>	1.22E-09	mg/kg-day	--	--	--	4.27E-08	mg/kg-day	1.00E-02	mg/kg-day	4.27E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.26E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.62E-11	7.91E-11	mg/kg-day	5.00E-05	mg/kg-day	1.58E-06
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	5.15E-13	mg/kg-day	--	--	--	1.80E-11	mg/kg-day	6.00E-03	mg/kg-day	3.01E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	8.47E-16	mg/kg-day	--	--	--	2.96E-14	mg/kg-day	6.00E-03	mg/kg-day	4.94E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	4.59E-10	mg/kg-day	--	--	--	1.61E-08	mg/kg-day	2.90E-01	mg/kg-day	5.54E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.16E-12	mg/kg-day	--	--	--	4.07E-11	mg/kg-day	4.00E-02	mg/kg-day	1.02E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.30E-12	mg/kg-day	--	--	--	8.05E-11	mg/kg-day	4.00E-02	mg/kg-day	2.01E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.86E-15	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	3.72E-15	1.00E-13	mg/kg-day	3.00E-04	mg/kg-day	3.34E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	4.00E-12	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.40E-12	1.40E-10	mg/kg-day	2.00E-04	mg/kg-day	7.01E-07
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	4.11E-11	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.87E-10	1.44E-09	mg/kg-day	5.00E-04	mg/kg-day	2.88E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	2.76E-06	mg/kg-day	1.10E-01	mg/kg-day	2.51E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.60E-09	mg/kg-day	--	--	--	5.59E-08	mg/kg-day	2.90E-02	mg/kg-day	1.93E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	7.52E-12	mg/kg-day	--	--	--	2.63E-10	mg/kg-day	5.00E-03	mg/kg-day	5.26E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.25E-11	mg/kg-day	--	--	--	4.38E-10	mg/kg-day	8.57E-04	mg/kg-day	5.10E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	5.82E-10	mg/kg-day	--	--	--	2.04E-08	mg/kg-day	8.57E-04	mg/kg-day	2.36E-05
n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	6.48E-10	mg/kg-day	--	--	--	2.27E-08	mg/kg-day	4.00E-02	mg/kg-day	5.67E-07				
Phenanthrene	2.62E-09	mg/m <sup>3</sup>	6.02E-12	mg/kg-day	--	--	--	2.11E-10	mg/kg-day	3.00E-01	mg/kg-day	7.03E-10				

TABLE H2-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	2.76E-08	mg/kg-day	1.10E-01	mg/kg-day	2.51E-05					
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.06E-12	mg/kg-day	--	--	--	3.71E-11	mg/kg-day	3.00E-02	mg/kg-day	1.24E-09					
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.84E-09	mg/kg-day	--	--	--	6.45E-08	mg/kg-day	4.00E-02	mg/kg-day	1.61E-06					
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	2.09E-09	mg/kg-day	--	--	--	7.31E-08	mg/kg-day	4.00E-02	mg/kg-day	1.83E-06					
				Toluene	3.80E-07	mg/m <sup>3</sup>	8.74E-10	mg/kg-day	--	--	--	3.06E-08	mg/kg-day	1.43E+00	mg/kg-day	2.14E-08					
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	2.06E-09	mg/kg-day	--	--	--	7.22E-08	mg/kg-day	2.00E-02	mg/kg-day	3.61E-06					
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	2.14E-09	mg/kg-day	4.00E-01	(mg/kg-day)-1	8.58E-10	7.51E-08	mg/kg-day	1.00E-02	mg/kg-day	7.51E-06					
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	4.44E-09	mg/kg-day	3.10E-02	(mg/kg-day)-1	1.38E-10	1.55E-07	mg/kg-day	2.86E-02	mg/kg-day	5.44E-06					
				Exposure Route Total																1.89E-09	1.93E-04
				Exposure Point Total																	1.89E-09
Exposure Medium Total																	1.89E-09	1.93E-04			
Medium Total																	1.89E-09	1.93E-04			
										Total of Receptor Risks Across All Media					5.13E-06	Total of Receptor Hazards Across All Media					1.82E+00

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfC Reference concentration
  - RfD Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H2-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.52E-07	mg/kg-day	--	--	--	6.16E-06	mg/kg-day	1.00E-02	mg/kg-day	6.16E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	8.55E-07	mg/kg-day	--	--	--	2.10E-05	mg/kg-day	1.00E-02	mg/kg-day	2.10E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	8.39E-08	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.11E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.36E-06	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	9.00E-02	mg/kg-day	1.19E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	6.04E-10	mg/kg-day	6.80E-02	(mg/kg-day)-1	4.11E-11	1.48E-08	mg/kg-day	1.14E-03	mg/kg-day	1.30E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.68E-08	mg/kg-day	--	--	--	6.58E-07	mg/kg-day	5.00E-02	mg/kg-day	1.32E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.85E-07	mg/kg-day	--	--	--	4.52E-06	mg/kg-day	3.00E-02	mg/kg-day	1.51E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.14E-08	mg/kg-day	2.40E-02	(mg/kg-day)-1	2.74E-08	2.79E-05	mg/kg-day	3.00E-02	mg/kg-day	9.32E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	3.52E-08	mg/kg-day	--	--	--	8.63E-07	mg/kg-day	2.00E-02	mg/kg-day	4.32E-05
				2-Methylphenol	8.10E-02	mg/kg	1.36E-08	mg/kg-day	--	--	--	3.33E-07	mg/kg-day	5.00E-02	mg/kg-day	6.66E-06
				2-Methylnaphthalene	1.67E+00	mg/kg	2.80E-07	mg/kg-day	--	--	--	6.87E-06	mg/kg-day	4.00E-03	mg/kg-day	1.72E-03
				4,4'-DDD	1.20E-03	mg/kg	2.01E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	4.83E-11	4.93E-09	mg/kg-day	5.00E-04	mg/kg-day	9.86E-06
				4,4'-DDE	8.23E-02	mg/kg	1.38E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.69E-09	3.38E-07	mg/kg-day	5.00E-04	mg/kg-day	6.77E-04
				4,4'-DDT	4.45E-02	mg/kg	7.46E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.54E-09	1.83E-07	mg/kg-day	5.00E-04	mg/kg-day	3.66E-04
				4-Methylphenol	2.70E-01	mg/kg	4.53E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	5.00E-03	mg/kg-day	2.22E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.04E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.18E-09	2.55E-06	mg/kg-day	3.00E-03	mg/kg-day	8.49E-04
				4-Nitrophenol	4.20E-01	mg/kg	7.05E-08	mg/kg-day	--	--	--	1.73E-06	mg/kg-day	5.00E-04	mg/kg-day	3.45E-03
				Acenaphthene	4.23E+00	mg/kg	7.10E-07	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	6.00E-02	mg/kg-day	2.90E-04
				Acenaphthylene	1.04E-01	mg/kg	1.75E-08	mg/kg-day	--	--	--	4.28E-07	mg/kg-day	6.00E-02	mg/kg-day	7.14E-06
				Aldrin	1.30E-02	mg/kg	2.18E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.71E-08	5.34E-08	mg/kg-day	3.00E-05	mg/kg-day	1.78E-03
				alpha-BHC	7.30E-04	mg/kg	1.22E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	7.71E-10	3.00E-09	mg/kg-day	5.00E-04	mg/kg-day	6.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	1.37E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.78E-10	3.35E-08	mg/kg-day	5.00E-04	mg/kg-day	6.69E-05
				Aluminum	8.82E+03	mg/kg	1.48E-03	mg/kg-day	--	--	--	3.63E-02	mg/kg-day	1.00E+00	mg/kg-day	3.63E-02
				Anthracene	1.05E+00	mg/kg	1.77E-07	mg/kg-day	--	--	--	4.34E-06	mg/kg-day	3.00E-01	mg/kg-day	1.45E-05
				Antimony	4.08E+00	mg/kg	6.84E-07	mg/kg-day	--	--	--	1.68E-05	mg/kg-day	4.00E-04	mg/kg-day	4.19E-02
				Aroclor-1248	1.20E+00	mg/kg	2.01E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.03E-07	4.93E-06	mg/kg-day	2.00E-05	mg/kg-day	2.47E-01
				Aroclor-1254	4.44E-01	mg/kg	7.45E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.49E-07	1.83E-06	mg/kg-day	2.00E-05	mg/kg-day	9.13E-02
				Aroclor-1260	5.41E-01	mg/kg	9.08E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.82E-07	2.22E-06	mg/kg-day	2.00E-05	mg/kg-day	1.11E-01
				Aroclor-1268	2.78E-02	mg/kg	4.66E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.31E-09	1.14E-07	mg/kg-day	2.00E-05	mg/kg-day	5.70E-03
				Arsenic	6.17E+00	mg/kg	1.03E-06	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.55E-06	2.53E-05	mg/kg-day	3.00E-04	mg/kg-day	8.45E-02
				Barium	6.78E+01	mg/kg	1.14E-05	mg/kg-day	--	--	--	2.79E-04	mg/kg-day	7.00E-02	mg/kg-day	3.96E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	8.39E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	6.13E-07	2.06E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	2.79E-07	mg/kg-day	7.30E+00	(mg/kg-day)-1	2.04E-06	6.84E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	4.59E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	3.35E-07	1.13E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.28E-07	mg/kg-day	--	--	--	3.14E-06	mg/kg-day	3.00E-02	mg/kg-day	1.05E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	5.47E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	3.99E-08	1.34E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	3.99E-08	mg/kg-day	--	--	--	9.79E-07	mg/kg-day	2.00E-03	mg/kg-day	4.89E-04
				Beta-BHC	2.20E-03	mg/kg	3.69E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	6.64E-10	9.04E-09	mg/kg-day	2.00E-04	mg/kg-day	4.52E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.31E-06	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.84E-08	3.22E-05	mg/kg-day	2.00E-02	mg/kg-day	1.61E-03
				Cadmium	9.47E+00	mg/kg	1.59E-06	mg/kg-day	--	--	--	3.89E-05	mg/kg-day	5.00E-04	mg/kg-day	7.79E-02
				Carbon disulfide	2.40E-04	mg/kg	4.03E-11	mg/kg-day	--	--	--	9.86E-10	mg/kg-day	1.00E-01	mg/kg-day	9.86E-09
				Chlorobenzene	1.10E-01	mg/kg	1.85E-08	mg/kg-day	--	--	--	4.52E-07	mg/kg-day	2.00E-02	mg/kg-day	2.26E-05
				Chromium	1.11E+02	mg/kg	1.87E-05	mg/kg-day	--	--	--	4.57E-04	mg/kg-day	1.50E+00	mg/kg-day	3.05E-04
				Chrysene	5.68E+00	mg/kg	9.53E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	6.96E-09	2.34E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.27E-06	mg/kg-day	--	--	--	3.11E-05	mg/kg-day	2.00E-02	mg/kg-day	1.56E-03
				Copper	5.71E+01	mg/kg	9.57E-06	mg/kg-day	--	--	--	2.34E-04	mg/kg-day	3.70E-02	mg/kg-day	6.34E-03
				Delta-BHC	8.40E-03	mg/kg	1.41E-09	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.94E-09	3.45E-08	mg/kg-day	2.00E-04	mg/kg-day	1.73E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	5.33E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.89E-07	1.30E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.18E-06	mg/kg-day	--	--	--	5.34E-05	mg/kg-day	2.00E-03	mg/kg-day	2.67E-02
				Dieldrin	5.51E-02	mg/kg	9.25E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.48E-07	2.27E-07	mg/kg-day	5.00E-05	mg/kg-day	4.53E-03
Dimethylphthalate	3.80E-02	mg/kg	6.37E-09	mg/kg-day	--	--	--	1.56E-07	mg/kg-day	1.00E+01	mg/kg-day	1.56E-08				

TABLE H2-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	3.69E-07	mg/kg-day	--	--	--	--	9.04E-08	mg/kg-day	1.00E-01	mg/kg-day	9.04E-05				
				Endosulfan I	2.30E-02	mg/kg	3.86E-09	mg/kg-day	--	--	--	--	9.45E-08	mg/kg-day	6.00E-03	mg/kg-day	1.58E-05				
				Endosulfan II	2.38E-02	mg/kg	4.00E-09	mg/kg-day	--	--	--	--	9.78E-08	mg/kg-day	6.00E-03	mg/kg-day	1.63E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	7.21E-09	mg/kg-day	--	--	--	--	1.77E-07	mg/kg-day	6.00E-03	mg/kg-day	2.95E-05				
				Endrin aldehyde	4.21E-02	mg/kg	7.06E-09	mg/kg-day	--	--	--	--	1.73E-07	mg/kg-day	3.00E-04	mg/kg-day	5.76E-04				
				Endrin Ketone	1.00E-02	mg/kg	1.68E-09	mg/kg-day	--	--	--	--	4.11E-08	mg/kg-day	3.00E-04	mg/kg-day	1.37E-04				
				Fluoranthene	2.65E+01	mg/kg	4.45E-06	mg/kg-day	--	--	--	--	1.09E-04	mg/kg-day	4.00E-02	mg/kg-day	2.72E-03				
				Fluorene	2.92E+00	mg/kg	4.89E-07	mg/kg-day	--	--	--	--	1.20E-05	mg/kg-day	4.00E-02	mg/kg-day	3.00E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.36E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.67E-10	1.07E-08	mg/kg-day	3.00E-04	mg/kg-day	3.56E-05					
				gamma-Chlordane	1.31E-02	mg/kg	2.20E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	7.69E-10	5.38E-08	mg/kg-day	5.00E-04	mg/kg-day	1.08E-04					
				Heptachlor	8.90E-03	mg/kg	1.16E-09	mg/kg-day	4.50E+00	(mg/kg-day)-1	5.21E-09	2.84E-08	mg/kg-day	5.00E-04	mg/kg-day	5.67E-05					
				Heptachlor Epoxide	1.12E-02	mg/kg	1.87E-09	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.70E-08	4.58E-08	mg/kg-day	1.30E-05	mg/kg-day	3.53E-03					
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.46E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.07E-07	3.59E-08	mg/kg-day	--	--	--					
				Iron	4.07E+04	mg/kg	6.83E-03	mg/kg-day	--	--	--	1.67E-01	mg/kg-day	3.00E-01	mg/kg-day	5.58E-01					
				Isophorone	2.00E-01	mg/kg	3.35E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.19E-11	8.22E-07	mg/kg-day	2.00E-01	mg/kg-day	4.11E-06					
				Lead	2.90E+03	mg/kg	4.87E-04	mg/kg-day	--	--	--	1.19E-02	mg/kg-day	--	--	--					
				Manganese	3.31E+02	mg/kg	5.55E-05	mg/kg-day	--	--	--	1.36E-03	mg/kg-day	2.40E-02	mg/kg-day	5.67E-02					
				Mercury	3.10E-01	mg/kg	5.19E-08	mg/kg-day	--	--	--	1.27E-06	mg/kg-day	3.00E-04	mg/kg-day	4.24E-03					
				Methoxychlor	1.20E-01	mg/kg	2.01E-08	mg/kg-day	--	--	--	4.93E-07	mg/kg-day	5.00E-03	mg/kg-day	9.86E-05					
				Molybdenum	2.50E+00	mg/kg	4.20E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	5.00E-03	mg/kg-day	2.06E-03					
				Naphthalene	1.30E+01	mg/kg	2.18E-06	mg/kg-day	--	--	--	5.34E-05	mg/kg-day	2.00E-02	mg/kg-day	2.67E-03					
				Nickel	3.91E+01	mg/kg	6.58E-06	mg/kg-day	--	--	--	1.61E-04	mg/kg-day	2.00E-02	mg/kg-day	8.04E-03					
				Phenanthrene	1.39E+01	mg/kg	2.33E-06	mg/kg-day	--	--	--	5.72E-05	mg/kg-day	3.00E-01	mg/kg-day	1.91E-04					
				Phenol	5.80E-01	mg/kg	9.73E-08	mg/kg-day	--	--	--	2.38E-06	mg/kg-day	3.00E-01	mg/kg-day	7.95E-06					
				p-Isopropyltoluene	1.10E-01	mg/kg	1.85E-08	mg/kg-day	--	--	--	4.52E-07	mg/kg-day	1.00E-01	mg/kg-day	4.52E-06					
				Pyrene	2.41E+01	mg/kg	4.05E-06	mg/kg-day	--	--	--	9.92E-05	mg/kg-day	3.00E-02	mg/kg-day	3.31E-03					
				sec-Butylbenzene	7.10E-02	mg/kg	1.19E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	4.00E-02	mg/kg-day	7.29E-06					
				Selenium	2.24E-01	mg/kg	3.76E-08	mg/kg-day	--	--	--	9.22E-07	mg/kg-day	5.00E-03	mg/kg-day	1.84E-04					
				Silver	1.16E+00	mg/kg	1.94E-07	mg/kg-day	--	--	--	4.76E-08	mg/kg-day	5.00E-03	mg/kg-day	9.53E-04					
				Technical Chlordane	5.51E-01	mg/kg	9.24E-08	mg/kg-day	3.50E-01	(mg/kg-day)-1	3.24E-08	2.26E-06	mg/kg-day	5.00E-04	mg/kg-day	4.53E-03					
				Thallium	4.97E-01	mg/kg	8.34E-08	mg/kg-day	--	--	--	2.04E-06	mg/kg-day	6.60E-05	mg/kg-day	3.09E-02					
				Toluene	4.30E-04	mg/kg	7.21E-11	mg/kg-day	--	--	--	1.77E-09	mg/kg-day	8.00E-02	mg/kg-day	2.21E-08					
				Vanadium	3.41E+01	mg/kg	5.73E-06	mg/kg-day	--	--	--	1.40E-04	mg/kg-day	1.00E-03	mg/kg-day	1.40E-01					
				Zinc	4.53E+02	mg/kg	7.61E-05	mg/kg-day	--	--	--	1.86E-03	mg/kg-day	3.00E-01	mg/kg-day	6.21E-03					
				Exposure Route Total							6.12E-08					1.58E+00					
				Dermal	Dermal	Dermal	Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	4.24E-08	mg/kg-day	--	--	--	--	1.07E-06	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.44E-08	mg/kg-day	--	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.41E-09	mg/kg-day	--	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07
								1,2-Dichlorobenzene	2.60E+01	mg/kg	7.35E-08	mg/kg-day	--	--	--	--	1.86E-06	mg/kg-day	9.00E-02	mg/kg-day	2.07E-05
								1,2-Dichloropropane	3.60E-03	mg/kg	1.02E-11	mg/kg-day	6.80E-02	(mg/kg-day)-1	6.92E-13	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07	
								1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.52E-10	mg/kg-day	--	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07
								1,3-Dichlorobenzene	1.10E+00	mg/kg	3.11E-09	mg/kg-day	--	--	--	--	7.88E-08	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	2.40E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	5.94E-10					mg/kg-day	--	--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07				
2-Methylphenol	8.10E-02	mg/kg	2.29E-09					mg/kg-day	--	--	--	--	5.80E-08	mg/kg-day	5.00E-02	mg/kg-day	1.16E-06				
2-Methylnaphthalene	1.67E+00	mg/kg	4.73E-09					mg/kg-day	--	--	--	--	1.20E-07	mg/kg-day	4.00E-03	mg/kg-day	2.99E-05				
4,4'-DDD	1.20E-03	mg/kg	3.39E-12					mg/kg-day	2.40E-01	(mg/kg-day)-1	8.14E-13	8.59E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07					
4,4'-DDE	8.23E-02	mg/kg	2.33E-10					mg/kg-day	3.40E-01	(mg/kg-day)-1	7.91E-11	5.89E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05					
4,4'-DDT	4.45E-02	mg/kg	3.77E-10					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.28E-10	9.56E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05					
4-Methylphenol	2.70E-01	mg/kg	7.63E-09					mg/kg-day	--	--	--	--	1.93E-07	mg/kg-day	5.00E-03	mg/kg-day	3.87E-05				
4-Nitroaniline	6.20E-01	mg/kg	1.75E-08					mg/kg-day	2.10E-02	--	--	3.66E-10	4.44E-07	mg/kg-day	3.00E-03	mg/kg-day	1.46E-04				

TABLE H2-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	4.23E+00	mg/kg	1.56E-07	mg/kg-day	--	--	--	3.94E-06	mg/kg-day	6.00E-02	mg/kg-day	6.57E-05
				Acenaphthylene	1.04E-01	mg/kg	2.94E-10	mg/kg-day	--	--	--	7.46E-09	mg/kg-day	6.00E-02	mg/kg-day	1.24E-07
				Aldrin	1.30E-02	mg/kg	3.67E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.25E-09	9.31E-09	mg/kg-day	3.00E+05	mg/kg-day	3.10E-04
				alpha-BHC	7.30E-04	mg/kg	2.06E-12	mg/kg-day	6.30E+00	(mg/kg-day)-1	1.30E-11	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	2.49E-06	mg/kg-day	--	--	--	6.32E-05	mg/kg-day	1.00E+00	mg/kg-day	6.32E-05
				Anthracene	1.05E+00	mg/kg	3.88E-08	mg/kg-day	--	--	--	9.82E-07	mg/kg-day	3.00E-01	mg/kg-day	3.27E-06
				Antimony	4.08E+00	mg/kg	1.15E-09	mg/kg-day	--	--	--	2.92E-08	mg/kg-day	4.00E-04	mg/kg-day	7.30E-05
				Aroclor-1248	1.20E+00	mg/kg	4.75E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.50E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02
				Aroclor-1254	4.44E-01	mg/kg	1.76E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.51E-08	4.45E-07	mg/kg-day	2.00E-05	mg/kg-day	2.23E-02
				Aroclor-1260	5.41E-01	mg/kg	2.14E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.28E-08	5.43E-07	mg/kg-day	2.00E-05	mg/kg-day	2.71E-02
				Aroclor-1268	2.78E-02	mg/kg	1.10E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.20E-09	2.78E-08	mg/kg-day	2.00E-05	mg/kg-day	1.39E-03
				Arsenic	6.17E+00	mg/kg	5.23E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	7.84E-08	1.32E-06	mg/kg-day	3.00E-04	mg/kg-day	4.41E-03
				Barium	6.78E+01	mg/kg	1.92E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	7.00E-02	mg/kg-day	6.94E-06
				Benzo(a)anthracene	5.00E+00	mg/kg	1.84E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	1.34E-07	4.66E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	6.12E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	4.47E-07	1.55E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.01E-07	mg/kg-day	7.30E-01	(mg/kg-day)-1	7.34E-08	2.55E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.81E-08	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	3.00E-02	mg/kg-day	2.37E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.20E-07	mg/kg-day	7.30E-02	(mg/kg-day)-1	8.75E-09	3.03E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	6.73E-11	mg/kg-day	--	--	--	1.70E-09	mg/kg-day	2.00E-03	mg/kg-day	8.52E-07
				Beta-BHC	2.20E-03	mg/kg	6.22E-12	mg/kg-day	1.80E+00	(mg/kg-day)-1	1.12E-11	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.21E-08	mg/kg-day	1.40E-02	(mg/kg-day)-1	3.10E-10	5.61E-07	mg/kg-day	2.00E-02	mg/kg-day	2.80E-05
				Cadmium	9.47E+00	mg/kg	2.68E-09	mg/kg-day	--	--	--	6.78E-08	mg/kg-day	5.00E-04	mg/kg-day	1.36E-04
				Carbon disulfide	2.40E-04	mg/kg	1.70E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09
				Chlorobenzene	1.10E-01	mg/kg	3.11E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07
				Chromium	1.11E+02	mg/kg	3.14E-08	mg/kg-day	--	--	--	7.96E-07	mg/kg-day	1.50E+00	mg/kg-day	5.31E-07
				Chrysene	5.68E+00	mg/kg	2.09E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	1.52E-09	5.29E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.14E-09	mg/kg-day	--	--	--	5.42E-08	mg/kg-day	2.00E-02	mg/kg-day	2.71E-06
				Copper	5.71E+01	mg/kg	1.61E-08	mg/kg-day	--	--	--	4.09E-07	mg/kg-day	3.70E-02	mg/kg-day	1.10E-05
				Delta-BHC	8.40E-03	mg/kg	1.19E-10	mg/kg-day	1.80E+00	(mg/kg-day)-1	2.14E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.50E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.17E-08	mg/kg-day	7.30E+00	(mg/kg-day)-1	8.52E-08	2.96E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.67E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04
				Dieldrin	5.51E-02	mg/kg	1.56E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.49E-09	3.95E-09	mg/kg-day	5.00E-05	mg/kg-day	7.90E-05
				Dimethylphthalate	3.80E-02	mg/kg	1.07E-10	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	1.00E+01	mg/kg-day	2.72E-10
				di-n-Butylphthalate	2.20E+00	mg/kg	6.22E-09	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	1.00E-01	mg/kg-day	1.58E-06
				Endosulfan I	2.30E-02	mg/kg	3.25E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06
				Endosulfan II	2.38E-02	mg/kg	3.37E-10	mg/kg-day	--	--	--	8.53E-09	mg/kg-day	6.00E-03	mg/kg-day	1.42E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.08E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-06
				Endrin aldehyde	4.21E-02	mg/kg	5.95E-10	mg/kg-day	--	--	--	1.51E-08	mg/kg-day	3.00E-04	mg/kg-day	5.02E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	9.74E-07	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	4.00E-02	mg/kg-day	6.17E-04
				Fluorene	2.92E+00	mg/kg	1.07E-07	mg/kg-day	--	--	--	2.71E-06	mg/kg-day	4.00E-02	mg/kg-day	6.79E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.94E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.82E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	3.50E-01	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.95E-11	mg/kg-day	4.50E+00	(mg/kg-day)-1	8.78E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	3.15E-11	mg/kg-day	9.10E+00	(mg/kg-day)-1	2.87E-10	7.99E-10	mg/kg-day	1.30E-05	mg/kg-day	6.14E-05
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	3.21E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.34E-08	8.13E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	1.15E-05	mg/kg-day	--	--	--	2.92E-04	mg/kg-day	3.00E-01	mg/kg-day	9.72E-04
				Isophorone	2.00E-01	mg/kg	5.65E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.37E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07
				Lead	2.90E+03	mg/kg	8.20E-07	mg/kg-day	--	--	--	2.08E-05	mg/kg-day	--	--	--

TABLE H2-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	9.36E-08	mg/kg-day	--	--	--	2.37E-06	mg/kg-day	2.40E-02	mg/kg-day	9.88E-05	
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	--	--	--
				Methoxychlor	1.20E-01	mg/kg	3.39E-10	mg/kg-day	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06	3.59E-06
				Molybdenum	2.50E+00	mg/kg	7.08E-10	mg/kg-day	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	3.59E-06	3.59E-06
				Naphthalene	1.30E+01	mg/kg	4.78E-07	mg/kg-day	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04	6.05E-04
				Nickel	3.91E+01	mg/kg	1.11E-08	mg/kg-day	--	--	--	2.80E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05	1.40E-05
				Phenanthrene	1.39E+01	mg/kg	3.93E-08	mg/kg-day	--	--	--	9.97E-07	mg/kg-day	3.00E-01	mg/kg-day	3.32E-06	3.32E-06
				Phenol	5.80E-01	mg/kg	1.64E-08	mg/kg-day	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06	1.38E-06
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	--
				Pyrene	2.41E+01	mg/kg	8.87E-07	mg/kg-day	--	--	--	2.25E-05	mg/kg-day	3.00E-02	mg/kg-day	7.49E-04	7.49E-04
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	--
				Selenium	2.24E-01	mg/kg	6.34E-11	mg/kg-day	--	--	--	1.61E-09	mg/kg-day	5.00E-03	mg/kg-day	3.21E-07	3.21E-07
				Silver	1.16E+00	mg/kg	3.28E-10	mg/kg-day	--	--	--	8.30E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06	1.66E-06
				Technical Chlordane	5.51E-01	mg/kg	6.23E-09	mg/kg-day	3.50E-01	(mg/kg-day)-1	2.18E-09	1.58E-07	mg/kg-day	5.00E-04	mg/kg-day	3.16E-04	3.16E-04
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.60E-05	mg/kg-day	--	--
				Toluene	4.30E-04	mg/kg	1.22E-12	mg/kg-day	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.85E-10	3.85E-10
				Vanadium	3.41E+01	mg/kg	9.65E-09	mg/kg-day	--	--	--	2.44E-07	mg/kg-day	1.00E-03	mg/kg-day	2.44E-04	2.44E-04
				Zinc	4.53E+02	mg/kg	1.28E-07	mg/kg-day	--	--	--	3.25E-06	mg/kg-day	3.00E-01	mg/kg-day	1.08E-05	1.08E-05
				Exposure Point Total								1.04E-06					1.21E-01
				Exposure Medium Total								7.16E-06					1.70E+00
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.75E-12	mg/kg-day	--	--	--	1.28E-11	mg/kg-day	2.00E-02	mg/kg-day	6.41E-10		
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	1.06E-12	mg/kg-day	--	--	--	4.94E-12	mg/kg-day	--	--	--		
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.57E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.78E-15	7.32E-14	mg/kg-day	5.00E-04	mg/kg-day	1.46E-10		
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	5.83E-13	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.98E-13	2.71E-12	mg/kg-day	5.00E-04	mg/kg-day	5.43E-09		
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.54E-12	mg/kg-day	--	--	--	1.65E-11	mg/kg-day	5.00E-03	mg/kg-day	3.30E-09		
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	8.13E-12	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.71E-13	3.78E-11	mg/kg-day	1.00E-03	mg/kg-day	3.78E-08		
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	5.51E-12	mg/kg-day	--	--	--	2.56E-11	mg/kg-day	5.70E-04	mg/kg-day	4.50E-08		
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.16E-07	mg/kg-day	--	--	--	5.38E-07	mg/kg-day	1.43E-03	mg/kg-day	3.77E-04		
			Antimony	3.09E-09	mg/m <sup>3</sup>	5.35E-11	mg/kg-day	--	--	--	2.49E-10	mg/kg-day	--	--	--		
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.57E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.15E-11	7.32E-11	mg/kg-day	2.00E-05	mg/kg-day	3.66E-06		
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	5.82E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.16E-11	2.71E-11	mg/kg-day	2.00E-05	mg/kg-day	1.35E-06		
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	7.10E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.42E-11	3.30E-11	mg/kg-day	2.00E-05	mg/kg-day	1.65E-06		
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.64E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.28E-13	1.69E-12	mg/kg-day	2.00E-05	mg/kg-day	8.47E-08		
			Arsenic	4.67E-09	mg/m <sup>3</sup>	8.09E-11	mg/kg-day	1.50E+01	(mg/kg-day)-1	1.21E-09	3.76E-10	mg/kg-day	--	--	--		
			Barium	5.14E-08	mg/m <sup>3</sup>	8.89E-10	mg/kg-day	--	--	--	4.14E-09	mg/kg-day	1.40E-04	mg/kg-day	2.96E-05		
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	6.56E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	4.79E-11	3.05E-10	mg/kg-day	--	--	--		
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	2.18E-11	mg/kg-day	7.30E+00	(mg/kg-day)-1	1.59E-10	1.02E-10	mg/kg-day	--	--	--		
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	1.00E-11	mg/kg-day	--	--	--	4.66E-11	mg/kg-day	3.00E-02	mg/kg-day	1.55E-09		
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	4.28E-11	mg/kg-day	7.30E-02	(mg/kg-day)-1	3.12E-12	1.99E-10	mg/kg-day	--	--	--		
			Beryllium	1.80E-10	mg/m <sup>3</sup>	3.12E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	2.62E-11	1.45E-11	mg/kg-day	5.71E-06	mg/kg-day	2.54E-06		
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.88E-14	mg/kg-day	1.86E+00	(mg/kg-day)-1	5.35E-14	1.34E-13	mg/kg-day	2.00E-04	mg/kg-day	6.71E-10		
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	1.03E-10	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.44E-12	4.78E-10	mg/kg-day	2.00E-02	mg/kg-day	2.39E-08		
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.24E-10	mg/kg-day	6.30E+00	(mg/kg-day)-1	7.83E-10	5.78E-10	mg/kg-day	--	--	--		
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.46E-09	mg/kg-day	--	--	--	6.79E-09	mg/kg-day	--	--	--		
			Cobalt	5.74E-09	mg/m <sup>3</sup>	9.93E-11	mg/kg-day	9.80E+00	(mg/kg-day)-1	9.73E-10	4.62E-10	mg/kg-day	5.71E-06	mg/kg-day	8.09E-05		
			Copper	4.32E-08	mg/m <sup>3</sup>	7.48E-10	mg/kg-day	--	--	--	3.48E-09	mg/kg-day	--	--	--		
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	4.16E-12	mg/kg-day	7.30E+00	(mg/kg-day)-1	3.04E-11	1.94E-11	mg/kg-day	--	--	--		
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.98E-13	mg/kg-day	--	--	--	2.32E-12	mg/kg-day	1.00E+01	mg/kg-day	2.32E-13		
di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	2.88E-11	mg/kg-day	--	--	--	1.34E-10	mg/kg-day	1.00E-01	mg/kg-day	1.34E-09					
Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	5.52E-13	mg/kg-day	--	--	--	2.57E-12	mg/kg-day	3.00E-04	mg/kg-day	8.56E-09					

TABLE H2-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.31E-13	mg/kg-day	--	--	--	--	6.10E-13	mg/kg-day	3.00E-04	mg/kg-day	2.03E-09				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.46E-13	mg/kg-day	9.10E+00	(mg/kg-day)-1	1.33E-12	6.81E-13	mg/kg-day	1.30E-05	mg/kg-day	5.24E-08					
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	1.14E-11	mg/kg-day	7.30E-01	(mg/kg-day)-1	8.36E-12	5.33E-11	mg/kg-day	--	--	--					
				Iron	3.09E-05	mg/m <sup>3</sup>	5.34E-07	mg/kg-day	--	--	--	2.49E-06	mg/kg-day	--	--	--					
				Isophorone	1.52E-10	mg/m <sup>3</sup>	2.62E-12	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.49E-15	1.22E-11	mg/kg-day	2.00E-01	mg/kg-day	6.10E-11					
				Lead	2.20E-06	mg/m <sup>3</sup>	3.81E-08	mg/kg-day	--	--	--	1.77E-07	mg/kg-day	--	--	--					
				Manganese	2.51E-07	mg/m <sup>3</sup>	4.34E-09	mg/kg-day	--	--	--	2.02E-08	mg/kg-day	1.43E-05	mg/kg-day	1.41E-03					
				Mercury	2.34E-10	mg/m <sup>3</sup>	4.06E-12	mg/kg-day	--	--	--	1.89E-11	mg/kg-day	8.60E-05	mg/kg-day	2.20E-07					
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	3.28E-11	mg/kg-day	--	--	--	1.53E-10	mg/kg-day	--	--	--					
				Nickel	2.96E-08	mg/m <sup>3</sup>	5.13E-10	mg/kg-day	--	--	--	2.39E-09	mg/kg-day	--	--	--					
				Phenol	4.39E-10	mg/m <sup>3</sup>	7.61E-12	mg/kg-day	--	--	--	3.54E-11	mg/kg-day	3.00E-01	mg/kg-day	1.18E-10					
				Selenium	1.70E-10	mg/m <sup>3</sup>	2.94E-12	mg/kg-day	--	--	--	1.37E-11	mg/kg-day	--	--	--					
				Silver	8.78E-10	mg/m <sup>3</sup>	1.52E-11	mg/kg-day	--	--	--	7.07E-11	mg/kg-day	--	--	--					
				Thallium	3.77E-10	mg/m <sup>3</sup>	6.52E-12	mg/kg-day	--	--	--	3.03E-11	mg/kg-day	--	--	--					
				Vanadium	2.59E-08	mg/m <sup>3</sup>	4.48E-10	mg/kg-day	--	--	--	2.08E-09	mg/kg-day	--	--	--					
				Zinc	3.44E-07	mg/m <sup>3</sup>	5.95E-09	mg/kg-day	--	--	--	2.77E-08	mg/kg-day	--	--	--					
				<b>Exposure Route Total</b>																	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.81E-06	mg/kg-day	--	--	--	--	8.41E-06	mg/kg-day	1.10E-03	mg/kg-day	7.65E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	6.15E-06	mg/kg-day	--	--	--	--	2.86E-05	mg/kg-day	1.10E-03	mg/kg-day	2.60E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.03E-06	mg/kg-day	--	--	--	--	9.44E-06	mg/kg-day	1.71E-03	mg/kg-day	5.51E-03
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	9.22E-05	mg/kg-day	--	--	--	--	4.29E-04	mg/kg-day	5.70E-02	mg/kg-day	7.52E-03				
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.95E-08	mg/kg-day	6.80E-02	(mg/kg-day)-1	3.37E-09	2.30E-07	mg/kg-day	1.14E-03	mg/kg-day	2.02E-04					
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	6.33E-07	mg/kg-day	--	--	--	--	2.94E-06	mg/kg-day	1.71E-03	mg/kg-day	1.72E-03				
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.82E-06	mg/kg-day	--	--	--	--	1.31E-05	mg/kg-day	3.00E-02	mg/kg-day	4.37E-04				
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.70E-05	mg/kg-day	2.20E-02	(mg/kg-day)-1	5.95E-07	1.26E-04	mg/kg-day	2.30E-01	mg/kg-day	5.47E-04					
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.28E-06	mg/kg-day	--	--	--	--	5.96E-06	mg/kg-day	5.00E-02	mg/kg-day	1.19E-04				
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	1.68E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.71E-11	7.81E-10	mg/kg-day	5.00E-04	mg/kg-day	1.56E-06					
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.01E-06	mg/kg-day	--	--	--	--	4.68E-06	mg/kg-day	6.00E-02	mg/kg-day	7.80E-05				
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.48E-08	mg/kg-day	--	--	--	--	1.15E-07	mg/kg-day	6.00E-02	mg/kg-day	1.92E-06				
				Aldrin	5.83E-09	mg/m <sup>3</sup>	9.75E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.66E-09	4.54E-10	mg/kg-day	3.00E-05	mg/kg-day	1.51E-05					
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	6.30E-11	mg/kg-day	6.30E+00	(mg/kg-day)-1	3.97E-10	2.93E-10	mg/kg-day	5.00E-04	mg/kg-day	5.88E-07					
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.40E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	4.88E-11	6.49E-10	mg/kg-day	2.00E-04	mg/kg-day	3.25E-06					
				Anthracene	1.45E-05	mg/m <sup>3</sup>	2.51E-07	mg/kg-day	--	--	--	--	1.17E-06	mg/kg-day	3.00E-01	mg/kg-day	3.89E-06				
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	3.06E-08	mg/kg-day	7.30E-01	(mg/kg-day)-1	2.24E-08	1.43E-07	mg/kg-day	--	--	--					
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	7.83E-09	mg/kg-day	--	--	--	--	3.64E-08	mg/kg-day	2.00E-01	mg/kg-day	1.82E-07				
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	8.96E-07	mg/kg-day	--	--	--	--	4.17E-06	mg/kg-day	1.70E-02	mg/kg-day	2.45E-04				
				Chrysene	6.25E-06	mg/m <sup>3</sup>	1.08E-07	mg/kg-day	7.30E-03	(mg/kg-day)-1	7.89E-10	5.03E-07	mg/kg-day	--	--	--					
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	7.25E-10	mg/kg-day	1.85E+00	(mg/kg-day)-1	1.34E-09	3.37E-09	mg/kg-day	2.00E-04	mg/kg-day	1.69E-05					
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	7.76E-07	mg/kg-day	--	--	--	--	3.61E-06	mg/kg-day	2.00E-03	mg/kg-day	1.81E-03				
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.28E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.05E-08	5.97E-09	mg/kg-day	5.00E-05	mg/kg-day	1.19E-04					
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.39E-09	mg/kg-day	--	--	--	--	6.49E-09	mg/kg-day	6.00E-03	mg/kg-day	1.08E-08				
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.44E-09	mg/kg-day	--	--	--	--	6.72E-09	mg/kg-day	6.00E-03	mg/kg-day	1.12E-06				
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.61E-09	mg/kg-day	--	--	--	--	1.21E-08	mg/kg-day	6.00E-03	mg/kg-day	2.02E-06				
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	2.97E-07	mg/kg-day	--	--	--	--	1.38E-06	mg/kg-day	4.00E-02	mg/kg-day	3.45E-05				
				Fluorene	1.71E-05	mg/m <sup>3</sup>	2.95E-07	mg/kg-day	--	--	--	--	1.37E-06	mg/kg-day	4.00E-02	mg/kg-day	3.44E-05				
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.76E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.59E-10	1.28E-09	mg/kg-day	3.00E-04	mg/kg-day	4.28E-06					
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.24E-10	mg/kg-day	3.50E-01	(mg/kg-day)-1	7.86E-11	1.04E-09	mg/kg-day	2.00E-04	mg/kg-day	5.22E-06					
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	5.85E-09	mg/kg-day	4.55E+00	(mg/kg-day)-1	2.66E-08	2.72E-08	mg/kg-day	5.00E-04	mg/kg-day	5.45E-05					
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.49E-09	mg/kg-day	--	--	--	--	6.95E-09	mg/kg-day	5.00E-03	mg/kg-day	1.39E-06				
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.21E-05	mg/kg-day	--	--	--	--	5.63E-05	mg/kg-day	8.57E-04	mg/kg-day	6.57E-02				
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	3.31E-06	mg/kg-day	--	--	--	--	1.54E-05	mg/kg-day	3.00E-01	mg/kg-day	5.13E-05				

TABLE H2-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units							
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	3.32E-06	mg/kg-day	--	--	--	1.54E-05	mg/kg-day	1.10E-01	mg/kg-day	1.40E-04				
				Pyrene	1.85E-05	mg/m <sup>3</sup>	3.20E-07	mg/kg-day	--	--	--	1.49E-06	mg/kg-day	3.00E-02	mg/kg-day	4.96E-05				
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.86E-07	mg/kg-day	--	--	--	2.26E-06	mg/kg-day	4.00E-02	mg/kg-day	5.65E-05				
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	9.44E-09	mg/kg-day	3.50E-04	(mg/kg-day) <sup>-1</sup>	3.30E-12	4.39E-08	mg/kg-day	2.00E-04	mg/kg-day	2.20E-04				
				Toluene	3.12E-07	mg/m <sup>3</sup>	5.41E-09	mg/kg-day	--	--	--	2.52E-08	mg/kg-day	1.43E+00	mg/kg-day	1.76E-08				
Exposure Point Total																6.73E-07		1.18E-01		
Exposure Medium Total																	6.76E-07		1.20E-01	
Medium Total																		7.84E-08		1.82E+00
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	7.33E-09	mg/kg-day	--	--	--	3.41E-08	mg/kg-day	1.40E-01	mg/kg-day	2.44E-07				
				1,2,4-Trimethylbenzene	1.28E-07	mg/m <sup>3</sup>	2.18E-09	mg/kg-day	--	--	--	1.02E-08	mg/kg-day	1.71E-03	mg/kg-day	5.93E-08				
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.43E-08	mg/kg-day	--	--	--	6.66E-08	mg/kg-day	5.70E-02	mg/kg-day	1.17E-08				
				1,2-Dichloroethane	5.55E-07	mg/m <sup>3</sup>	1.03E-08	mg/kg-day	9.10E-02	(mg/kg-day) <sup>-1</sup>	9.37E-10	4.79E-08	mg/kg-day	1.40E-03	mg/kg-day	3.42E-05				
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.86E-09	mg/kg-day	6.80E-02	(mg/kg-day) <sup>-1</sup>	2.63E-10	1.80E-08	mg/kg-day	1.14E-03	mg/kg-day	1.58E-05				
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.24E-09	mg/kg-day	--	--	--	5.79E-09	mg/kg-day	1.71E-03	mg/kg-day	3.38E-06				
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.87E-09	mg/kg-day	2.20E-02	(mg/kg-day) <sup>-1</sup>	1.07E-10	2.27E-08	mg/kg-day	2.30E-01	mg/kg-day	9.86E-08				
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.88E-10	mg/kg-day	--	--	--	8.77E-10	mg/kg-day	1.43E+00	mg/kg-day	6.14E-10				
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.67E-11	mg/kg-day	--	--	--	7.79E-11	mg/kg-day	5.00E-02	mg/kg-day	1.56E-09				
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.24E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	7.61E-12	1.04E-10	mg/kg-day	5.00E-04	mg/kg-day	2.08E-07				
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	7.00E-11	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	8.60E-01	mg/kg-day	3.79E-10				
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	6.71E-10	mg/kg-day	--	--	--	3.12E-09	mg/kg-day	6.00E-02	mg/kg-day	5.20E-08				
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.86E-11	mg/kg-day	--	--	--	1.33E-10	mg/kg-day	6.00E-02	mg/kg-day	2.22E-09				
				Aldrin	2.24E-09	mg/m <sup>3</sup>	3.87E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	6.58E-10	1.80E-10	mg/kg-day	3.00E-05	mg/kg-day	6.00E-06				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.90E-12	mg/kg-day	6.30E+00	(mg/kg-day) <sup>-1</sup>	3.09E-11	2.28E-11	mg/kg-day	5.00E-04	mg/kg-day	4.56E-08				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.16E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	4.06E-12	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	5.69E-11	mg/kg-day	--	--	--	2.65E-11	mg/kg-day	3.00E-01	mg/kg-day	8.82E-10				
				Benzene	2.61E-07	mg/m <sup>3</sup>	4.52E-09	mg/kg-day	2.73E-02	(mg/kg-day) <sup>-1</sup>	1.23E-10	2.10E-08	mg/kg-day	8.60E-03	mg/kg-day	2.44E-06				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	8.42E-12	mg/kg-day	7.30E-01	(mg/kg-day) <sup>-1</sup>	6.15E-12	3.92E-11	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.27E-10	mg/kg-day	3.85E-03	(mg/kg-day) <sup>-1</sup>	4.91E-13	5.93E-10	mg/kg-day	2.00E-02	mg/kg-day	2.96E-08				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	7.80E-08	mg/kg-day	--	--	--	3.63E-07	mg/kg-day	2.00E-01	mg/kg-day	1.81E-06				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.27E-09	mg/kg-day	--	--	--	5.90E-09	mg/kg-day	1.70E-02	mg/kg-day	3.47E-07				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.58E-08	mg/kg-day	8.05E-02	(mg/kg-day) <sup>-1</sup>	2.88E-09	1.67E-07	mg/kg-day	1.40E-02	mg/kg-day	1.19E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.30E-08	mg/kg-day	--	--	--	6.03E-08	mg/kg-day	2.60E-02	mg/kg-day	2.32E-06				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	2.28E-11	mg/kg-day	7.30E-03	(mg/kg-day) <sup>-1</sup>	1.66E-13	1.06E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	9.17E-09	mg/kg-day	--	--	--	4.27E-08	mg/kg-day	1.00E-02	mg/kg-day	4.27E-06				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.70E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.72E-10	7.91E-11	mg/kg-day	5.00E-05	mg/kg-day	1.58E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.88E-12	mg/kg-day	--	--	--	1.80E-11	mg/kg-day	6.00E-03	mg/kg-day	3.01E-09				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	6.37E-15	mg/kg-day	--	--	--	2.96E-14	mg/kg-day	6.00E-03	mg/kg-day	4.94E-12				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	3.45E-09	mg/kg-day	--	--	--	1.61E-08	mg/kg-day	2.90E-01	mg/kg-day	5.54E-08				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	8.75E-12	mg/kg-day	--	--	--	4.07E-11	mg/kg-day	4.00E-02	mg/kg-day	1.02E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.73E-11	mg/kg-day	--	--	--	8.05E-11	mg/kg-day	4.00E-02	mg/kg-day	2.01E-09				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.15E-14	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	2.80E-14	1.00E-13	mg/kg-day	3.00E-04	mg/kg-day	3.34E-10				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	3.01E-11	mg/kg-day	3.50E-01	(mg/kg-day) <sup>-1</sup>	1.05E-11	1.40E-10	mg/kg-day	2.00E-04	mg/kg-day	7.01E-07				
				Heptachlor	1.78E-08	mg/m <sup>3</sup>	3.09E-10	mg/kg-day	4.55E+00	(mg/kg-day) <sup>-1</sup>	1.41E-09	1.44E-09	mg/kg-day	5.00E-04	mg/kg-day	2.88E-06				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	5.93E-07	mg/kg-day	--	--	--	2.76E-06	mg/kg-day	1.10E-01	mg/kg-day	2.51E-05				
				m,p-Xylene	8.94E-07	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	5.59E-08	mg/kg-day	2.90E-02	mg/kg-day	1.93E-08				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	5.65E-11	mg/kg-day	--	--	--	2.63E-10	mg/kg-day	5.00E-03	mg/kg-day	5.26E-08				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	9.40E-11	mg/kg-day	--	--	--	4.38E-10	mg/kg-day	8.57E-04	mg/kg-day	5.10E-07				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	4.38E-09	mg/kg-day	--	--	--	2.04E-08	mg/kg-day	8.57E-04	mg/kg-day	2.38E-05				
n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.88E-09	mg/kg-day	--	--	--	2.27E-08	mg/kg-day	4.00E-02	mg/kg-day	5.67E-07								
Phenanthrene	2.62E-09	mg/m <sup>3</sup>	4.53E-11	mg/kg-day	--	--	--	2.11E-10	mg/kg-day	3.00E-01	mg/kg-day	7.03E-10								

TABLE H2-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	5.93E-07	mg/kg-day	--	--	--	2.76E-06	mg/kg-day	1.10E-01	mg/kg-day	2.51E-05
				Pyrene	4.61E-10	mg/m <sup>3</sup>	7.98E-12	mg/kg-day	--	--	--	3.71E-11	mg/kg-day	3.00E-02	mg/kg-day	1.24E-09
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.39E-08	mg/kg-day	--	--	--	6.45E-08	mg/kg-day	4.00E-02	mg/kg-day	1.61E-06
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.57E-08	mg/kg-day	--	--	--	7.31E-08	mg/kg-day	4.00E-02	mg/kg-day	1.83E-06
				Toluene	3.80E-07	mg/m <sup>3</sup>	6.58E-09	mg/kg-day	--	--	--	3.06E-08	mg/kg-day	1.43E+00	mg/kg-day	2.14E-08
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.55E-08	mg/kg-day	--	--	--	7.22E-08	mg/kg-day	2.00E-02	mg/kg-day	3.61E-06
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.61E-08	mg/kg-day	4.00E-01	(mg/kg-day)-1	6.45E-09	7.51E-08	mg/kg-day	1.00E-02	mg/kg-day	7.51E-06
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	3.34E-08	mg/kg-day	3.10E-02	(mg/kg-day)-1	1.03E-09	1.55E-07	mg/kg-day	2.86E-02	mg/kg-day	5.44E-06
			Exposure Route Total							1.42E-08					1.93E-04	
		Exposure Point Total								1.42E-08					1.93E-04	
	Exposure Medium Total									1.42E-08					1.93E-04	
Medium Total										1.42E-08					1.93E-04	
Total of Receptor Risks Across All Media										7.85E-08	Total of Receptor Hazards Across All Media					1.82E+00

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfC Reference concentration
  - RfD Reference dose
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

**TABLE H2-8.1**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	6.43E-05	8.48E-06	--	--	7.27E-05
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	2.19E-04	2.88E-06	--	--	2.21E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.28E-06	5.66E-08	--	--	4.34E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.24E-04	1.63E-06	--	--	1.25E-04
			1,2-Dichloropropane	6.74E-12	8.90E-14	--	--	6.83E-12	Nasal	1.35E-06	1.79E-08	--	--	1.37E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.37E-06	1.81E-08	--	--	1.39E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.57E-05	2.07E-07	--	--	1.59E-05
			1,4-Dichlorobenzene	4.50E-09	--	--	--	4.50E-09	Organ Weight	9.71E-05	--	--	--	9.71E-05
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	4.50E-06	5.94E-08	--	--	4.56E-06
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	6.94E-07	9.16E-08	--	--	7.86E-07
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	1.79E-04	2.36E-06	--	--	1.81E-04
			4,4'-DDD	7.93E-12	1.05E-13	--	--	8.04E-12	Liver	1.03E-06	1.36E-08	--	--	1.04E-06
			4,4'-DDE	7.71E-10	1.02E-11	--	--	7.81E-10	Liver	7.05E-05	9.31E-07	--	--	7.15E-05
			4,4'-DDT	4.17E-10	1.85E-11	--	--	4.33E-10	Liver	3.81E-05	1.51E-06	--	--	3.96E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	2.31E-05	3.05E-06	--	--	2.62E-05
			4-Nitroaniline	3.59E-10	4.74E-11	--	--	4.06E-10	--	8.85E-05	1.17E-05	--	--	1.00E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	3.60E-04	4.75E-05	--	--	4.07E-04
			Acenaphthene	--	--	--	--	--	Liver	3.02E-05	5.19E-06	--	--	3.54E-05
			Acenaphthylene	--	--	--	--	--	Liver	7.44E-07	9.82E-09	--	--	7.54E-07
			Aldrin	6.09E-09	8.04E-10	--	--	6.89E-09	Liver	1.86E-04	2.45E-05	--	--	2.10E-04
			alpha-BHC	1.27E-10	1.67E-12	--	--	1.28E-10	Liver/Kidney	6.26E-07	8.26E-09	--	--	6.34E-07
			alpha-Chlordane	7.85E-11	--	--	--	7.85E-11	Liver	6.98E-06	--	--	--	6.98E-06
			Aluminum	--	--	--	--	--	CNS	3.78E-03	4.99E-06	--	--	3.79E-03
			Anthracene	--	--	--	--	--	No observed effect	1.51E-06	2.59E-07	--	--	1.77E-06
			Antimony	--	--	--	--	--	Whole body/Blood	4.37E-03	5.77E-06	--	--	4.37E-03
			Aroclor-1248	6.61E-08	1.22E-08	--	--	7.83E-08	Immune System/ Eye/Finger and Toe Nails	2.57E-02	4.75E-03	--	--	3.05E-02
			Aroclor-1254	2.45E-08	4.52E-09	--	--	2.90E-08	Immune System/ Eye/Finger and Toe Nails	9.51E-03	1.76E-03	--	--	1.13E-02
			Aroclor-1260	2.98E-08	5.51E-09	--	--	3.53E-08	Immune System/ Eye/Finger and Toe Nails	1.16E-02	2.14E-03	--	--	1.37E-02
			Aroclor-1268	1.53E-09	2.83E-10	--	--	1.81E-09	Immune System/ Eye/Finger and Toe Nails	5.95E-04	1.10E-04	--	--	7.05E-04
			Arsenic	2.55E-07	1.01E-08	--	--	2.65E-07	Skin	8.81E-03	3.49E-04	--	--	9.15E-03
			Barium	--	--	--	--	--	Kidney	4.15E-04	5.48E-07	--	--	4.16E-04
			Benzo(a)anthracene	1.01E-07	1.73E-08	--	--	1.18E-07	--	--	--	--	--	--
			Benzo(a)pyrene	3.35E-07	5.75E-08	--	--	3.92E-07	--	--	--	--	--	--
			Benzo(b)fluoranthene	5.51E-08	9.45E-09	--	--	6.45E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.09E-05	1.87E-06	--	--	1.28E-05
			Benzo(k)fluoranthene	6.56E-09	1.13E-09	--	--	7.68E-09	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	5.10E-05	6.73E-08	--	--	5.11E-05
			Beta-BHC	1.09E-10	1.44E-12	--	--	1.11E-10	Kidney/Liver	4.71E-06	6.22E-08	--	--	4.78E-06
			bis(2-ethylhexyl)phthalate	3.02E-09	3.99E-11	--	--	3.06E-09	Liver	1.68E-04	2.21E-06	--	--	1.70E-04
			Cadmium	--	--	--	--	--	Kidney	8.12E-03	1.07E-05	--	--	8.13E-03
			Carbon disulfide	--	--	--	--	--	Developmental	1.03E-09	3.39E-10	--	--	1.37E-09
Chlorobenzene	--	--	--	--	--	Liver	2.36E-06	3.11E-08	--	--	2.39E-06			

TABLE H2-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	3.18E-05	4.19E-08	--	--	3.18E-05
			Chrysene	1.14E-09	1.96E-10	--	--	1.34E-09	--	1.62E-04	2.14E-07	--	--	1.62E-04
			Cobalt	--	--	--	--	--	Blood	6.61E-04	8.72E-07	--	--	6.62E-04
			Copper	--	--	--	--	--	GI Tract	1.80E-05	1.19E-06	--	--	1.92E-05
			Delta-BHC	4.17E-10	2.75E-11	--	--	4.44E-10	Liver/Kidney	--	--	--	--	--
			Dibenzo(a,h)anthracene	6.39E-08	1.10E-08	--	--	7.48E-08	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	2.78E-03	3.68E-05	--	--	2.82E-03
			Diehdrin	2.43E-08	3.21E-10	--	--	2.46E-08	Liver	4.73E-04	6.24E-06	--	--	4.79E-04
			Dimethylphthalate	--	--	--	--	--	--	1.63E-09	2.15E-11	--	--	1.65E-09
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	9.43E-06	1.24E-07	--	--	9.55E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.64E-06	1.08E-07	--	--	1.75E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.70E-08	1.12E-07	--	--	1.81E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	3.07E-06	2.03E-07	--	--	3.27E-06
			Endrin aldehyde	--	--	--	--	--	Liver	6.01E-05	3.97E-06	--	--	6.41E-05
			Endrin Ketone	--	--	--	--	--	Liver	1.43E-05	--	--	--	1.43E-05
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	2.84E-04	4.87E-05	--	--	3.33E-04
			Fluorene	--	--	--	--	--	Blood	3.12E-05	5.36E-06	--	--	3.66E-05
			gamma-BHC (Lindane)	9.31E-11	4.92E-12	--	--	9.80E-11	Liver/Kidney	3.71E-06	1.96E-07	--	--	3.91E-06
			gamma-Chlordane	1.26E-10	--	--	--	1.26E-10	Liver	1.12E-05	--	--	--	1.12E-05
			Heptachlor	8.55E-10	1.13E-11	--	--	8.67E-10	Liver	5.91E-06	7.80E-08	--	--	5.99E-06
			Heptachlor Epoxide	2.80E-09	3.69E-11	--	--	2.83E-09	Liver	3.68E-04	4.85E-06	--	--	3.72E-04
			Indeno(1,2,3-cd)pyrene	1.76E-08	3.01E-09	--	--	2.06E-08	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	5.82E-02	7.68E-05	--	--	5.82E-02
			Isophorone	5.23E-12	6.91E-13	--	--	5.93E-12	No observed effect	4.28E-07	5.66E-08	--	--	4.85E-07
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	5.91E-03	7.80E-06	--	--	5.92E-03
			Mercury	--	--	--	--	--	Immune System	4.42E-04	--	--	--	4.42E-04
			Methoxychlor	--	--	--	--	--	Developmental	1.03E-05	1.36E-07	--	--	1.04E-05
			Molybdenum	--	--	--	--	--	Blood	2.15E-04	2.83E-07	--	--	2.15E-04
			Naphthalene	--	--	--	--	--	Whole Body	2.78E-04	4.78E-05	--	--	3.26E-04
			Nickel	--	--	--	--	--	Whole Body	8.38E-04	1.11E-06	--	--	8.39E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.99E-05	2.62E-07	--	--	2.01E-05
			Phenol	--	--	--	--	--	Whole Body	8.28E-07	1.09E-07	--	--	9.38E-07
			p-Isopropyltoluene	--	--	--	--	--	Kidney	4.71E-07	--	--	--	4.71E-07
			Pyrene	--	--	--	--	--	Kidney	3.45E-04	5.92E-05	--	--	4.04E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	7.60E-07	--	--	--	7.60E-07
			Selenium	--	--	--	--	--	Whole Body	1.92E-05	2.54E-08	--	--	1.93E-05
			Silver	--	--	--	--	--	Skin	9.93E-05	1.31E-07	--	--	9.94E-05
			Technical Chlordane	5.31E-09	2.81E-10	--	--	5.59E-09	Liver	4.72E-04	2.49E-05	--	--	4.97E-04
			Thallium	--	--	--	--	--	Blood	3.23E-03	--	--	--	3.23E-03
			Toluene	--	--	--	--	--	Liver/Kidney	2.30E-09	3.04E-11	--	--	2.33E-09
			Vanadium	--	--	--	--	--	Kidney	1.46E-02	1.93E-05	--	--	1.46E-02

TABLE H2-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	-	-	-	-	-	Blood	6.48E-04	8.55E-07	-	-	6.48E-04
		Exposure Point Total	Chemical Total	1.01E-06	1.34E-07	0.00E+00	0.00E+00	1.14E-06		1.65E-01	9.59E-03	0.00E+00	0.00E+00	1.74E-01
	Exposure Medium Total					1.14E-06								1.74E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	-	-	-	-	-	Kidney	-	-	8.46E-03	-	8.46E-03
			1,2,4-Trichlorobenzene	-	-	-	-	-	Kidney	-	-	2.88E-02	-	2.88E-02
			1,2,4-Trimethylbenzene	-	-	-	-	-	CNS/Blood/Respiratory System	-	-	6.09E-03	-	6.09E-03
			1,2-Dichlorobenzene	-	-	-	-	-	Body Weight	-	-	8.32E-03	-	8.32E-03
			1,2-Dichloropropane	-	-	1.12E-09	-	1.12E-09	Nasal	-	-	2.24E-04	-	2.24E-04
			1,3,5-Trimethylbenzene	-	-	-	-	-	CNS/Blood/Respiratory System	-	-	1.90E-03	-	1.90E-03
			1,3-Dichlorobenzene	-	-	-	-	-	Kidney/Liver	-	-	4.84E-04	-	4.84E-04
			1,4-Dichlorobenzene	-	-	1.97E-07	-	1.97E-07	Liver	-	-	6.05E-04	-	6.05E-04
			2,4-Dimethylphenol	-	-	-	-	-	Blood/Whole Body	-	-	7.09E-10	-	7.09E-10
			2-Methylphenol	-	-	-	-	-	-	-	-	-	-	-
			2-Methylnaphthalene	-	-	-	-	-	CNS/Body Weight	-	-	1.32E-04	-	1.32E-04
			4,4'-DDD	-	-	1.25E-15	-	1.25E-15	Liver	-	-	1.62E-10	-	1.62E-10
			4,4'-DDE	-	-	1.89E-11	-	1.89E-11	Liver	-	-	1.73E-06	-	1.73E-06
			4,4'-DDT	-	-	6.57E-14	-	6.57E-14	Liver	-	-	6.01E-09	-	6.01E-09
			4-Methylphenol	-	-	-	-	-	Whole Body/CNS/Respiratory System	-	-	3.65E-09	-	3.65E-09
			4-Nitroaniline	-	-	5.65E-14	-	5.65E-14	-	-	-	4.19E-08	-	4.19E-08
			4-Nitrophenol	-	-	-	-	-	Blood/Kidney/Liver	-	-	4.97E-08	-	4.97E-08
			Acenaphthene	-	-	-	-	-	Liver	-	-	8.63E-05	-	8.63E-05
			Acenaphthylene	-	-	-	-	-	Liver	-	-	2.12E-06	-	2.12E-06
			Aldrin	-	-	5.49E-10	-	5.49E-10	Liver	-	-	1.67E-05	-	1.67E-05
			alpha-BHC	-	-	1.31E-10	-	1.31E-10	Liver/Kidney	-	-	6.48E-07	-	6.48E-07
			alpha-Chlordane	-	-	1.62E-11	-	1.62E-11	Liver	-	-	3.59E-06	-	3.59E-06
			Aluminum	-	-	-	-	-	Respiratory System	-	-	4.17E-04	-	4.17E-04
			Anthracene	-	-	-	-	-	No Observed Effect	-	-	4.30E-06	-	4.30E-06
			Antimony	-	-	-	-	-	-	-	-	-	-	-
			Aroclor-1248	-	-	1.04E-11	-	1.04E-11	Immune System/Eye/Finger and Toe Nails	-	-	4.05E-06	-	4.05E-06
			Aroclor-1254	-	-	3.86E-12	-	3.86E-12	Immune System/Eye/Finger and Toe Nails	-	-	1.50E-06	-	1.50E-06
			Aroclor-1260	-	-	4.70E-12	-	4.70E-12	Immune System/Eye/Finger and Toe Nails	-	-	1.83E-06	-	1.83E-06
			Aroclor-1268	-	-	2.41E-13	-	2.41E-13	Immune System/Eye/Finger and Toe Nails	-	-	9.37E-08	-	9.37E-08
			Arsenic	-	-	4.02E-10	-	4.02E-10	-	-	-	-	-	-
			Barium	-	-	-	-	-	Developmental	-	-	3.27E-05	-	3.27E-05
			Benzo(a)anthracene	-	-	1.59E-11	-	1.59E-11	-	-	-	-	-	-
			Benzo(a)pyrene	-	-	5.28E-11	-	5.28E-11	-	-	-	-	-	-
			Benzo(b)fluoranthene	-	-	7.41E-09	-	7.41E-09	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	Kidney	-	-	1.72E-09	-	1.72E-09
			Benzo(k)fluoranthene	-	-	1.03E-12	-	1.03E-12	-	-	-	-	-	-
			Beryllium	-	-	8.68E-12	-	8.68E-12	Immune System/Lung	-	-	2.81E-06	-	2.81E-06
			Beta-BHC	-	-	1.77E-14	-	1.77E-14	Liver/Kidney	-	-	7.43E-10	-	7.43E-10

TABLE H2-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	4.76E-13	--	4.76E-13	Liver	--	--	2.64E-08	--	2.64E-08
			Cadmium	--	--	2.59E-10	--	2.59E-10	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	2.02E-07	--	2.02E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.71E-04	--	2.71E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	2.61E-10	--	2.61E-10	--	--	--	--	--	--
			Cobalt	--	--	3.22E-10	--	3.22E-10	Respiratory System	--	--	8.95E-05	--	8.95E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	4.45E-10	--	4.45E-10	Liver/Kidney	--	--	1.87E-05	--	1.87E-05
			Dibenzo(a,h)anthracene	--	--	1.01E-11	--	1.01E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	2.00E-03	--	2.00E-03
			Dieldrin	--	--	6.80E-09	--	6.80E-09	Liver	--	--	1.32E-04	--	1.32E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	2.57E-13	--	2.57E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.49E-09	--	1.49E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.20E-06	--	1.20E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.24E-06	--	1.24E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	2.24E-06	--	2.24E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	9.47E-09	--	9.47E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	2.25E-09	--	2.25E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.82E-05	--	3.82E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.80E-05	--	3.80E-05
			gamma-BHC (Lindane)	--	--	1.19E-10	--	1.19E-10	Liver/Kidney	--	--	4.74E-06	--	4.74E-06
			gamma-Chlordane	--	--	2.60E-11	--	2.60E-11	Liver	--	--	5.78E-06	--	5.78E-06
			Heptachlor	--	--	8.81E-09	--	8.81E-09	Liver	--	--	6.02E-05	--	6.02E-05
			Heptachlor Epoxide	--	--	4.41E-13	--	4.41E-13	Liver	--	--	5.79E-08	--	5.79E-08
			Indeno(1,2,3-cd)pyrene	--	--	2.77E-12	--	2.77E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	8.25E-16	--	8.25E-16	No observed effect	--	--	6.75E-11	--	6.75E-11
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.56E-03	--	1.56E-03
			Mercury	--	--	--	--	--	CNS	--	--	2.43E-07	--	2.43E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.54E-08	--	1.54E-08
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	7.27E-02	--	7.27E-02
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.68E-05	--	5.68E-05
			Phenol	--	--	--	--	--	Body Weight	--	--	1.31E-10	--	1.31E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.55E-04	--	1.55E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	5.49E-05	--	5.49E-05
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	6.26E-05	--	6.26E-05
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H2-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	1.09E-12	--	1.09E-12	Liver	--	--	2.43E-04	--	2.43E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.95E-08	--	1.95E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.24E-07	0.00E+00	2.24E-07		0.00E+00	0.00E+00	1.33E-01	0.00E+00	1.33E-01
		Exposure Point Total						2.24E-07						1.33E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	3.23E-01	--	3.23E-01
			1,2,4-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	1.10E+00	--
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.91E-02	--	6.91E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.08E-01	--	1.08E-01
			1,2-Dichloropropane	--	--	3.73E-09	--	3.73E-09	Nasal	--	--	7.48E-04	--	7.48E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.21E-02	--	2.21E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	8.69E-03	--	8.69E-03
			1,4-Dichlorobenzene	--	--	2.28E-06	--	2.28E-06	Liver	--	--	7.01E-03	--	7.01E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-03	--	3.50E-03
			4,4'-DDE	--	--	4.72E-12	--	4.72E-12	Liver	--	--	4.32E-07	--	4.32E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.01E-03	--	1.01E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.60E-05	--	2.60E-05
			Aldrin	--	--	6.26E-10	--	6.26E-10	Liver	--	--	1.91E-05	--	1.91E-05
			alpha-BHC	--	--	1.56E-09	--	1.56E-09	Liver/Kidney	--	--	7.68E-06	--	7.68E-06
			alpha-Chlordane	--	--	4.34E-11	--	4.34E-11	Liver	--	--	9.65E-06	--	9.65E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.31E-05	--	5.31E-05
			Benzo(b)fluoranthene	--	--	5.27E-09	--	5.27E-09	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	2.84E-07	--	2.84E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.53E-03	--	1.53E-03
			Chrysene	--	--	2.97E-10	--	2.97E-10	--	--	--	--	--	--
			Delta-BHC	--	--	7.84E-09	--	7.84E-09	Liver/Kidney	--	--	3.28E-04	--	3.28E-04
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	4.22E-04	--	4.22E-04
			Dieldrin	--	--	1.92E-08	--	1.92E-08	Liver	--	--	3.73E-04	--	3.73E-04
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.28E-05	--	1.28E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.30E-05	--	1.30E-05
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	2.40E-05	--	2.40E-05
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	4.37E-06	--	4.37E-06
			Fluorene	--	--	--	--	--	Blood	--	--	2.39E-04	--	2.39E-04
			gamma-BHC (Lindane)	--	--	1.70E-09	--	1.70E-09	Liver/Kidney	--	--	6.78E-05	--	6.78E-05
			gamma-Chlordane	--	--	7.91E-13	--	7.91E-13	Liver	--	--	1.76E-07	--	1.76E-07
			Heptachlor	--	--	1.13E-09	--	1.13E-09	Liver	--	--	7.73E-06	--	7.73E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.11E-06	--	2.11E-06
			Methylene Chloride	--	--	5.85E-11	--	5.85E-11	Liver	--	--	6.64E-07	--	6.64E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.65E+00	--	2.65E+00
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	6.80E-04	--	6.80E-04

TABLE H2-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--		Kidney	--	--	2.37E-04	--	2.37E-04
			Pyrene	--	--	--	--	--		Kidney	--	--	4.72E-05	--	4.72E-05
			sec-Butylbenzene	--	--	--	--	--		Kidney	--	--	2.06E-04	--	2.06E-04
			Technical Chlordane	--	--	3.37E-12	--	3.37E-12		Liver	--	--	7.48E-04	--	7.48E-04
			Toluene	--	--	--	--	--		CNS	--	--	7.13E-08	--	7.13E-08
			Chemical Total	0.00E+00	0.00E+00	2.32E-06	0.00E+00	2.32E-06				0.00E+00	0.00E+00	4.30E+00	
			Exposure Point Total					2.32E-06						4.30E+00	
			Exposure Medium Total					2.54E-06						4.43E+00	
			Medium Total					3.68E-06						4.61E+00	
Groundwater	Outdoor Air	Inhalation (Outdoor Air)	1,1-Dichloroethane	--	--	--	--	--		No observed effect	--	--	2.70E-07	--	2.70E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--		CNS/Blood/Respiratory System	--	--	6.56E-06	--	6.56E-06
			1,2-Dichlorobenzene	--	--	--	--	--		Body Weight	--	--	1.29E-06	--	1.29E-06
			1,2-Dichloroethane	--	--	3.10E-10	--	3.10E-10		Liver/Kidney/CNS	--	--	3.79E-05	--	3.79E-05
			1,2-Dichloropropane	--	--	8.69E-11	--	8.69E-11		Nasal	--	--	1.74E-05	--	1.74E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--		CNS/Blood/Respiratory System	--	--	3.74E-06	--	3.74E-06
			1,4-Dichlorobenzene	--	--	3.55E-11	--	3.55E-11		Liver	--	--	1.09E-07	--	1.09E-07
			2-Hexanone	--	--	--	--	--		Developmental	--	--	6.79E-10	--	6.79E-10
			2-Methylnaphthalene	--	--	--	--	--		CNS/Body Weight	--	--	1.72E-09	--	1.72E-09
			4,4'-DDE	--	--	2.52E-12	--	2.52E-12		Liver	--	--	2.31E-07	--	2.31E-07
			4-Methyl-2-pentanone	--	--	--	--	--		Developmental	--	--	4.19E-10	--	4.19E-10
			Acenaphthene	--	--	--	--	--		Liver	--	--	5.76E-08	--	5.76E-08
			Acenaphthylene	--	--	--	--	--		Liver	--	--	2.45E-09	--	2.45E-09
			Aldrin	--	--	2.18E-10	--	2.18E-10		Liver	--	--	6.64E-06	--	6.64E-06
			alpha-BHC	--	--	1.02E-11	--	1.02E-11		Liver/Kidney	--	--	5.05E-08	--	5.05E-08
			alpha-Chlordane	--	--	1.34E-12	--	1.34E-12		Liver	--	--	2.99E-07	--	2.99E-07
			Anthracene	--	--	--	--	--		No Observed Effect	--	--	9.76E-10	--	9.76E-10
			Benzene	--	--	4.08E-11	--	4.08E-11		Blood	--	--	2.70E-06	--	2.70E-06
			Benzo(b)fluoranthene	--	--	2.04E-12	--	2.04E-12		--	--	--	--	--	--
			Bromoform	--	--	1.62E-13	--	1.62E-13		Liver	--	--	3.28E-08	--	3.28E-08
			Carbon disulfide	--	--	--	--	--		CNS	--	--	2.01E-06	--	2.01E-06
			Chlorobenzene	--	--	--	--	--		Liver	--	--	3.84E-07	--	3.84E-07
			Chloroform	--	--	9.54E-10	--	9.54E-10		Liver/Kidney/Respiratory	--	--	1.32E-05	--	1.32E-05
			Chloromethane	--	--	--	--	--		CNS	--	--	2.57E-06	--	2.57E-06
			Chrysene	--	--	5.51E-14	--	5.51E-14		--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--		Blood	--	--	4.72E-06	--	4.72E-06
			Dieldrin	--	--	9.01E-11	--	9.01E-11		Liver	--	--	1.75E-06	--	1.75E-06
			Endosulfan I	--	--	--	--	--		Body Weight/Kidney/CNS	--	--	3.33E-09	--	3.33E-09
			Endosulfan II	--	--	--	--	--		Body Weight/Kidney	--	--	5.47E-12	--	5.47E-12
			Ethylbenzene	--	--	--	--	--		Developmental	--	--	6.13E-08	--	6.13E-08
Fluoranthene	--	--	--	--	--		Kidney/Liver/Blood	--	--	1.13E-09	--	1.13E-09			
Fluorene	--	--	--	--	--		Blood	--	--	2.23E-09	--	2.23E-09			
gamma-BHC (Lindane)	--	--	9.26E-15	--	9.26E-15		Liver/Kidney	--	--	3.69E-10	--	3.69E-10			

TABLE H2-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Outdoor Air) (continued)	gamma-Chlordane	--	--	3.49E-12	--	3.49E-12	Liver	--	--	7.75E-07	--	7.75E-07
			Heptachlor	--	--	4.66E-10	--	4.66E-10	Liver	--	--	3.18E-06	--	3.18E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.78E-05	--	2.78E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	2.13E-06	--	2.13E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	5.82E-08	--	5.82E-08
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	5.65E-07	--	5.65E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	2.63E-05	--	2.63E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	6.28E-07	--	6.28E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	7.78E-10	--	7.78E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.78E-05	--	2.78E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	1.37E-09	--	1.37E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.78E-06	--	1.78E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	2.02E-06	--	2.02E-06
			Toluene	--	--	--	--	--	CNS	--	--	2.37E-08	--	2.37E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.99E-06	--	3.99E-06
			Trichloroethene	--	--	2.14E-09	--	2.14E-09	CNS/Liver/Endocrine	--	--	8.31E-06	--	8.31E-06
			Vinyl chloride	--	--	3.43E-10	--	3.43E-10	Liver	--	--	6.01E-06	--	6.01E-06
			Chemical Total	0.00E+00	0.00E+00	4.70E-09	0.00E+00	4.70E-09		0.00E+00	0.00E+00	2.13E-04	0.00E+00	2.13E-04
			Exposure Point Total					4.70E-09						2.13E-04
			Exposure Medium Total					4.70E-09						2.13E-04
Groundwater Vapor Intrusion	Indoor Air (Inhalation)	Indoor Air (Inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	3.81E-05	--	3.81E-05
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.40E-04	--	1.40E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.70E-05	--	2.70E-05
			1,2-Dichloroethane	--	--	6.81E-09	--	6.81E-09	Liver/Kidney/CNS	--	--	8.31E-04	--	8.31E-04
			1,2-Dichloropropane	--	--	2.04E-09	--	2.04E-09	Nasal	--	--	4.09E-04	--	4.09E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.99E-05	--	7.99E-05
			1,4-Dichlorobenzene	--	--	7.55E-10	--	7.55E-10	Liver	--	--	2.32E-06	--	2.32E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.59E-08	--	1.59E-08
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.16E-08	--	3.16E-08
			4,4'-DDE	--	--	9.62E-14	--	9.62E-14	Liver	--	--	8.80E-09	--	8.80E-09
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.58E-09	--	9.58E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.19E-06	--	1.19E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.08E-08	--	5.08E-08
			Aldrin	--	--	1.02E-11	--	1.02E-11	Liver	--	--	3.11E-07	--	3.11E-07
			alpha-BHC	--	--	5.01E-13	--	5.01E-13	Liver/Kidney	--	--	2.48E-09	--	2.48E-09
			alpha-Chlordane	--	--	1.68E-13	--	1.68E-13	Liver	--	--	3.73E-08	--	3.73E-08
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.02E-08	--	2.02E-08
			Benzene	--	--	9.52E-10	--	9.52E-10	Blood	--	--	6.31E-05	--	6.31E-05
			Benzo(b)fluoranthene	--	--	3.58E-11	--	3.58E-11	--	--	--	--	--	--
			Bromoform	--	--	4.62E-12	--	4.62E-12	Liver	--	--	9.33E-07	--	9.33E-07
Carbon disulfide	--	--	--	--	--	CNS	--	--	4.75E-05	--	4.75E-05			
Chlorobenzene	--	--	--	--	--	Liver	--	--	8.63E-06	--	8.63E-06			

TABLE H2-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (Inhalation) (continued)	Chloroform	--	--	2.19E-08	--	2.19E-08	Liver/Kidney/Respiratory	--	--	3.02E-04	--	3.02E-04		
			Chloromethane	--	--	--	--	--	CNS	--	--	6.37E-05	--	6.37E-05		
			Chrysene	--	--	9.99E-13	--	9.99E-13	Blood	--	--	--	--	--		
			cis-1,2-Dichloroethene	--	--	--	--	--	Liver	--	--	1.17E-04	--	1.17E-04		
			Dieldrin	--	--	1.48E-12	--	1.48E-12	Liver	--	--	2.88E-08	--	2.88E-08		
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.11E-10	--	3.11E-10		
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.04E-10	--	1.04E-10		
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.35E-06	--	1.35E-06		
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.91E-08	--	1.91E-08		
			Fluorene	--	--	--	--	--	Blood	--	--	4.85E-08	--	4.85E-08		
			gamma-BHC (Lindane)	--	--	1.40E-13	--	1.40E-13	Liver/Kidney	--	--	5.57E-09	--	5.57E-09		
			gamma-Chlordane	--	--	8.13E-14	--	8.13E-14	Liver	--	--	1.81E-08	--	1.81E-08		
			Heptachlor	--	--	7.67E-12	--	7.67E-12	Liver	--	--	5.24E-08	--	5.24E-08		
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	5.57E-04	--	5.57E-04		
			m,p-Xylene	--	--	--	--	--	CNS	--	--	4.73E-05	--	4.73E-05		
			Methoxychlor	--	--	--	--	--	Developmental	--	--	9.65E-10	--	9.65E-10		
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.17E-05	--	1.17E-05		
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	5.62E-04	--	5.62E-04		
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.36E-05	--	1.36E-05		
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.65E-08	--	1.65E-08		
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	5.57E-04	--	5.57E-04		
			Pyrene	--	--	--	--	--	Kidney	--	--	2.20E-08	--	2.20E-08		
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	4.85E-07	--	4.85E-07		
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	4.83E-05	--	4.83E-05		
			Toluene	--	--	--	--	--	CNS	--	--	5.20E-08	--	5.20E-08		
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.03E-04	--	1.03E-04		
			Trichloroethene	--	--	5.00E-08	--	5.00E-08	CNS/Liver/Endocrine	--	--	1.95E-04	--	1.95E-04		
			Vinyl chloride	--	--	8.84E-09	--	8.84E-09	Liver	--	--	1.55E-04	--	1.55E-04		
						Chemical Total	0.00E+00	0.00E+00	9.14E-08	0.00E+00	9.14E-08		0.00E+00	0.00E+00	4.38E-03	4.38E-03
						Exposure Point Total					9.14E-08					4.38E-03
			Exposure Medium Total					9.14E-08					4.38E-03			
Medium Total								9.61E-08					4.60E-03			
Receptor Total								Receptor Risk Total					Receptor HI Total	4.61E+00		

**TABLE H2-8.1**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
CNS	Central nervous system
COPC	Chemicals of Potential Concern
CTE	Central Tendency Exposure
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard Index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	8.44E-02
Total Organ 2 (Kidney) HI Across All Media =	1.50E+00
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	1.16E-01
Total Organ 5 (Endocrine) HI Across All Media =	2.03E-04
Total Organ 6 (Blood) HI Across All Media =	1.09E-01
Total Organ 7 (Adrenal) HI Across All Media =	2.94E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.01E-03
Total Organ 9 (Skin) HI Across All Media =	9.25E-03
Total Organ 10 (Gastrointestinal System) HI Across All Media =	7.13E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	5.62E-02
Total Organ 12 (Body Weight) HI Across All Media =	1.20E-01
Total Organ 13 (Developmental) HI Across All Media =	4.83E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	2.83E+00
Total Organ 15 (Whole Body) HI Across All Media =	5.61E-03
Total Organ 16 (Immune System) HI Across All Media =	5.66E-02
Total Organ 17 (Organ Weight) HI Across All Media =	1.47E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	5.62E-02
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.40E-03

**TABLE H2-8.2**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	6.43E-05	8.48E-06	--	--	7.27E-05
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	2.19E-04	2.88E-06	--	--	2.21E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.28E-06	5.66E-08	--	--	4.34E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.24E-04	1.63E-06	--	--	1.25E-04
			1,2-Dichloropropane	6.74E-12	8.90E-14	--	--	6.83E-12	Nasal	1.35E-06	1.79E-08	--	--	1.37E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.37E-06	1.81E-08	--	--	1.39E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.57E-05	2.07E-07	--	--	1.59E-05
			1,4-Dichlorobenzene	4.50E-09	--	--	--	4.50E-09	Organ Weight	9.71E-05	--	--	--	9.71E-05
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	4.50E-06	5.94E-08	--	--	4.56E-06
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	6.94E-07	9.16E-08	--	--	7.86E-07
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	1.55E-04	2.05E-06	--	--	1.57E-04
			4,4'-DDD	7.93E-12	1.05E-13	--	--	8.04E-12	Liver	1.03E-06	1.36E-08	--	--	1.04E-06
			4,4'-DDE	7.03E-10	9.27E-12	--	--	7.12E-10	Liver	6.43E-05	8.48E-07	--	--	6.51E-05
			4,4'-DDT	3.93E-10	1.56E-11	--	--	4.09E-10	Liver	3.60E-05	1.42E-06	--	--	3.74E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	2.31E-05	3.05E-06	--	--	2.62E-05
			4-Nitroaniline	3.59E-10	4.74E-11	--	--	4.06E-10	--	8.85E-05	1.17E-05	--	--	1.00E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	3.60E-04	4.75E-05	--	--	4.07E-04
			Acenaphthene	--	--	--	--	--	Liver	2.48E-05	4.25E-06	--	--	2.90E-05
			Acenaphthylene	--	--	--	--	--	Liver	6.40E-07	8.44E-09	--	--	6.48E-07
			Aldrin	6.09E-09	8.04E-10	--	--	6.89E-09	Liver	1.86E-04	2.45E-05	--	--	2.10E-04
			alpha-BHC	1.27E-10	1.67E-12	--	--	1.28E-10	Liver/Kidney	6.26E-07	8.26E-09	--	--	6.34E-07
			alpha-Chlordane	6.73E-11	--	--	--	6.73E-11	Liver	5.98E-06	--	--	--	5.98E-06
			Aluminum	--	--	--	--	--	CNS	3.88E-03	5.12E-06	--	--	3.88E-03
			Anthracene	--	--	--	--	--	No observed effect	1.30E-06	2.24E-07	--	--	1.53E-06
			Antimony	--	--	--	--	--	Whole body/Blood	2.92E-03	3.85E-06	--	--	2.92E-03
			Aroclor-1248	6.61E-08	1.22E-08	--	--	7.83E-08	Immune System/ Eye/Finger and Toe Nails	2.57E-02	4.75E-03	--	--	3.05E-02
			Aroclor-1254	2.41E-08	4.46E-09	--	--	2.86E-08	Immune System/ Eye/Finger and Toe Nails	9.38E-03	1.73E-03	--	--	1.11E-02
			Aroclor-1260	2.69E-08	4.97E-09	--	--	3.19E-08	Immune System/ Eye/Finger and Toe Nails	1.05E-02	1.93E-03	--	--	1.24E-02
			Aroclor-1268	1.50E-09	2.77E-10	--	--	1.77E-09	Immune System/ Eye/Finger and Toe Nails	5.82E-04	1.08E-04	--	--	6.90E-04
			Arsenic	3.94E-07	1.56E-08	--	--	4.10E-07	Skin	1.36E-02	5.39E-04	--	--	1.42E-02
			Barium	--	--	--	--	--	Kidney	4.25E-04	5.61E-07	--	--	4.26E-04
			Benzo(a)anthracene	8.47E-08	1.45E-08	--	--	9.93E-08	--	--	--	--	--	--
			Benzo(a)pyrene	2.83E-07	4.85E-08	--	--	3.31E-07	--	--	--	--	--	--
			Benzo(b)fluoranthene	4.77E-08	8.19E-09	--	--	5.59E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	9.25E-06	1.59E-06	--	--	1.08E-05
			Benzo(k)fluoranthene	5.68E-09	9.75E-10	--	--	6.66E-09	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	4.88E-05	6.44E-08	--	--	4.89E-05
			Beta-BHC	1.09E-10	1.44E-12	--	--	1.11E-10	Kidney/Liver	4.71E-06	6.22E-08	--	--	4.78E-06
			bis(2-ethylhexyl)phthalate	2.04E-09	2.70E-11	--	--	2.07E-09	Liver	1.13E-04	1.50E-06	--	--	1.15E-04
			Cadmium	--	--	--	--	--	Kidney	7.41E-03	9.78E-06	--	--	7.42E-03
			Carbon disulfide	--	--	--	--	--	Developmental	1.03E-09	3.39E-10	--	--	1.37E-09
			Chlorobenzene	--	--	--	--	--	Liver	2.36E-06	3.11E-08	--	--	2.39E-06

TABLE H2-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	2.86E-05	3.77E-08	--	--	2.86E-05		
			Chrysene	9.65E-10	1.66E-10	--	--	1.13E-09	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.59E-04	2.10E-07	--	--	--	1.60E-04	
			Copper	--	--	--	--	--	GI Tract	6.96E-04	9.18E-07	--	--	--	6.96E-04	
			Delta-BHC	4.17E-10	2.75E-11	--	--	4.44E-10	Liver/Kidney	1.80E-05	1.19E-06	--	--	--	1.92E-05	
			Dibenzo(a,h)anthracene	5.54E-08	9.51E-09	--	--	6.49E-08	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	2.78E-03	3.68E-05	--	--	--	2.82E-03	
			Dieldrin	2.16E-08	2.85E-10	--	--	2.19E-08	Liver	4.19E-04	5.53E-06	--	--	--	4.25E-04	
			Dimethylphthalate	--	--	--	--	--	--	--	1.63E-09	2.15E-11	--	--	--	1.65E-09
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	9.85E-06	1.30E-07	--	--	--	9.98E-06	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.64E-06	1.08E-07	--	--	--	1.75E-06	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.67E-06	1.10E-07	--	--	--	1.78E-06	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	3.07E-06	2.03E-07	--	--	--	3.27E-06	
			Endrin aldehyde	--	--	--	--	--	Liver	9.00E-05	5.94E-06	--	--	--	9.59E-05	
			Endrin Ketone	--	--	--	--	--	Liver	1.43E-05	--	--	--	--	1.43E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	2.38E-04	4.09E-05	--	--	--	2.79E-04	
			Fluorene	--	--	--	--	--	Blood	2.71E-05	4.65E-06	--	--	--	3.17E-05	
			gamma-BHC (Lindane)	9.31E-11	4.92E-12	--	--	9.80E-11	Liver/Kidney	3.71E-06	1.96E-07	--	--	--	3.91E-06	
			gamma-Chlordane	1.22E-10	--	--	--	1.22E-10	Liver	1.09E-05	--	--	--	--	1.09E-05	
			Heptachlor	8.55E-10	1.13E-11	--	--	8.67E-10	Liver	5.91E-06	7.80E-08	--	--	--	5.99E-06	
			Heptachlor Epoxide	2.47E-09	3.26E-11	--	--	2.50E-09	Liver	3.25E-04	4.29E-06	--	--	--	3.29E-04	
			Indeno(1,2,3-cd)pyrene	1.00E-08	1.72E-09	--	--	1.17E-08	--	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	5.25E-02	6.93E-05	--	--	--	5.26E-02	
			Isophorone	5.23E-12	6.91E-13	--	--	5.93E-12	No observed effect	4.28E-07	5.66E-08	--	--	--	4.85E-07	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	5.43E-03	7.17E-06	--	--	--	5.44E-03	
			Mercury	--	--	--	--	--	Immune System	3.79E-04	--	--	--	--	3.79E-04	
			Methoxychlor	--	--	--	--	--	Developmental	1.03E-05	1.36E-07	--	--	--	1.04E-05	
			Methylene chloride	4.96E-13	6.55E-15	--	--	5.02E-13	Liver	1.71E-08	2.26E-10	--	--	--	1.74E-08	
			Molybdenum	--	--	--	--	--	Blood	1.87E-04	2.47E-07	--	--	--	1.87E-04	
			Naphthalene	--	--	--	--	--	Whole Body	2.78E-04	4.78E-05	--	--	--	3.26E-04	
			Nickel	--	--	--	--	--	Whole Body	8.34E-04	1.10E-06	--	--	--	8.35E-04	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.67E-05	2.20E-07	--	--	--	1.69E-05	
			Phenol	--	--	--	--	--	Whole Body	8.28E-07	1.09E-07	--	--	--	9.38E-07	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	4.71E-07	--	--	--	--	4.71E-07	
			Pyrene	--	--	--	--	--	Kidney	2.91E-04	4.99E-05	--	--	--	3.40E-04	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	7.60E-07	--	--	--	--	7.60E-07	
			Selenium	--	--	--	--	--	Whole Body	2.43E-05	3.21E-08	--	--	--	2.43E-05	
			Silver	--	--	--	--	--	Skin	8.40E-05	1.11E-07	--	--	--	8.41E-05	
			Technical Chlordane	5.21E-09	2.75E-10	--	--	5.49E-09	Liver	4.63E-04	2.45E-05	--	--	--	4.88E-04	
Thallium	--	--	--	--	--	Blood	3.13E-03	--	--	--	--	3.13E-03				
Toluene	--	--	--	--	--	Liver/Kidney	2.30E-09	3.04E-11	--	--	--	2.33E-09				

TABLE H2-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	1.44E-02	1.90E-05	--	--	1.44E-02
			Zinc	--	--	--	--	--	Blood	4.74E-04	6.25E-07	--	--	4.74E-04
			Chemical Total	1.05E-06	1.23E-07	0.00E+00	0.00E+00	1.17E-06		1.59E-01	9.52E-03	0.00E+00	0.00E+00	1.69E-01
		Exposure Point Total											1.69E-01	
		Exposure Medium Total											1.69E-01	
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	8.46E-03	--	8.46E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.88E-02	--	2.88E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.09E-03	--	6.09E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	8.32E-03	--	8.32E-03
			1,2-Dichloropropane	--	--	1.12E-09	--	1.12E-09	Nasal	--	--	2.24E-04	--	2.24E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.90E-03	--	1.90E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	4.84E-04	--	4.84E-04
			1,4-Dichlorobenzene	--	--	1.97E-07	--	1.97E-07	Liver	--	--	6.05E-04	--	6.05E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	7.09E-10	--	7.09E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.14E-04	--	1.14E-04
			4,4'-DDD	--	--	1.25E-15	--	1.25E-15	Liver	--	--	1.62E-10	--	1.62E-10
			4,4'-DDE	--	--	1.72E-11	--	1.72E-11	Liver	--	--	1.58E-06	--	1.58E-06
			4,4'-DDT	--	--	6.20E-14	--	6.20E-14	Liver	--	--	5.67E-09	--	5.67E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	3.65E-09	--	3.65E-09
			4-Nitroaniline	--	--	5.65E-14	--	5.65E-14	--	--	--	4.19E-08	--	4.19E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	4.97E-08	--	4.97E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.08E-05	--	7.08E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.83E-06	--	1.83E-06
			Aldrin	--	--	5.49E-10	--	5.49E-10	Liver	--	--	1.67E-05	--	1.67E-05
			alpha-BHC	--	--	1.31E-10	--	1.31E-10	Liver/Kidney	--	--	6.48E-07	--	6.48E-07
			alpha-Chlordane	--	--	1.39E-11	--	1.39E-11	Liver	--	--	3.08E-06	--	3.08E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	4.27E-04	--	4.27E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.72E-06	--	3.72E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	1.04E-11	--	1.04E-11	Immune System/Eye/Finger and Toe Nails	--	--	4.05E-06	--	4.05E-06
			Aroclor-1254	--	--	3.80E-12	--	3.80E-12	Immune System/Eye/Finger and Toe nails	--	--	1.48E-06	--	1.48E-06
			Aroclor-1260	--	--	4.24E-12	--	4.24E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.65E-06	--	1.65E-06
			Aroclor-1268	--	--	2.36E-13	--	2.36E-13	Immune System/Eye/Finger and Toe Nails	--	--	9.18E-08	--	9.18E-08
			Arsenic	--	--	6.21E-10	--	6.21E-10	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	3.35E-05	--	3.35E-05
			Benzo(a)anthracene	--	--	1.34E-11	--	1.34E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	4.46E-11	--	4.46E-11	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	6.42E-09	--	6.42E-09	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.46E-09	--	1.46E-09
			Benzo(k)fluoranthene	--	--	8.95E-13	--	8.95E-13	--	--	--	--	--	--
			Beryllium	--	--	8.31E-12	--	8.31E-12	Immune System/Lung	--	--	2.69E-06	--	2.69E-06

TABLE H2-8.2

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	1.77E-14	--	1.77E-14	Liver/Kidney	--	--	7.43E-10	--	7.43E-10
			bis(2-ethylhexyl)phthalate	--	--	3.22E-13	--	3.22E-13	Liver	--	--	1.79E-08	--	1.79E-08
			Cadmium	--	--	2.37E-10	--	2.37E-10	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	2.02E-07	--	2.02E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.71E-04	--	2.71E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	2.21E-10	--	2.21E-10	--	--	--	--	--	--
			Cobalt	--	--	3.17E-10	--	3.17E-10	Respiratory System	--	--	8.80E-05	--	8.80E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	4.45E-10	--	4.45E-10	Liver/Kidney	--	--	1.87E-05	--	1.87E-05
			Dibenzo(a,h)anthracene	--	--	8.74E-12	--	8.74E-12	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	2.00E-03	--	2.00E-03
			Dieldrin	--	--	6.03E-09	--	6.03E-09	Liver	--	--	1.17E-04	--	1.17E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	2.57E-13	--	2.57E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.55E-09	--	1.55E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.20E-06	--	1.20E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.22E-06	--	1.22E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	2.24E-06	--	2.24E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.42E-08	--	1.42E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	2.25E-09	--	2.25E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.21E-05	--	3.21E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.30E-05	--	3.30E-05
			gamma-BHC (Lindane)	--	--	1.19E-10	--	1.19E-10	Liver/Kidney	--	--	4.74E-06	--	4.74E-06
			gamma-Chlordane	--	--	2.52E-11	--	2.52E-11	Liver	--	--	5.60E-06	--	5.60E-06
			Heptachlor	--	--	8.81E-09	--	8.81E-09	Liver	--	--	6.02E-05	--	6.02E-05
			Heptachlor Epoxide	--	--	3.89E-13	--	3.89E-13	Liver	--	--	5.12E-08	--	5.12E-08
			Indeno(1,2,3-cd)pyrene	--	--	1.58E-12	--	1.58E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	8.25E-16	--	8.25E-16	No observed effect	--	--	6.75E-11	--	6.75E-11
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.44E-03	--	1.44E-03
			Mercury	--	--	--	--	--	CNS	--	--	2.08E-07	--	2.08E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.54E-06	--	1.54E-06
Methylene chloride	--	--	--	--	--	Liver	--	--	--	--	--			
Molybdenum	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	--	--	--	--	--	Respiratory System	--	--	7.27E-02	--	7.27E-02			
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.76E-05	--	4.76E-05			
Phenol	--	--	--	--	--	Body Weight	--	--	1.31E-10	--	1.31E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.55E-04	--	1.55E-04			
Pyrene	--	--	--	--	--	Kidney	--	--	4.62E-05	--	4.62E-05			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	6.26E-05	--	6.26E-05			

TABLE H2-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	--	--	--	--	--	--	--
			Silver	--	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	1.07E-12	--	1.07E-12	--	Liver	--	--	2.39E-04	--	2.39E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	--	CNS	--	--	1.95E-08	--	1.95E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.22E-07	0.00E+00	2.22E-07	--	--	0.00E+00	0.00E+00	1.33E-01	0.00E+00	1.33E-01
		Exposure Point Total						2.22E-07							1.33E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	3.23E-01	--	3.23E-01
			1,2,4-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	1.10E+00	--	1.10E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.91E-02	--	6.91E-02
			1,2-Dichlorobenzene	--	--	--	--	--	--	Body Weight	--	--	1.08E-01	--	1.08E-01
			1,2-Dichloropropane	--	--	3.73E-09	--	3.73E-09	--	Nasal	--	--	7.48E-04	--	7.48E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.21E-02	--	2.21E-02
			1,3-Dichlorobenzene	--	--	--	--	--	--	Kidney/Liver	--	--	8.69E-03	--	8.69E-03
			1,4-Dichlorobenzene	--	--	2.28E-06	--	2.28E-06	--	Liver	--	--	7.01E-03	--	7.01E-03
			2-Methylnaphthalene	--	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-03	--	3.50E-03
			4,4'-DDE	--	--	4.72E-12	--	4.72E-12	--	Liver	--	--	4.32E-07	--	4.32E-07
			Acenaphthene	--	--	--	--	--	--	Liver	--	--	1.01E-03	--	1.01E-03
			Acenaphthylene	--	--	--	--	--	--	Liver	--	--	2.60E-05	--	2.60E-05
			Aldrin	--	--	6.26E-10	--	6.26E-10	--	Liver	--	--	1.91E-05	--	1.91E-05
			alpha-BHC	--	--	1.58E-09	--	1.58E-09	--	Liver/Kidney	--	--	7.68E-06	--	7.68E-06
			alpha-Chlordane	--	--	4.34E-11	--	4.34E-11	--	Liver	--	--	9.65E-06	--	9.65E-06
			Anthracene	--	--	--	--	--	--	No Observed Effect	--	--	5.31E-05	--	5.31E-05
			Benzo(b)fluoranthene	--	--	5.27E-09	--	5.27E-09	--	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	--	CNS	--	--	2.84E-07	--	2.84E-07
			Chlorobenzene	--	--	--	--	--	--	Liver	--	--	1.53E-03	--	1.53E-03
			Chrysene	--	--	2.97E-10	--	2.97E-10	--	--	--	--	--	--	--
			Delta-BHC	--	--	7.84E-09	--	7.84E-09	--	Liver/Kidney	--	--	3.28E-04	--	3.28E-04
			Dibenzofuran	--	--	--	--	--	--	Kidney	--	--	4.22E-04	--	4.22E-04
			Dieldrin	--	--	1.92E-08	--	1.92E-08	--	Liver	--	--	3.73E-04	--	3.73E-04
			Endosulfan I	--	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.28E-05	--	1.28E-05
			Endosulfan II	--	--	--	--	--	--	Body Weight/Kidney	--	--	1.30E-05	--	1.30E-05
			Endosulfan Sulfate	--	--	--	--	--	--	Body weight/Kidney/CNS	--	--	2.40E-05	--	2.40E-05
			fluoranthene	--	--	--	--	--	--	Kidney/Liver/Blood	--	--	4.37E-06	--	4.37E-06
			Fluorene	--	--	--	--	--	--	Blood	--	--	2.39E-04	--	2.39E-04
			gamma-BHC (Lindane)	--	--	1.70E-09	--	1.70E-09	--	Liver/Kidney	--	--	6.78E-05	--	6.78E-05
			gamma-Chlordane	--	--	7.91E-13	--	7.91E-13	--	Liver	--	--	1.76E-07	--	1.76E-07
			Heptachlor	--	--	1.13E-09	--	1.13E-09	--	Liver	--	--	7.73E-06	--	7.73E-06
			Methoxychlor	--	--	--	--	--	--	Developmental	--	--	2.11E-06	--	2.11E-06
			Methylene Chloride	--	--	5.85E-11	--	5.85E-11	--	Liver	--	--	6.84E-07	--	6.84E-07

TABLE H2-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.65E+00	--	2.65E+00
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	6.80E-04	--	6.80E-04
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.37E-04	--	2.37E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	4.72E-05	--	4.72E-05
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.06E-04	--	2.06E-04
			Technical Chlordane	--	--	3.37E-12	--	3.37E-12	Liver	--	--	7.48E-04	--	7.48E-04
			Toluene	--	--	--	--	--	CNS	--	--	7.13E-08	--	7.13E-08
		Chemical Total	0.00E+00	0.00E+00	2.32E-06	0.00E+00	2.32E-06		0.00E+00	0.00E+00	4.30E+00	0.00E+00	4.30E+00	
		Exposure Point Total					2.32E-06						4.30E+00	
		Exposure Medium Total					2.54E-06						4.43E+00	
Medium Total							3.71E-06						4.60E+00	
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	2.70E-07	--	2.70E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.56E-06	--	6.56E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.29E-06	--	1.29E-06
			1,2-Dichloroethane	--	--	3.10E-10	--	3.10E-10	Liver/Kidney/CNS	--	--	3.79E-05	--	3.79E-05
			1,2-Dichloropropane	--	--	8.69E-11	--	8.69E-11	Nasal	--	--	1.74E-05	--	1.74E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.74E-06	--	3.74E-06
			1,4-Dichlorobenzene	--	--	3.55E-11	--	3.55E-11	Liver	--	--	1.09E-07	--	1.09E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	6.79E-10	--	6.79E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.72E-09	--	1.72E-09
			4,4'-DDE	--	--	2.52E-12	--	2.52E-12	Liver	--	--	2.31E-07	--	2.31E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	4.19E-10	--	4.19E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.76E-08	--	5.76E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.45E-09	--	2.45E-09
			Aldrin	--	--	2.18E-10	--	2.18E-10	Liver	--	--	6.64E-06	--	6.64E-06
			alpha-BHC	--	--	1.02E-11	--	1.02E-11	Liver/Kidney	--	--	5.05E-08	--	5.05E-08
			alpha-Chlordane	--	--	1.34E-12	--	1.34E-12	Liver	--	--	2.99E-07	--	2.99E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.76E-10	--	9.76E-10
			Benzene	--	--	4.08E-11	--	4.08E-11	Blood	--	--	2.70E-06	--	2.70E-06
			Benzo(b)fluoranthene	--	--	2.04E-12	--	2.04E-12	--	--	--	--	--	--
			Bromoform	--	--	1.62E-13	--	1.62E-13	Liver	--	--	3.28E-08	--	3.28E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	2.01E-06	--	2.01E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	3.84E-07	--	3.84E-07
			Chloroform	--	--	9.54E-10	--	9.54E-10	Liver/Kidney/Respiratory	--	--	1.32E-05	--	1.32E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	2.57E-06	--	2.57E-06
			Chrysene	--	--	5.51E-14	--	5.51E-14	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	4.72E-06	--	4.72E-06
			Dieldrin	--	--	9.01E-11	--	9.01E-11	Liver	--	--	1.75E-06	--	1.75E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.33E-09	--	3.33E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	5.47E-12	--	5.47E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	6.13E-08	--	6.13E-08
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.13E-09	--	1.13E-09			

TABLE H2-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	2.23E-09	--	2.23E-09
			gamma-BHC (Lindane)	--	--	9.26E-15	--	9.26E-15	Liver/Kidney	--	--	3.69E-10	--	3.69E-10
			gamma-Chlordane	--	--	3.49E-12	--	3.49E-12	Liver	--	--	7.75E-07	--	7.75E-07
			Heptachlor	--	--	4.66E-10	--	4.66E-10	Liver	--	--	3.18E-06	--	3.18E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.78E-05	--	2.78E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	2.13E-06	--	2.13E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	5.82E-08	--	5.82E-08
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	5.65E-07	--	5.65E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	2.63E-05	--	2.63E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	6.28E-07	--	6.28E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	7.78E-10	--	7.78E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.78E-05	--	2.78E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	1.37E-09	--	1.37E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.78E-06	--	1.78E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	2.02E-06	--	2.02E-06
			Toluene	--	--	--	--	--	CNS	--	--	2.37E-08	--	2.37E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.99E-06	--	3.99E-06
			Trichloroethene	--	--	2.14E-09	--	2.14E-09	CNS/Liver/Endocrine	--	--	8.31E-06	--	8.31E-06
Vinyl chloride	--	--	3.43E-10	--	3.43E-10	Liver	--	--	6.01E-06	--	6.01E-06			
			Chemical Total	0.00E+00	0.00E+00	4.70E-09	0.00E+00	4.70E-09		0.00E+00	0.00E+00	2.13E-04	0.00E+00	2.13E-04
Exposure Point Total														
Exposure Medium Total														
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)		1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	3.81E-05	--	3.81E-05
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.40E-04	--	1.40E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.70E-05	--	2.70E-05
			1,2-Dichloroethane	--	--	6.81E-09	--	6.81E-09	Liver/Kidney/CNS	--	--	8.31E-04	--	8.31E-04
			1,2-Dichloropropane	--	--	2.04E-09	--	2.04E-09	Nasal	--	--	4.09E-04	--	4.09E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.99E-05	--	7.99E-05
			1,4-Dichlorobenzene	--	--	7.55E-10	--	7.55E-10	Liver	--	--	2.32E-06	--	2.32E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.59E-08	--	1.59E-08
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.16E-08	--	3.16E-08
			4,4'-DDE	--	--	9.62E-14	--	9.62E-14	Liver	--	--	8.80E-09	--	8.80E-09
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.58E-09	--	9.58E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.19E-06	--	1.19E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.08E-08	--	5.08E-08
			Aldrin	--	--	1.02E-11	--	1.02E-11	Liver	--	--	3.11E-07	--	3.11E-07
			alpha-BHC	--	--	5.01E-13	--	5.01E-13	Liver/Kidney	--	--	2.48E-09	--	2.48E-09
			alpha-Chlordane	--	--	1.68E-13	--	1.68E-13	Liver	--	--	3.73E-08	--	3.73E-08
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.02E-08	--	2.02E-08
			Benzene	--	--	9.52E-10	--	9.52E-10	Blood	--	--	6.31E-05	--	6.31E-05
			Benzo(b)fluoranthene	--	--	3.58E-11	--	3.58E-11	--	--	--	--	--	--
			Bromoform	--	--	4.62E-12	--	4.62E-12	Liver	--	--	9.33E-07	--	9.33E-07

TABLE H2-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	--	--	--	--	--	CNS	--	--	4.75E-05	--	4.75E-05
			Chlorobenzene	--	--	--	--	--	Liver	--	--	8.63E-06	--	8.63E-06
			Chloroform	--	--	2.19E-08	--	2.19E-08	Liver/Kidney/Respiratory	--	--	3.02E-04	--	3.02E-04
			Chloromethane	--	--	--	--	--	CNS	--	--	6.37E-05	--	6.37E-05
			Chrysene	--	--	9.99E-13	--	9.99E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.17E-04	--	1.17E-04
			Dieldrin	--	--	1.48E-12	--	1.48E-12	Liver	--	--	2.88E-08	--	2.88E-08
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.11E-10	--	3.11E-10
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.04E-10	--	1.04E-10
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.35E-06	--	1.35E-06
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.91E-08	--	1.91E-08
			Fluorene	--	--	--	--	--	Blood	--	--	4.85E-08	--	4.85E-08
			gamma-BHC (Lindane)	--	--	1.40E-13	--	1.40E-13	Liver/Kidney	--	--	5.57E-09	--	5.57E-09
			gamma-Chlordane	--	--	8.13E-14	--	8.13E-14	Liver	--	--	1.81E-08	--	1.81E-08
			Heptachlor	--	--	7.67E-12	--	7.67E-12	Liver	--	--	5.24E-08	--	5.24E-08
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	5.57E-04	--	5.57E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	4.73E-05	--	4.73E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	9.65E-10	--	9.65E-10
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.17E-05	--	1.17E-05
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	5.62E-04	--	5.62E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.36E-05	--	1.36E-05
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.65E-08	--	1.65E-08
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	5.57E-04	--	5.57E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	2.20E-08	--	2.20E-08
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	4.85E-07	--	4.85E-07
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	4.83E-05	--	4.83E-05
			Toluene	--	--	--	--	--	CNS	--	--	5.20E-08	--	5.20E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.03E-04	--	1.03E-04
			Trichloroethene	--	--	5.00E-08	--	5.00E-08	CNS/Liver/Endocrine	--	--	1.95E-04	--	1.95E-04
			Vinyl chloride	--	--	8.84E-09	--	8.84E-09	Liver	--	--	1.55E-04	--	1.55E-04
			Chemical Total	0.00E+00	0.00E+00	9.14E-08	0.00E+00	9.14E-08		0.00E+00	0.00E+00	4.38E-03	0.00E+00	4.38E-03
			Exposure Point Total					9.14E-08						4.38E-03
			Exposure Medium Total					9.14E-08						4.38E-03
			Medium Total					9.14E-08						4.38E-03
			Receptor Total					3.80E-06						4.60E+00

**TABLE H2-8.2**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:**
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	7.85E-02
Total Organ 2 (Kidney) HI Across All Media =	1.50E+00
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	1.15E-01
Total Organ 5 (Endocrine) HI Across All Media =	2.03E-04
Total Organ 6 (Blood) HI Across All Media =	1.08E-01
Total Organ 7 (Adrenal) HI Across All Media =	2.94E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	9.96E-04
Total Organ 9 (Skin) HI Across All Media =	1.42E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	7.45E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	5.47E-02
Total Organ 12 (Body Weight) HI Across All Media =	1.20E-01
Total Organ 13 (Developmental) HI Across All Media =	4.91E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	2.83E+00
Total Organ 15 (Whole Body) HI Across All Media =	4.15E-03
Total Organ 16 (Immune System) HI Across All Media =	5.50E-02
Total Organ 17 (Organ Weight) HI Across All Media =	1.47E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	5.47E-02
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.40E-03

**TABLE H2-8.3**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	5.28E-05	1.74E-05	--	--	7.03E-05
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.80E-04	5.93E-06	--	--	1.86E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	3.52E-06	1.16E-07	--	--	3.64E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.02E-04	3.36E-06	--	--	1.05E-04
			1,2-Dichloropropane	1.23E-12	4.07E-14	--	--	1.27E-12	Nasal	1.11E-06	3.67E-08	--	--	1.15E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.13E-06	3.72E-08	--	--	1.16E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.29E-05	4.26E-07	--	--	1.33E-05
			1,4-Dichlorobenzene	8.21E-10	--	--	--	8.21E-10	Organ Weight	7.98E-05	--	--	--	7.98E-05
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	3.70E-06	1.22E-07	--	--	3.82E-06
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	5.71E-07	1.88E-07	--	--	7.59E-07
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	1.47E-04	4.86E-06	--	--	1.52E-04
			4,4'-DDD	1.45E-12	4.78E-14	--	--	1.50E-12	Liver	8.45E-07	2.79E-08	--	--	8.73E-07
			4,4'-DDE	1.41E-10	4.65E-12	--	--	1.45E-10	Liver	5.80E-05	1.91E-06	--	--	5.99E-05
			4,4'-DDT	7.61E-11	7.54E-12	--	--	8.37E-11	Liver	3.13E-05	3.10E-06	--	--	3.44E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.90E-05	6.28E-06	--	--	2.53E-05
			4-Nitroaniline	6.55E-11	2.16E-11	--	--	8.71E-11	--	7.28E-05	2.40E-05	--	--	9.68E-05
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.96E-04	9.76E-05	--	--	3.94E-04
			Acenaphthene	--	--	--	--	--	Liver	2.49E-05	1.07E-05	--	--	3.55E-05
			Acenaphthylene	--	--	--	--	--	Liver	6.12E-07	2.02E-08	--	--	6.32E-07
			Aldrin	1.11E-09	3.67E-10	--	--	1.48E-09	Liver	1.53E-04	5.04E-05	--	--	2.03E-04
			alpha-BHC	2.31E-11	7.64E-13	--	--	2.39E-11	Liver/Kidney	5.14E-07	1.70E-08	--	--	5.31E-07
			alpha-Chlordane	1.43E-11	--	--	--	1.43E-11	Liver	5.74E-06	--	--	--	5.74E-06
			Aluminum	--	--	--	--	--	CNS	3.11E-03	1.03E-05	--	--	3.12E-03
			Anthracene	--	--	--	--	--	No observed effect	1.24E-06	5.31E-07	--	--	1.77E-06
			Antimony	--	--	--	--	--	Whole body/Blood	3.59E-03	1.19E-05	--	--	3.60E-03
			Aroclor-1248	1.21E-08	5.58E-09	--	--	1.77E-08	Immune System/ Eye/Finger and Toe Nails	2.11E-02	9.76E-03	--	--	3.09E-02
			Aroclor-1254	4.47E-09	2.06E-09	--	--	6.53E-09	Immune System/ Eye/Finger and Toe Nails	7.82E-03	3.61E-03	--	--	1.14E-02
			Aroclor-1260	5.45E-09	2.52E-09	--	--	7.97E-09	Immune System/ Eye/Finger and Toe Nails	9.53E-03	4.41E-03	--	--	1.39E-02
			Aroclor-1268	2.79E-10	1.29E-10	--	--	4.08E-10	Immune System/ Eye/Finger and Toe Nails	4.89E-04	2.26E-04	--	--	7.15E-04
			Arsenic	4.65E-08	4.61E-09	--	--	5.12E-08	Skin	7.24E-03	7.17E-04	--	--	7.96E-03
			Barium	--	--	--	--	--	Kidney	3.41E-04	1.13E-06	--	--	3.42E-04
			Benzo(a)anthracene	1.84E-08	7.89E-09	--	--	2.63E-08	--	--	--	--	--	--
			Benzo(a)pyrene	6.12E-08	2.62E-08	--	--	8.74E-08	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.01E-08	4.32E-09	--	--	1.44E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	8.97E-06	3.85E-06	--	--	1.28E-05
			Benzo(k)fluoranthene	1.20E-09	5.14E-10	--	--	1.71E-09	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	4.19E-05	1.38E-07	--	--	4.21E-05
			Beta-BHC	1.99E-11	6.58E-13	--	--	2.06E-11	Kidney/Liver	3.87E-06	1.28E-07	--	--	4.00E-06
			bis(2-ethylhexyl)phthalate	5.52E-10	1.82E-11	--	--	5.70E-10	Liver	1.38E-04	4.55E-06	--	--	1.42E-04
			Cadmium	--	--	--	--	--	Kidney	6.67E-03	2.20E-05	--	--	6.70E-03
			Carbon disulfide	--	--	--	--	--	Developmental	8.45E-10	6.97E-10	--	--	1.54E-09
			Chlorobenzene	--	--	--	--	--	Liver	1.94E-06	6.39E-08	--	--	2.00E-06

TABLE H2-8.3  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	2.61E-05	8.62E-08	--	--	2.62E-05		
			Chrysene	2.09E-10	8.96E-11	--	--	2.98E-10	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.33E-04	4.40E-07	--	--	--	1.34E-04	
			Copper	--	--	--	--	--	GI Tract	5.43E-04	1.79E-06	--	--	--	5.45E-04	
			Delta-BHC	7.61E-11	1.26E-11	--	--	8.86E-11	Liver/Kidney	1.48E-05	2.44E-06	--	--	--	1.72E-05	
			Dibenzo(a,h)anthracene	1.17E-08	5.00E-09	--	--	1.67E-08	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	2.29E-03	7.56E-05	--	--	--	2.37E-03	
			Dieldrin	4.44E-09	1.47E-10	--	--	4.59E-09	Liver	3.88E-04	1.28E-05	--	--	--	4.01E-04	
			Dimethylphthalate	--	--	--	--	--	--	--	1.34E-09	4.42E-11	--	--	--	1.38E-09
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	7.75E-06	2.56E-07	--	--	--	8.01E-06	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.35E-08	2.23E-07	--	--	--	1.57E-08	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.40E-08	2.31E-07	--	--	--	1.63E-08	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	2.52E-06	4.17E-07	--	--	--	2.94E-06	
			Endrin aldehyde	--	--	--	--	--	Liver	4.94E-05	8.15E-06	--	--	--	5.76E-05	
			Endrin Ketone	--	--	--	--	--	Liver	1.17E-05	--	--	--	--	1.17E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	2.33E-04	1.00E-04	--	--	--	3.34E-04	
			Fluorene	--	--	--	--	--	Blood	2.57E-05	1.10E-05	--	--	--	3.67E-05	
			gamma-BHC (Lindane)	1.70E-11	2.25E-12	--	--	1.93E-11	Liver/Kidney	3.05E-06	4.03E-07	--	--	--	3.46E-06	
			gamma-Chlordane	2.31E-11	--	--	--	2.31E-11	Liver	9.23E-06	--	--	--	--	9.23E-06	
			Heptachlor	1.56E-10	5.16E-12	--	--	1.61E-10	Liver	4.86E-06	1.60E-07	--	--	--	5.02E-06	
			Heptachlor Epoxide	5.11E-10	1.69E-11	--	--	5.26E-10	Liver	3.02E-04	9.97E-06	--	--	--	3.12E-04	
			Indeno(1,2,3-cd)pyrene	3.21E-09	1.38E-09	--	--	4.58E-09	--	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	4.78E-02	1.58E-04	--	--	--	4.80E-02	
			Isophorone	9.56E-13	3.16E-13	--	--	1.27E-12	No observed effect	3.52E-07	1.16E-07	--	--	--	4.68E-07	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	4.86E-03	1.60E-05	--	--	--	4.87E-03	
			Mercury	--	--	--	--	--	Immune System	3.63E-04	--	--	--	--	3.63E-04	
			Methoxychlor	--	--	--	--	--	Developmental	8.45E-06	2.79E-07	--	--	--	8.73E-06	
			Molybdenum	--	--	--	--	--	Blood	1.76E-04	5.62E-07	--	--	--	1.77E-04	
			Naphthalene	--	--	--	--	--	Whole Body	2.29E-04	9.82E-05	--	--	--	3.27E-04	
			Nickel	--	--	--	--	--	Whole Body	6.89E-04	2.27E-06	--	--	--	6.91E-04	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.63E-05	5.39E-07	--	--	--	1.69E-05	
			Phenol	--	--	--	--	--	Whole Body	6.81E-07	2.25E-07	--	--	--	9.06E-07	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.87E-07	--	--	--	--	3.87E-07	
			Pyrene	--	--	--	--	--	Kidney	2.84E-04	1.22E-04	--	--	--	4.05E-04	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	6.25E-07	--	--	--	--	6.25E-07	
			Selenium	--	--	--	--	--	Whole Body	1.58E-05	5.22E-08	--	--	--	1.59E-05	
			Silver	--	--	--	--	--	Skin	8.16E-05	2.69E-07	--	--	--	8.19E-05	
			Technical Chlordane	9.71E-10	1.28E-10	--	--	1.10E-09	Liver	3.88E-04	5.12E-05	--	--	--	4.39E-04	
			Thallium	--	--	--	--	--	Blood	2.65E-03	--	--	--	--	2.65E-03	
Toluene	--	--	--	--	--	Liver/Kidney	1.89E-09	6.25E-11	--	--	--	1.96E-09				
Vanadium	--	--	--	--	--	Kidney	1.20E-02	3.97E-05	--	--	--	1.21E-02				

TABLE H2-8.3  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	5.32E-04	1.76E-06	--	--	5.34E-04
		Exposure Point Total	Chemical Total	1.84E-07	6.11E-08	0.00E+00	0.00E+00	2.45E-07		1.36E-01	1.97E-02	0.00E+00	0.00E+00	1.55E-01
Exposure Medium Total				2.45E-07					1.55E-01					
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	3.48E-03	--	3.48E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.18E-02	--	1.18E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.50E-03	--	2.50E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	3.42E-03	--	3.42E-03
			1,2-Dichloropropane	--	--	1.02E-10	--	1.02E-10	Nasal	--	--	9.20E-05	--	9.20E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.81E-04	--	7.81E-04
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.99E-04	--	1.99E-04
			1,4-Dichlorobenzene	--	--	1.80E-08	--	1.80E-08	Liver	--	--	2.49E-04	--	2.49E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	5.85E-10	--	5.85E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.42E-05	--	5.42E-05
			4,4'-DDD	--	--	2.29E-16	--	2.29E-16	Liver	--	--	1.34E-10	--	1.34E-10
			4,4'-DDE	--	--	1.73E-12	--	1.73E-12	Liver	--	--	7.11E-07	--	7.11E-07
			4,4'-DDT	--	--	1.20E-14	--	1.20E-14	Liver	--	--	4.95E-09	--	4.95E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	3.01E-09	--	3.01E-09
			4-Nitroaniline	--	--	1.04E-14	--	1.04E-14	--	--	--	3.45E-08	--	3.45E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	4.10E-08	--	4.10E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.55E-05	--	3.55E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	8.73E-07	--	8.73E-07
			Aldrin	--	--	5.01E-11	--	5.01E-11	Liver	--	--	6.88E-06	--	6.88E-06
			alpha-BHC	--	--	1.20E-11	--	1.20E-11	Liver/Kidney	--	--	2.67E-07	--	2.67E-07
			alpha-Chlordane	--	--	1.48E-12	--	1.48E-12	Liver	--	--	1.48E-06	--	1.48E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	3.44E-04	--	3.44E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.77E-06	--	1.77E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	1.91E-12	--	1.91E-12	Immune System/Eye/Finger and Toe Nails	--	--	3.34E-06	--	3.34E-06
			Aroclor-1254	--	--	7.06E-13	--	7.06E-13	Immune System/Eye/Finger and Toe Nails	--	--	1.24E-06	--	1.24E-06
			Aroclor-1260	--	--	8.61E-13	--	8.61E-13	Immune System/Eye/Finger and Toe Nails	--	--	1.51E-06	--	1.51E-06
			Aroclor-1268	--	--	4.42E-14	--	4.42E-14	Immune System/Eye/Finger and Toe Nails	--	--	7.73E-08	--	7.73E-08
			Arsenic	--	--	7.36E-11	--	7.36E-11	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	2.70E-05	--	2.70E-05
			Benzo(a)anthracene	--	--	2.91E-12	--	2.91E-12	--	--	--	--	--	--
Benzo(a)pyrene	--	--	9.67E-12	--	9.67E-12	--	--	--	--	--	--			
Benzo(b)fluoranthene	--	--	6.76E-10	--	6.76E-10	--	--	--	--	--	--			
Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.42E-09	--	1.42E-09			
Benzo(k)fluoranthene	--	--	1.89E-13	--	1.89E-13	--	--	--	--	--	--			
Beryllium	--	--	1.59E-12	--	1.59E-12	Immune System/Lung	--	--	2.32E-06	--	2.32E-06			
Beta-BHC	--	--	3.25E-15	--	3.25E-15	Liver/Kidney	--	--	6.12E-10	--	6.12E-10			

TABLE H2-8.3

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	8.72E-14	--	8.72E-14	Liver	--	--	2.18E-08	--	2.18E-08		
			Cadmium	--	--	4.75E-11	--	4.75E-11	--	--	--	--	--	--		
			Carbon disulfide	--	--	--	--	--	CNS	--	--	8.29E-08	--	--	8.29E-08	
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.12E-04	--	--	1.12E-04	
			Chromium	--	--	--	--	--	--	--	--	--	--	--	--	
			Chrysene	--	--	2.39E-11	--	2.39E-11	--	--	--	--	--	--	--	
			Cobalt	--	--	5.90E-11	--	5.90E-11	Respiratory System	--	--	7.38E-05	--	--	--	7.38E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	4.06E-11	--	4.06E-11	Liver/Kidney	--	--	7.67E-06	--	--	--	7.67E-06
			Dibenzo(a,h)anthracene	--	--	1.84E-12	--	1.84E-12	--	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	8.22E-04	--	--	--	8.22E-04
			Dieldrin	--	--	6.21E-10	--	6.21E-10	Liver	--	--	5.43E-05	--	--	--	5.43E-05
			Dimethylphthalate	--	--	--	--	--	--	--	--	2.12E-13	--	--	--	2.12E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.22E-09	--	--	--	1.22E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.92E-07	--	--	--	4.92E-07
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	5.09E-07	--	--	--	5.09E-07
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	9.20E-07	--	--	--	9.20E-07
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	7.81E-09	--	--	--	7.81E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.86E-09	--	--	--	1.86E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.57E-05	--	--	--	1.57E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.56E-05	--	--	--	1.56E-05
			gamma-BHC (Lindane)	--	--	1.08E-11	--	1.08E-11	Liver/Kidney	--	--	1.95E-06	--	--	--	1.95E-06
			gamma-Chlordane	--	--	2.38E-12	--	2.38E-12	Liver	--	--	2.38E-06	--	--	--	2.38E-06
			Heptachlor	--	--	8.05E-10	--	8.05E-10	Liver	--	--	2.48E-05	--	--	--	2.48E-05
			Heptachlor Epoxide	--	--	8.07E-14	--	8.07E-14	Liver	--	--	4.78E-08	--	--	--	4.78E-08
			Indeno(1,2,3-cd)pyrene	--	--	5.07E-13	--	5.07E-13	--	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	1.51E-16	--	1.51E-16	No observed effect	--	--	5.57E-11	--	--	--	5.57E-11
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.29E-03	--	--	--	1.29E-03
			Mercury	--	--	--	--	--	CNS	--	--	2.00E-07	--	--	--	2.00E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	6.33E-07	--	--	--	6.33E-07
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.99E-02	--	--	--	2.99E-02
Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.33E-05	--	--	--	2.33E-05			
Phenol	--	--	--	--	--	Body Weight	--	--	1.08E-10	--	--	--	1.08E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	6.38E-05	--	--	--	6.38E-05			
Pyrene	--	--	--	--	--	Kidney	--	--	2.26E-05	--	--	--	2.26E-05			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.57E-05	--	--	--	2.57E-05			
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--	--	--			

TABLE H2-8.3  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	9.99E-14	--	9.99E-14	Liver	--	--	9.99E-05	--	9.99E-05
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	8.01E-09	--	8.01E-09
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.05E-08	0.00E+00	2.05E-08		0.00E+00	0.00E+00	5.56E-02	0.00E+00	5.56E-02
			Exposure Point Total					2.05E-08						5.56E-02
			Exposure Medium Total					2.05E-08						5.56E-02
			Medium Total					2.65E-07						2.11E-01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.11E-07	--	1.11E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.70E-06	--	2.70E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	5.32E-07	--	5.32E-07
			1,2-Dichloroethane	--	--	2.83E-11	--	2.83E-11	Liver/Kidney/CNS	--	--	1.56E-05	--	1.56E-05
			1,2-Dichloropropane	--	--	7.94E-12	--	7.94E-12	Nasal	--	--	7.17E-06	--	7.17E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.54E-06	--	1.54E-06
			1,4-Dichlorobenzene	--	--	3.24E-12	--	3.24E-12	Liver	--	--	4.49E-08	--	4.49E-08
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.79E-10	--	2.79E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	7.09E-10	--	7.09E-10
			4,4'-DDE	--	--	2.30E-13	--	2.30E-13	Liver	--	--	9.48E-08	--	9.48E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.72E-10	--	1.72E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.37E-08	--	2.37E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.01E-09	--	1.01E-09
			Aldrin	--	--	1.99E-11	--	1.99E-11	Liver	--	--	2.73E-06	--	2.73E-06
			alpha-BHC	--	--	9.34E-13	--	9.34E-13	Liver/Kidney	--	--	2.07E-08	--	2.07E-08
			alpha-Chlordane	--	--	1.23E-13	--	1.23E-13	Liver	--	--	1.23E-07	--	1.23E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	4.01E-10	--	4.01E-10
			Benzene	--	--	3.73E-12	--	3.73E-12	Blood	--	--	1.11E-06	--	1.11E-06
			Benzo(b)fluoranthene	--	--	1.86E-13	--	1.86E-13	--	--	--	--	--	--
			Bromoform	--	--	1.48E-14	--	1.48E-14	Liver	--	--	1.35E-08	--	1.35E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	8.25E-07	--	8.25E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.58E-07	--	1.58E-07
			Chloroform	--	--	8.71E-11	--	8.71E-11	Liver/Kidney/Respiratory	--	--	5.41E-06	--	5.41E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	1.06E-06	--	1.06E-06
			Chrysene	--	--	5.03E-15	--	5.03E-15	--	--	--	--	--	--
			cis-1,2-Dichloroethane	--	--	--	--	--	Blood	--	--	1.94E-06	--	1.94E-06
			Dieldrin	--	--	8.23E-12	--	8.23E-12	Liver	--	--	7.20E-07	--	7.20E-07
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.37E-09	--	1.37E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.25E-12	--	2.25E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	2.52E-08	--	2.52E-08
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	4.63E-10	--	4.63E-10			
Fluorene	--	--	--	--	--	Blood	--	--	9.15E-10	--	9.15E-10			
gamma-BHC (Lindane)	--	--	8.45E-16	--	8.45E-16	Liver/Kidney	--	--	1.52E-10	--	1.52E-10			

TABLE H2-8.3

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	3.19E-13	--	3.19E-13	Liver	--	--	3.19E-07	--	3.19E-07
			Heptachlor	--	--	4.25E-11	--	4.25E-11	Liver	--	--	1.31E-06	--	1.31E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.14E-05	--	1.14E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	8.77E-07	--	8.77E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.39E-08	--	2.39E-08
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.32E-07	--	2.32E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.08E-05	--	1.08E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.58E-07	--	2.58E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.20E-10	--	3.20E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.14E-05	--	1.14E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	5.63E-10	--	5.63E-10
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	7.34E-07	--	7.34E-07
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	8.32E-07	--	8.32E-07
			Toluene	--	--	--	--	--	CNS	--	--	9.74E-09	--	9.74E-09
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.64E-06	--	1.64E-06
			Trichloroethene	--	--	1.95E-10	--	1.95E-10	CNS/Liver/Endocrine	--	--	3.41E-06	--	3.41E-06
			Vinyl chloride	--	--	3.13E-11	--	3.13E-11	Liver	--	--	2.47E-06	--	2.47E-06
			Chemical Total	0.00E+00	0.00E+00	4.29E-10	0.00E+00	4.29E-10		0.00E+00	0.00E+00	8.77E-05	8.77E-05	
			Exposure Point Total					4.29E-10					8.77E-05	
			Exposure Medium Total					4.29E-10					8.77E-05	
Medium Total								4.29E-10					8.77E-05	
Receptor Total								2.66E-07					2.11E-01	

- Notes:
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	5.13E-02
Total Organ 2 (Kidney) HI Across All Media =	3.92E-02
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	1.27E-02
Total Organ 5 (Endocrine) HI Across All Media =	3.41E-06
Total Organ 6 (Blood) HI Across All Media =	1.12E-02
Total Organ 7 (Adrenal) HI Across All Media =	2.56E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.76E-04
Total Organ 9 (Skin) HI Across All Media =	8.04E-03
Total Organ 10 (Gastrointestinal System) HI Across All Media =	5.87E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	5.70E-02
Total Organ 12 (Body Weight) HI Across All Media =	3.49E-03
Total Organ 13 (Developmental) HI Across All Media =	3.64E-05
Total Organ 14 (Respiratory/Lung) HI Across All Media =	3.38E-02
Total Organ 15 (Whole Body) HI Across All Media =	4.68E-03
Total Organ 16 (Immune System) HI Across All Media =	5.74E-02
Total Organ 17 (Organ Weight) HI Across All Media =	8.07E-05
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	5.70E-02
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.00E-04

TABLE H2-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	5.28E-05	1.74E-05	--	--	7.03E-05
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.80E-04	5.93E-06	--	--	1.86E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	3.52E-06	1.16E-07	--	--	3.64E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.02E-04	3.36E-06	--	--	1.05E-04
			1,2-Dichloropropane	1.23E-12	4.07E-14	--	--	1.27E-12	Nasal	1.11E-06	3.67E-08	--	--	1.15E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.13E-06	3.72E-08	--	--	1.16E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.29E-05	4.26E-07	--	--	1.33E-05
			1,4-Dichlorobenzene	8.21E-10	--	--	--	8.21E-10	Organ Weight	7.98E-05	--	--	--	7.98E-05
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	3.70E-06	1.22E-07	--	--	3.82E-06
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	5.71E-07	1.88E-07	--	--	7.59E-07
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	1.28E-04	4.21E-06	--	--	1.32E-04
			4,4'-DDD	1.45E-12	4.78E-14	--	--	1.50E-12	Liver	8.45E-07	2.79E-08	--	--	8.73E-07
			4,4'-DDE	1.28E-10	4.23E-12	--	--	1.33E-10	Liver	5.28E-05	1.74E-06	--	--	5.46E-05
			4,4'-DDT	7.18E-11	7.11E-12	--	--	7.90E-11	Liver	2.96E-05	2.93E-06	--	--	3.25E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.90E-05	6.28E-06	--	--	2.53E-05
			4-Nitroaniline	6.55E-11	2.16E-11	--	--	8.71E-11	--	7.28E-05	2.40E-05	--	--	9.68E-05
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.96E-04	9.76E-05	--	--	3.94E-04
			Acenaphthene	--	--	--	--	--	Liver	2.04E-05	8.74E-06	--	--	2.91E-05
			Acenaphthylene	--	--	--	--	--	Liver	5.26E-07	1.74E-08	--	--	5.43E-07
			Aldrin	1.11E-09	3.67E-10	--	--	1.48E-09	Liver	1.53E-04	5.04E-05	--	--	2.03E-04
			alpha-BHC	2.31E-11	7.64E-13	--	--	2.39E-11	Liver/Kidney	5.14E-07	1.70E-08	--	--	5.31E-07
			alpha-Chlordane	1.23E-11	--	--	--	1.23E-11	Liver	4.92E-06	--	--	--	4.92E-06
			Aluminum	--	--	--	--	--	CNS	3.19E-03	1.05E-05	--	--	3.20E-03
			Anthracene	--	--	--	--	--	No observed effect	1.07E-06	4.60E-07	--	--	1.53E-06
			Antimony	--	--	--	--	--	Whole body/Blood	2.40E-03	7.92E-06	--	--	2.41E-03
			Aroclor-1248	1.21E-08	5.58E-09	--	--	1.77E-08	Immune System/ Eye/Finger and Toe Nails	2.11E-02	9.76E-03	--	--	3.09E-02
			Aroclor-1254	4.40E-09	2.03E-09	--	--	6.44E-09	Immune System/ Eye/Finger and Toe Nails	7.71E-03	3.56E-03	--	--	1.13E-02
			Aroclor-1260	4.91E-09	2.27E-09	--	--	7.18E-09	Immune System/ Eye/Finger and Toe Nails	8.60E-03	3.97E-03	--	--	1.26E-02
			Aroclor-1268	2.74E-10	1.26E-10	--	--	4.00E-10	Immune System/ Eye/Finger and Toe Nails	4.79E-04	2.21E-04	--	--	7.00E-04
			Arsenic	7.20E-08	7.12E-09	--	--	7.91E-08	Skin	1.12E-02	1.11E-03	--	--	1.23E-02
			Barium	--	--	--	--	--	Kidney	3.49E-04	1.15E-06	--	--	3.51E-04
			Benzo(a)anthracene	1.55E-08	6.64E-09	--	--	2.21E-08	--	--	--	--	--	--
			Benzo(a)pyrene	5.16E-08	2.22E-08	--	--	7.38E-08	--	--	--	--	--	--
			Benzo(b)fluoranthene	8.72E-09	3.74E-09	--	--	1.25E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	7.61E-06	3.28E-06	--	--	1.09E-05
			Benzo(k)fluoranthene	1.04E-09	4.45E-10	--	--	1.48E-09	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	4.01E-05	1.32E-07	--	--	4.03E-05
			Beta-BHC	1.99E-11	6.58E-13	--	--	2.06E-11	Kidney/Liver	3.87E-06	1.28E-07	--	--	4.00E-06
			bis(2-ethylhexyl)phthalate	3.73E-10	1.23E-11	--	--	3.85E-10	Liver	9.33E-05	3.08E-06	--	--	9.63E-05
			Cadmium	--	--	--	--	--	Kidney	6.09E-03	2.01E-05	--	--	6.11E-03
			Carbon disulfide	--	--	--	--	--	Developmental	8.45E-10	6.97E-10	--	--	1.54E-09
			Chlorobenzene	--	--	--	--	--	Liver	1.94E-06	6.39E-08	--	--	2.00E-06

TABLE H2-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	2.35E-05	7.75E-08	--	--	2.36E-05		
			Chrysene	1.76E-10	7.56E-11	--	--	2.52E-10	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.31E-04	4.33E-07	--	--	--	1.32E-04	
			Copper	--	--	--	--	--	GI Tract	5.72E-04	1.89E-06	--	--	--	--	5.74E-04
			Delta-BHC	7.61E-11	1.26E-11	--	--	8.88E-11	Liver/Kidney	1.48E-05	2.44E-06	--	--	--	--	1.72E-05
			Dibenzo(a,h)anthracene	1.01E-08	4.34E-09	--	--	1.45E-08	--	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	2.29E-03	7.56E-05	--	--	--	--	2.37E-03
			Diieldrin	3.94E-09	1.30E-10	--	--	4.07E-09	Liver	3.45E-04	1.14E-05	--	--	--	--	3.56E-04
			Dimethylphthalate	--	--	--	--	--	--	--	1.34E-09	4.42E-11	--	--	--	1.38E-09
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	8.10E-06	2.67E-07	--	--	--	--	8.37E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.35E-06	2.23E-07	--	--	--	--	1.57E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.37E-06	2.26E-07	--	--	--	--	1.60E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	2.52E-06	4.17E-07	--	--	--	--	2.94E-06
			Endrin aldehyde	--	--	--	--	--	Liver	7.40E-05	1.22E-05	--	--	--	--	8.62E-05
			Endrin Ketone	--	--	--	--	--	Liver	1.17E-05	--	--	--	--	--	1.17E-05
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	1.96E-04	8.41E-05	--	--	--	--	2.80E-04
			Fluorene	--	--	--	--	--	Blood	2.23E-05	9.55E-06	--	--	--	--	3.18E-05
			gamma-BHC (Lindane)	1.70E-11	2.25E-12	--	--	1.93E-11	Liver/Kidney	3.05E-06	4.03E-07	--	--	--	--	3.46E-06
			gamma-Chlordane	2.24E-11	--	--	--	2.24E-11	Liver	8.95E-06	--	--	--	--	--	8.95E-06
			Heptachlor	1.56E-10	5.16E-12	--	--	1.61E-10	Liver	4.86E-06	1.60E-07	--	--	--	--	5.02E-06
			Heptachlor Epoxide	4.51E-10	1.49E-11	--	--	4.66E-10	Liver	2.67E-04	8.81E-06	--	--	--	--	2.76E-04
			Indeno(1,2,3-cd)pyrene	1.83E-09	7.83E-10	--	--	2.61E-09	--	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	4.32E-02	1.42E-04	--	--	--	--	4.33E-02
			Isophorone	9.56E-13	3.16E-13	--	--	1.27E-12	No observed effect	3.52E-07	1.16E-07	--	--	--	--	4.68E-07
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	4.47E-03	1.47E-05	--	--	--	--	4.48E-03
			Mercury	--	--	--	--	--	Immune System	3.12E-04	--	--	--	--	--	3.12E-04
			Methoxychlor	--	--	--	--	--	Developmental	8.45E-06	2.79E-07	--	--	--	--	8.73E-06
			Methylene chloride	9.06E-14	2.99E-15	--	--	9.36E-14	Liver	1.41E-08	4.65E-10	--	--	--	--	1.46E-08
			Molybdenum	--	--	--	--	--	Blood	1.54E-04	5.07E-07	--	--	--	--	1.54E-04
			Naphthalene	--	--	--	--	--	Whole Body	2.29E-04	9.82E-05	--	--	--	--	3.27E-04
			Nickel	--	--	--	--	--	Whole Body	6.86E-04	2.26E-06	--	--	--	--	6.88E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.37E-05	4.53E-07	--	--	--	--	1.42E-05
			Phenol	--	--	--	--	--	Whole Body	6.81E-07	2.25E-07	--	--	--	--	9.06E-07
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.87E-07	--	--	--	--	--	3.87E-07
Pyrene	--	--	--	--	--	Kidney	2.39E-04	1.02E-04	--	--	--	--	3.41E-04			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	6.25E-07	--	--	--	--	--	6.25E-07			
Selenium	--	--	--	--	--	Whole Body	2.00E-05	6.59E-08	--	--	--	--	2.00E-05			
Silver	--	--	--	--	--	Skin	6.90E-05	2.28E-07	--	--	--	--	6.93E-05			
Technical Chlordane	9.52E-10	1.26E-10	--	--	1.08E-09	Liver	3.81E-04	5.03E-05	--	--	--	--	4.31E-04			
Thallium	--	--	--	--	--	Blood	2.58E-03	--	--	--	--	--	2.58E-03			
Toluene	--	--	--	--	--	Liver/Kidney	1.89E-09	6.25E-11	--	--	--	--	1.96E-09			

TABLE H2-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	-	-	-	-	-	Kidney	1.19E-02	3.92E-05	-	-	1.19E-02
			Zinc	-	-	-	-	-	Blood	3.90E-04	1.29E-06	-	-	3.91E-04
			Chemical Total	1.91E-07	5.60E-08	0.00E+00	0.00E+00	2.47E-07		1.31E-01	1.96E-02	0.00E+00	0.00E+00	1.51E-01
		Exposure Point Total											1.51E-01	
	Exposure Medium Total												1.51E-01	
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	-	-	-	-	-	Kidney	-	-	3.48E-03	-	3.48E-03
			1,2,4-Trichlorobenzene	-	-	-	-	-	Kidney	-	-	1.18E-02	-	1.18E-02
			1,2,4-Trimethylbenzene	-	-	-	-	-	CNS/Blood/Respiratory System	-	-	2.50E-03	-	2.50E-03
			1,2-Dichlorobenzene	-	-	-	-	-	Body Weight	-	-	3.42E-03	-	3.42E-03
			1,2-Dichloropropane	-	-	1.02E-10	-	1.02E-10	Nasal	-	-	9.20E-05	-	9.20E-05
			1,3,5-Trimethylbenzene	-	-	-	-	-	CNS/Blood/Respiratory System	-	-	7.81E-04	-	7.81E-04
			1,3-Dichlorobenzene	-	-	-	-	-	Kidney/Liver	-	-	1.99E-04	-	1.99E-04
			1,4-Dichlorobenzene	-	-	1.80E-08	-	1.80E-08	Liver	-	-	2.49E-04	-	2.49E-04
			2,4-Dimethylphenol	-	-	-	-	-	Blood/Whole Body	-	-	5.85E-10	-	5.85E-10
			2-Methylphenol	-	-	-	-	-	-	-	-	-	-	-
			2-Methylnaphthalene	-	-	-	-	-	CNS/Body Weight	-	-	4.70E-05	-	4.70E-05
			4,4'-DDD	-	-	2.29E-16	-	2.29E-16	Liver	-	-	1.34E-10	-	1.34E-10
			4,4'-DDE	-	-	1.57E-12	-	1.57E-12	Liver	-	-	6.47E-07	-	6.47E-07
			4,4'-DDT	-	-	1.14E-14	-	1.14E-14	Liver	-	-	4.68E-09	-	4.68E-09
			4-Methylphenol	-	-	-	-	-	Whole Body/CNS/Respiratory System	-	-	3.01E-09	-	3.01E-09
			4-Nitroaniline	-	-	1.04E-14	-	1.04E-14	-	-	-	3.45E-08	-	3.45E-08
			4-Nitrophenol	-	-	-	-	-	Blood/Kidney/Liver	-	-	4.10E-08	-	4.10E-08
			Acenaphthene	-	-	-	-	-	Liver	-	-	2.91E-05	-	2.91E-05
			Acenaphthylene	-	-	-	-	-	Liver	-	-	7.51E-07	-	7.51E-07
			Aldrin	-	-	5.01E-11	-	5.01E-11	Liver	-	-	6.88E-06	-	6.88E-06
			alpha-BHC	-	-	1.20E-11	-	1.20E-11	Liver/Kidney	-	-	2.67E-07	-	2.67E-07
			alpha-Chlordane	-	-	1.27E-12	-	1.27E-12	Liver	-	-	1.27E-06	-	1.27E-06
			Aluminum	-	-	-	-	-	Respiratory System	-	-	3.53E-04	-	3.53E-04
			Anthracene	-	-	-	-	-	No Observed Effect	-	-	1.53E-06	-	1.53E-06
			Antimony	-	-	-	-	-	-	-	-	-	-	-
			Aroclor-1248	-	-	1.91E-12	-	1.91E-12	Immune System/Eye/Finger and Toe Nails	-	-	3.34E-06	-	3.34E-06
			Aroclor-1254	-	-	6.96E-13	-	6.96E-13	Immune System/Eye/Finger and Toe Nails	-	-	1.22E-06	-	1.22E-06
			Aroclor-1260	-	-	7.77E-13	-	7.77E-13	Immune System/Eye/Finger and Toe Nails	-	-	1.36E-06	-	1.36E-06
			Aroclor-1268	-	-	4.32E-14	-	4.32E-14	Immune System/Eye/Finger and Toe Nails	-	-	7.57E-08	-	7.57E-08
			Arsenic	-	-	1.14E-10	-	1.14E-10	-	-	-	-	-	-
			Barium	-	-	-	-	-	Developmental	-	-	2.76E-05	-	2.76E-05
			Benzo(a)anthracene	-	-	2.45E-12	-	2.45E-12	-	-	-	-	-	-
			Benzo(a)pyrene	-	-	8.16E-12	-	8.16E-12	-	-	-	-	-	-
			Benzo(b)fluoranthene	-	-	5.86E-10	-	5.86E-10	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	Kidney	-	-	1.20E-09	-	1.20E-09
			Benzo(k)fluoranthene	-	-	1.64E-13	-	1.64E-13	-	-	-	-	-	-
			Beryllium	-	-	1.52E-12	-	1.52E-12	Immune System/Lung	-	-	2.22E-06	-	2.22E-06

TABLE H2-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	3.25E-15	--	3.25E-15	Liver/Kidney	--	--	6.12E-10	--	6.12E-10
			bis(2-ethylhexyl)phthalate	--	--	5.90E-14	--	5.90E-14	Liver	--	--	1.47E-08	--	1.47E-08
			Cadmium	--	--	4.33E-11	--	4.33E-11	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	8.29E-08	--	8.29E-08
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.12E-04	--	1.12E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	2.01E-11	--	2.01E-11	--	--	--	--	--	--
			Cobalt	--	--	5.80E-11	--	5.80E-11	Respiratory System	--	--	7.26E-05	--	7.26E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	4.06E-11	--	4.06E-11	Liver/Kidney	--	--	7.67E-06	--	7.67E-06
			Dibenzo(a,h)anthracene	--	--	1.60E-12	--	1.60E-12	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	8.22E-04	--	8.22E-04
			Dieldrin	--	--	5.51E-10	--	5.51E-10	Liver	--	--	4.82E-05	--	4.82E-05
			Dimethylphthalate	--	--	--	--	--	--	--	--	2.12E-13	--	2.12E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.28E-09	--	1.28E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.92E-07	--	4.92E-07
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	5.00E-07	--	5.00E-07
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	9.20E-07	--	9.20E-07
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.17E-08	--	1.17E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.86E-09	--	1.86E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.32E-05	--	1.32E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.35E-05	--	1.35E-05
			gamma-BHC (Lindane)	--	--	1.08E-11	--	1.08E-11	Liver/Kidney	--	--	1.95E-06	--	1.95E-06
			gamma-Chlordane	--	--	2.30E-12	--	2.30E-12	Liver	--	--	2.30E-06	--	2.30E-06
			Heptachlor	--	--	8.05E-10	--	8.05E-10	Liver	--	--	2.48E-05	--	2.48E-05
			Heptachlor Epoxide	--	--	7.13E-14	--	7.13E-14	Liver	--	--	4.22E-08	--	4.22E-08
			Indeno(1,2,3-cd)pyrene	--	--	2.89E-13	--	2.89E-13	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	1.51E-16	--	1.51E-16	No observed effect	--	--	5.57E-11	--	5.57E-11
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.19E-03	--	1.19E-03
			Mercury	--	--	--	--	--	CNS	--	--	1.72E-07	--	1.72E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	6.33E-07	--	6.33E-07
			Methylene chloride	--	--	--	--	--	Liver	--	--	--	--	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.99E-02	--	2.99E-02
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.96E-05	--	1.96E-05
			Phenol	--	--	--	--	--	Body Weight	--	--	1.08E-10	--	1.08E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	6.38E-05	--	6.38E-05
Pyrene	--	--	--	--	--	Kidney	--	--	1.90E-05	--	1.90E-05			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.57E-05	--	2.57E-05			

TABLE H2-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	--	--	--	--	--	--	--	
			Silver	--	--	--	--	--	--	--	--	--	--	--	--	
			Technical Chlordane	--	--	9.81E-14	--	9.81E-14	Liver	--	--	9.81E-05	--	--	9.81E-05	
			Thallium	--	--	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	8.01E-09	--	--	8.01E-09	
			Vanadium	--	--	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.04E-08	0.00E+00	2.04E-08			0.00E+00	0.00E+00	5.54E-02	5.54E-02		
			Exposure Point Total					2.04E-08						5.54E-02		
			Exposure Medium Total					2.04E-08						5.54E-02		
Medium Total								2.67E-07						2.06E-01		
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.11E-07	--	1.11E-07		
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.70E-06	--	2.70E-06		
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	5.32E-07	--	5.32E-07		
			1,2-Dichloroethane	--	--	2.83E-11	--	2.83E-11	Liver/Kidney/CNS	--	--	1.56E-05	--	1.56E-05		
			1,2-Dichloropropane	--	--	7.94E-12	--	7.94E-12	Nasal	--	--	7.17E-06	--	7.17E-06		
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.54E-06	--	1.54E-06		
			1,4-Dichlorobenzene	--	--	3.24E-12	--	3.24E-12	Liver	--	--	4.49E-08	--	4.49E-08		
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.79E-10	--	2.79E-10		
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	7.09E-10	--	7.09E-10		
			4,4'-DDE	--	--	2.30E-13	--	2.30E-13	Liver	--	--	9.48E-08	--	9.48E-08		
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.72E-10	--	1.72E-10		
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.37E-08	--	2.37E-08		
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.01E-09	--	1.01E-09		
			Aldrin	--	--	1.99E-11	--	1.99E-11	Liver	--	--	2.73E-06	--	2.73E-06		
			alpha-BHC	--	--	9.34E-13	--	9.34E-13	Liver/Kidney	--	--	2.07E-08	--	2.07E-08		
			alpha-Chlordane	--	--	1.23E-13	--	1.23E-13	Liver	--	--	1.23E-07	--	1.23E-07		
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	4.01E-10	--	4.01E-10		
			Benzene	--	--	3.73E-12	--	3.73E-12	Blood	--	--	1.11E-06	--	1.11E-06		
			Benzo(b)fluoranthene	--	--	1.86E-13	--	1.86E-13	--	--	--	--	--	--		
			Bromoform	--	--	1.48E-14	--	1.48E-14	Liver	--	--	1.35E-08	--	1.35E-08		
			Carbon disulfide	--	--	--	--	--	CNS	--	--	8.25E-07	--	8.25E-07		
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.58E-07	--	1.58E-07		
			Chloroform	--	--	8.71E-11	--	8.71E-11	Liver/Kidney/Respiratory	--	--	5.41E-06	--	5.41E-06		
			Chloromethane	--	--	--	--	--	CNS	--	--	1.06E-06	--	1.06E-06		
			Chrysene	--	--	5.03E-15	--	5.03E-15	--	--	--	--	--	--		
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.94E-06	--	1.94E-06		
			Dieldrin	--	--	8.23E-12	--	8.23E-12	Liver	--	--	7.20E-07	--	7.20E-07		
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.37E-09	--	1.37E-09		
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.25E-12	--	2.25E-12		
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	2.52E-08	--	2.52E-08		
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	4.63E-10	--	4.63E-10					

TABLE H2-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	9.15E-10	--	9.15E-10
			gamma-BHC (Lindane)	--	--	8.45E-16	--	8.45E-16	Liver/Kidney	--	--	1.52E-10	--	1.52E-10
			gamma-Chlordane	--	--	3.19E-13	--	3.19E-13	Liver	--	--	3.19E-07	--	3.19E-07
			Heptachlor	--	--	4.25E-11	--	4.25E-11	Liver	--	--	1.31E-06	--	1.31E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.14E-05	--	1.14E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	8.77E-07	--	8.77E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.39E-08	--	2.39E-08
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	2.32E-07	--	2.32E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.08E-05	--	1.08E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.58E-07	--	2.58E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.20E-10	--	3.20E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.14E-05	--	1.14E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	5.63E-10	--	5.63E-10
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	7.34E-07	--	7.34E-07
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	8.32E-07	--	8.32E-07
			Toluene	--	--	--	--	--	CNS	--	--	9.74E-09	--	9.74E-09
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.64E-06	--	1.64E-06
			Trichloroethene	--	--	1.95E-10	--	1.95E-10	CNS/Liver/Endocrine	--	--	3.41E-06	--	3.41E-06
			Vinyl chloride	--	--	3.13E-11	--	3.13E-11	Liver	--	--	2.47E-06	--	2.47E-06
						Chemical Total	0.00E+00	0.00E+00	4.29E-10	0.00E+00	4.29E-10			0.00E+00
		Exposure Point Total						4.29E-10					8.77E-05	
	Exposure Medium Total							4.29E-10					8.77E-05	
Medium Total								4.29E-10					8.77E-05	
Receptor Total						Receptor Risk Total		2.68E-07					Receptor HI Total	2.06E-01

TABLE H2-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.65E-02
Total Organ 2 (Kidney) HI Across All Media =	3.83E-02
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	1.23E-02
Total Organ 5 (Endocrine) HI Across All Media =	3.41E-06
Total Organ 6 (Blood) HI Across All Media =	9.69E-03
Total Organ 7 (Adrenal) HI Across All Media =	2.56E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.66E-04
Total Organ 9 (Skin) HI Across All Media =	1.24E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	6.14E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	5.54E-02
Total Organ 12 (Body Weight) HI Across All Media =	3.48E-03
Total Organ 13 (Developmental) HI Across All Media =	3.70E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	3.38E-02
Total Organ 15 (Whole Body) HI Across All Media =	3.49E-03
Total Organ 16 (Immune System) HI Across All Media =	5.58E-02
Total Organ 17 (Organ Weight) HI Across All Media =	8.07E-05
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	5.54E-02
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.00E-04

TABLE H2-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.03E-04	1.17E-05	--	--	1.14E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	3.49E-04	3.98E-06	--	--	3.53E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	6.85E-06	7.81E-08	--	--	6.93E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.98E-04	2.26E-06	--	--	2.00E-04
			1,2-Dichloropropane	1.68E-11	1.91E-13	--	--	1.70E-11	Nasal	2.16E-08	2.47E-08	--	--	2.19E-08
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.19E-06	2.50E-08	--	--	2.22E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	2.51E-05	2.86E-07	--	--	2.54E-05
			1,4-Dichlorobenzene	1.12E-08	--	--	--	1.12E-08	Organ Weight	1.55E-04	--	--	--	1.55E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	7.19E-06	8.20E-08	--	2.01E-03	2.01E-03
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	1.11E-06	1.26E-07	--	7.37E-04	7.38E-04
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	2.86E-04	3.26E-06	--	--	2.90E-04
			4,4'-DDD	1.97E-11	2.25E-13	--	9.38E-12	2.93E-11	Liver	1.64E-06	1.87E-08	--	7.81E-07	2.44E-06
			4,4'-DDE	1.92E-09	2.19E-11	--	6.60E-10	2.60E-09	Liver	1.13E-04	1.29E-06	--	3.88E-05	1.53E-04
			4,4'-DDT	1.04E-09	3.54E-11	--	1.54E-09	2.61E-09	Liver	6.09E-05	2.08E-06	--	9.05E-05	1.54E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	3.70E-05	4.22E-06	--	2.52E-02	2.53E-02
			4-Nitroaniline	8.92E-10	1.02E-10	--	4.16E-07	4.17E-07	--	1.42E-04	1.61E-05	--	6.81E-02	6.63E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	5.75E-04	6.56E-05	--	4.03E-01	4.04E-01
			Acenaphthene	--	--	--	--	--	Liver	4.83E-05	7.16E-06	--	--	5.55E-05
			Acenaphthylene	--	--	--	--	--	Liver	1.19E-06	1.36E-08	--	--	1.20E-06
			Aldrin	1.51E-08	1.73E-09	--	1.18E-08	2.86E-08	Liver	2.97E-04	3.38E-05	--	2.31E-04	5.62E-04
			alpha-BHC	3.15E-10	3.59E-12	--	5.29E-08	5.32E-08	Liver/Kidney	1.00E-06	1.14E-08	--	1.68E-04	1.69E-04
			alpha-Chlordane	1.95E-10	--	--	3.33E-10	5.29E-10	Liver	1.12E-05	--	--	1.91E-05	3.02E-05
			Aluminum	--	--	--	--	--	CNS	6.04E-03	6.89E-06	--	1.41E-03	7.46E-03
			Anthracene	--	--	--	--	--	No observed effect	2.41E-06	3.57E-07	--	--	2.77E-06
			Antimony	--	--	--	--	--	Whole body/Blood	6.98E-03	7.96E-06	--	7.50E-02	8.20E-02
			Aroclor-1248	1.64E-07	2.62E-08	--	7.84E-08	2.69E-07	Immune System/ Eye/Finger and Toe Nails	4.11E-02	6.56E-03	--	1.96E-02	6.73E-02
			Aroclor-1254	6.08E-08	9.71E-09	--	3.88E-07	4.59E-07	Immune System/ Eye/Finger and Toe Nails	1.52E-02	2.43E-03	--	9.70E-02	1.15E-01
			Aroclor-1260	7.42E-08	1.18E-08	--	1.69E-08	1.03E-07	Immune System/ Eye/Finger and Toe Nails	1.85E-02	2.96E-03	--	4.23E-03	2.57E-02
			Aroclor-1268	3.80E-09	6.07E-10	--	2.43E-08	2.87E-08	Immune System/ Eye/Finger and Toe Nails	9.51E-04	1.52E-04	--	6.07E-03	7.17E-03
			Arsenic	6.34E-07	2.17E-08	--	1.36E-06	2.02E-06	Skin	1.41E-02	4.81E-04	--	3.02E-02	4.48E-02
			Barium	--	--	--	--	--	Kidney	6.64E-04	7.57E-07	--	3.56E-03	4.23E-03
			Benzo(a)anthracene	2.50E-07	3.71E-08	--	2.30E-08	3.10E-07	--	--	--	--	--	--
			Benzo(a)pyrene	8.33E-07	1.23E-07	--	4.34E-08	9.99E-07	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.37E-07	2.03E-08	--	7.14E-08	2.29E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.74E-05	2.58E-06	--	6.93E-06	2.69E-05
			Benzo(k)fluoranthene	1.63E-08	2.42E-09	--	8.50E-09	2.72E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	8.16E-05	9.30E-08	--	4.38E-05	1.25E-04
			Beta-BHC	2.71E-10	3.09E-12	--	4.55E-08	4.58E-08	Kidney/Liver	7.53E-06	8.59E-08	--	1.27E-03	1.27E-03
			bis(2-ethylhexyl)phthalate	7.51E-09	8.56E-11	--	9.29E-07	9.37E-07	Liver	2.68E-04	3.06E-06	--	3.32E-02	3.35E-02
			Cadmium	--	--	--	--	--	Kidney	1.30E-02	1.48E-05	--	6.97E-01	7.10E-01
			Carbon disulfide	--	--	--	--	--	Developmental	1.64E-09	4.68E-10	--	--	2.11E-09
			Chlorobenzene	--	--	--	--	--	Liver	3.77E-06	4.29E-08	--	--	3.81E-06

TABLE H2-8.5

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	5.08E-05	5.79E-08	--	8.18E-05	1.33E-04	
			Chrysene	2.84E-09	4.21E-10	--	1.83E-09	5.09E-09	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	2.59E-04	2.96E-07	--	6.50E-04	9.10E-04	
			Copper	--	--	--	--	--	GI Tract	1.06E-03	1.20E-06	--	9.45E-02	9.56E-02	
			Delta-BHC	1.04E-09	5.90E-11	--	1.42E-09	2.51E-09	Liver/Kidney	2.88E-05	1.64E-06	--	3.94E-05	6.98E-05	
			Dibenzo(a,h)anthracene	1.59E-07	2.35E-08	--	5.11E-08	2.33E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	4.45E-03	5.08E-05	--	--	4.50E-03	
			Dieldrin	6.04E-08	6.89E-10	--	1.15E-05	1.15E-05	Liver	7.55E-04	8.61E-06	--	1.43E-01	1.44E-01	
			Dimethylphthalate	--	--	--	--	--	--	--	2.60E-09	2.97E-11	--	1.39E-06	1.39E-06
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	1.51E-05	1.72E-07	--	1.12E-05	2.65E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	2.63E-06	1.50E-07	--	4.21E-04	4.21E-04	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	2.72E-06	1.55E-07	--	4.18E-04	4.21E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	4.91E-06	2.80E-07	--	7.37E-04	7.42E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	9.61E-05	5.48E-06	--	5.70E-05	1.59E-04	
			Endrin Ketone	--	--	--	--	--	Liver	2.28E-05	--	--	1.36E-05	3.64E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	4.54E-04	6.73E-05	--	4.39E-04	9.60E-04	
			Fluorene	--	--	--	--	--	Blood	4.99E-05	7.40E-06	--	--	5.73E-05	
			gamma-BHC (Lindane)	2.32E-10	1.06E-11	--	1.37E-07	1.37E-07	Liver/Kidney	5.94E-06	2.71E-07	--	3.51E-03	3.51E-03	
			gamma-Chlordane	3.14E-10	--	--	5.37E-10	8.51E-10	Liver	1.79E-05	--	--	3.07E-05	4.86E-05	
			Heptachlor	2.13E-09	2.42E-11	--	2.70E-09	4.85E-09	Liver	9.45E-06	1.08E-07	--	1.20E-05	2.16E-05	
			Heptachlor Epoxide	6.95E-09	7.93E-11	--	2.87E-06	2.88E-06	Liver	5.88E-04	6.70E-06	--	2.43E-01	2.43E-01	
			Indeno(1,2,3-cd)pyrene	4.36E-08	6.47E-09	--	1.70E-08	6.71E-08	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	9.30E-02	1.06E-04	--	3.31E-02	1.26E-01	
			Isophorone	1.30E-11	1.48E-12	--	--	1.45E-11	No observed effect	6.85E-07	7.81E-08	--	--	7.63E-07	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	9.45E-03	1.08E-05	--	1.69E-01	1.79E-01	
			Mercury	--	--	--	--	--	Immune System	7.07E-04	--	--	5.06E-02	5.13E-02	
			Methoxychlor	--	--	--	--	--	Developmental	1.64E-05	1.87E-07	--	5.10E-06	2.17E-05	
			Molybdenum	--	--	--	--	--	Blood	3.43E-04	3.91E-07	--	7.37E-03	7.71E-03	
			Naphthalene	--	--	--	--	--	Whole Body	4.45E-04	6.60E-05	--	--	5.11E-04	
			Nickel	--	--	--	--	--	Whole Body	1.34E-03	1.53E-06	--	2.88E-02	3.01E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	3.18E-05	3.62E-07	--	--	3.21E-05	
			Phenol	--	--	--	--	--	Whole Body	1.32E-06	1.51E-07	--	2.34E-03	2.34E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	7.53E-07	--	--	--	7.53E-07	
			Pyrene	--	--	--	--	--	Kidney	5.51E-04	8.17E-05	--	--	6.33E-04	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.22E-06	--	--	--	1.22E-06	
			Selenium	--	--	--	--	--	Whole Body	3.07E-05	3.51E-08	--	2.75E-04	3.06E-04	
			Silver	--	--	--	--	--	Skin	1.59E-04	1.81E-07	--	5.68E-03	5.84E-03	
			Technical Chlordane	1.32E-08	6.02E-10	--	2.26E-08	3.64E-08	Liver	7.55E-04	3.44E-05	--	1.29E-03	2.08E-03	
			Thallium	--	--	--	--	--	Blood	5.16E-03	--	--	7.38E-04	5.90E-03	
Toluene	--	--	--	--	--	Liver/Kidney	3.68E-09	4.20E-11	--	--	3.72E-09				
Vanadium	--	--	--	--	--	Kidney	2.34E-02	2.67E-05	--	2.51E-02	4.85E-02				

TABLE H2-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	1.04E-03	1.18E-06	--	3.34E-01	3.35E-01
		Exposure Point Total	Chemical Total	2.50E-06	2.87E-07	0.00E+00	1.80E-05	2.08E-05		2.64E-01	1.32E-02	0.00E+00	2.61E+00	2.89E+00
Exposure Medium Total														
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	1.97E-02	--	1.97E-02
		1,2,4-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	6.68E-02	--	6.68E-02
		1,2,4-Trimethylbenzene	--	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.42E-02	--	1.42E-02
		1,2-Dichlorobenzene	--	--	--	--	--	--	Body Weight	--	--	1.93E-02	--	1.93E-02
		1,2-Dichloropropane	--	--	4.03E-09	--	4.03E-09	--	Nasal	--	--	5.20E-04	--	5.20E-04
		1,3,5-Trimethylbenzene	--	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.41E-03	--	4.41E-03
		1,3-Dichlorobenzene	--	--	--	--	--	--	Kidney/Liver	--	--	1.12E-03	--	1.12E-03
		1,4-Dichlorobenzene	--	--	7.12E-07	--	7.12E-07	--	Liver	--	--	1.41E-03	--	1.41E-03
		2,4-Dimethylphenol	--	--	--	--	--	--	Blood/Whole Body	--	--	1.65E-09	--	1.65E-09
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
		2-Methylnaphthalene	--	--	--	--	--	--	CNS/Body Weight	--	--	3.06E-04	--	3.06E-04
		4,4'-DDD	--	--	4.52E-15	--	4.52E-15	--	Liver	--	--	3.77E-10	--	3.77E-10
		4,4'-DDE	--	--	8.83E-11	--	8.83E-11	--	Liver	--	--	4.02E-06	--	4.02E-06
		4,4'-DDT	--	--	2.37E-13	--	2.37E-13	--	Liver	--	--	1.40E-08	--	1.40E-08
		4-Methylphenol	--	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	8.47E-09	--	8.47E-09
		4-Nitroaniline	--	--	2.04E-13	--	2.04E-13	--	--	--	--	9.73E-08	--	9.73E-08
		4-Nitrophenol	--	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.16E-07	--	1.16E-07
		Acenaphthene	--	--	--	--	--	--	Liver	--	--	2.01E-04	--	2.01E-04
		Acenaphthylene	--	--	--	--	--	--	Liver	--	--	4.94E-06	--	4.94E-06
		Aldrin	--	--	1.98E-09	--	1.98E-09	--	Liver	--	--	3.89E-05	--	3.89E-05
		alpha-BHC	--	--	4.75E-10	--	4.75E-10	--	Liver/Kidney	--	--	1.51E-06	--	1.51E-06
		alpha-Chlordane	--	--	5.84E-11	--	5.84E-11	--	Liver	--	--	8.35E-06	--	8.35E-06
		Aluminum	--	--	--	--	--	--	Respiratory System	--	--	9.68E-04	--	9.68E-04
		Anthracene	--	--	--	--	--	--	No Observed Effect	--	--	1.00E-05	--	1.00E-05
		Antimony	--	--	--	--	--	--	--	--	--	--	--	--
		Aroclor-1248	--	--	3.77E-11	--	3.77E-11	--	Immune System/Eye/Finger and Toe Nails	--	--	9.41E-06	--	9.41E-06
		Aroclor-1254	--	--	1.39E-11	--	1.39E-11	--	Immune System/Eye/Finger and Toe nails	--	--	3.48E-06	--	3.48E-06
		Aroclor-1260	--	--	1.70E-11	--	1.70E-11	--	Immune System/Eye/Finger and Toe Nails	--	--	4.25E-06	--	4.25E-06
		Aroclor-1268	--	--	8.71E-13	--	8.71E-13	--	Immune System/Eye/Finger and Toe Nails	--	--	2.18E-07	--	2.18E-07
		Arsenic	--	--	1.45E-09	--	1.45E-09	--	--	--	--	--	--	--
		Barium	--	--	--	--	--	--	Developmental	--	--	7.60E-05	--	7.60E-05
		Benzo(a)anthracene	--	--	5.73E-11	--	5.73E-11	--	--	--	--	--	--	--
		Benzo(a)pyrene	--	--	1.91E-10	--	1.91E-10	--	--	--	--	--	--	--
Benzo(b)fluoranthene	--	--	2.68E-08	--	2.68E-08	--	--	--	--	--	--	--		
Benzo(g,h,i)perylene	--	--	--	--	--	--	Kidney	--	--	3.99E-09	--	3.99E-09		
Benzo(k)fluoranthene	--	--	3.73E-12	--	3.73E-12	--	--	--	--	--	--	--		
Beryllium	--	--	3.14E-11	--	3.14E-11	--	Immune System/Lung	--	--	6.54E-06	--	6.54E-06		
Beta-BHC	--	--	6.40E-14	--	6.40E-14	--	Liver/Kidney	--	--	1.73E-09	--	1.73E-09		

TABLE H2-8.5

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.72E-12	--	1.72E-12	Liver	--	--	6.14E-08	--	6.14E-08
			Cadmium	--	--	9.36E-10	--	9.36E-10	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.69E-07	--	4.69E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	6.31E-04	--	6.31E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	9.45E-10	--	9.45E-10	--	--	--	--	--	--
			Cobalt	--	--	1.16E-09	--	1.16E-09	Respiratory System	--	--	2.08E-04	--	2.08E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.61E-09	--	1.61E-09	Liver/Kidney	--	--	4.33E-05	--	4.33E-05
			Dibenzo(a,h)anthracene	--	--	3.64E-11	--	3.64E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	4.65E-03	--	4.65E-03
			Dieldrin	--	--	2.46E-08	--	2.46E-08	Liver	--	--	3.07E-04	--	3.07E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	5.96E-13	--	5.96E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	3.45E-09	--	3.45E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.78E-06	--	2.78E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.88E-06	--	2.88E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	5.20E-06	--	5.20E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.20E-08	--	2.20E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	5.23E-09	--	5.23E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.88E-05	--	8.88E-05
			Fluorene	--	--	--	--	--	Blood	--	--	8.84E-05	--	8.84E-05
			gamma-BHC (Lindane)	--	--	4.29E-10	--	4.29E-10	Liver/Kidney	--	--	1.10E-05	--	1.10E-05
			gamma-Chlordane	--	--	9.40E-11	--	9.40E-11	Liver	--	--	1.34E-05	--	1.34E-05
			Heptachlor	--	--	3.19E-08	--	3.19E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Heptachlor Epoxide	--	--	1.59E-12	--	1.59E-12	Liver	--	--	1.35E-07	--	1.35E-07
			Indeno(1,2,3-cd)pyrene	--	--	1.00E-11	--	1.00E-11	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	2.98E-15	--	2.98E-15	No observed effect	--	--	1.57E-10	--	1.57E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	3.64E-03	--	3.64E-03
			Mercury	--	--	--	--	--	CNS	--	--	5.65E-07	--	5.65E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.58E-06	--	3.58E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.69E-01	--	1.69E-01
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.32E-04	--	1.32E-04
			Phenol	--	--	--	--	--	Body Weight	--	--	3.03E-10	--	3.03E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.61E-04	--	3.61E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	1.28E-04	--	1.28E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.45E-04	--	1.45E-04
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

**TABLE H2-8.5**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	3.95E-12	--	3.95E-12	Liver	--	--	5.65E-04	--	5.65E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	4.53E-08	--	4.53E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	8.09E-07	0.00E+00	8.09E-07		0.00E+00	0.00E+00	3.09E-01	0.00E+00	3.09E-01
		Exposure Point Total						8.09E-07						3.09E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.86E+00	--	1.86E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.84E+00	--	5.84E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.55E-01	--	3.55E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	5.55E-01	--	5.55E-01
			1,2-Dichloropropane	--	--	2.98E-08	--	2.98E-08	Nasal	--	--	3.84E-03	--	3.84E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.14E-01	--	1.14E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	4.46E-02	--	4.46E-02
			1,4-Dichlorobenzene	--	--	1.82E-05	--	1.82E-05	Liver	--	--	3.60E-02	--	3.60E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.01E-02	--	2.01E-02
			4,4'-DDE	--	--	4.27E-11	--	4.27E-11	Liver	--	--	2.51E-06	--	2.51E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.85E-03	--	5.85E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.51E-04	--	1.51E-04
			Aldrin	--	--	5.67E-09	--	5.67E-09	Liver	--	--	1.11E-04	--	1.11E-04
			alpha-BHC	--	--	1.40E-08	--	1.40E-08	Liver/Kidney	--	--	4.46E-05	--	4.46E-05
			alpha-Chlordane	--	--	3.93E-10	--	3.93E-10	Liver	--	--	5.62E-05	--	5.62E-05
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.08E-04	--	3.08E-04
			Benzo(b)fluoranthene	--	--	4.76E-08	--	4.76E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	7.87E-03	--	7.87E-03
			Chrysene	--	--	2.69E-09	--	2.69E-09	--	--	--	--	--	--
			Delta-BHC	--	--	7.07E-08	--	7.07E-08	Liver/Kidney	--	--	1.90E-03	--	1.90E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	2.45E-03	--	2.45E-03
			Dieidrin	--	--	1.74E-07	--	1.74E-07	Liver	--	--	2.17E-03	--	2.17E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.45E-05	--	7.45E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	7.58E-05	--	7.58E-05
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.39E-04	--	1.39E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.54E-05	--	2.54E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.39E-03	--	1.39E-03
			gamma-BHC (Lindane)	--	--	1.53E-08	--	1.53E-08	Liver/Kidney	--	--	3.93E-04	--	3.93E-04
			gamma-Chlordane	--	--	7.16E-12	--	7.16E-12	Liver	--	--	1.02E-06	--	1.02E-06
			Heptachlor	--	--	1.02E-08	--	1.02E-08	Liver	--	--	4.50E-05	--	4.50E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.23E-05	--	1.23E-05
			Methylene Chloride	--	--	4.67E-10	--	4.67E-10	Liver	--	--	3.41E-06	--	3.41E-06
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.52E+01	--	1.52E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.94E-03	--	3.94E-03

TABLE H2-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.22E-03	--	1.22E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	2.75E-04	--	2.75E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.19E-03	--	1.19E-03
			Technical Chlordane	--	--	3.05E-11	--	3.05E-11	Liver	--	--	4.36E-03	--	4.36E-03
			Toluene	--	--	--	--	--	CNS	--	--	3.66E-07	--	3.66E-07
			Chemical Total	0.00E+00	0.00E+00	1.86E-05	0.00E+00	1.86E-05		0.00E+00	0.00E+00	2.37E+01	0.00E+00	2.37E+01
			Exposure Point Total					1.86E-05						2.37E+01
			Exposure Medium Total					1.86E-05						2.37E+01
			Medium Total					4.02E-05						2.69E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	6.26E-07	--	6.26E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.53E-05	--	1.53E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	3.01E-06	--	3.01E-06
			1,2-Dichloroethane	--	--	1.12E-09	--	1.12E-09	Liver/Kidney/CNS	--	--	8.80E-05	--	8.80E-05
			1,2-Dichloropropane	--	--	3.14E-10	--	3.14E-10	Nasal	--	--	4.05E-05	--	4.05E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.69E-06	--	8.69E-06
			1,4-Dichlorobenzene	--	--	1.28E-10	--	1.28E-10	Liver	--	--	2.54E-07	--	2.54E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.58E-09	--	1.58E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.01E-09	--	4.01E-09
			4,4'-DDE	--	--	9.11E-12	--	9.11E-12	Liver	--	--	5.36E-07	--	5.36E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.74E-10	--	9.74E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.34E-07	--	1.34E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.70E-09	--	5.70E-09
			Aldrin	--	--	7.87E-10	--	7.87E-10	Liver	--	--	1.54E-05	--	1.54E-05
			alpha-BHC	--	--	3.69E-11	--	3.69E-11	Liver/Kidney	--	--	1.17E-07	--	1.17E-07
			alpha-Chlordane	--	--	4.86E-12	--	4.86E-12	Liver	--	--	6.94E-07	--	6.94E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.27E-09	--	2.27E-09
			Benzene	--	--	1.48E-10	--	1.48E-10	Blood	--	--	6.28E-06	--	6.28E-06
			Benzo(b)fluoranthene	--	--	7.36E-12	--	7.36E-12	--	--	--	--	--	--
			Bromoform	--	--	5.87E-13	--	5.87E-13	Liver	--	--	7.62E-08	--	7.62E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.67E-06	--	4.67E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	8.92E-07	--	8.92E-07
			Chloroform	--	--	3.45E-09	--	3.45E-09	Liver/Kidney/Respiratory	--	--	3.06E-05	--	3.06E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	5.97E-06	--	5.97E-06
			Chrysene	--	--	1.99E-13	--	1.99E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethane	--	--	--	--	--	Blood	--	--	1.10E-05	--	1.10E-05
			Dieldrin	--	--	3.26E-10	--	3.26E-10	Liver	--	--	4.07E-06	--	4.07E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.73E-09	--	7.73E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.27E-11	--	1.27E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.42E-07	--	1.42E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.62E-09	--	2.62E-09
Fluorene	--	--	--	--	--	Blood	--	--	5.18E-09	--	5.18E-09			
gamma-BHC (Lindane)	--	--	3.35E-14	--	3.35E-14	Liver/Kidney	--	--	8.58E-10	--	8.58E-10			

TABLE H2-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	1.26E-11	--	1.26E-11	Liver	--	--	1.80E-06	--	1.80E-06
			Heptachlor	--	--	1.68E-09	--	1.68E-09	Liver	--	--	7.40E-06	--	7.40E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	6.45E-05	--	6.45E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	4.96E-06	--	4.96E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.35E-07	--	1.35E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.31E-06	--	1.31E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	6.11E-05	--	6.11E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.46E-06	--	1.46E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.81E-09	--	1.81E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	6.45E-05	--	6.45E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	3.18E-09	--	3.18E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	4.15E-06	--	4.15E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	4.70E-06	--	4.70E-06
			Toluene	--	--	--	--	--	CNS	--	--	5.51E-08	--	5.51E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	9.28E-06	--	9.28E-06
			Trichloroethene	--	--	7.72E-09	--	7.72E-09	CNS/Liver/Endocrine	--	--	1.93E-05	--	1.93E-05
			Vinyl chloride	--	--	1.24E-09	--	1.24E-09	Liver	--	--	1.40E-05	--	1.40E-05
			<b>Chemical Total</b>	0.00E+00	0.00E+00	1.70E-08	0.00E+00	1.70E-08		0.00E+00	0.00E+00	4.96E-04	0.00E+00	4.96E-04
			<b>Exposure Point Total</b>					1.70E-08						4.96E-04
	<b>Exposure Medium Total</b>							1.70E-08						4.96E-04
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)		1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.10E-04	--	1.10E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.95E-04	--	3.95E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	7.99E-05	--	7.99E-05
			1,2-Dichloroethane	--	--	3.36E-08	--	3.36E-08	Liver/Kidney/CNS	--	--	2.64E-03	--	2.64E-03
			1,2-Dichloropropane	--	--	9.30E-09	--	9.30E-09	Nasal	--	--	1.20E-03	--	1.20E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.26E-04	--	2.26E-04
			1,4-Dichlorobenzene	--	--	3.44E-09	--	3.44E-09	Liver	--	--	6.80E-06	--	6.80E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	8.12E-08	--	8.12E-08
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.12E-07	--	1.12E-07
			4,4'-DDE	--	--	8.21E-13	--	8.21E-13	Liver	--	--	4.83E-08	--	4.83E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	4.00E-08	--	4.00E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.70E-06	--	5.70E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.43E-07	--	2.43E-07
			Aldrin	--	--	8.58E-11	--	8.58E-11	Liver	--	--	1.68E-06	--	1.68E-06
			alpha-BHC	--	--	4.74E-12	--	4.74E-12	Liver/Kidney	--	--	1.50E-08	--	1.50E-08
			alpha-Chlordane	--	--	1.60E-12	--	1.60E-12	Liver	--	--	2.28E-07	--	2.28E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.64E-08	--	9.64E-08
Benzene	--	--	4.33E-09	--	4.33E-09	Blood	--	--	1.85E-04	--	1.85E-04			
Benzo(b)fluoranthene	--	--	3.09E-10	--	3.09E-10	--	--	--	--	--	--			
Bromoform	--	--	3.15E-11	--	3.15E-11	Liver	--	--	4.09E-06	--	4.09E-06			
Carbon disulfide	--	--	--	--	--	CNS	--	--	1.40E-04	--	1.40E-04			
Chlorobenzene	--	--	--	--	--	Liver	--	--	2.50E-05	--	2.50E-05			

TABLE H2-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	--	--	1.02E-07	--	1.02E-07	Liver/Kidney/Respiratory	--	--	9.07E-04	--	9.07E-04	
			Chloromethane	--	--	--	--	--	CNS	--	--	1.93E-04	--	1.93E-04	
			Chrysene	--	--	8.70E-12	--	8.70E-12	--	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	7.12E-04	--	7.12E-04	
			Dieldrin	--	--	1.25E-11	--	1.25E-11	Liver	--	--	1.56E-07	--	1.56E-07	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.68E-09	--	1.68E-09	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	5.59E-10	--	5.59E-10	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.85E-06	--	3.85E-06	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.06E-07	--	1.06E-07	
			Fluorene	--	--	--	--	--	Blood	--	--	2.70E-07	--	2.70E-07	
			gamma-BHC (Lindane)	--	--	1.32E-12	--	1.32E-12	Liver/Kidney	--	--	3.39E-08	--	3.39E-08	
			gamma-Chlordane	--	--	7.73E-13	--	7.73E-13	Liver	--	--	1.10E-07	--	1.10E-07	
			Heptachlor	--	--	4.54E-11	--	4.54E-11	Liver	--	--	1.99E-07	--	1.99E-07	
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	3.39E-03	--	3.39E-03	
			m,p-Xylene	--	--	--	--	--	CNS	--	--	2.88E-04	--	2.88E-04	
			Methoxychlor	--	--	--	--	--	Developmental	--	--	5.87E-09	--	5.87E-09	
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	7.12E-05	--	7.12E-05	
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	3.43E-03	--	3.43E-03	
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	8.28E-05	--	8.28E-05	
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.00E-07	--	1.00E-07	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.39E-03	--	3.39E-03	
			Pyrene	--	--	--	--	--	Kidney	--	--	1.33E-07	--	1.33E-07	
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.94E-06	--	2.94E-06	
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	2.95E-04	--	2.95E-04	
			Toluene	--	--	--	--	--	CNS	--	--	3.16E-07	--	3.16E-07	
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	6.25E-04	--	6.25E-04	
			Trichloroethene	--	--	4.73E-07	--	4.73E-07	CNS/Liver/Endocrine	--	--	1.18E-03	--	1.18E-03	
			Vinyl chloride	--	--	8.33E-08	--	8.33E-08	Liver	--	--	9.40E-04	--	9.40E-04	
			Chemical Total	0.00E+00	0.00E+00	7.09E-07	0.00E+00	7.09E-07		0.00E+00	0.00E+00	2.05E-02	0.00E+00	2.05E-02	
		Exposure Point Total						7.09E-07						2.05E-02	
	Exposure Medium Total							7.09E-07						2.05E-02	
Medium Total								7.26E-07						2.10E-02	
Receptor Total							Receptor Risk Total	4.09E-05					Receptor HI Total	2.69E+01	

**TABLE H2-8.5**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
CNS	Central nervous system
COPC	Chemicals of Potential Concern
CTE	Central Tendency Exposure
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard Index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.07E+00
Total Organ 2 (Kidney) HI Across All Media =	8.63E+00
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	7.30E-01
Total Organ 5 (Endocrine) HI Across All Media =	1.20E-03
Total Organ 6 (Blood) HI Across All Media =	1.33E+00
Total Organ 7 (Adrenal) HI Across All Media =	4.68E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	4.87E-03
Total Organ 9 (Skin) HI Across All Media =	5.06E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	9.57E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	2.15E-01
Total Organ 12 (Body Weight) HI Across All Media =	5.97E-01
Total Organ 13 (Developmental) HI Across All Media =	1.18E-04
Total Organ 14 (Respiratory/Lung) HI Across All Media =	1.59E+01
Total Organ 15 (Whole Body) HI Across All Media =	1.43E-01
Total Organ 16 (Immune System) HI Across All Media =	2.66E-01
Total Organ 17 (Organ Weight) HI Across All Media =	4.55E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.15E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	5.60E-03

TABLE H2-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	-	-	-	-	-	Adrenal	1.03E-04	1.17E-05	-	-	1.14E-04
			1,2,4-Trichlorobenzene	-	-	-	-	-	Adrenal	3.49E-04	3.98E-06	-	-	3.53E-04
			1,2,4-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	6.85E-06	7.81E-08	-	-	6.93E-06
			1,2-Dichlorobenzene	-	-	-	-	-	No Observed Effect	1.98E-04	2.26E-06	-	-	2.00E-04
			1,2-Dichloropropane	1.68E-11	1.91E-13	-	-	1.70E-11	Nasal	2.16E-06	2.47E-08	-	-	2.19E-06
			1,3,5-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	2.19E-06	2.50E-08	-	-	2.22E-06
			1,3-Dichlorobenzene	-	-	-	-	-	Kidney/Liver	2.51E-05	2.86E-07	-	-	2.54E-05
			1,4-Dichlorobenzene	1.12E-08	-	-	-	1.12E-08	Organ Weight	1.55E-04	-	-	-	1.55E-04
			2,4-Dimethylphenol	-	-	-	-	-	Blood/Whole Body	7.19E-06	8.20E-08	-	2.01E-03	2.01E-03
			2-Methylphenol	-	-	-	-	-	CNS/Body Weight	1.11E-06	1.26E-07	-	7.37E-04	7.38E-04
			2-Methylnaphthalene	-	-	-	-	-	Respiratory System	2.48E-04	2.83E-06	-	-	2.51E-04
			4,4-DDD	1.97E-11	2.25E-13	-	9.38E-12	2.93E-11	Liver	1.64E-06	1.87E-08	-	7.81E-07	2.44E-06
			4,4'-DDE	1.75E-09	1.99E-11	-	6.01E-10	2.37E-09	Liver	1.03E-04	1.17E-06	-	3.54E-05	1.39E-04
			4,4'-DDT	9.78E-10	3.34E-11	-	1.45E-09	2.46E-09	Liver	5.75E-05	1.97E-06	-	8.54E-05	1.45E-04
			4-Methylphenol	-	-	-	-	-	Whole Body/CNS/Respiratory	3.70E-05	4.22E-06	-	2.52E-02	2.53E-02
			4-Nitroaniline	8.92E-10	1.02E-10	-	4.16E-07	4.17E-07	-	1.42E-04	1.61E-05	-	6.61E-02	6.63E-02
			4-Nitrophenol	-	-	-	-	-	Kidney/Liver/Blood	5.75E-04	6.56E-05	-	4.03E-01	4.04E-01
			Acenaphthene	-	-	-	-	-	Liver	3.96E-05	5.87E-06	-	-	4.55E-05
			Acenaphthylene	-	-	-	-	-	Liver	1.02E-06	1.17E-08	-	-	1.03E-06
			Aldrin	1.51E-08	1.73E-09	-	1.18E-08	2.86E-08	Liver	2.97E-04	3.38E-05	-	2.31E-04	5.62E-04
			alpha-BHC	3.15E-10	3.59E-12	-	5.29E-08	5.32E-08	Liver/Kidney	1.00E-06	1.14E-08	-	1.68E-04	1.69E-04
			alpha-Chlordane	1.67E-10	-	-	2.86E-10	4.53E-10	Liver	9.56E-06	-	-	1.63E-05	2.59E-05
			Aluminum	-	-	-	-	-	CNS	6.20E-03	7.07E-06	-	1.44E-03	7.65E-03
			Anthracene	-	-	-	-	-	No observed effect	2.09E-06	3.09E-07	-	-	2.39E-06
			Antimony	-	-	-	-	-	Whole body/Blood	4.66E-03	5.32E-06	-	5.01E-02	5.48E-02
			Aroclor-1248	1.64E-07	2.62E-08	-	7.84E-08	2.69E-07	Immune System/ Eye/Finger and Toe Nails	4.11E-02	6.56E-03	-	1.96E-02	6.73E-02
			Aroclor-1254	6.00E-08	9.57E-09	-	3.83E-07	4.52E-07	Immune System/ Eye/Finger and Toe Nails	1.50E-02	2.39E-03	-	9.56E-02	1.13E-01
			Aroclor-1260	6.69E-08	1.07E-08	-	1.53E-08	9.28E-08	Immune System/ Eye/Finger and Toe Nails	1.67E-02	2.67E-03	-	3.82E-03	2.32E-02
			Aroclor-1268	3.72E-09	5.94E-10	-	2.38E-08	2.81E-08	Immune System/ Eye/Finger and Toe Nails	9.31E-04	1.49E-04	-	5.94E-03	7.02E-03
			Arsenic	9.79E-07	3.35E-08	-	2.10E-06	3.12E-06	Skin	2.18E-02	7.44E-04	-	4.67E-02	6.93E-02
			Barium	-	-	-	-	-	Kidney	6.80E-04	7.75E-07	-	3.65E-03	4.33E-03
			Benzo(a)anthracene	2.11E-07	3.12E-08	-	1.93E-08	2.61E-07	-	-	-	-	-	-
			Benzo(a)pyrene	7.03E-07	1.04E-07	-	3.66E-08	8.44E-07	-	-	-	-	-	-
			Benzo(b)fluoranthene	1.18E-07	1.76E-08	-	6.18E-08	1.98E-07	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	Kidney	1.48E-05	2.19E-06	-	5.88E-06	2.29E-05
			Benzo(k)fluoranthene	1.41E-08	2.09E-09	-	7.36E-09	2.36E-08	-	-	-	-	-	-
			Beryllium	-	-	-	-	-	GI Tract	7.80E-05	8.89E-08	-	4.19E-05	1.20E-04
			Beta-BHC	2.71E-10	3.09E-12	-	4.55E-08	4.58E-08	Kidney/Liver	7.53E-06	8.59E-08	-	1.27E-03	1.27E-03
			bis(2-ethylhexyl)phthalate	5.08E-09	5.79E-11	-	6.28E-07	6.33E-07	Liver	1.81E-04	2.07E-06	-	2.24E-02	2.26E-02
			Cadmium	-	-	-	-	-	Kidney	1.18E-02	1.35E-05	-	6.36E-01	6.48E-01
			Carbon disulfide	-	-	-	-	-	Developmental	1.64E-09	4.68E-10	-	-	2.11E-09
			Chlorobenzene	-	-	-	-	-	Liver	3.77E-06	4.29E-08	-	-	3.81E-06

TABLE H2-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	4.56E-05	5.20E-08	--	7.35E-05	1.19E-04	
			Chrysene	2.40E-09	3.55E-10	--	1.55E-09	4.30E-09	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	2.55E-04	2.91E-07	--	6.39E-04	8.94E-04	
			Copper	--	--	--	--	--	GI Tract	1.11E-03	1.27E-06	--	9.95E-02	1.01E-01	
			Delta-BHC	1.04E-09	5.90E-11	--	1.42E-09	2.51E-09	Liver/Kidney	2.88E-05	1.64E-06	--	3.94E-05	6.98E-05	
			Dibenzo(a,h)anthracene	1.38E-07	2.04E-08	--	4.44E-08	2.03E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	4.45E-03	5.08E-05	--	--	4.50E-03	
			Dieldrin	5.36E-08	6.11E-10	--	1.02E-05	1.02E-05	Liver	6.70E-04	7.64E-06	--	1.27E-01	1.28E-01	
			Dimethylphthalate	--	--	--	--	--	--	--	2.60E-09	2.97E-11	--	1.39E-06	1.39E-06
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	1.58E-05	1.80E-07	--	1.17E-05	2.77E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	2.63E-06	1.50E-07	--	4.21E-04	4.24E-04	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	2.67E-06	1.52E-07	--	4.10E-04	4.13E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	4.91E-06	2.80E-07	--	7.37E-04	7.42E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.44E-04	8.20E-06	--	8.54E-05	2.37E-04	
			Endrin Ketone	--	--	--	--	--	Liver	2.28E-05	--	--	1.36E-05	3.64E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	3.81E-04	5.65E-05	--	3.68E-04	8.06E-04	
			Fluorene	--	--	--	--	--	Blood	4.33E-05	6.41E-06	--	--	4.97E-05	
			gamma-BHC (Lindane)	2.32E-10	1.06E-11	--	1.37E-07	1.37E-07	Liver/Kidney	5.94E-06	2.71E-07	--	3.51E-03	3.51E-03	
			gamma-Chlordane	3.04E-10	--	--	5.20E-10	8.24E-10	Liver	1.74E-05	--	--	2.97E-05	4.71E-05	
			Heptachlor	2.13E-09	2.42E-11	--	2.70E-09	4.85E-09	Liver	9.45E-06	1.08E-07	--	1.20E-05	2.16E-05	
			Heptachlor Epoxide	6.14E-09	7.00E-11	--	2.54E-06	2.54E-06	Liver	5.19E-04	5.92E-06	--	2.15E-01	2.15E-01	
			Indeno(1,2,3-cd)pyrene	2.49E-08	3.68E-09	--	9.70E-09	3.82E-08	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	8.39E-02	9.57E-05	--	2.99E-02	1.14E-01	
			Isophorone	1.30E-11	1.48E-12	--	--	1.45E-11	No observed effect	6.85E-07	7.81E-08	--	--	7.63E-07	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	8.69E-03	9.90E-06	--	1.55E-01	1.64E-01	
			Mercury	--	--	--	--	--	Immune System	6.06E-04	--	--	4.34E-02	4.40E-02	
			Methoxychlor	--	--	--	--	--	Developmental	1.64E-05	1.87E-07	--	5.10E-06	2.17E-05	
			Methylene chloride	1.23E-12	1.41E-14	--	--	1.25E-12	Liver	2.74E-08	3.12E-10	--	--	2.77E-08	
			Molybdenum	--	--	--	--	--	Blood	2.99E-04	3.40E-07	--	6.41E-03	6.71E-03	
			Naphthalene	--	--	--	--	--	Whole Body	4.45E-04	6.60E-05	--	--	5.11E-04	
			Nickel	--	--	--	--	--	Whole Body	1.33E-03	1.52E-06	--	2.86E-02	3.00E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.67E-05	3.04E-07	--	--	2.70E-05	
			Phenol	--	--	--	--	--	Whole Body	1.32E-06	1.51E-07	--	2.34E-03	2.34E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	7.53E-07	--	--	--	7.53E-07	
			Pyrene	--	--	--	--	--	Kidney	4.64E-04	6.88E-05	--	--	5.33E-04	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.22E-06	--	--	--	1.22E-06	
			Selenium	--	--	--	--	--	Whole Body	3.88E-05	4.43E-08	--	3.48E-04	3.87E-04	
			Silver	--	--	--	--	--	Skin	1.34E-04	1.53E-07	--	4.81E-03	4.94E-03	
			Technical Chlordane	1.30E-08	5.91E-10	--	2.21E-08	3.57E-08	Liver	7.41E-04	3.38E-05	--	1.27E-03	2.04E-03	
Thallium	--	--	--	--	--	Blood	5.01E-03	--	--	7.17E-04	5.73E-03				
Toluene	--	--	--	--	--	Liver/Kidney	3.68E-09	4.20E-11	--	--	3.72E-09				

TABLE H2-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney Blood	2.31E-02	2.63E-05	--	2.48E-02	4.79E-02		
			Zinc	--	--	--	--	--		7.57E-04	8.64E-07	--	2.44E-01	2.45E-01		
			Chemical Total	2.60E-06	2.63E-07	0.00E+00	1.68E-05	1.97E-05		2.55E-01	1.31E-02	0.00E+00	2.37E+00	2.64E+00		
		Exposure Point Total												1.97E-05	2.64E+00	
	Exposure Medium Total														1.97E-05	2.64E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.97E-02	--	1.97E-02		
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.68E-02	--	6.68E-02		
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.42E-02	--	1.42E-02		
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.93E-02	--	1.93E-02		
			1,2-Dichloropropane	--	--	4.03E-09	--	4.03E-09	Nasal	--	--	5.20E-04	--	5.20E-04		
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.41E-03	--	4.41E-03		
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.12E-03	--	1.12E-03		
			1,4-Dichlorobenzene	--	--	7.12E-07	--	7.12E-07	Liver	--	--	1.41E-03	--	1.41E-03		
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	1.65E-09	--	1.65E-09		
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--		
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.66E-04	--	2.66E-04		
			4,4'-DDD	--	--	4.52E-15	--	4.52E-15	Liver	--	--	3.77E-10	--	3.77E-10		
			4,4'-DDE	--	--	6.22E-11	--	6.22E-11	Liver	--	--	3.66E-06	--	3.66E-06		
			4,4'-DDT	--	--	2.24E-13	--	2.24E-13	Liver	--	--	1.32E-08	--	1.32E-08		
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	8.47E-09	--	8.47E-09		
			4-Nitroaniline	--	--	2.04E-13	--	2.04E-13	--	--	--	9.73E-08	--	9.73E-08		
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.16E-07	--	1.16E-07		
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.65E-04	--	1.65E-04		
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.25E-06	--	4.25E-06		
			Aldrin	--	--	1.98E-09	--	1.98E-09	Liver	--	--	3.89E-05	--	3.89E-05		
			alpha-BHC	--	--	4.75E-10	--	4.75E-10	Liver/Kidney	--	--	1.51E-06	--	1.51E-06		
			alpha-Chlordane	--	--	5.01E-11	--	5.01E-11	Liver	--	--	7.16E-06	--	7.16E-06		
			Aluminum	--	--	--	--	--	Respiratory System	--	--	9.94E-04	--	9.94E-04		
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.66E-06	--	8.66E-06		
			Antimony	--	--	--	--	--	--	--	--	--	--	--		
			Aroclor-1248	--	--	3.77E-11	--	3.77E-11	Immune System/Eye/Finger and Toe Nails	--	--	9.41E-06	--	9.41E-06		
			Aroclor-1254	--	--	1.37E-11	--	1.37E-11	Immune System/Eye/Finger and Toe Nails	--	--	3.43E-06	--	3.43E-06		
			Aroclor-1260	--	--	1.53E-11	--	1.53E-11	Immune System/Eye/Finger and Toe Nails	--	--	3.83E-06	--	3.83E-06		
			Aroclor-1268	--	--	8.53E-13	--	8.53E-13	Immune System/Eye/Finger and Toe Nails	--	--	2.13E-07	--	2.13E-07		
			Arsenic	--	--	2.24E-09	--	2.24E-09	--	--	--	--	--	--		
			Barium	--	--	--	--	--	Developmental	--	--	7.78E-05	--	7.78E-05		
			Benzo(a)anthracene	--	--	4.83E-11	--	4.83E-11	--	--	--	--	--	--		
			Benzo(a)pyrene	--	--	1.61E-10	--	1.61E-10	--	--	--	--	--	--		
			Benzo(b)fluoranthene	--	--	2.32E-08	--	2.32E-08	--	--	--	--	--	--		
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	3.39E-09	--	3.39E-09		
			Benzo(k)fluoranthene	--	--	3.24E-12	--	3.24E-12	--	--	--	--	--	--		
			Beryllium	--	--	3.00E-11	--	3.00E-11	Immune System/Lung	--	--	6.26E-06	--	6.26E-06		

TABLE H2-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	6.40E-14	--	6.40E-14	Liver/Kidney	--	--	1.73E-09	--	1.73E-09	
			bis(2-ethylhexyl)phthalate	--	--	1.16E-12	--	1.16E-12	Liver	--	--	4.15E-08	--	4.15E-08	
			Cadmium	--	--	8.55E-10	--	8.55E-10	--	--	--	--	--	--	
			Carbon disulfide	--	--	--	--	--	--	CNS	--	--	4.69E-07	--	4.69E-07
			Chlorobenzene	--	--	--	--	--	--	Liver	--	--	6.31E-04	--	6.31E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	7.97E-10	--	7.97E-10	--	--	--	--	--	--	--
			Cobalt	--	--	1.14E-09	--	1.14E-09	--	Respiratory System	--	--	2.05E-04	--	2.05E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.61E-09	--	1.61E-09	--	Liver/Kidney	--	--	4.33E-05	--	4.33E-05
			Dibenzo(a,h)anthracene	--	--	3.16E-11	--	3.16E-11	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	--	Kidney	--	--	4.65E-03	--	4.65E-03
			Dieldrin	--	--	2.18E-08	--	2.18E-08	--	Liver	--	--	2.73E-04	--	2.73E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	--	5.96E-13	--	5.96E-13
			di-n-Butylphthalate	--	--	--	--	--	--	Whole body	--	--	3.61E-09	--	3.61E-09
			Endosulfan I	--	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.78E-06	--	2.78E-06
			Endosulfan II	--	--	--	--	--	--	Body Weight/Kidney	--	--	2.83E-06	--	2.83E-06
			Endosulfan Sulfate	--	--	--	--	--	--	Body weight/Kidney/CNS	--	--	5.20E-06	--	5.20E-06
			Endrin aldehyde	--	--	--	--	--	--	Liver	--	--	3.30E-08	--	3.30E-08
			Endrin Ketone	--	--	--	--	--	--	Liver	--	--	5.23E-09	--	5.23E-09
			Fluoranthene	--	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.45E-05	--	7.45E-05
			Fluorene	--	--	--	--	--	--	Blood	--	--	7.66E-05	--	7.66E-05
			gamma-BHC (Lindane)	--	--	4.29E-10	--	4.29E-10	--	Liver/Kidney	--	--	1.10E-05	--	1.10E-05
			gamma-Chlordane	--	--	9.11E-11	--	9.11E-11	--	Liver	--	--	1.30E-05	--	1.30E-05
			Heptachlor	--	--	3.19E-08	--	3.19E-08	--	Liver	--	--	1.40E-04	--	1.40E-04
			Heptachlor Epoxide	--	--	1.41E-12	--	1.41E-12	--	Liver	--	--	1.19E-07	--	1.19E-07
			Indeno(1,2,3-cd)pyrene	--	--	5.69E-12	--	5.69E-12	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	2.98E-15	--	2.98E-15	--	No observed effect	--	--	1.57E-10	--	1.57E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	--	CNS	--	--	3.34E-03	--	3.34E-03
			Mercury	--	--	--	--	--	--	CNS	--	--	4.84E-07	--	4.84E-07
Methoxychlor	--	--	--	--	--	--	Developmental	--	--	3.58E-06	--	3.58E-06			
Methylene chloride	--	--	--	--	--	--	Liver	--	--	--	--	--			
Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	--	--	--	--	--	--	Respiratory System	--	--	1.69E-01	--	1.69E-01			
Nickel	--	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	--	No Observed Effect	--	--	1.11E-04	--	1.11E-04			
Phenol	--	--	--	--	--	--	Body Weight	--	--	3.03E-10	--	3.03E-10			
p-Isopropyltoluene	--	--	--	--	--	--	Kidney	--	--	3.61E-04	--	3.61E-04			
Pyrene	--	--	--	--	--	--	Kidney	--	--	1.07E-04	--	1.07E-04			
sec-Butylbenzene	--	--	--	--	--	--	Kidney	--	--	1.45E-04	--	1.45E-04			

TABLE H2-8.6  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	--	--	--	--	--	--	--
			Silver	--	--	--	--	--	--	--	--	--	--	--	--
Technical Chlordane	--		--	3.88E-12	--	3.88E-12	Liver	--	--	5.54E-04	--	--	5.54E-04		
Thallium	--		--	--	--	--	--	--	--	--	--	--	--	--	
Toluene	--		--	--	--	--	CNS	--	--	4.53E-08	--	--	4.53E-08		
Vanadium	--		--	--	--	--	--	--	--	--	--	--	--	--	
Zinc	--		--	--	--	--	--	--	--	--	--	--	--	--	
Chemical Total	0.00E+00		0.00E+00	8.03E-07	0.00E+00	8.03E-07		0.00E+00	0.00E+00	3.09E-01	0.00E+00	3.09E-01			
Exposure Point Total						8.03E-07						3.09E-01			
			Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.66E+00	--	1.66E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.64E+00	--	5.64E+00	
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.55E-01	--	3.55E-01	
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	5.55E-01	--	5.55E-01	
			1,2-Dichloropropane	--	--	2.98E-08	--	2.98E-08	Nasal	--	--	3.84E-03	--	3.84E-03	
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.14E-01	--	1.14E-01	
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	4.46E-02	--	4.46E-02	
			1,4-Dichlorobenzene	--	--	1.82E-05	--	1.82E-05	Liver	--	--	3.60E-02	--	3.60E-02	
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.01E-02	--	2.01E-02	
			4,4'-DDE	--	--	4.27E-11	--	4.27E-11	Liver	--	--	2.51E-06	--	2.51E-06	
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.85E-03	--	5.85E-03	
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.51E-04	--	1.51E-04	
			Aldrin	--	--	5.67E-09	--	5.67E-09	Liver	--	--	1.11E-04	--	1.11E-04	
			alpha-BHC	--	--	1.40E-08	--	1.40E-08	Liver/Kidney	--	--	4.46E-05	--	4.46E-05	
			alpha-Chlordane	--	--	3.93E-10	--	3.93E-10	Liver	--	--	5.62E-05	--	5.62E-05	
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.08E-04	--	3.08E-04	
			Benzo(b)fluoranthene	--	--	4.76E-08	--	4.76E-08	--	--	--	--	--	--	
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06	
			Chlorobenzene	--	--	--	--	--	Liver	--	--	7.87E-03	--	7.87E-03	
			Chrysene	--	--	2.69E-09	--	2.69E-09	--	--	--	--	--	--	
			Delta-BHC	--	--	7.07E-08	--	7.07E-08	Liver/Kidney	--	--	1.90E-03	--	1.90E-03	
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	2.45E-03	--	2.45E-03	
			Dieckrin	--	--	1.74E-07	--	1.74E-07	Liver	--	--	2.17E-03	--	2.17E-03	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.45E-05	--	7.45E-05	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	7.58E-05	--	7.58E-05	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.39E-04	--	1.39E-04	
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.54E-05	--	2.54E-05	
			Fluorene	--	--	--	--	--	Blood	--	--	1.39E-03	--	1.39E-03	
			gamma-BHC (Lindane)	--	--	1.53E-08	--	1.53E-08	Liver/Kidney	--	--	3.93E-04	--	3.93E-04	
			gamma-Chlordane	--	--	7.16E-12	--	7.16E-12	Liver	--	--	1.02E-06	--	1.02E-06	
			Heptachlor	--	--	1.02E-08	--	1.02E-08	Liver	--	--	4.50E-05	--	4.50E-05	
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.23E-05	--	1.23E-05	
			Methylene Chloride	--	--	4.67E-10	--	4.67E-10	Liver	--	--	3.41E-06	--	3.41E-06	

TABLE H2-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.52E+01	--	1.52E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.94E-03	--	3.94E-03
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.22E-03	--	1.22E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	2.75E-04	--	2.75E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.19E-03	--	1.19E-03
			Technical Chlordane	--	--	3.05E-11	--	3.05E-11	Liver	--	--	4.36E-03	--	4.36E-03
			Toluene	--	--	--	--	--	CNS	--	--	3.66E-07	--	3.66E-07
			Chemical Total	0.00E+00	0.00E+00	1.86E-05	0.00E+00	1.86E-05		0.00E+00	0.00E+00	2.37E+01	0.00E+00	2.37E+01
			Exposure Point Total					1.86E-05						2.37E+01
			Exposure Medium Total					1.94E-05						2.40E+01
Medium Total					3.90E-05						2.66E+01			
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	6.26E-07	--	6.26E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.53E-05	--	1.53E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	3.01E-06	--	3.01E-06
			1,2-Dichloroethane	--	--	1.12E-09	--	1.12E-09	Liver/Kidney/CNS	--	--	8.80E-05	--	8.80E-05
			1,2-Dichloropropane	--	--	3.14E-10	--	3.14E-10	Nasal	--	--	4.05E-05	--	4.05E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.69E-06	--	8.69E-06
			1,4-Dichlorobenzene	--	--	1.28E-10	--	1.28E-10	Liver	--	--	2.54E-07	--	2.54E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.58E-09	--	1.58E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.01E-09	--	4.01E-09
			4,4'-DDE	--	--	9.11E-12	--	9.11E-12	Liver	--	--	5.36E-07	--	5.36E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.74E-10	--	9.74E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.34E-07	--	1.34E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.70E-09	--	5.70E-09
			Aldrin	--	--	7.87E-10	--	7.87E-10	Liver	--	--	1.54E-05	--	1.54E-05
			alpha-BHC	--	--	3.69E-11	--	3.69E-11	Liver/Kidney	--	--	1.17E-07	--	1.17E-07
			alpha-Chlordane	--	--	4.86E-12	--	4.86E-12	Liver	--	--	6.94E-07	--	6.94E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.27E-09	--	2.27E-09
			Benzene	--	--	1.48E-10	--	1.48E-10	Blood	--	--	6.28E-06	--	6.28E-06
			Benzo(b)fluoranthene	--	--	7.36E-12	--	7.36E-12	--	--	--	--	--	--
			Bromoform	--	--	5.87E-13	--	5.87E-13	Liver	--	--	7.62E-08	--	7.62E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.67E-06	--	4.67E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	8.92E-07	--	8.92E-07
			Chloroform	--	--	3.45E-09	--	3.45E-09	Liver/Kidney/Respiratory	--	--	3.06E-05	--	3.06E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	5.97E-06	--	5.97E-06
			Chrysene	--	--	1.99E-13	--	1.99E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.10E-05	--	1.10E-05
			Dieldrin	--	--	3.26E-10	--	3.26E-10	Liver	--	--	4.07E-06	--	4.07E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.73E-09	--	7.73E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.27E-11	--	1.27E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.42E-07	--	1.42E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.62E-09	--	2.62E-09			

TABLE H2-8.6  
 EPA HAZ PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	5.18E-09	--	5.18E-09
			gamma-BHC (Lindane)	--	--	3.35E-14	--	3.35E-14	Liver/Kidney	--	--	8.58E-10	--	8.58E-10
			gamma-Chlordane	--	--	1.26E-11	--	1.26E-11	Liver	--	--	1.80E-06	--	1.80E-06
			Heptachlor	--	--	1.68E-09	--	1.68E-09	Liver	--	--	7.40E-06	--	7.40E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	6.45E-05	--	6.45E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	4.96E-06	--	4.96E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.35E-07	--	1.35E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.31E-06	--	1.31E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	6.11E-05	--	6.11E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.46E-06	--	1.46E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.81E-09	--	1.81E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	6.45E-05	--	6.45E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	3.18E-09	--	3.18E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	4.15E-06	--	4.15E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	4.70E-06	--	4.70E-06
			Toluene	--	--	--	--	--	CNS	--	--	5.51E-08	--	5.51E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	9.28E-06	--	9.28E-06
			Trichloroethene	--	--	7.72E-09	--	7.72E-09	CNS/Liver/Endocrine	--	--	1.93E-05	--	1.93E-05
			Vinyl chloride	--	--	1.24E-09	--	1.24E-09	Liver	--	--	1.40E-05	--	1.40E-05
						Chemical Total	0.00E+00	0.00E+00	1.70E-08	0.00E+00	1.70E-08		0.00E+00	0.00E+00
			Exposure Point Total											4.96E-04
			Exposure Medium Total					1.70E-08						4.96E-04
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)		1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.10E-04	--	1.10E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.95E-04	--	3.95E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	7.99E-05	--	7.99E-05
			1,2-Dichloroethane	--	--	3.36E-08	--	3.36E-08	Liver/Kidney/CNS	--	--	2.64E-03	--	2.64E-03
			1,2-Dichloropropane	--	--	9.30E-09	--	9.30E-09	Nasal	--	--	1.20E-03	--	1.20E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.26E-04	--	2.26E-04
			1,4-Dichlorobenzene	--	--	3.44E-09	--	3.44E-09	Liver	--	--	6.80E-06	--	6.80E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	8.12E-08	--	8.12E-08
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.12E-07	--	1.12E-07
			4,4'-DDE	--	--	8.21E-13	--	8.21E-13	Liver	--	--	4.83E-08	--	4.83E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	4.00E-08	--	4.00E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.70E-06	--	5.70E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.43E-07	--	2.43E-07
			Aldrin	--	--	8.58E-11	--	8.58E-11	Liver	--	--	1.68E-06	--	1.68E-06
			alpha-BHC	--	--	4.74E-12	--	4.74E-12	Liver/Kidney	--	--	1.50E-08	--	1.50E-08
			alpha-Chlordane	--	--	1.60E-12	--	1.60E-12	Liver	--	--	2.28E-07	--	2.28E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.64E-08	--	9.64E-08
			Benzene	--	--	4.33E-09	--	4.33E-09	Blood	--	--	1.85E-04	--	1.85E-04
			Benzo(b)fluoranthene	--	--	3.09E-10	--	3.09E-10	--	--	--	--	--	--
			Bromoform	--	--	3.15E-11	--	3.15E-11	Liver	--	--	4.09E-06	--	4.09E-06

TABLE H2-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	--	--	--	--	--	CNS	--	--	1.40E-04	--	1.40E-04			
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.50E-05	--	2.50E-05			
			Chloroform	--	--	1.02E-07	--	1.02E-07	Liver/Kidney/Respiratory	--	--	9.07E-04	--	9.07E-04			
			Chloromethane	--	--	--	--	--	CNS	--	--	1.93E-04	--	1.93E-04			
			Chrysene	--	--	8.70E-12	--	8.70E-12	--	--	--	--	--	--			
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	7.12E-04	--	7.12E-04			
			Dieldrin	--	--	1.25E-11	--	1.25E-11	Liver	--	--	1.56E-07	--	1.56E-07			
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.68E-09	--	1.68E-09			
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	5.59E-10	--	5.59E-10			
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.85E-06	--	3.85E-06			
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.06E-07	--	1.06E-07			
			Fluorene	--	--	--	--	--	Blood	--	--	2.70E-07	--	2.70E-07			
			gamma-BHC (Lindane)	--	--	1.32E-12	--	1.32E-12	Liver/Kidney	--	--	3.39E-08	--	3.39E-08			
			gamma-Chlordane	--	--	7.73E-13	--	7.73E-13	Liver	--	--	1.10E-07	--	1.10E-07			
			Heptachlor	--	--	4.54E-11	--	4.54E-11	Liver	--	--	1.99E-07	--	1.99E-07			
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	3.39E-03	--	3.39E-03			
			m,p-Xylene	--	--	--	--	--	CNS	--	--	2.88E-04	--	2.88E-04			
			Methoxychlor	--	--	--	--	--	Developmental	--	--	5.87E-09	--	5.87E-09			
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	7.12E-05	--	7.12E-05			
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	3.43E-03	--	3.43E-03			
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	8.28E-05	--	8.28E-05			
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.00E-07	--	1.00E-07			
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.39E-03	--	3.39E-03			
			Pyrene	--	--	--	--	--	Kidney	--	--	1.33E-07	--	1.33E-07			
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.94E-06	--	2.94E-06			
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	2.95E-04	--	2.95E-04			
			Toluene	--	--	--	--	--	CNS	--	--	3.16E-07	--	3.16E-07			
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	6.25E-04	--	6.25E-04			
			Trichloroethene	--	--	4.73E-07	--	4.73E-07	CNS/Liver/Endocrine	--	--	1.18E-03	--	1.18E-03			
			Vinyl chloride	--	--	8.33E-08	--	8.33E-08	Liver	--	--	9.40E-04	--	9.40E-04			
						Chemical Total	0.00E+00	0.00E+00	7.09E-07	0.00E+00	7.09E-07		0.00E+00	0.00E+00	2.05E-02	0.00E+00	2.05E-02
					Exposure Point Total						7.09E-07						2.05E-02
				Exposure Medium Total							7.09E-07						2.05E-02
Medium Total								7.26E-07						2.10E-02			
Receptor Total								3.98E-05						2.66E+01			

**TABLE H2-8.6**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:**
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.01E+00
Total Organ 2 (Kidney) HI Across All Media =	8.57E+00
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	7.15E-01
Total Organ 5 (Endocrine) HI Across All Media =	1.20E-03
Total Organ 6 (Blood) HI Across All Media =	1.21E+00
Total Organ 7 (Adrenal) HI Across All Media =	4.68E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	4.83E-03
Total Organ 9 (Skin) HI Across All Media =	7.42E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	1.01E-01
Total Organ 11 (Vision/Eye) HI Across All Media =	2.11E-01
Total Organ 12 (Body Weight) HI Across All Media =	5.97E-01
Total Organ 13 (Developmental) HI Across All Media =	1.20E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.59E+01
Total Organ 15 (Whole Body) HI Across All Media =	1.15E-01
Total Organ 16 (Immune System) HI Across All Media =	2.54E-01
Total Organ 17 (Organ Weight) HI Across All Media =	4.55E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.11E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	5.60E-03

TABLE H2-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	9.59E-04	1.07E-04	--	--	1.07E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	3.26E-03	3.65E-05	--	--	3.30E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	6.39E-05	7.16E-07	--	--	6.46E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.85E-03	2.07E-05	--	--	1.87E-03
			1,2-Dichloropropane	4.47E-11	5.01E-13	--	--	4.52E-11	Nasal	2.02E-05	2.26E-07	--	--	2.04E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.05E-05	2.29E-07	--	--	2.07E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	2.34E-04	2.63E-06	--	--	2.37E-04
			1,4-Dichlorobenzene	2.98E-08	--	--	--	2.98E-08	Organ Weight	1.45E-03	--	--	--	1.45E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	6.71E-05	7.52E-07	--	1.75E-03	1.82E-03
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	1.04E-05	1.16E-06	--	6.42E-04	6.53E-04
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	2.67E-03	2.99E-05	--	--	2.70E-03
			4,4'-DDD	5.26E-11	5.89E-13	--	2.33E-12	5.55E-11	Liver	1.53E-05	1.72E-07	--	6.81E-07	1.62E-05
			4,4'-DDE	5.11E-09	5.73E-11	--	1.64E-10	5.33E-09	Liver	1.05E-03	1.18E-05	--	3.88E-05	1.10E-03
			4,4'-DDT	2.76E-09	9.28E-11	--	3.83E-10	3.24E-09	Liver	5.69E-04	1.91E-05	--	7.88E-05	6.67E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	3.45E-04	3.87E-05	--	2.20E-02	2.24E-02
			4-Nitroaniline	2.38E-09	2.66E-10	--	1.04E-07	1.06E-07	--	1.32E-03	1.48E-04	--	5.76E-02	5.90E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	5.37E-03	6.01E-04	--	3.51E-01	3.57E-01
			Acenaphthene	--	--	--	--	--	Liver	4.51E-04	6.57E-05	--	--	5.17E-04
			Acenaphthylene	--	--	--	--	--	Liver	1.11E-05	1.24E-07	--	--	1.12E-05
			Aldrin	4.04E-08	4.52E-09	--	2.93E-09	4.78E-08	Liver	2.77E-03	3.10E-04	--	2.01E-04	3.28E-03
			alpha-BHC	8.40E-10	9.41E-12	--	1.32E-08	1.40E-08	Liver/Kidney	9.33E-06	1.05E-07	--	1.46E-04	1.56E-04
			alpha-Chlordane	5.20E-10	--	--	8.30E-11	6.03E-10	Liver	1.04E-04	--	--	1.66E-05	1.21E-04
			Aluminum	--	--	--	--	--	CNS	5.64E-02	6.32E-05	--	1.22E-03	5.77E-02
			Anthracene	--	--	--	--	--	No observed effect	2.25E-05	3.27E-06	--	--	2.58E-05
			Antimony	--	--	--	--	--	Whole body/Blood	6.52E-02	7.30E-05	--	6.53E-02	1.31E-01
			Aroclor-1248	4.38E-07	6.87E-08	--	1.95E-08	5.27E-07	Immune System/ Eye/Finger and Toe Nails	3.84E-01	6.01E-02	--	1.71E-02	4.61E-01
			Aroclor-1254	1.62E-07	2.54E-08	--	9.66E-08	2.84E-07	Immune System/ Eye/Finger and Toe Nails	1.42E-01	2.23E-02	--	8.45E-02	2.49E-01
			Aroclor-1260	1.98E-07	3.10E-08	--	4.21E-09	2.33E-07	Immune System/ Eye/Finger and Toe Nails	1.73E-01	2.71E-02	--	3.68E-03	2.04E-01
			Aroclor-1268	1.01E-08	1.59E-09	--	6.04E-09	1.78E-08	Immune System/ Eye/Finger and Toe Nails	6.87E-03	1.39E-03	--	5.28E-03	1.55E-02
			Arsenic	1.69E-06	5.68E-08	--	3.39E-07	2.08E-06	Skin	1.31E-01	4.41E-03	--	2.63E-02	1.62E-01
			Barium	--	--	--	--	--	Kidney	6.19E-03	6.94E-06	--	3.10E-03	9.30E-03
			Benzo(a)anthracene	6.67E-07	9.72E-08	--	5.72E-09	7.70E-07	--	--	--	--	--	--
			Benzo(a)pyrene	2.22E-06	3.23E-07	--	1.08E-08	2.55E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	3.65E-07	5.32E-08	--	1.78E-08	4.36E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.63E-04	2.37E-05	--	6.04E-06	1.92E-04
			Benzo(k)fluoranthene	4.35E-08	6.33E-09	--	2.11E-09	5.19E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	7.61E-04	8.52E-07	--	3.81E-05	8.00E-04
			Beta-BHC	7.23E-10	8.10E-12	--	1.13E-08	1.21E-08	Kidney/Liver	7.03E-05	7.88E-07	--	1.10E-03	1.17E-03
			bis(2-ethylhexyl)phthalate	2.00E-08	2.24E-10	--	2.31E-07	2.52E-07	Liver	2.50E-03	2.80E-05	--	2.89E-02	3.14E-02
			Cadmium	--	--	--	--	--	Kidney	1.21E-01	1.36E-04	--	6.07E-01	7.28E-01
			Carbon disulfide	--	--	--	--	--	Developmental	1.53E-08	4.30E-09	--	--	1.96E-08
			Chlorobenzene	--	--	--	--	--	Liver	3.52E-05	3.94E-07	--	--	3.56E-05

TABLE H2-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	-	-	-	-	-	No observed effect	4.74E-04	5.31E-07	-	7.12E-05	5.46E-04	
			Chrysene	7.58E-09	1.10E-09	-	4.56E-10	9.14E-09	-	-	-	-	-	-	-
			Cobalt	-	-	-	-	-	Blood	2.42E-03	2.71E-06	-	5.66E-04	2.99E-03	
			Copper	-	-	-	-	-	GI Tract	9.86E-03	1.10E-05	-	8.23E-02	9.22E-02	
			Delta-BHC	2.76E-09	1.55E-10	-	3.53E-10	3.27E-09	Liver/Kidney	2.68E-04	1.50E-05	-	3.43E-05	3.18E-04	
			Dibenzo(a,h)anthracene	4.23E-07	6.16E-08	-	1.27E-08	4.98E-07	-	-	-	-	-	-	-
			Dibenzofuran	-	-	-	-	-	Kidney	4.16E-02	4.65E-04	-	-	4.20E-02	
			Dieldrin	1.61E-07	1.80E-09	-	2.85E-06	3.02E-06	Liver	7.05E-03	7.90E-05	-	1.25E-01	1.32E-01	
			Dimethylphthalate	-	-	-	-	-	-	-	2.43E-08	2.72E-10	-	1.21E-06	1.23E-06
			di-n-Butylphthalate	-	-	-	-	-	Whole Body	1.41E-04	1.58E-06	-	9.79E-06	1.52E-04	
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	2.45E-05	1.37E-08	-	3.67E-04	3.93E-04	
			Endosulfan II	-	-	-	-	-	Body weight/Kidney	2.54E-05	1.42E-06	-	3.64E-04	3.91E-04	
			Endosulfan Sulfate	-	-	-	-	-	Body weight/Kidney/CNS	4.58E-05	2.57E-06	-	6.42E-04	6.90E-04	
			Endrin aldehyde	-	-	-	-	-	Liver	8.97E-04	5.02E-05	-	4.97E-05	9.97E-04	
			Endrin Ketone	-	-	-	-	-	Liver	2.13E-04	-	-	1.18E-05	2.25E-04	
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	4.24E-03	6.17E-04	-	3.82E-04	5.24E-03	
			Fluorene	-	-	-	-	-	Blood	4.66E-04	6.79E-05	-	-	5.34E-04	
			gamma-BHC (Lindane)	6.17E-10	2.77E-11	-	3.40E-08	3.47E-08	Liver/Kidney	5.54E-05	2.48E-06	-	3.06E-03	3.11E-03	
			gamma-Chlordane	8.38E-10	-	-	1.34E-10	9.71E-10	Liver	1.68E-04	-	-	2.67E-05	1.94E-04	
			Heptachlor	5.67E-09	6.35E-11	-	6.72E-10	6.41E-09	Liver	8.82E-05	9.88E-07	-	1.05E-05	9.97E-05	
			Heptachlor Epoxide	1.85E-08	2.08E-10	-	7.15E-07	7.33E-07	Liver	5.49E-03	6.14E-05	-	2.11E-01	2.17E-01	
			Indeno(1,2,3-cd)pyrene	1.16E-07	1.69E-08	-	4.24E-09	1.38E-07	-	-	-	-	-	-	-
			Iron	-	-	-	-	-	Liver	8.68E-01	9.72E-04	-	2.88E-02	8.98E-01	
			Isophorone	3.47E-11	3.89E-12	-	-	3.86E-11	No observed effect	6.39E-06	7.16E-07	-	-	7.11E-06	
			Lead	-	-	-	-	-	-	-	-	-	-	-	-
			Manganese	-	-	-	-	-	CNS	8.82E-02	9.88E-05	-	1.47E-01	2.36E-01	
			Mercury	-	-	-	-	-	Immune System	6.60E-03	-	-	4.41E-02	5.07E-02	
			Methoxychlor	-	-	-	-	-	Developmental	1.53E-04	1.72E-06	-	4.44E-06	1.60E-04	
			Molybdenum	-	-	-	-	-	Blood	3.20E-03	3.59E-06	-	6.42E-03	9.62E-03	
			Naphthalene	-	-	-	-	-	Whole Body	4.16E-03	6.05E-04	-	-	4.76E-03	
			Nickel	-	-	-	-	-	Whole Body	1.25E-02	1.40E-05	-	2.51E-02	3.76E-02	
			Phenanthrene	-	-	-	-	-	No Observed Effect	2.97E-04	3.32E-06	-	-	3.00E-04	
			Phenol	-	-	-	-	-	Whole Body	1.24E-05	1.38E-06	-	2.04E-03	2.05E-03	
			p-Isopropyltoluene	-	-	-	-	-	Kidney	7.03E-06	-	-	-	7.03E-06	
			Pyrene	-	-	-	-	-	Kidney	5.15E-03	7.49E-04	-	-	5.89E-03	
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	1.13E-05	-	-	-	1.13E-05	
			Selenium	-	-	-	-	-	Whole Body	2.87E-04	3.21E-07	-	2.40E-04	5.27E-04	
			Silver	-	-	-	-	-	Skin	1.48E-03	1.66E-06	-	4.95E-03	6.43E-03	
			Technical Chlordane	3.52E-08	1.58E-09	-	5.62E-09	4.24E-08	Liver	7.05E-03	3.16E-04	-	1.12E-03	8.48E-03	
			Thallium	-	-	-	-	-	Blood	4.81E-02	-	-	6.43E-04	4.88E-02	
			Toluene	-	-	-	-	-	Liver/Kidney	3.44E-08	3.85E-10	-	-	3.47E-08	
Vanadium	-	-	-	-	-	Kidney	2.18E-01	2.44E-04	-	2.19E-02	2.40E-01				

TABLE H2-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	9.66E-03	1.08E-05	--	2.91E-01	3.00E-01
		Exposure Point Total	Chemical Total	6.67E-06	7.52E-07	0.00E+00	4.49E-06	1.19E-05		2.46E+00	1.21E-01	0.00E+00	2.27E+00	4.86E+00
		Exposure Medium Total					1.19E-05							4.86E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.81E-02	--	4.81E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.63E-01	--	1.63E-01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.46E-02	--	3.46E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	4.73E-02	--	4.73E-02
			1,2-Dichloropropane	--	--	2.81E-09	--	2.81E-09	Nasal	--	--	1.27E-03	--	1.27E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.08E-02	--	1.08E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	2.75E-03	--	2.75E-03
			1,4-Dichlorobenzene	--	--	4.97E-07	--	4.97E-07	Liver	--	--	3.44E-03	--	3.44E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	4.03E-09	--	4.03E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	7.49E-04	--	7.49E-04
			4,4'-DDD	--	--	3.16E-15	--	3.16E-15	Liver	--	--	9.21E-10	--	9.21E-10
			4,4'-DDE	--	--	4.77E-11	--	4.77E-11	Liver	--	--	9.82E-06	--	9.82E-06
			4,4'-DDT	--	--	1.66E-13	--	1.66E-13	Liver	--	--	3.41E-08	--	3.41E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.07E-08	--	2.07E-08
			4-Nitroaniline	--	--	1.43E-13	--	1.43E-13	--	--	--	2.38E-07	--	2.38E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	2.83E-07	--	2.83E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.91E-04	--	4.91E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.21E-05	--	1.21E-05
			Aldrin	--	--	1.39E-09	--	1.39E-09	Liver	--	--	9.51E-05	--	9.51E-05
			alpha-BHC	--	--	3.32E-10	--	3.32E-10	Liver/Kidney	--	--	3.68E-06	--	3.68E-06
			alpha-Chlordane	--	--	4.08E-11	--	4.08E-11	Liver	--	--	2.04E-05	--	2.04E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	2.37E-03	--	2.37E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.44E-05	--	2.44E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	2.63E-11	--	2.63E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.30E-05	--	2.30E-05
			Aroclor-1254	--	--	9.73E-12	--	9.73E-12	Immune System/Eye/Finger and Toe nails	--	--	8.52E-06	--	8.52E-06
			Aroclor-1260	--	--	1.19E-11	--	1.19E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.04E-05	--	1.04E-05
			Aroclor-1268	--	--	6.08E-13	--	6.08E-13	Immune System/Eye/Finger and Toe Nails	--	--	5.32E-07	--	5.32E-07
			Arsenic	--	--	1.01E-09	--	1.01E-09	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	1.86E-04	--	1.86E-04
			Benzo(a)anthracene	--	--	4.00E-11	--	4.00E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	1.33E-10	--	1.33E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.87E-08	--	1.87E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	9.76E-09	--	9.76E-09
			Benzo(k)fluoranthene	--	--	2.61E-12	--	2.61E-12	--	--	--	--	--	--
			Beryllium	--	--	2.19E-11	--	2.19E-11	Immune System/Lung	--	--	1.60E-05	--	1.60E-05
			Beta-BHC	--	--	4.47E-14	--	4.47E-14	Liver/Kidney	--	--	4.22E-09	--	4.22E-09

TABLE H2-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.20E-12	--	1.20E-12	Liver	--	--	1.50E-07	--	1.50E-07
			Cadmium	--	--	6.54E-10	--	6.54E-10	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.15E-06	--	1.15E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.54E-03	--	1.54E-03
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	6.60E-10	--	6.60E-10	--	--	--	--	--	--
			Cobalt	--	--	8.13E-10	--	8.13E-10	Respiratory System	--	--	5.09E-04	--	5.09E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.12E-09	--	1.12E-09	Liver/Kidney	--	--	1.06E-04	--	1.06E-04
			Dibenzo(a,h)anthracene	--	--	2.54E-11	--	2.54E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.14E-02	--	1.14E-02
			Dieldrin	--	--	1.72E-08	--	1.72E-08	Liver	--	--	7.51E-04	--	7.51E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	1.46E-12	--	1.46E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	8.44E-09	--	8.44E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.80E-06	--	6.80E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	7.04E-06	--	7.04E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.27E-05	--	1.27E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	5.38E-08	--	5.38E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.28E-08	--	1.28E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.17E-04	--	2.17E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.16E-04	--	2.16E-04
			gamma-BHC (Lindane)	--	--	3.00E-10	--	3.00E-10	Liver/Kidney	--	--	2.69E-05	--	2.69E-05
			gamma-Chlordane	--	--	6.57E-11	--	6.57E-11	Liver	--	--	3.28E-05	--	3.28E-05
			Heptachlor	--	--	2.22E-08	--	2.22E-08	Liver	--	--	3.42E-04	--	3.42E-04
			Heptachlor Epoxide	--	--	1.11E-12	--	1.11E-12	Liver	--	--	3.29E-07	--	3.29E-07
			Indeno(1,2,3-cd)pyrene	--	--	6.98E-12	--	6.98E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	2.08E-15	--	2.08E-15	No observed effect	--	--	3.84E-10	--	3.84E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	8.89E-03	--	8.89E-03
			Mercury	--	--	--	--	--	CNS	--	--	1.38E-06	--	1.38E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.74E-06	--	8.74E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.13E-01	--	4.13E-01
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.23E-04	--	3.23E-04			
Phenol	--	--	--	--	--	Body Weight	--	--	7.42E-10	--	7.42E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.82E-04	--	8.82E-04			
Pyrene	--	--	--	--	--	Kidney	--	--	3.12E-04	--	3.12E-04			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.55E-04	--	3.55E-04			
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H2-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	2.76E-12	--	2.76E-12	Liver	--	--	1.38E-03	--	1.38E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.11E-07	--	1.11E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	5.65E-07	0.00E+00	5.65E-07		0.00E+00	0.00E+00	7.56E-01	0.00E+00	7.56E-01
			Exposure Point Total					5.65E-07						7.56E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.67E-01	--	8.67E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.36E+00	--	1.36E+00
			1,2-Dichloropropane	--	--	2.08E-08	--	2.08E-08	Nasal	--	--	9.39E-03	--	9.39E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.77E-01	--	2.77E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.09E-01	--	1.09E-01
			1,4-Dichlorobenzene	--	--	1.27E-05	--	1.27E-05	Liver	--	--	8.79E-02	--	8.79E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.91E-02	--	4.91E-02
			4,4'-DDE	--	--	2.98E-11	--	2.98E-11	Liver	--	--	6.14E-06	--	6.14E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.43E-02	--	1.43E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.69E-04	--	3.69E-04
			Aldrin	--	--	3.96E-09	--	3.96E-09	Liver	--	--	2.72E-04	--	2.72E-04
			alpha-BHC	--	--	9.81E-09	--	9.81E-09	Liver/Kidney	--	--	1.09E-04	--	1.09E-04
			alpha-Chlordane	--	--	2.75E-10	--	2.75E-10	Liver	--	--	1.37E-04	--	1.37E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.52E-04	--	7.52E-04
			Benzo(b)fluoranthene	--	--	3.33E-08	--	3.33E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	3.57E-06	--	3.57E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.92E-02	--	1.92E-02
			Chrysene	--	--	1.88E-09	--	1.88E-09	--	--	--	--	--	--
			Delta-BHC	--	--	4.93E-08	--	4.93E-08	Liver/Kidney	--	--	4.66E-03	--	4.66E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.00E-03	--	6.00E-03
			Dieldrin	--	--	1.21E-07	--	1.21E-07	Liver	--	--	5.31E-03	--	5.31E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.82E-04	--	1.82E-04
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.85E-04	--	1.85E-04
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	3.40E-04	--	3.40E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.21E-05	--	6.21E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.39E-03	--	3.39E-03
			gamma-BHC (Lindane)	--	--	1.07E-08	--	1.07E-08	Liver/Kidney	--	--	9.61E-04	--	9.61E-04
			gamma-Chlordane	--	--	5.00E-12	--	5.00E-12	Liver	--	--	2.50E-06	--	2.50E-06
			Heptachlor	--	--	7.15E-09	--	7.15E-09	Liver	--	--	1.10E-04	--	1.10E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.00E-05	--	3.00E-05
			Methylene Chloride	--	--	3.26E-10	--	3.26E-10	Liver	--	--	8.32E-06	--	8.32E-06
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	3.72E+01	--	3.72E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	9.64E-03	--	9.64E-03

TABLE H2-8.7

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.97E-03	--	2.97E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	6.71E-04	--	6.71E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.90E-03	--	2.90E-03
			Technical Chlordane	--	--	2.13E-11	--	2.13E-11	Liver	--	--	1.06E-02	--	1.06E-02
			Toluene	--	--	--	--	--	CNS	--	--	8.95E-07	--	8.95E-07
			Chemical Total	0.00E+00	0.00E+00	1.30E-05	0.00E+00	1.30E-05			0.00E+00	0.00E+00	5.78E+01	0.00E+00
Exposure Point Total													5.78E+01	
Exposure Medium Total														5.86E+01
Medium Total							2.54E-05							6.34E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.53E-06	--	1.53E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.73E-05	--	3.73E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	7.35E-06	--	7.35E-06
			1,2-Dichloroethane	--	--	7.83E-10	--	7.83E-10	Liver/Kidney/CNS	--	--	2.15E-04	--	2.15E-04
			1,2-Dichloropropane	--	--	2.19E-10	--	2.19E-10	Nasal	--	--	9.91E-05	--	9.91E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.12E-05	--	2.12E-05
			1,4-Dichlorobenzene	--	--	8.96E-11	--	8.96E-11	Liver	--	--	6.20E-07	--	6.20E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	3.86E-09	--	3.86E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.79E-09	--	9.79E-09
			4,4'-DDE	--	--	6.36E-12	--	6.36E-12	Liver	--	--	1.31E-06	--	1.31E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	2.38E-09	--	2.38E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.27E-07	--	3.27E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.39E-08	--	1.39E-08
			Aldrin	--	--	5.50E-10	--	5.50E-10	Liver	--	--	3.77E-05	--	3.77E-05
			alpha-BHC	--	--	2.58E-11	--	2.58E-11	Liver/Kidney	--	--	2.87E-07	--	2.87E-07
			alpha-Chlordane	--	--	3.39E-12	--	3.39E-12	Liver	--	--	1.70E-06	--	1.70E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.54E-09	--	5.54E-09
			Benzene	--	--	1.03E-10	--	1.03E-10	Blood	--	--	1.54E-05	--	1.54E-05
			Benzo(b)fluoranthene	--	--	5.14E-12	--	5.14E-12	--	--	--	--	--	--
			Bromoform	--	--	4.10E-13	--	4.10E-13	Liver	--	--	1.86E-07	--	1.86E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.14E-05	--	1.14E-05
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.18E-06	--	2.18E-06
			Chloroform	--	--	2.41E-09	--	2.41E-09	Liver/Kidney/Respiratory	--	--	7.48E-05	--	7.48E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.46E-05	--	1.46E-05
			Chrysene	--	--	1.39E-13	--	1.39E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.68E-05	--	2.68E-05
			Dieldrin	--	--	2.27E-10	--	2.27E-10	Liver	--	--	9.95E-06	--	9.95E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.89E-08	--	1.89E-08
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.11E-11	--	3.11E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.48E-07	--	3.48E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.40E-09	--	6.40E-09			
Fluorene	--	--	--	--	--	Blood	--	--	1.27E-08	--	1.27E-08			
gamma-BHC (Lindane)	--	--	2.34E-14	--	2.34E-14	Liver/Kidney	--	--	2.10E-09	--	2.10E-09			

TABLE H2-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	8.81E-12	--	8.81E-12	Liver	--	--	4.40E-06	--	4.40E-06
			Heptachlor	--	--	1.18E-09	--	1.18E-09	Liver	--	--	1.81E-05	--	1.81E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.21E-05	--	1.21E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.31E-07	--	3.31E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	3.21E-06	--	3.21E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.49E-04	--	1.49E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.57E-06	--	3.57E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.42E-09	--	4.42E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.78E-09	--	7.78E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.01E-05	--	1.01E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.15E-05	--	1.15E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.35E-07	--	1.35E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.27E-05	--	2.27E-05
			Trichloroethene	--	--	5.39E-09	--	5.39E-09	CNS/Liver/Endocrine	--	--	4.72E-05	--	4.72E-05
			Vinyl chloride	--	--	8.65E-10	--	8.65E-10	Liver	--	--	3.42E-05	--	3.42E-05
			Chemical Total	0.00E+00	0.00E+00	1.19E-08	0.00E+00	1.19E-08		0.00E+00	0.00E+00	1.21E-03	0.00E+00	1.21E-03
			Exposure Point Total					1.19E-08						1.21E-03
			Exposure Medium Total					1.19E-08						1.21E-03
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	2.69E-04	--	2.69E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.65E-04	--	9.65E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.95E-04	--	1.95E-04
			1,2-Dichloroethane	--	--	2.35E-08	--	2.35E-08	Liver/Kidney/CNS	--	--	6.44E-03	--	6.44E-03
			1,2-Dichloropropane	--	--	6.49E-09	--	6.49E-09	Nasal	--	--	2.93E-03	--	2.93E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.52E-04	--	5.52E-04
			1,4-Dichlorobenzene	--	--	2.40E-09	--	2.40E-09	Liver	--	--	1.66E-05	--	1.66E-05
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.99E-07	--	1.99E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.75E-07	--	2.75E-07
			4,4'-DDE	--	--	5.73E-13	--	5.73E-13	Liver	--	--	1.18E-07	--	1.18E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.79E-08	--	9.79E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.39E-05	--	1.39E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.93E-07	--	5.93E-07
			Aldrin	--	--	6.00E-11	--	6.00E-11	Liver	--	--	4.11E-06	--	4.11E-06
			alpha-BHC	--	--	3.31E-12	--	3.31E-12	Liver/Kidney	--	--	3.68E-08	--	3.68E-08
			alpha-Chlordane	--	--	1.12E-12	--	1.12E-12	Liver	--	--	5.58E-07	--	5.58E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.36E-07	--	2.36E-07
			Benzene	--	--	3.03E-09	--	3.03E-09	Blood	--	--	4.51E-04	--	4.51E-04
			Benzo(b)fluoranthene	--	--	2.16E-10	--	2.16E-10	--	--	--	--	--	--
			Bromoform	--	--	2.20E-11	--	2.20E-11	Liver	--	--	1.00E-05	--	1.00E-05
Carbon disulfide	--	--	--	--	--	CNS	--	--	3.42E-04	--	3.42E-04			
Chlorobenzene	--	--	--	--	--	Liver	--	--	6.12E-05	--	6.12E-05			

TABLE H2-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	--	--	7.14E-08	--	7.14E-08	Liver/Kidney/Respiratory	--	--	2.22E-03	--	2.22E-03	
			Chloromethane	--	--	--	--	--	CNS	--	--	4.73E-04	--	4.73E-04	
			Chrysene	--	--	6.08E-12	--	6.08E-12	--	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.74E-03	--	1.74E-03	
			Dieldrin	--	--	8.71E-12	--	8.71E-12	Liver	--	--	3.81E-07	--	3.81E-07	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.10E-09	--	4.10E-09	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.37E-09	--	1.37E-09	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	9.41E-06	--	9.41E-06	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.59E-07	--	2.59E-07	
			Fluorene	--	--	--	--	--	Blood	--	--	6.59E-07	--	6.59E-07	
			gamma-BHC (Lindane)	--	--	9.23E-13	--	9.23E-13	Liver/Kidney	--	--	8.28E-08	--	8.28E-08	
			gamma-Chlordane	--	--	5.40E-13	--	5.40E-13	Liver	--	--	2.70E-07	--	2.70E-07	
			Heptachlor	--	--	3.17E-11	--	3.17E-11	Liver	--	--	4.87E-07	--	4.87E-07	
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03	
			m,p-Xylene	--	--	--	--	--	CNS	--	--	7.04E-04	--	7.04E-04	
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.43E-08	--	1.43E-08	
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.74E-04	--	1.74E-04	
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.38E-03	--	8.38E-03	
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.02E-04	--	2.02E-04	
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.45E-07	--	2.45E-07	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03	
			Pyrene	--	--	--	--	--	Kidney	--	--	3.24E-07	--	3.24E-07	
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	7.20E-06	--	7.20E-06	
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	7.20E-04	--	7.20E-04	
			Toluene	--	--	--	--	--	CNS	--	--	7.72E-07	--	7.72E-07	
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.53E-03	--	1.53E-03	
			Trichloroethene	--	--	3.30E-07	--	3.30E-07	CNS/Liver/Endocrine	--	--	2.89E-03	--	2.89E-03	
			Vinyl chloride	--	--	5.82E-08	--	5.82E-08	Liver	--	--	2.30E-03	--	2.30E-03	
			Chemical Total	0.00E+00	0.00E+00	4.95E-07	0.00E+00	4.95E-07		0.00E+00	0.00E+00	5.02E-02	0.00E+00	5.02E-02	
		Exposure Point Total						4.95E-07						5.02E-02	
	Exposure Medium Total							4.95E-07						5.02E-02	
Medium Total								5.07E-07						5.14E-02	
Receptor Total						Receptor Risk Total		2.60E-05				Receptor HI Total		6.35E+01	

**TABLE H2-8.7**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:**
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.94E+00
Total Organ 2 (Kidney) HI Across All Media =	1.96E+01
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	1.58E+00
Total Organ 5 (Endocrine) HI Across All Media =	2.94E-03
Total Organ 6 (Blood) HI Across All Media =	2.06E+00
Total Organ 7 (Adrenal) HI Across All Media =	4.36E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.38E-02
Total Organ 9 (Skin) HI Across All Media =	1.69E-01
Total Organ 10 (Gastrointestinal System) HI Across All Media =	9.30E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	9.29E-01
Total Organ 12 (Body Weight) HI Across All Media =	1.46E+00
Total Organ 13 (Developmental) HI Across All Media =	3.95E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	3.88E+01
Total Organ 15 (Whole Body) HI Across All Media =	2.00E-01
Total Organ 16 (Immune System) HI Across All Media =	9.80E-01
Total Organ 17 (Organ Weight) HI Across All Media =	2.18E-03
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	9.29E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.37E-02

TABLE H2-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	9.59E-04	1.07E-04	--	--	1.07E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	3.26E-03	3.65E-05	--	--	3.30E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	6.39E-05	7.16E-07	--	--	6.46E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.85E-03	2.07E-05	--	--	1.87E-03
			1,2-Dichloropropane	4.47E-11	5.01E-13	--	--	4.52E-11	Nasal	2.02E-05	2.26E-07	--	--	2.04E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.05E-05	2.29E-07	--	--	2.07E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	2.34E-04	2.63E-06	--	--	2.37E-04
			1,4-Dichlorobenzene	2.98E-08	--	--	--	2.98E-08	Organ Weight	1.45E-03	--	--	--	1.45E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	6.71E-05	7.52E-07	--	1.75E-03	1.82E-03
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	1.04E-05	1.16E-06	--	6.42E-04	6.53E-04
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	2.32E-03	2.59E-05	--	--	2.34E-03
			4,4'-DDD	5.26E-11	5.89E-13	--	2.33E-12	5.55E-11	Liver	1.53E-05	1.72E-07	--	6.81E-07	1.62E-05
			4,4'-DDE	4.66E-09	5.22E-11	--	1.50E-10	4.86E-09	Liver	9.59E-04	1.07E-05	--	3.08E-05	1.00E-03
			4,4'-DDT	2.61E-09	8.76E-11	--	3.61E-10	3.06E-09	Liver	5.37E-04	1.80E-05	--	7.44E-05	6.29E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	3.45E-04	3.87E-05	--	2.20E-02	2.24E-02
			4-Nitroaniline	2.38E-09	2.66E-10	--	1.04E-07	1.06E-07	--	1.32E-03	1.48E-04	--	5.76E-02	5.90E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	5.37E-03	6.01E-04	--	3.51E-01	3.57E-01
			Acenaphthene	--	--	--	--	--	Liver	3.70E-04	5.39E-05	--	--	4.24E-04
			Acenaphthylene	--	--	--	--	--	Liver	9.54E-06	1.07E-07	--	--	9.65E-06
			Aldrin	4.04E-08	4.52E-09	--	2.93E-09	4.78E-08	Liver	2.77E-03	3.10E-04	--	2.01E-04	3.28E-03
			alpha-BHC	8.40E-10	9.41E-12	--	1.32E-08	1.40E-08	Liver/Kidney	9.33E-06	1.05E-07	--	1.46E-04	1.56E-04
			alpha-Chlordane	4.46E-10	--	--	7.11E-11	5.17E-10	Liver	8.93E-05	--	--	1.42E-05	1.03E-04
			Aluminum	--	--	--	--	--	CNS	5.79E-02	6.48E-05	--	1.26E-03	5.92E-02
			Anthracene	--	--	--	--	--	No observed effect	1.95E-05	2.83E-06	--	--	2.23E-05
			Antimony	--	--	--	--	--	Whole body/Blood	4.35E-02	4.88E-05	--	4.36E-02	8.72E-02
			Aroclor-1248	4.38E-07	6.87E-08	--	1.95E-08	5.27E-07	Immune System/ Eye/Finger and Toe Nails	3.84E-01	6.01E-02	--	1.71E-02	4.61E-01
			Aroclor-1254	1.60E-07	2.51E-08	--	9.52E-08	2.80E-07	Immune System/ Eye/Finger and Toe Nails	1.40E-01	2.19E-02	--	8.33E-02	2.45E-01
			Aroclor-1260	1.78E-07	2.80E-08	--	3.80E-09	2.10E-07	Immune System/ Eye/Finger and Toe Nails	1.56E-01	2.45E-02	--	3.32E-03	1.84E-01
			Aroclor-1268	9.93E-09	1.56E-09	--	5.91E-09	1.74E-08	Immune System/ Eye/Finger and Toe Nails	8.69E-03	1.36E-03	--	5.17E-03	1.52E-02
			Arsenic	2.61E-06	8.78E-08	--	5.24E-07	3.22E-06	Skin	2.03E-01	6.83E-03	--	4.07E-02	2.51E-01
			Barium	--	--	--	--	--	Kidney	6.34E-03	7.10E-06	--	3.18E-03	9.53E-03
			Benzo(a)anthracene	5.62E-07	8.18E-08	--	4.81E-09	6.48E-07	--	--	--	--	--	--
			Benzo(a)pyrene	1.87E-06	2.73E-07	--	9.12E-09	2.16E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	3.16E-07	4.61E-08	--	1.54E-08	3.78E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.38E-04	2.01E-05	--	5.12E-06	1.63E-04
			Benzo(k)fluoranthene	3.77E-08	5.48E-09	--	1.83E-09	4.50E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	7.28E-04	8.15E-07	--	3.65E-05	7.65E-04
			Beta-BHC	7.23E-10	8.10E-12	--	1.13E-08	1.21E-08	Kidney/Liver	7.03E-05	7.88E-07	--	1.10E-03	1.17E-03
			bis(2-ethylhexyl)phthalate	1.35E-08	1.52E-10	--	1.56E-07	1.70E-07	Liver	1.69E-03	1.90E-05	--	1.95E-02	2.13E-02
			Cadmium	--	--	--	--	--	Kidney	1.11E-01	1.24E-04	--	5.54E-01	6.65E-01
			Carbon disulfide	--	--	--	--	--	Developmental	1.53E-08	4.30E-09	--	--	1.96E-08
			Chlorobenzene	--	--	--	--	--	Liver	3.52E-05	3.94E-07	--	--	3.56E-05

TABLE H2-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	4.26E-04	4.77E-07	--	6.40E-05	4.91E-04	
			Chrysene	6.39E-09	9.31E-10	--	3.85E-10	7.71E-09	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	2.38E-03	2.66E-06	--	5.56E-04	2.94E-03	
			Copper	--	--	--	--	--	GI Tract	1.04E-02	1.16E-05	--	8.67E-02	9.71E-02	
			Delta-BHC	2.76E-09	1.55E-10	--	3.53E-10	3.27E-09	Liver/Kidney	2.68E-04	1.50E-05	--	3.43E-05	3.18E-04	
			Dibenzo(a,h)anthracene	3.68E-07	5.35E-08	--	1.10E-08	4.32E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	4.16E-02	4.65E-04	--	--	4.20E-02	
			Dieldrin	1.43E-07	1.60E-09	--	2.53E-06	2.68E-06	Liver	6.26E-03	7.01E-05	--	1.11E-01	1.17E-01	
			Dimethylphthalate	--	--	--	--	--	--	--	2.43E-08	2.72E-10	--	1.21E-06	1.23E-06
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	1.47E-04	1.65E-06	--	1.02E-05	1.59E-04	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	2.45E-05	1.37E-06	--	3.67E-04	3.93E-04	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	2.49E-05	1.39E-06	--	3.57E-04	3.83E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	4.58E-05	2.57E-06	--	6.42E-04	6.90E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.34E-03	7.52E-05	--	7.44E-05	1.49E-03	
			Endrin Ketone	--	--	--	--	--	Liver	2.13E-04	--	--	1.18E-05	2.25E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	3.56E-03	5.18E-04	--	3.21E-04	4.39E-03	
			Fluorene	--	--	--	--	--	Blood	4.04E-04	5.88E-05	--	--	4.63E-04	
			gamma-BHC (Lindane)	6.17E-10	2.77E-11	--	3.40E-08	3.47E-08	Liver/Kidney	5.54E-05	2.48E-06	--	3.06E-03	3.11E-03	
			gamma-Chlordane	8.12E-10	--	--	1.29E-10	9.41E-10	Liver	1.62E-04	--	--	2.59E-05	1.88E-04	
			Heptachlor	5.67E-09	6.35E-11	--	6.72E-10	6.41E-09	Liver	8.82E-05	9.88E-07	--	1.05E-05	9.97E-05	
			Heptachlor Epoxide	1.64E-08	1.84E-10	--	6.32E-07	6.48E-07	Liver	4.85E-03	5.43E-05	--	1.87E-01	1.92E-01	
			Indeno(1,2,3-cd)pyrene	6.63E-08	9.65E-09	--	2.41E-09	7.83E-08	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	7.83E-01	8.77E-04	--	2.60E-02	8.10E-01	
			Isophorone	3.47E-11	3.89E-12	--	--	3.86E-11	No observed effect	6.39E-06	7.16E-07	--	--	7.11E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	8.11E-02	9.08E-05	--	1.35E-01	2.17E-01	
			Mercury	--	--	--	--	--	Immune System	5.65E-03	--	--	3.78E-02	4.34E-02	
			Methoxychlor	--	--	--	--	--	Developmental	1.53E-04	1.72E-06	--	4.44E-06	1.60E-04	
			Methylene chloride	3.29E-12	3.68E-14	--	--	3.32E-12	Liver	2.56E-07	2.86E-09	--	--	2.59E-07	
			Molybdenum	--	--	--	--	--	Blood	2.79E-03	3.12E-06	--	5.59E-03	8.38E-03	
			Naphthalene	--	--	--	--	--	Whole Body	4.16E-03	6.05E-04	--	--	4.76E-03	
			Nickel	--	--	--	--	--	Whole Body	1.24E-02	1.39E-05	--	2.50E-02	3.74E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.49E-04	2.79E-06	--	--	2.52E-04	
			Phenol	--	--	--	--	--	Whole Body	1.24E-05	1.38E-06	--	2.04E-03	2.05E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	7.03E-06	--	--	--	7.03E-06	
			Pyrene	--	--	--	--	--	Kidney	4.33E-03	6.31E-04	--	--	4.97E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.13E-05	--	--	--	1.13E-05	
			Selenium	--	--	--	--	--	Whole Body	3.63E-04	4.06E-07	--	3.03E-04	6.66E-04	
			Silver	--	--	--	--	--	Skin	1.25E-03	1.40E-06	--	4.19E-03	5.44E-03	
			Technical Chlordane	3.46E-08	1.55E-09	--	5.51E-09	4.16E-08	Liver	6.91E-03	3.10E-04	--	1.10E-03	8.33E-03	
			Thallium	--	--	--	--	--	Blood	4.67E-02	--	--	6.25E-04	4.74E-02	
			Toluene	--	--	--	--	--	Liver/Kidney	3.44E-08	3.85E-10	--	--	3.47E-08	

TABLE H2-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	2.15E-01	2.41E-04	--	2.16E-02	2.37E-01
			Zinc	--	--	--	--	--	Blood	7.07E-03	7.92E-06	--	2.13E-01	2.20E-01
			Chemical Total	6.93E-06	6.90E-07	0.00E+00	4.18E-06	1.18E-05		2.38E+00	1.20E-01	0.00E+00	2.07E+00	4.57E+00
			Exposure Point Total					1.18E-05						4.57E+00
	Exposure Medium Total							1.18E-05						4.57E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.81E-02	--	4.81E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.63E-01	--	1.63E-01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.46E-02	--	3.46E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	4.73E-02	--	4.73E-02
			1,2-Dichloropropane	--	--	2.81E-09	--	2.81E-09	Nasal	--	--	1.27E-03	--	1.27E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.08E-02	--	1.08E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	2.75E-03	--	2.75E-03
			1,4-Dichlorobenzene	--	--	4.97E-07	--	4.97E-07	Liver	--	--	3.44E-03	--	3.44E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	4.03E-09	--	4.03E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.49E-04	--	6.49E-04
			4,4'-DDD	--	--	3.16E-15	--	3.16E-15	Liver	--	--	9.21E-10	--	9.21E-10
			4,4'-DDE	--	--	4.35E-11	--	4.35E-11	Liver	--	--	8.95E-06	--	8.95E-06
			4,4'-DDT	--	--	1.56E-13	--	1.56E-13	Liver	--	--	3.22E-08	--	3.22E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.07E-08	--	2.07E-08
			4-Nitroaniline	--	--	1.43E-13	--	1.43E-13	--	--	--	2.38E-07	--	2.38E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	2.83E-07	--	2.83E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.02E-04	--	4.02E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.04E-05	--	1.04E-05
			Aldrin	--	--	1.39E-09	--	1.39E-09	Liver	--	--	9.51E-05	--	9.51E-05
			alpha-BHC	--	--	3.32E-10	--	3.32E-10	Liver/Kidney	--	--	3.68E-06	--	3.68E-06
			alpha-Chlordane	--	--	3.50E-11	--	3.50E-11	Liver	--	--	1.75E-05	--	1.75E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	2.43E-03	--	2.43E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.12E-05	--	2.12E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	2.63E-11	--	2.63E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.30E-05	--	2.30E-05
			Aroclor-1254	--	--	9.59E-12	--	9.59E-12	Immune System/Eye/Finger and Toe Nails	--	--	8.39E-06	--	8.39E-06
			Aroclor-1260	--	--	1.07E-11	--	1.07E-11	Immune System/Eye/Finger and Toe Nails	--	--	9.36E-06	--	9.36E-06
			Aroclor-1268	--	--	5.96E-13	--	5.96E-13	Immune System/Eye/Finger and Toe Nails	--	--	5.21E-07	--	5.21E-07
			Arsenic	--	--	1.57E-09	--	1.57E-09	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	1.90E-04	--	1.90E-04
			Benzo(a)anthracene	--	--	3.37E-11	--	3.37E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	1.12E-10	--	1.12E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.62E-08	--	1.62E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	8.28E-09	--	8.28E-09
			Benzo(k)fluoranthene	--	--	2.26E-12	--	2.26E-12	--	--	--	--	--	--
			Beryllium	--	--	2.10E-11	--	2.10E-11	Immune System/Lung	--	--	1.53E-05	--	1.53E-05

TABLE H2-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	4.47E-14	--	4.47E-14	Liver/Kidney	--	--	4.22E-09	--	4.22E-09
			bis(2-ethylhexyl)phthalate	--	--	8.12E-13	--	8.12E-13	Liver	--	--	1.02E-07	--	1.02E-07
			Cadmium	--	--	5.97E-10	--	5.97E-10	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.15E-06	--	1.15E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.54E-03	--	1.54E-03
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	5.57E-10	--	5.57E-10	--	--	--	--	--	--
			Cobalt	--	--	7.99E-10	--	7.99E-10	Respiratory System	--	--	5.00E-04	--	5.00E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.12E-09	--	1.12E-09	Liver/Kidney	--	--	1.06E-04	--	1.06E-04
			Dibenzo(a,h)anthracene	--	--	2.21E-11	--	2.21E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.14E-02	--	1.14E-02
			Diieldrin	--	--	1.52E-08	--	1.52E-08	Liver	--	--	6.66E-04	--	6.66E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	1.46E-12	--	1.46E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	8.82E-09	--	8.82E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.80E-06	--	6.80E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	6.91E-06	--	6.91E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.27E-05	--	1.27E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	8.05E-08	--	8.05E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.28E-08	--	1.28E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.82E-04	--	1.82E-04
			Fluorene	--	--	--	--	--	Blood	--	--	1.87E-04	--	1.87E-04
			gamma-BHC (Lindane)	--	--	3.00E-10	--	3.00E-10	Liver/Kidney	--	--	2.69E-05	--	2.69E-05
			gamma-Chlordane	--	--	6.36E-11	--	6.36E-11	Liver	--	--	3.18E-05	--	3.18E-05
			Heptachlor	--	--	2.22E-08	--	2.22E-08	Liver	--	--	3.42E-04	--	3.42E-04
			Heptachlor Epoxide	--	--	9.83E-13	--	9.83E-13	Liver	--	--	2.91E-07	--	2.91E-07
			Indeno(1,2,3-cd)pyrene	--	--	3.98E-12	--	3.98E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	2.08E-15	--	2.08E-15	No observed effect	--	--	3.84E-10	--	3.84E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	8.17E-03	--	8.17E-03
			Mercury	--	--	--	--	--	CNS	--	--	1.18E-06	--	1.18E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.74E-06	--	8.74E-06
Methylene chloride	--	--	--	--	--	Liver	--	--	--	--	--			
Molybdenum	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.13E-01	--	4.13E-01			
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.71E-04	--	2.71E-04			
Phenol	--	--	--	--	--	Body Weight	--	--	7.42E-10	--	7.42E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.82E-04	--	8.82E-04			
Pyrene	--	--	--	--	--	Kidney	--	--	2.63E-04	--	2.63E-04			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.55E-04	--	3.55E-04			

TABLE H2-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	--	--	--	--	--	--	--
			Silver	--	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	2.71E-12	--	2.71E-12	Liver	--	--	1.36E-03	--	1.36E-03	
			Thallium	--	--	--	--	--	--	--	--	--	--	--	
			Toluene	--	--	--	--	--	CNS	--	--	1.11E-07	--	1.11E-07	
			Vanadium	--	--	--	--	--	--	--	--	--	--	--	
			Zinc	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	5.61E-07	0.00E+00	5.61E-07			0.00E+00	0.00E+00	7.55E-01	0.00E+00	7.55E-01
		Exposure Point Total						5.61E-07							7.55E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00	
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01	
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.67E-01	--	8.67E-01	
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.36E+00	--	1.36E+00	
			1,2-Dichloropropane	--	--	2.08E-08	--	2.08E-08	Nasal	--	--	9.39E-03	--	9.39E-03	
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.77E-01	--	2.77E-01	
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.09E-01	--	1.09E-01	
			1,4-Dichlorobenzene	--	--	1.27E-05	--	1.27E-05	Liver	--	--	8.79E-02	--	8.79E-02	
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.91E-02	--	4.91E-02	
			4,4'-DDE	--	--	2.98E-11	--	2.98E-11	Liver	--	--	6.14E-06	--	6.14E-06	
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.43E-02	--	1.43E-02	
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.69E-04	--	3.69E-04	
			Aldrin	--	--	3.96E-09	--	3.96E-09	Liver	--	--	2.72E-04	--	2.72E-04	
			alpha-BHC	--	--	9.81E-09	--	9.81E-09	Liver/Kidney	--	--	1.09E-04	--	1.09E-04	
			alpha-Chlordane	--	--	2.75E-10	--	2.75E-10	Liver	--	--	1.37E-04	--	1.37E-04	
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.52E-04	--	7.52E-04	
			Benzo(b)fluoranthene	--	--	3.33E-08	--	3.33E-08	--	--	--	--	--	--	
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	3.57E-06	--	3.57E-06	
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.92E-02	--	1.92E-02	
			Chrysene	--	--	1.88E-09	--	1.88E-09	--	--	--	--	--	--	
			Delta-BHC	--	--	4.93E-08	--	4.93E-08	Liver/Kidney	--	--	4.66E-03	--	4.66E-03	
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.00E-03	--	6.00E-03	
			Dieldrin	--	--	1.21E-07	--	1.21E-07	Liver	--	--	5.31E-03	--	5.31E-03	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.82E-04	--	1.82E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.85E-04	--	1.85E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	3.40E-04	--	3.40E-04	
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.21E-05	--	6.21E-05	
			Fluorene	--	--	--	--	--	Blood	--	--	3.39E-03	--	3.39E-03	
			gamma-BHC (Lindane)	--	--	1.07E-08	--	1.07E-08	Liver/Kidney	--	--	9.61E-04	--	9.61E-04	
			gamma-Chlordane	--	--	5.00E-12	--	5.00E-12	Liver	--	--	2.50E-06	--	2.50E-06	
			Heptachlor	--	--	7.15E-09	--	7.15E-09	Liver	--	--	1.10E-04	--	1.10E-04	
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.00E-05	--	3.00E-05	
			Methylene Chloride	--	--	3.26E-10	--	3.26E-10	Liver	--	--	8.32E-06	--	8.32E-06	

TABLE H2-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	--	--	--	Respiratory System	--	--	3.72E+01	--	3.72E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	9.64E-03	--	9.64E-03
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.97E-03	--	2.97E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	6.71E-04	--	6.71E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.90E-03	--	2.90E-03
			Technical Chlordane	--	--	2.13E-11	--	2.13E-11	Liver	--	--	1.06E-02	--	1.06E-02
			Toluene	--	--	--	--	--	CNS	--	--	8.95E-07	--	8.95E-07
		Chemical Total	0.00E+00	0.00E+00	1.30E-05	0.00E+00	1.30E-05		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01	
		Exposure Point Total					1.30E-05						5.78E+01	
		Exposure Medium Total					1.30E-05						5.78E+01	
Medium Total							2.53E-05						6.32E+01	
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.53E-06	--	1.53E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.73E-05	--	3.73E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	7.35E-06	--	7.35E-06
			1,2-Dichloroethane	--	--	7.83E-10	--	7.83E-10	Liver/Kidney/CNS	--	--	2.15E-04	--	2.15E-04
			1,2-Dichloropropane	--	--	2.19E-10	--	2.19E-10	Nasal	--	--	9.91E-05	--	9.91E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.12E-05	--	2.12E-05
			1,4-Dichlorobenzene	--	--	8.96E-11	--	8.96E-11	Liver	--	--	6.20E-07	--	6.20E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	3.86E-09	--	3.86E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.79E-09	--	9.79E-09
			4,4'-DDE	--	--	6.36E-12	--	6.36E-12	Liver	--	--	1.31E-06	--	1.31E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	2.38E-09	--	2.38E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.27E-07	--	3.27E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.39E-08	--	1.39E-08
			Aldrin	--	--	5.50E-10	--	5.50E-10	Liver	--	--	3.77E-05	--	3.77E-05
			alpha-BHC	--	--	2.58E-11	--	2.58E-11	Liver/Kidney	--	--	2.87E-07	--	2.87E-07
			alpha-Chlordane	--	--	3.39E-12	--	3.39E-12	Liver	--	--	1.70E-06	--	1.70E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.54E-09	--	5.54E-09
			Benzene	--	--	1.03E-10	--	1.03E-10	Blood	--	--	1.54E-05	--	1.54E-05
			Benzo(b)fluoranthene	--	--	5.14E-12	--	5.14E-12	--	--	--	--	--	--
			Bromoform	--	--	4.10E-13	--	4.10E-13	Liver	--	--	1.86E-07	--	1.86E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.14E-05	--	1.14E-05
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.18E-06	--	2.18E-06
			Chloroform	--	--	2.41E-09	--	2.41E-09	Liver/Kidney/Respiratory	--	--	7.48E-05	--	7.48E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.46E-05	--	1.46E-05
			Chrysene	--	--	1.39E-13	--	1.39E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethane	--	--	--	--	--	Blood	--	--	2.68E-05	--	2.68E-05
			Dieldrin	--	--	2.27E-10	--	2.27E-10	Liver	--	--	9.95E-06	--	9.95E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.89E-08	--	1.89E-08
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.11E-11	--	3.11E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.48E-07	--	3.48E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.40E-09	--	6.40E-09			

**TABLE H2-8.8**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	1.27E-08	--	1.27E-08
			gamma-BHC (Lindane)	--	--	2.34E-14	--	2.34E-14	Liver/Kidney	--	--	2.10E-09	--	2.10E-09
			gamma-Chlordane	--	--	8.81E-12	--	8.81E-12	Liver	--	--	4.40E-06	--	4.40E-06
			Heptachlor	--	--	1.18E-09	--	1.18E-09	Liver	--	--	1.81E-05	--	1.81E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.21E-05	--	1.21E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.31E-07	--	3.31E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	3.21E-06	--	3.21E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.49E-04	--	1.49E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.57E-06	--	3.57E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.42E-09	--	4.42E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.78E-09	--	7.78E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.01E-05	--	1.01E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.15E-05	--	1.15E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.35E-07	--	1.35E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.27E-05	--	2.27E-05
			Trichloroethene	--	--	5.39E-09	--	5.39E-09	CNS/Liver/Endocrine	--	--	4.72E-05	--	4.72E-05
Vinyl chloride	--	--	8.65E-10	--	8.65E-10	Liver	--	--	3.42E-05	--	3.42E-05			
			Chemical Total	0.00E+00	0.00E+00	1.19E-08	0.00E+00	1.19E-08		0.00E+00	0.00E+00	1.21E-03	0.00E+00	1.21E-03
			Exposure Point Total											1.21E-03
			Exposure Medium Total					1.19E-08						1.21E-03
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	2.69E-04	--	2.69E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.65E-04	--	9.65E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.95E-04	--	1.95E-04
			1,2-Dichloroethane	--	--	2.35E-08	--	2.35E-08	Liver/Kidney/CNS	--	--	6.44E-03	--	6.44E-03
			1,2-Dichloropropane	--	--	6.49E-09	--	6.49E-09	Nasal	--	--	2.93E-03	--	2.93E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.52E-04	--	5.52E-04
			1,4-Dichlorobenzene	--	--	2.40E-09	--	2.40E-09	Liver	--	--	1.66E-05	--	1.66E-05
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.99E-07	--	1.99E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.75E-07	--	2.75E-07
			4,4'-DDE	--	--	5.73E-13	--	5.73E-13	Liver	--	--	1.18E-07	--	1.18E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.79E-08	--	9.79E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.39E-05	--	1.39E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.93E-07	--	5.93E-07
			Aldrin	--	--	6.00E-11	--	6.00E-11	Liver	--	--	4.11E-06	--	4.11E-06
			alpha-BHC	--	--	3.31E-12	--	3.31E-12	Liver/Kidney	--	--	3.68E-08	--	3.68E-08
			alpha-Chlordane	--	--	1.12E-12	--	1.12E-12	Liver	--	--	5.58E-07	--	5.58E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.36E-07	--	2.36E-07
			Benzene	--	--	3.03E-09	--	3.03E-09	Blood	--	--	4.51E-04	--	4.51E-04
Benzo(b)fluoranthene	--	--	2.16E-10	--	2.16E-10	--	--	--	--	--	--			
Bromoform	--	--	2.20E-11	--	2.20E-11	Liver	--	--	1.00E-05	--	1.00E-05			

TABLE H2-8.8

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	-	-	-	-	-	CNS	-	-	3.42E-04	-	3.42E-04			
			Chlorobenzene	-	-	-	-	-	Liver	-	-	6.12E-05	-	6.12E-05			
			Chloroform	-	-	7.14E-08	-	7.14E-08	Liver/Kidney/Respiratory	-	-	2.22E-03	-	2.22E-03			
			Chloromethane	-	-	-	-	-	CNS	-	-	4.73E-04	-	4.73E-04			
			Chrysene	-	-	6.08E-12	-	6.08E-12	-	-	-	-	-	-			
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.74E-03	-	1.74E-03			
			Dieldrin	-	-	8.71E-12	-	8.71E-12	Liver	-	-	3.81E-07	-	3.81E-07			
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	4.10E-09	-	4.10E-09			
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	1.37E-09	-	1.37E-09			
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	9.41E-06	-	9.41E-06			
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	2.59E-07	-	2.59E-07			
			Fluorene	-	-	-	-	-	Blood	-	-	6.59E-07	-	6.59E-07			
			gamma-BHC (Lindane)	-	-	9.23E-13	-	9.23E-13	Liver/Kidney	-	-	8.28E-08	-	8.28E-08			
			gamma-Chlordane	-	-	5.40E-13	-	5.40E-13	Liver	-	-	2.70E-07	-	2.70E-07			
			Heptachlor	-	-	3.17E-11	-	3.17E-11	Liver	-	-	4.87E-07	-	4.87E-07			
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	8.28E-03	-	8.28E-03			
			m,p-Xylene	-	-	-	-	-	CNS	-	-	7.04E-04	-	7.04E-04			
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.43E-08	-	1.43E-08			
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	1.74E-04	-	1.74E-04			
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	8.38E-03	-	8.38E-03			
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	2.02E-04	-	2.02E-04			
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	2.45E-07	-	2.45E-07			
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	8.28E-03	-	8.28E-03			
			Pyrene	-	-	-	-	-	Kidney	-	-	3.24E-07	-	3.24E-07			
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	7.20E-06	-	7.20E-06			
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	7.20E-04	-	7.20E-04			
			Toluene	-	-	-	-	-	CNS	-	-	7.72E-07	-	7.72E-07			
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.53E-03	-	1.53E-03			
			Trichloroethene	-	-	3.30E-07	-	3.30E-07	CNS/Liver/Endocrine	-	-	2.89E-03	-	2.89E-03			
			Vinyl chloride	-	-	5.82E-08	-	5.82E-08	Liver	-	-	2.30E-03	-	2.30E-03			
						Chemical Total	0.00E+00	0.00E+00	4.95E-07	0.00E+00	4.95E-07		0.00E+00	0.00E+00	5.02E-02	0.00E+00	5.02E-02
						Exposure Point Total					4.95E-07						5.02E-02
						Exposure Medium Total					4.95E-07						5.02E-02
			Medium Total					5.07E-07						5.14E-02			
			Receptor Total					2.58E-05						6.32E+01			
								Receptor Risk Total						Receptor HI Total			

**TABLE H2-8.8**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
CNS	Central nervous system
COPC	Chemicals of Potential Concern
CTE	Central Tendency Exposure
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.80E+00
Total Organ 2 (Kidney) HI Across All Media =	1.95E+01
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	1.58E+00
Total Organ 5 (Endocrine) HI Across All Media =	2.94E-03
Total Organ 6 (Blood) HI Across All Media =	1.93E+00
Total Organ 7 (Adrenal) HI Across All Media =	4.36E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.36E-02
Total Organ 9 (Skin) HI Across All Media =	2.56E-01
Total Organ 10 (Gastrointestinal System) HI Across All Media =	9.78E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	9.05E-01
Total Organ 12 (Body Weight) HI Across All Media =	1.46E+00
Total Organ 13 (Developmental) HI Across All Media =	3.99E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	3.88E+01
Total Organ 15 (Whole Body) HI Across All Media =	1.57E-01
Total Organ 16 (Immune System) HI Across All Media =	9.48E-01
Total Organ 17 (Organ Weight) HI Across All Media =	2.18E-03
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	9.05E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.37E-02

TABLE H2-8.9  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	9.59E-04	1.07E-04	--	--	1.07E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	3.26E-03	3.65E-05	--	--	3.30E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	6.39E-05	7.16E-07	--	--	6.46E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.85E-03	2.07E-05	--	--	1.87E-03
			1,2-Dichloropropane	6.15E-11	6.92E-13	--	--	6.22E-11	Nasal	2.02E-05	2.26E-07	--	--	2.04E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.05E-05	2.29E-07	--	--	2.07E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	2.34E-04	2.63E-06	--	--	2.37E-04
			1,4-Dichlorobenzene	4.10E-08	--	--	--	4.10E-08	Organ Weight	1.45E-03	--	--	--	1.45E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	6.71E-05	7.52E-07	--	1.75E-03	1.82E-03
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	1.04E-05	1.16E-06	--	6.42E-04	6.53E-04
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	2.67E-03	2.99E-05	--	--	2.70E-03
			4,4'-DDD	7.23E-11	8.14E-13	--	1.17E-11	8.49E-11	Liver	1.53E-05	1.72E-07	--	6.81E-07	1.62E-05
			4,4'-DDE	7.03E-09	7.91E-11	--	8.24E-10	7.93E-09	Liver	1.05E-03	1.18E-05	--	3.38E-05	1.10E-03
			4,4'-DDT	3.80E-09	1.28E-10	--	1.92E-09	5.85E-09	Liver	5.69E-04	1.91E-05	--	7.88E-05	6.67E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	3.45E-04	3.87E-05	--	2.20E-02	2.24E-02
			4-Nitroaniline	3.27E-09	3.68E-10	--	5.20E-07	5.24E-07	--	1.32E-03	1.48E-04	--	5.76E-02	5.90E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	5.37E-03	6.01E-04	--	3.51E-01	3.57E-01
			Acenaphthene	--	--	--	--	--	Liver	4.51E-04	6.57E-05	--	--	5.17E-04
			Acenaphthylene	--	--	--	--	--	Liver	1.11E-05	1.24E-07	--	--	1.12E-05
			Aldrin	5.55E-08	6.25E-09	--	1.47E-08	7.65E-08	Liver	2.77E-03	3.10E-04	--	2.01E-04	3.28E-03
			alpha-BHC	1.16E-09	1.30E-11	--	6.61E-08	6.72E-08	Liver/Kidney	9.33E-06	1.05E-07	--	1.46E-04	1.56E-04
			alpha-Chlordane	7.16E-10	--	--	4.16E-10	1.13E-09	Liver	1.04E-04	--	--	1.66E-05	1.21E-04
			Aluminum	--	--	--	--	--	CNS	5.64E-02	6.32E-05	--	1.22E-03	5.77E-02
			Anthracene	--	--	--	--	--	No observed effect	2.25E-05	3.27E-06	--	--	2.58E-05
			Antimony	--	--	--	--	--	Whole body/Blood	6.52E-02	7.30E-05	--	6.53E-02	1.31E-01
			Aroclor-1248	6.03E-07	9.50E-08	--	9.79E-08	7.96E-07	Immune System/ Eye/Finger and Toe Nails	3.84E-01	6.01E-02	--	1.71E-02	4.61E-01
			Aroclor-1254	2.23E-07	3.51E-08	--	4.85E-07	7.43E-07	Immune System/ Eye/Finger and Toe Nails	1.42E-01	2.23E-02	--	8.45E-02	2.49E-01
			Aroclor-1260	2.72E-07	4.28E-08	--	2.11E-08	3.36E-07	Immune System/ Eye/Finger and Toe Nails	1.73E-01	2.71E-02	--	3.68E-03	2.04E-01
			Aroclor-1268	1.39E-08	2.20E-09	--	3.03E-08	4.84E-08	Immune System/ Eye/Finger and Toe Nails	8.87E-03	1.39E-03	--	5.28E-03	1.55E-02
			Arsenic	2.32E-06	7.84E-08	--	1.70E-06	4.10E-06	Skin	1.31E-01	4.41E-03	--	2.63E-02	1.62E-01
			Barium	--	--	--	--	--	Kidney	6.19E-03	6.94E-06	--	3.10E-03	9.30E-03
			Benzo(a)anthracene	9.18E-07	1.34E-07	--	2.87E-08	1.08E-06	--	--	--	--	--	--
			Benzo(a)pyrene	3.05E-06	4.47E-07	--	5.42E-08	3.55E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	5.02E-07	7.34E-08	--	8.91E-08	6.65E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.63E-04	2.37E-05	--	6.04E-06	1.92E-04
			Benzo(k)fluoranthene	5.98E-08	8.75E-09	--	1.06E-08	7.91E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	7.61E-04	8.52E-07	--	3.81E-05	8.00E-04
			Beta-BHC	9.95E-10	1.12E-11	--	5.69E-08	5.79E-08	Kidney/Liver	7.03E-05	7.88E-07	--	1.10E-03	1.17E-03
			bis(2-ethylhexyl)phthalate	2.75E-08	3.10E-10	--	1.16E-06	1.19E-06	Liver	2.50E-03	2.80E-05	--	2.89E-02	3.14E-02
			Cadmium	--	--	--	--	--	Kidney	1.21E-01	1.36E-04	--	6.07E-01	7.28E-01
			Carbon disulfide	--	--	--	--	--	Developmental	1.53E-08	4.30E-09	--	--	1.96E-08
			Chlorobenzene	--	--	--	--	--	Liver	3.52E-05	3.94E-07	--	--	3.56E-05

TABLE H2-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	4.74E-04	5.31E-07	--	7.12E-05	5.46E-04	
			Chrysene	1.04E-08	1.52E-09	--	2.29E-09	1.42E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	2.42E-03	2.71E-06	--	5.66E-04	2.99E-03	
			Copper	--	--	--	--	--	GI Tract	9.86E-03	1.10E-05	--	8.23E-02	9.22E-02	
			Delta-BHC	3.80E-09	2.14E-10	--	1.77E-09	5.78E-09	Liver/Kidney	2.68E-04	1.50E-05	--	3.43E-05	3.18E-04	
			Dibenzo(a,h)anthracene	5.82E-07	8.52E-08	--	6.39E-08	7.31E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	4.16E-02	4.65E-04	--	--	4.20E-02	
			Dieldrin	2.22E-07	2.49E-09	--	1.43E-05	1.45E-05	Liver	7.05E-03	7.90E-05	--	1.25E-01	1.32E-01	
			Dimethylphthalate	--	--	--	--	--	--	--	2.43E-08	2.72E-10	--	1.21E-06	1.23E-06
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	1.41E-04	1.58E-06	--	9.79E-06	1.52E-04	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	2.45E-05	1.37E-06	--	3.67E-04	3.93E-04	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	2.54E-05	1.42E-06	--	3.64E-04	3.91E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	4.58E-05	2.57E-06	--	6.42E-04	6.90E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	8.97E-04	5.02E-05	--	4.97E-05	9.97E-04	
			Endrin Ketone	--	--	--	--	--	Liver	2.13E-04	--	--	1.18E-05	2.25E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	4.24E-03	6.17E-04	--	3.82E-04	5.24E-03	
			Fluorene	--	--	--	--	--	Blood	4.66E-04	6.79E-05	--	--	5.34E-04	
			gamma-BHC (Lindane)	8.49E-10	3.82E-11	--	1.71E-07	1.72E-07	Liver/Kidney	5.54E-05	2.48E-06	--	3.06E-03	3.11E-03	
			gamma-Chlordane	1.15E-09	--	--	6.70E-10	1.82E-09	Liver	1.68E-04	--	--	2.67E-05	1.94E-04	
			Heptachlor	7.80E-09	8.78E-11	--	3.37E-09	1.13E-08	Liver	8.82E-05	9.88E-07	--	1.05E-05	9.97E-05	
			Heptachlor Epoxide	2.55E-08	2.87E-10	--	3.59E-06	3.61E-06	Liver	5.49E-03	6.14E-05	--	2.11E-01	2.17E-01	
			Indeno(1,2,3-cd)pyrene	1.60E-07	2.34E-08	--	2.13E-08	2.05E-07	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	8.68E-01	9.72E-04	--	2.88E-02	8.98E-01	
			Isophorone	4.77E-11	5.37E-12	--	--	5.31E-11	No observed effect	6.39E-06	7.16E-07	--	--	7.11E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	8.82E-02	9.88E-05	--	1.47E-01	2.36E-01	
			Mercury	--	--	--	--	--	Immune System	6.60E-03	--	--	4.41E-02	5.07E-02	
			Methoxychlor	--	--	--	--	--	Developmental	1.53E-04	1.72E-06	--	4.44E-06	1.60E-04	
			Molybdenum	--	--	--	--	--	Blood	3.20E-03	3.59E-06	--	6.42E-03	9.62E-03	
			Naphthalene	--	--	--	--	--	Whole Body	4.16E-03	6.05E-04	--	--	4.76E-03	
			Nickel	--	--	--	--	--	Whole Body	1.25E-02	1.40E-05	--	2.51E-02	3.76E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.97E-04	3.32E-06	--	--	3.00E-04	
			Phenol	--	--	--	--	--	Whole Body	1.24E-05	1.38E-06	--	2.04E-03	2.05E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	7.03E-06	--	--	--	7.03E-06	
			Pyrene	--	--	--	--	--	Kidney	5.15E-03	7.49E-04	--	--	5.89E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.13E-05	--	--	--	1.13E-05	
			Selenium	--	--	--	--	--	Whole Body	2.87E-04	3.21E-07	--	2.40E-04	5.27E-04	
			Silver	--	--	--	--	--	Skin	1.48E-03	1.66E-06	--	4.95E-03	6.43E-03	
			Technical Chlordane	4.84E-08	2.18E-09	--	2.82E-08	7.88E-08	Liver	7.05E-03	3.16E-04	--	1.12E-03	8.48E-03	
			Thallium	--	--	--	--	--	Blood	4.81E-02	--	--	6.43E-04	4.88E-02	
Toluene	--	--	--	--	--	Liver/Kidney	3.44E-08	3.85E-10	--	--	3.47E-08				
Vanadium	--	--	--	--	--	Kidney	2.18E-01	2.44E-04	--	2.19E-02	2.40E-01				

TABLE H2-8.9  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	9.66E-03	1.08E-05	--	2.91E-01	3.00E-01
		Exposure Point Total	Chemical Total	9.17E-06	1.04E-06	0.00E+00	2.25E-05	3.27E-05		2.46E+00	1.21E-01	0.00E+00	2.27E+00	4.86E+00
Exposure Medium Total							3.27E-05						4.86E+00	
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.81E-02	--	4.81E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.63E-01	--	1.63E-01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.46E-02	--	3.46E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	4.73E-02	--	4.73E-02
			1,2-Dichloropropane	--	--	6.84E-09	--	6.84E-09	Nasal	--	--	1.27E-03	--	1.27E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.08E-02	--	1.08E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	2.75E-03	--	2.75E-03
			1,4-Dichlorobenzene	--	--	1.21E-06	--	1.21E-06	Liver	--	--	3.44E-03	--	3.44E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	4.03E-09	--	4.03E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	7.49E-04	--	7.49E-04
			4,4'-DDD	--	--	7.68E-15	--	7.68E-15	Liver	--	--	9.21E-10	--	9.21E-10
			4,4'-DDE	--	--	1.16E-10	--	1.16E-10	Liver	--	--	9.82E-06	--	9.82E-06
			4,4'-DDT	--	--	4.03E-13	--	4.03E-13	Liver	--	--	3.41E-08	--	3.41E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.07E-08	--	2.07E-08
			4-Nitroaniline	--	--	3.47E-13	--	3.47E-13	--	--	--	2.38E-07	--	2.38E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	2.83E-07	--	2.83E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.91E-04	--	4.91E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.21E-05	--	1.21E-05
			Aldrin	--	--	3.37E-09	--	3.37E-09	Liver	--	--	9.51E-05	--	9.51E-05
			alpha-BHC	--	--	8.06E-10	--	8.06E-10	Liver/Kidney	--	--	3.68E-06	--	3.68E-06
			alpha-Chlordane	--	--	9.92E-11	--	9.92E-11	Liver	--	--	2.04E-05	--	2.04E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	2.37E-03	--	2.37E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.44E-05	--	2.44E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	6.40E-11	--	6.40E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.30E-05	--	2.30E-05
			Aroclor-1254	--	--	2.37E-11	--	2.37E-11	Immune System/Eye/Finger and Toe nails	--	--	8.52E-06	--	8.52E-06
			Aroclor-1260	--	--	2.89E-11	--	2.89E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.04E-05	--	1.04E-05
			Aroclor-1268	--	--	1.48E-12	--	1.48E-12	Immune System/Eye/Finger and Toe Nails	--	--	5.32E-07	--	5.32E-07
			Arsenic	--	--	2.46E-09	--	2.46E-09	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	1.86E-04	--	1.86E-04
			Benzo(a)anthracene	--	--	9.74E-11	--	9.74E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	3.24E-10	--	3.24E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	4.55E-08	--	4.55E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	9.76E-09	--	9.76E-09
			Benzo(k)fluoranthene	--	--	6.34E-12	--	6.34E-12	--	--	--	--	--	--
			Beryllium	--	--	5.33E-11	--	5.33E-11	Immune System/Lung	--	--	1.60E-05	--	1.60E-05
			Beta-BHC	--	--	1.09E-13	--	1.09E-13	Liver/Kidney	--	--	4.22E-09	--	4.22E-09

TABLE H2-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	2.92E-12	--	2.92E-12	Liver	--	--	1.50E-07	--	1.50E-07		
			Cadmium	--	--	1.59E-09	--	1.59E-09	--	--	--	--	--	--		
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.15E-06	--	--	1.15E-06	
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.54E-03	--	--	1.54E-03	
			Chromium	--	--	--	--	--	--	--	--	--	--	--	--	
			Chrysene	--	--	1.60E-09	--	1.60E-09	--	--	--	--	--	--	--	
			Cobalt	--	--	1.98E-09	--	1.98E-09	--	Respiratory System	--	--	5.09E-04	--	--	5.09E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--	--	
			Delta-BHC	--	--	2.73E-09	--	2.73E-09	--	Liver/Kidney	--	--	1.06E-04	--	--	1.06E-04
			Dibenzo(a,h)anthracene	--	--	6.18E-11	--	6.18E-11	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	--	Kidney	--	--	1.14E-02	--	--	1.14E-02
			Dieckrin	--	--	4.17E-08	--	4.17E-08	--	Liver	--	--	7.51E-04	--	--	7.51E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	--	1.46E-12	--	--	1.46E-12
			di-n-Butylphthalate	--	--	--	--	--	--	Whole body	--	--	8.44E-09	--	--	8.44E-09
			Endosulfan I	--	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.80E-06	--	--	6.80E-06
			Endosulfan II	--	--	--	--	--	--	Body Weight/Kidney	--	--	7.04E-06	--	--	7.04E-06
			Endosulfan Sulfate	--	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.27E-05	--	--	1.27E-05
			Endrin aldehyde	--	--	--	--	--	--	Liver	--	--	5.38E-08	--	--	5.38E-08
			Endrin Ketone	--	--	--	--	--	--	Liver	--	--	1.28E-08	--	--	1.28E-08
			Fluoranthene	--	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.17E-04	--	--	2.17E-04
			Fluorene	--	--	--	--	--	--	Blood	--	--	2.16E-04	--	--	2.16E-04
			gamma-BHC (Lindane)	--	--	7.29E-10	--	7.29E-10	--	Liver/Kidney	--	--	2.69E-05	--	--	2.69E-05
			gamma-Chlordane	--	--	1.60E-10	--	1.60E-10	--	Liver	--	--	3.28E-05	--	--	3.28E-05
			Heptachlor	--	--	5.41E-08	--	5.41E-08	--	Liver	--	--	3.42E-04	--	--	3.42E-04
			Heptachlor Epoxide	--	--	2.71E-12	--	2.71E-12	--	Liver	--	--	3.29E-07	--	--	3.29E-07
			Indeno(1,2,3-cd)pyrene	--	--	1.70E-11	--	1.70E-11	--	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	5.06E-15	--	5.06E-15	--	No observed effect	--	--	3.84E-10	--	--	3.84E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	--	CNS	--	--	8.89E-03	--	--	8.89E-03
			Mercury	--	--	--	--	--	--	CNS	--	--	1.38E-06	--	--	1.38E-06
			Methoxychlor	--	--	--	--	--	--	Developmental	--	--	8.74E-06	--	--	8.74E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	--	Respiratory System	--	--	4.13E-01	--	--	4.13E-01
			Nickel	--	--	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	--	No Observed Effect	--	--	3.23E-04	--	--	3.23E-04
			Phenol	--	--	--	--	--	--	Body Weight	--	--	7.42E-10	--	--	7.42E-10
			p-Isopropyltoluene	--	--	--	--	--	--	Kidney	--	--	8.82E-04	--	--	8.82E-04
			Pyrene	--	--	--	--	--	--	Kidney	--	--	3.12E-04	--	--	3.12E-04
			sec-Butylbenzene	--	--	--	--	--	--	Kidney	--	--	3.55E-04	--	--	3.55E-04
Selenium	--	--	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--	--	--			

TABLE H2-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	6.72E-12	--	6.72E-12	Liver	--	--	1.38E-03	--	1.38E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.11E-07	--	1.11E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			<b>Chemical Total</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>1.37E-06</b>	<b>0.00E+00</b>	<b>1.37E-06</b>		<b>0.00E+00</b>	<b>0.00E+00</b>	<b>7.56E-01</b>	<b>0.00E+00</b>	<b>7.56E-01</b>
			<b>Exposure Point Total</b>					<b>1.37E-06</b>						<b>7.56E-01</b>
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.67E-01	--	8.67E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.36E+00	--	1.36E+00
			1,2-Dichloropropane	--	--	5.06E-08	--	5.06E-08	Nasal	--	--	9.39E-03	--	9.39E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.77E-01	--	2.77E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.09E-01	--	1.09E-01
			1,4-Dichlorobenzene	--	--	3.09E-05	--	3.09E-05	Liver	--	--	8.79E-02	--	8.79E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.91E-02	--	4.91E-02
			4,4'-DDE	--	--	7.26E-11	--	7.26E-11	Liver	--	--	6.14E-06	--	6.14E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.43E-02	--	1.43E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.69E-04	--	3.69E-04
			Aldrin	--	--	9.63E-09	--	9.63E-09	Liver	--	--	2.72E-04	--	2.72E-04
			alpha-BHC	--	--	2.39E-08	--	2.39E-08	Liver/Kidney	--	--	1.09E-04	--	1.09E-04
			alpha-Chlordane	--	--	6.68E-10	--	6.68E-10	Liver	--	--	1.37E-04	--	1.37E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.52E-04	--	7.52E-04
			Benzo(b)fluoranthene	--	--	8.09E-08	--	8.09E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	3.57E-06	--	3.57E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.92E-02	--	1.92E-02
			Chrysene	--	--	4.56E-09	--	4.56E-09	--	--	--	--	--	--
			Delta-BHC	--	--	1.20E-07	--	1.20E-07	Liver/Kidney	--	--	4.66E-03	--	4.66E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.00E-03	--	6.00E-03
			Dieldrin	--	--	2.95E-07	--	2.95E-07	Liver	--	--	5.31E-03	--	5.31E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.82E-04	--	1.82E-04
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.85E-04	--	1.85E-04
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	3.40E-04	--	3.40E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.21E-05	--	6.21E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.39E-03	--	3.39E-03
			gamma-BHC (Lindane)	--	--	2.60E-08	--	2.60E-08	Liver/Kidney	--	--	9.61E-04	--	9.61E-04
			gamma-Chlordane	--	--	1.22E-11	--	1.22E-11	Liver	--	--	2.50E-06	--	2.50E-06
			Heptachlor	--	--	1.74E-08	--	1.74E-08	Liver	--	--	1.10E-04	--	1.10E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.00E-05	--	3.00E-05
			Methylene Chloride	--	--	7.93E-10	--	7.93E-10	Liver	--	--	8.32E-06	--	8.32E-06
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	3.72E+01	--	3.72E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	9.64E-03	--	9.64E-03

TABLE H2-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.97E-03	--	2.97E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	6.71E-04	--	6.71E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.90E-03	--	2.90E-03
			Technical Chlordane	--	--	5.18E-11	--	5.18E-11	Liver	--	--	1.06E-02	--	1.06E-02
			Toluene	--	--	--	--	--	CNS	--	--	8.95E-07	--	8.95E-07
			Chemical Total	0.00E+00	0.00E+00	3.15E-05	0.00E+00	3.15E-05		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01
			Exposure Point Total					3.15E-05						5.78E+01
			Exposure Medium Total					3.15E-05						5.78E+01
			Medium Total					6.56E-05						6.34E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.53E-06	--	1.53E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.73E-05	--	3.73E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	7.35E-06	--	7.35E-06
			1,2-Dichloroethane	--	--	1.90E-09	--	1.90E-09	Liver/Kidney/CNS	--	--	2.15E-04	--	2.15E-04
			1,2-Dichloropropane	--	--	5.34E-10	--	5.34E-10	Nasal	--	--	9.91E-05	--	9.91E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.12E-05	--	2.12E-05
			1,4-Dichlorobenzene	--	--	2.18E-10	--	2.18E-10	Liver	--	--	6.20E-07	--	6.20E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	3.86E-09	--	3.86E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.79E-09	--	9.79E-09
			4,4'-DDE	--	--	1.55E-11	--	1.55E-11	Liver	--	--	1.31E-06	--	1.31E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	2.38E-09	--	2.38E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.27E-07	--	3.27E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.39E-08	--	1.39E-08
			Aldrin	--	--	1.34E-09	--	1.34E-09	Liver	--	--	3.77E-05	--	3.77E-05
			alpha-BHC	--	--	6.27E-11	--	6.27E-11	Liver/Kidney	--	--	2.87E-07	--	2.87E-07
			alpha-Chlordane	--	--	8.25E-12	--	8.25E-12	Liver	--	--	1.70E-06	--	1.70E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.54E-09	--	5.54E-09
			Benzene	--	--	2.51E-10	--	2.51E-10	Blood	--	--	1.54E-05	--	1.54E-05
			Benzo(b)fluoranthene	--	--	1.25E-11	--	1.25E-11	--	--	--	--	--	--
			Bromoform	--	--	9.97E-13	--	9.97E-13	Liver	--	--	1.86E-07	--	1.86E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.14E-05	--	1.14E-05
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.18E-06	--	2.18E-06
			Chloroform	--	--	5.85E-09	--	5.85E-09	Liver/Kidney/Respiratory	--	--	7.48E-05	--	7.48E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.46E-05	--	1.46E-05
			Chrysene	--	--	3.38E-13	--	3.38E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.68E-05	--	2.68E-05
			Dieldrin	--	--	5.53E-10	--	5.53E-10	Liver	--	--	9.95E-06	--	9.95E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.89E-08	--	1.89E-08
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.11E-11	--	3.11E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.48E-07	--	3.48E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.40E-09	--	6.40E-09
			Fluorene	--	--	--	--	--	Blood	--	--	1.27E-08	--	1.27E-08
			gamma-BHC (Lindane)	--	--	5.68E-14	--	5.68E-14	Liver/Kidney	--	--	2.10E-09	--	2.10E-09

TABLE H2-8.9  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	2.14E-11	--	2.14E-11	Liver	--	--	4.40E-06	--	4.40E-06
			Heptachlor	--	--	2.86E-09	--	2.86E-09	Liver	--	--	1.81E-05	--	1.81E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.21E-05	--	1.21E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.31E-07	--	3.31E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	3.21E-06	--	3.21E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.49E-04	--	1.49E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.57E-06	--	3.57E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.42E-09	--	4.42E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.78E-09	--	7.78E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.01E-05	--	1.01E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.15E-05	--	1.15E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.35E-07	--	1.35E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.27E-05	--	2.27E-05
			Trichloroethene	--	--	1.31E-08	--	1.31E-08	CNS/Liver/Endocrine	--	--	4.72E-05	--	4.72E-05
			Vinyl chloride	--	--	2.10E-09	--	2.10E-09	Liver	--	--	3.42E-05	--	3.42E-05
		Chemical Total		0.00E+00	0.00E+00	2.88E-08	0.00E+00	2.88E-08		0.00E+00	0.00E+00	1.21E-03	0.00E+00	1.21E-03
		Exposure Point Total												
	Exposure Medium Total							2.88E-08						1.21E-03
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	2.69E-04	--	2.69E-04	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.65E-04	--	9.65E-04	
		1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.95E-04	--	1.95E-04	
		1,2-Dichloroethane	--	--	5.70E-08	--	5.70E-08	Liver/Kidney/CNS	--	--	6.44E-03	--	6.44E-03	
		1,2-Dichloropropane	--	--	1.58E-08	--	1.58E-08	Nasal	--	--	2.93E-03	--	2.93E-03	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.52E-04	--	5.52E-04	
		1,4-Dichlorobenzene	--	--	5.84E-09	--	5.84E-09	Liver	--	--	1.66E-05	--	1.66E-05	
		2-Hexanone	--	--	--	--	--	Developmental	--	--	1.99E-07	--	1.99E-07	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.75E-07	--	2.75E-07	
		4,4'-DDE	--	--	1.39E-12	--	1.39E-12	Liver	--	--	1.18E-07	--	1.18E-07	
		4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.79E-08	--	9.79E-08	
		Acenaphthene	--	--	--	--	--	Liver	--	--	1.39E-05	--	1.39E-05	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	5.93E-07	--	5.93E-07	
		Aldrin	--	--	1.46E-10	--	1.46E-10	Liver	--	--	4.11E-06	--	4.11E-06	
		alpha-BHC	--	--	8.05E-12	--	8.05E-12	Liver/Kidney	--	--	3.68E-08	--	3.68E-08	
		alpha-Chlordane	--	--	2.71E-12	--	2.71E-12	Liver	--	--	5.58E-07	--	5.58E-07	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.36E-07	--	2.36E-07	
		Benzene	--	--	7.36E-09	--	7.36E-09	Blood	--	--	4.51E-04	--	4.51E-04	
		Benzo(b)fluoranthene	--	--	5.25E-10	--	5.25E-10	--	--	--	--	--	--	
		Bromoform	--	--	5.35E-11	--	5.35E-11	Liver	--	--	1.00E-05	--	1.00E-05	
Carbon disulfide	--	--	--	--	--	CNS	--	--	3.42E-04	--	3.42E-04			
Chlorobenzene	--	--	--	--	--	Liver	--	--	6.12E-05	--	6.12E-05			

TABLE H2-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	--	--	1.74E-07	--	1.74E-07	Liver/Kidney/Respiratory	--	--	2.22E-03	--	2.22E-03			
			Chloromethane	--	--	--	--	--	CNS	--	--	4.73E-04	--	4.73E-04			
			Chrysene	--	--	1.48E-11	--	1.48E-11	--	--	--	--	--	--			
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.74E-03	--	1.74E-03			
			Dieldrin	--	--	2.12E-11	--	2.12E-11	Liver	--	--	3.81E-07	--	3.81E-07			
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.10E-09	--	4.10E-09			
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.37E-09	--	1.37E-09			
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	9.41E-06	--	9.41E-06			
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.59E-07	--	2.59E-07			
			Fluorene	--	--	--	--	--	Blood	--	--	6.59E-07	--	6.59E-07			
			gamma-BHC (Lindane)	--	--	2.24E-12	--	2.24E-12	Liver/Kidney	--	--	8.28E-08	--	8.28E-08			
			gamma-Chlordane	--	--	1.31E-12	--	1.31E-12	Liver	--	--	2.70E-07	--	2.70E-07			
			Heptachlor	--	--	7.71E-11	--	7.71E-11	Liver	--	--	4.87E-07	--	4.87E-07			
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03			
			m,p-Xylene	--	--	--	--	--	CNS	--	--	7.04E-04	--	7.04E-04			
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.43E-08	--	1.43E-08			
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.74E-04	--	1.74E-04			
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.38E-03	--	8.38E-03			
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.02E-04	--	2.02E-04			
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.45E-07	--	2.45E-07			
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03			
			Pyrene	--	--	--	--	--	Kidney	--	--	3.24E-07	--	3.24E-07			
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	7.20E-06	--	7.20E-06			
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	7.20E-04	--	7.20E-04			
			Toluene	--	--	--	--	--	CNS	--	--	7.72E-07	--	7.72E-07			
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.53E-03	--	1.53E-03			
			Trichloroethene	--	--	8.03E-07	--	8.03E-07	CNS/Liver/Endocrine	--	--	2.89E-03	--	2.89E-03			
			Vinyl chloride	--	--	1.41E-07	--	1.41E-07	Liver	--	--	2.30E-03	--	2.30E-03			
						Chemical Total	0.00E+00	0.00E+00	1.20E-06	0.00E+00	1.20E-06		0.00E+00	0.00E+00	5.02E-02	0.00E+00	5.02E-02
						Exposure Point Total					1.20E-06						5.02E-02
						Exposure Medium Total					1.20E-06						5.02E-02
			Medium Total								1.23E-06						5.14E-02
			Receptor Total							Receptor Risk Total	6.69E-05				Receptor HI Total		6.35E+01

TABLE H2-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H2-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	9.59E-04	1.07E-04	--	--	1.07E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	3.26E-03	3.65E-05	--	--	3.30E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	6.39E-05	7.16E-07	--	--	6.46E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.85E-03	2.07E-05	--	--	1.87E-03
			1,2-Dichloropropane	6.15E-11	6.92E-13	--	--	6.22E-11	Nasal	2.02E-05	2.26E-07	--	--	2.04E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.05E-05	2.29E-07	--	--	2.07E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	2.34E-04	2.63E-06	--	--	2.37E-04
			1,4-Dichlorobenzene	4.10E-08	--	--	--	4.10E-08	Organ Weight	1.45E-03	--	--	--	1.45E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	6.71E-05	7.52E-07	--	1.75E-03	1.82E-03
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	1.04E-05	1.16E-06	--	6.42E-04	6.53E-04
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	2.32E-03	2.59E-05	--	--	2.34E-03
			4,4'-DDD	7.23E-11	8.14E-13	--	1.17E-11	8.49E-11	Liver	1.53E-05	1.72E-07	--	6.81E-07	1.62E-05
			4,4'-DDE	6.40E-09	7.21E-11	--	7.51E-10	7.23E-09	Liver	9.59E-04	1.07E-05	--	3.08E-05	1.00E-03
			4,4'-DDT	3.59E-09	1.21E-10	--	1.81E-09	5.52E-09	Liver	5.37E-04	1.80E-05	--	7.44E-05	6.29E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	3.45E-04	3.87E-05	--	2.20E-02	2.24E-02
			4-Nitroaniline	3.27E-09	3.68E-10	--	5.20E-07	5.24E-07	--	1.32E-03	1.48E-04	--	5.76E-02	5.90E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	5.37E-03	6.01E-04	--	3.51E-01	3.57E-01
			Acenaphthene	--	--	--	--	--	Liver	3.70E-04	5.39E-05	--	--	4.24E-04
			Acenaphthylene	--	--	--	--	--	Liver	9.54E-06	1.07E-07	--	--	9.65E-06
			Aldrin	5.55E-08	6.25E-09	--	1.47E-08	7.65E-08	Liver	2.77E-03	3.10E-04	--	2.01E-04	3.28E-03
			alpha-BHC	1.16E-09	1.30E-11	--	6.61E-08	6.72E-08	Liver/Kidney	9.33E-06	1.05E-07	--	1.46E-04	1.56E-04
			alpha-Chlordane	6.14E-10	--	--	3.57E-10	9.71E-10	Liver	8.93E-05	--	--	1.42E-05	1.03E-04
			Aluminum	--	--	--	--	--	CNS	5.79E-02	6.48E-05	--	1.26E-03	5.92E-02
			Anthracene	--	--	--	--	--	No observed effect	1.95E-05	2.83E-06	--	--	2.23E-05
			Antimony	--	--	--	--	--	Whole body/Blood	4.35E-02	4.88E-05	--	4.36E-02	8.72E-02
			Aroclor-1248	6.03E-07	9.50E-08	--	9.79E-08	7.96E-07	Immune System/ Eye/Finger and Toe Nails	3.84E-01	6.01E-02	--	1.71E-02	4.61E-01
			Aroclor-1254	2.20E-07	3.46E-08	--	4.78E-07	7.32E-07	Immune System/ Eye/Finger and Toe Nails	1.40E-01	2.19E-02	--	8.33E-02	2.45E-01
			Aroclor-1260	2.45E-07	3.86E-08	--	1.91E-08	3.03E-07	Immune System/ Eye/Finger and Toe Nails	1.56E-01	2.45E-02	--	3.32E-03	1.84E-01
			Aroclor-1268	1.37E-08	2.15E-09	--	2.97E-08	4.55E-08	Immune System/ Eye/Finger and Toe Nails	8.69E-03	1.86E-03	--	5.17E-03	1.52E-02
			Arsenic	3.59E-06	1.21E-07	--	2.63E-06	6.34E-06	Skin	2.03E-01	6.83E-03	--	4.07E-02	2.51E-01
			Barium	--	--	--	--	--	Kidney	6.34E-03	7.10E-06	--	3.18E-03	9.53E-03
			Benzo(a)anthracene	7.72E-07	1.13E-07	--	2.42E-08	9.10E-07	--	--	--	--	--	--
			Benzo(a)pyrene	2.58E-06	3.77E-07	--	4.58E-08	3.00E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	4.35E-07	6.36E-08	--	7.72E-08	5.76E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.38E-04	2.01E-05	--	5.12E-06	1.63E-04
			Benzo(k)fluoranthene	5.18E-08	7.58E-09	--	9.19E-09	6.86E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	7.28E-04	8.15E-07	--	3.65E-05	7.65E-04
			Beta-BHC	9.95E-10	1.12E-11	--	5.69E-08	5.79E-08	Kidney/Liver	7.03E-05	7.88E-07	--	1.10E-03	1.17E-03
			bis(2-ethylhexyl)phthalate	1.86E-08	2.10E-10	--	7.85E-07	8.04E-07	Liver	1.69E-03	1.90E-05	--	1.95E-02	2.13E-02
			Cadmium	--	--	--	--	--	Kidney	1.11E-01	1.24E-04	--	5.54E-01	6.65E-01
			Carbon disulfide	--	--	--	--	--	Developmental	1.53E-08	4.30E-09	--	--	1.96E-08
			Chlorobenzene	--	--	--	--	--	Liver	3.52E-05	3.94E-07	--	--	3.56E-05

TABLE H2-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	4.26E-04	4.77E-07	--	6.40E-05	4.91E-04	
			Chrysene	8.79E-09	1.29E-09	--	1.93E-09	1.20E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	2.38E-03	2.66E-06	--	5.56E-04	2.94E-03	
			Copper	--	--	--	--	--	GI Tract	1.04E-02	1.16E-05	--	8.67E-02	9.71E-02	
			Delta-BHC	3.80E-09	2.14E-10	--	1.77E-09	5.78E-09	Liver/Kidney	2.68E-04	1.50E-05	--	3.43E-05	3.18E-04	
			Dibenzo(a,h)anthracene	5.05E-07	7.39E-08	--	5.54E-08	6.35E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	4.16E-02	4.65E-04	--	--	4.20E-02	
			Dieldrin	1.97E-07	2.21E-09	--	1.27E-05	1.29E-05	Liver	6.26E-03	7.01E-05	--	1.11E-01	1.17E-01	
			Dimethylphthalate	--	--	--	--	--	--	--	2.43E-08	2.72E-10	--	1.21E-06	1.23E-06
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	1.47E-04	1.65E-06	--	1.02E-05	1.59E-04	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	2.45E-05	1.37E-06	--	3.67E-04	3.93E-04	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	2.49E-05	1.39E-06	--	3.57E-04	3.83E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	4.58E-05	2.57E-06	--	6.42E-04	6.90E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.34E-03	7.52E-05	--	7.44E-05	1.49E-03	
			Endrin Ketone	--	--	--	--	--	Liver	2.13E-04	--	--	1.18E-05	2.25E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	3.56E-03	5.18E-04	--	3.21E-04	4.39E-03	
			Fluorene	--	--	--	--	--	Blood	4.04E-04	5.88E-05	--	--	4.63E-04	
			gamma-BHC (Lindane)	8.49E-10	3.82E-11	--	1.71E-07	1.72E-07	Liver/Kidney	5.54E-05	2.48E-06	--	3.06E-03	3.11E-03	
			gamma-Chlordane	1.12E-09	--	--	6.49E-10	1.77E-09	Liver	1.62E-04	--	--	2.59E-05	1.88E-04	
			Heptachlor	7.80E-09	8.78E-11	--	3.37E-09	1.13E-08	Liver	8.82E-05	9.88E-07	--	1.05E-05	9.97E-05	
			Heptachlor Epoxide	2.25E-08	2.54E-10	--	3.17E-06	3.19E-06	Liver	4.85E-03	5.43E-05	--	1.87E-01	1.92E-01	
			Indeno(1,2,3-cd)pyrene	9.11E-08	1.33E-08	--	1.21E-08	1.17E-07	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	7.83E-01	8.77E-04	--	2.60E-02	8.10E-01	
			Isophorone	4.77E-11	5.37E-12	--	--	5.31E-11	No observed effect	6.39E-06	7.16E-07	--	--	7.11E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	8.11E-02	9.08E-05	--	1.35E-01	2.17E-01	
			Mercury	--	--	--	--	--	Immune System	5.65E-03	--	--	3.78E-02	4.34E-02	
			Methoxychlor	--	--	--	--	--	Developmental	1.53E-04	1.72E-06	--	4.44E-06	1.60E-04	
			Methylene chloride	4.52E-12	5.09E-14	--	--	4.57E-12	Liver	2.56E-07	2.86E-09	--	--	2.59E-07	
			Molybdenum	--	--	--	--	--	Blood	2.79E-03	3.12E-06	--	5.59E-03	8.38E-03	
			Naphthalene	--	--	--	--	--	Whole Body	4.16E-03	6.05E-04	--	--	4.76E-03	
			Nickel	--	--	--	--	--	Whole Body	1.24E-02	1.39E-05	--	2.50E-02	3.74E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.49E-04	2.79E-06	--	--	2.52E-04	
			Phenol	--	--	--	--	--	Whole Body	1.24E-05	1.38E-06	--	2.04E-03	2.05E-03	
p-Isopropyltoluene	--	--	--	--	--	Kidney	7.03E-06	--	--	--	7.03E-06				
Pyrene	--	--	--	--	--	Kidney	4.33E-03	6.31E-04	--	--	4.97E-03				
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.13E-05	--	--	--	1.13E-05				
Selenium	--	--	--	--	--	Whole Body	3.63E-04	4.06E-07	--	3.03E-04	6.66E-04				
Silver	--	--	--	--	--	Skin	1.25E-03	1.40E-06	--	4.19E-03	5.44E-03				
Technical Chlordane	4.75E-08	2.14E-09	--	2.77E-08	7.73E-08	Liver	6.91E-03	3.10E-04	--	1.10E-03	8.33E-03				
Thallium	--	--	--	--	--	Blood	4.67E-02	--	--	6.25E-04	4.74E-02				
Toluene	--	--	--	--	--	Liver/Kidney	3.44E-08	3.85E-10	--	--	3.47E-08				

TABLE H2-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	2.15E-01	2.41E-04	--	2.16E-02	2.37E-01
			Zinc	--	--	--	--	--	Blood	7.07E-03	7.92E-06	--	2.13E-01	2.20E-01
			Chemical Total	9.53E-06	9.54E-07	0.00E+00	2.10E-05	3.15E-05		2.38E+00	1.20E-01	0.00E+00	2.07E+00	4.57E+00
		Exposure Point Total											4.57E+00	
		Exposure Medium Total					3.15E-05							4.57E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.81E-02	--	4.81E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.63E-01	--	1.63E-01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.46E-02	--	3.46E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	4.73E-02	--	4.73E-02
			1,2-Dichloropropane	--	--	6.84E-09	--	6.84E-09	Nasal	--	--	1.27E-03	--	1.27E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.08E-02	--	1.08E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	2.75E-03	--	2.75E-03
			1,4-Dichlorobenzene	--	--	1.21E-06	--	1.21E-06	Liver	--	--	3.44E-03	--	3.44E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	4.03E-09	--	4.03E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.49E-04	--	6.49E-04
			4,4'-DDD	--	--	7.68E-15	--	7.68E-15	Liver	--	--	9.21E-10	--	9.21E-10
			4,4'-DDE	--	--	1.06E-10	--	1.06E-10	Liver	--	--	8.95E-06	--	8.95E-06
			4,4'-DDT	--	--	3.81E-13	--	3.81E-13	Liver	--	--	3.22E-08	--	3.22E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.07E-08	--	2.07E-08
			4-Nitroaniline	--	--	3.47E-13	--	3.47E-13	--	--	--	2.38E-07	--	2.38E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	2.83E-07	--	2.83E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.02E-04	--	4.02E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.04E-05	--	1.04E-05
			Aldrin	--	--	3.37E-09	--	3.37E-09	Liver	--	--	9.51E-05	--	9.51E-05
			alpha-BHC	--	--	8.06E-10	--	8.06E-10	Liver/Kidney	--	--	3.68E-06	--	3.68E-06
			alpha-Chlordane	--	--	8.51E-11	--	8.51E-11	Liver	--	--	1.75E-05	--	1.75E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	2.43E-03	--	2.43E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.12E-05	--	2.12E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	6.40E-11	--	6.40E-11	Immune System/Eye/Finger and Toe Nails	--	--	2.30E-05	--	2.30E-05
			Aroclor-1254	--	--	2.33E-11	--	2.33E-11	Immune System/Eye/Finger and Toe nails	--	--	8.39E-06	--	8.39E-06
			Aroclor-1260	--	--	2.60E-11	--	2.60E-11	Immune System/Eye/Finger and Toe Nails	--	--	9.36E-06	--	9.36E-06
			Aroclor-1268	--	--	1.45E-12	--	1.45E-12	Immune System/Eye/Finger and Toe Nails	--	--	5.21E-07	--	5.21E-07
			Arsenic	--	--	3.81E-09	--	3.81E-09	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	1.90E-04	--	1.90E-04
			Benzo(a)anthracene	--	--	8.20E-11	--	8.20E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	2.74E-10	--	2.74E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	3.94E-08	--	3.94E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	8.28E-09	--	8.28E-09
			Benzo(k)fluoranthene	--	--	5.50E-12	--	5.50E-12	--	--	--	--	--	--
			Beryllium	--	--	5.10E-11	--	5.10E-11	Immune System/Lung	--	--	1.53E-05	--	1.53E-05

TABLE H2-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	1.09E-13	--	1.09E-13	Liver/Kidney	--	--	4.22E-09	--	4.22E-09
			bis(2-ethylhexyl)phthalate	--	--	1.98E-12	--	1.98E-12	Liver	--	--	1.02E-07	--	1.02E-07
			Cadmium	--	--	1.45E-09	--	1.45E-09	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.15E-06	--	1.15E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.54E-03	--	1.54E-03
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.35E-09	--	1.35E-09	--	--	--	--	--	--
			Cobalt	--	--	1.94E-09	--	1.94E-09	Respiratory System	--	--	5.00E-04	--	5.00E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	2.73E-09	--	2.73E-09	Liver/Kidney	--	--	1.06E-04	--	1.06E-04
			Dibenzo(a,h)anthracene	--	--	5.36E-11	--	5.36E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.14E-02	--	1.14E-02
			Diieldrin	--	--	3.70E-08	--	3.70E-08	Liver	--	--	6.66E-04	--	6.66E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	1.46E-12	--	1.46E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	8.82E-09	--	8.82E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.80E-06	--	6.80E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	6.91E-06	--	6.91E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	1.27E-05	--	1.27E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	8.05E-08	--	8.05E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.28E-08	--	1.28E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.82E-04	--	1.82E-04
			Fluorene	--	--	--	--	--	Blood	--	--	1.87E-04	--	1.87E-04
			gamma-BHC (Lindane)	--	--	7.29E-10	--	7.29E-10	Liver/Kidney	--	--	2.69E-05	--	2.69E-05
			gamma-Chlordane	--	--	1.55E-10	--	1.55E-10	Liver	--	--	3.18E-05	--	3.18E-05
			Heptachlor	--	--	5.41E-08	--	5.41E-08	Liver	--	--	3.42E-04	--	3.42E-04
			Heptachlor Epoxide	--	--	2.39E-12	--	2.39E-12	Liver	--	--	2.91E-07	--	2.91E-07
			Indeno(1,2,3-cd)pyrene	--	--	9.67E-12	--	9.67E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	5.06E-15	--	5.06E-15	No observed effect	--	--	3.84E-10	--	3.84E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	8.17E-03	--	8.17E-03
			Mercury	--	--	--	--	--	CNS	--	--	1.18E-06	--	1.18E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.74E-06	--	8.74E-06
Methylene chloride	--	--	--	--	--	Liver	--	--	--	--	--			
Molybdenum	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	--	--	--	--	--	Respiratory System	--	--	4.13E-01	--	4.13E-01			
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.71E-04	--	2.71E-04			
Phenol	--	--	--	--	--	Body Weight	--	--	7.42E-10	--	7.42E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.82E-04	--	8.82E-04			
Pyrene	--	--	--	--	--	Kidney	--	--	2.63E-04	--	2.63E-04			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.55E-04	--	3.55E-04			

**TABLE H2-8.10**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	--	--	--	--	--	--	--
			Silver	--	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	6.59E-12	--	6.59E-12	Liver	--	--	1.36E-03	--	1.36E-03	
			Thallium	--	--	--	--	--	--	--	--	--	--	--	
			Toluene	--	--	--	--	--	CNS	--	--	1.11E-07	--	1.11E-07	
			Vanadium	--	--	--	--	--	--	--	--	--	--	--	
			Zinc	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	1.36E-06	0.00E+00	1.36E-06		0.00E+00	0.00E+00	7.55E-01	0.00E+00	7.55E-01	
		Exposure Point Total						1.36E-06						7.55E-01	
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00	
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01	
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.67E-01	--	8.67E-01	
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.36E+00	--	1.36E+00	
			1,2-Dichloropropane	--	--	5.06E-08	--	5.06E-08	Nasal	--	--	9.39E-03	--	9.39E-03	
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.77E-01	--	2.77E-01	
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.09E-01	--	1.09E-01	
			1,4-Dichlorobenzene	--	--	3.09E-05	--	3.09E-05	Liver	--	--	8.79E-02	--	8.79E-02	
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.91E-02	--	4.91E-02	
			4,4'-DDE	--	--	7.26E-11	--	7.26E-11	Liver	--	--	6.14E-06	--	6.14E-06	
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.43E-02	--	1.43E-02	
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.69E-04	--	3.69E-04	
			Aldrin	--	--	9.63E-09	--	9.63E-09	Liver	--	--	2.72E-04	--	2.72E-04	
			alpha-BHC	--	--	2.39E-08	--	2.39E-08	Liver/Kidney	--	--	1.09E-04	--	1.09E-04	
			alpha-Chlordane	--	--	6.68E-10	--	6.68E-10	Liver	--	--	1.37E-04	--	1.37E-04	
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.52E-04	--	7.52E-04	
			Benzo(b)fluoranthene	--	--	8.09E-08	--	8.09E-08	--	--	--	--	--	--	
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	3.57E-06	--	3.57E-06	
			Chlorobenzene	--	--	--	--	--	Liver	--	--	1.92E-02	--	1.92E-02	
			Chrysene	--	--	4.56E-09	--	4.56E-09	--	--	--	--	--	--	
			Delta-BHC	--	--	1.20E-07	--	1.20E-07	Liver/Kidney	--	--	4.66E-03	--	4.66E-03	
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.00E-03	--	6.00E-03	
			Diehdin	--	--	2.95E-07	--	2.95E-07	Liver	--	--	5.31E-03	--	5.31E-03	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.82E-04	--	1.82E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.85E-04	--	1.85E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	3.40E-04	--	3.40E-04	
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.21E-05	--	6.21E-05	
			Fluorene	--	--	--	--	--	Blood	--	--	3.39E-03	--	3.39E-03	
			gamma-BHC (Lindane)	--	--	2.60E-08	--	2.60E-08	Liver/Kidney	--	--	9.61E-04	--	9.61E-04	
			gamma-Chlordane	--	--	1.22E-11	--	1.22E-11	Liver	--	--	2.50E-06	--	2.50E-06	
			Heptachlor	--	--	1.74E-08	--	1.74E-08	Liver	--	--	1.10E-04	--	1.10E-04	
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.00E-05	--	3.00E-05	
			Methylene Chloride	--	--	7.93E-10	--	7.93E-10	Liver	--	--	8.32E-06	--	8.32E-06	

TABLE H2-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	--	--	--	Respiratory System	--	--	3.72E+01	--	3.72E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	9.64E-03	--	9.64E-03
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.97E-03	--	2.97E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	6.71E-04	--	6.71E-04
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	2.90E-03	--	2.90E-03
			Technical Chlordane	--	--	5.18E-11	--	5.18E-11	Liver	--	--	1.06E-02	--	1.06E-02
			Toluene	--	--	--	--	--	CNS	--	--	8.95E-07	--	8.95E-07
			<b>Chemical Total</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>3.15E-05</b>	<b>0.00E+00</b>	<b>3.15E-05</b>		<b>0.00E+00</b>	<b>0.00E+00</b>	<b>5.78E+01</b>	<b>0.00E+00</b>	<b>5.78E+01</b>
			<b>Exposure Point Total</b>					<b>3.15E-05</b>						<b>5.78E+01</b>
			<b>Exposure Medium Total</b>					<b>3.29E-05</b>						<b>5.86E+01</b>
<b>Medium Total</b>					<b>6.44E-05</b>						<b>6.32E+01</b>			
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	1.53E-06	--	1.53E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.73E-05	--	3.73E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	7.35E-06	--	7.35E-06
			1,2-Dichloroethane	--	--	1.90E-09	--	1.90E-09	Liver/Kidney/CNS	--	--	2.15E-04	--	2.15E-04
			1,2-Dichloropropane	--	--	5.34E-10	--	5.34E-10	Nasal	--	--	9.91E-05	--	9.91E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.12E-05	--	2.12E-05
			1,4-Dichlorobenzene	--	--	2.18E-10	--	2.18E-10	Liver	--	--	6.20E-07	--	6.20E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	3.86E-09	--	3.86E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.79E-09	--	9.79E-09
			4,4'-DDE	--	--	1.55E-11	--	1.55E-11	Liver	--	--	1.31E-06	--	1.31E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	2.38E-09	--	2.38E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.27E-07	--	3.27E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.39E-08	--	1.39E-08
			Aldrin	--	--	1.34E-09	--	1.34E-09	Liver	--	--	3.77E-05	--	3.77E-05
			alpha-BHC	--	--	6.27E-11	--	6.27E-11	Liver/Kidney	--	--	2.87E-07	--	2.87E-07
			alpha-Chlordane	--	--	8.25E-12	--	8.25E-12	Liver	--	--	1.70E-06	--	1.70E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.54E-09	--	5.54E-09
			Benzene	--	--	2.51E-10	--	2.51E-10	Blood	--	--	1.54E-05	--	1.54E-05
			Benzo(b)fluoranthene	--	--	1.25E-11	--	1.25E-11	--	--	--	--	--	--
			Bromoform	--	--	9.97E-13	--	9.97E-13	Liver	--	--	1.86E-07	--	1.86E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.14E-05	--	1.14E-05
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.18E-06	--	2.18E-06
			Chloroform	--	--	5.85E-09	--	5.85E-09	Liver/Kidney/Respiratory	--	--	7.48E-05	--	7.48E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.46E-05	--	1.46E-05
			Chrysene	--	--	3.38E-13	--	3.38E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.68E-05	--	2.68E-05
			Dieldrin	--	--	5.53E-10	--	5.53E-10	Liver	--	--	9.95E-06	--	9.95E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.89E-08	--	1.89E-08
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	3.11E-11	--	3.11E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.48E-07	--	3.48E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.40E-09	--	6.40E-09			

TABLE H2-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	1.27E-08	--	1.27E-08
			gamma-BHC (Lindane)	--	--	5.68E-14	--	5.68E-14	Liver/Kidney	--	--	2.10E-09	--	2.10E-09
			gamma-Chlordane	--	--	2.14E-11	--	2.14E-11	Liver	--	--	4.40E-06	--	4.40E-06
			Heptachlor	--	--	2.86E-09	--	2.86E-09	Liver	--	--	1.81E-05	--	1.81E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.21E-05	--	1.21E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.31E-07	--	3.31E-07
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	3.21E-06	--	3.21E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.49E-04	--	1.49E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.57E-06	--	3.57E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.42E-09	--	4.42E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.78E-09	--	7.78E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.01E-05	--	1.01E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.15E-05	--	1.15E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.35E-07	--	1.35E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.27E-05	--	2.27E-05
			Trichloroethene	--	--	1.31E-08	--	1.31E-08	CNS/Liver/Endocrine	--	--	4.72E-05	--	4.72E-05
			Vinyl chloride	--	--	2.10E-09	--	2.10E-09	Liver	--	--	3.42E-05	--	3.42E-05
						Chemical Total	0.00E+00	0.00E+00	2.88E-08	0.00E+00	2.88E-08		0.00E+00	0.00E+00
			Exposure Point Total											1.21E-03
			Exposure Medium Total					2.88E-08						1.21E-03
Groundwater Vapor Intrusion	Indoor Air (Inhalation)	Indoor Air (Inhalation)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	2.69E-04	--	2.69E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.65E-04	--	9.65E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.95E-04	--	1.95E-04
			1,2-Dichloroethane	--	--	5.70E-08	--	5.70E-08	Liver/Kidney/CNS	--	--	6.44E-03	--	6.44E-03
			1,2-Dichloropropane	--	--	1.58E-08	--	1.58E-08	Nasal	--	--	2.93E-03	--	2.93E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.52E-04	--	5.52E-04
			1,4-Dichlorobenzene	--	--	5.84E-09	--	5.84E-09	Liver	--	--	1.66E-05	--	1.66E-05
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.99E-07	--	1.99E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.75E-07	--	2.75E-07
			4,4'-DDE	--	--	1.39E-12	--	1.39E-12	Liver	--	--	1.18E-07	--	1.18E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.79E-08	--	9.79E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.39E-05	--	1.39E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.93E-07	--	5.93E-07
			Aldrin	--	--	1.46E-10	--	1.46E-10	Liver	--	--	4.11E-06	--	4.11E-06
			alpha-BHC	--	--	8.05E-12	--	8.05E-12	Liver/Kidney	--	--	3.68E-08	--	3.68E-08
			alpha-Chlordane	--	--	2.71E-12	--	2.71E-12	Liver	--	--	5.58E-07	--	5.58E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.36E-07	--	2.36E-07
			Benzene	--	--	7.36E-09	--	7.36E-09	Blood	--	--	4.51E-04	--	4.51E-04
			Benzo(b)fluoranthene	--	--	5.25E-10	--	5.25E-10	--	--	--	--	--	--
			Bromoform	--	--	5.35E-11	--	5.35E-11	Liver	--	--	1.00E-05	--	1.00E-05

TABLE H2-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	-	-	-	-	-	CNS	-	-	3.42E-04	-	3.42E-04	
			Chlorobenzene	-	-	-	-	-	Liver	-	-	6.12E-05	-	6.12E-05	
			Chloroform	-	-	1.74E-07	-	1.74E-07	Liver/Kidney/Respiratory	-	-	2.22E-03	-	2.22E-03	
			Chloromethane	-	-	-	-	-	CNS	-	-	4.73E-04	-	4.73E-04	
			Chrysene	-	-	1.48E-11	-	1.48E-11	-	-	-	-	-	-	-
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.74E-03	-	1.74E-03	
			Dieldrin	-	-	2.12E-11	-	2.12E-11	Liver	-	-	3.81E-07	-	3.81E-07	
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	4.10E-09	-	4.10E-09	
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	-	-	1.37E-09	-	1.37E-09	
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	9.41E-06	-	9.41E-06	
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	2.59E-07	-	2.59E-07	
			Fluorene	-	-	-	-	-	Blood	-	-	6.59E-07	-	6.59E-07	
			gamma-BHC (Lindane)	-	-	2.24E-12	-	2.24E-12	Liver/Kidney	-	-	8.28E-08	-	8.28E-08	
			gamma-Chlordane	-	-	1.31E-12	-	1.31E-12	Liver	-	-	2.70E-07	-	2.70E-07	
			Heptachlor	-	-	7.71E-11	-	7.71E-11	Liver	-	-	4.87E-07	-	4.87E-07	
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	8.28E-03	-	8.28E-03	
			m,p-Xylene	-	-	-	-	-	CNS	-	-	7.04E-04	-	7.04E-04	
			Methoxychlor	-	-	-	-	-	Developmental	-	-	1.43E-08	-	1.43E-08	
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	1.74E-04	-	1.74E-04	
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	8.38E-03	-	8.38E-03	
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	2.02E-04	-	2.02E-04	
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	2.45E-07	-	2.45E-07	
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	8.28E-03	-	8.28E-03	
			Pyrene	-	-	-	-	-	Kidney	-	-	3.24E-07	-	3.24E-07	
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	7.20E-06	-	7.20E-06	
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	7.20E-04	-	7.20E-04	
			Toluene	-	-	-	-	-	CNS	-	-	7.72E-07	-	7.72E-07	
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.53E-03	-	1.53E-03	
			Trichloroethene	-	-	8.03E-07	-	8.03E-07	CNS/Liver/Endocrine	-	-	2.89E-03	-	2.89E-03	
			Vinyl chloride	-	-	1.41E-07	-	1.41E-07	Liver	-	-	2.30E-03	-	2.30E-03	
						Chemical Total	0.00E+00	0.00E+00	1.20E-06	0.00E+00	1.20E-06		0.00E+00	0.00E+00	5.02E-02
		Exposure Point Total											5.02E-02		
	Exposure Medium Total							1.20E-06					5.02E-02		
Medium Total								1.23E-06					5.14E-02		
Receptor Total							Receptor Risk Total	6.56E-05				Receptor HI Total	6.32E+01		

TABLE H2-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CNS Central nervous system
- COPC Chemicals of Potential Concern
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- GI Gastrointestinal
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

TABLE H2-8.11

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	7.55E-05	1.17E-05	--	--	8.72E-05
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	2.57E-04	3.98E-06	--	--	2.61E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	5.03E-06	7.81E-08	--	--	5.11E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.45E-04	2.26E-06	--	--	1.48E-04
			1,2-Dichloropropane	1.23E-11	1.91E-13	--	--	1.25E-11	Nasal	1.59E-06	2.47E-08	--	--	1.61E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.61E-06	2.50E-08	--	--	1.64E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.85E-05	2.86E-07	--	--	1.87E-05
			1,4-Dichlorobenzene	8.21E-09	--	--	--	8.21E-09	Organ Weight	1.14E-04	--	--	--	1.14E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	5.28E-06	8.20E-08	--	--	5.37E-06
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	8.15E-07	1.26E-07	--	--	9.42E-07
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	2.10E-04	3.26E-06	--	--	2.14E-04
			4,4'-DDD	1.45E-11	2.25E-13	--	--	1.47E-11	Liver	1.21E-06	1.87E-08	--	--	1.23E-06
			4,4'-DDE	1.41E-09	2.19E-11	--	--	1.43E-09	Liver	8.28E-05	1.29E-06	--	--	8.41E-05
			4,4'-DDT	7.61E-10	3.54E-11	--	--	7.97E-10	Liver	4.48E-05	2.08E-06	--	--	4.69E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	2.72E-05	4.22E-06	--	--	3.14E-05
			4-Nitroaniline	6.55E-10	1.02E-10	--	--	7.57E-10	--	1.04E-04	1.61E-05	--	--	1.20E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	4.23E-04	6.56E-05	--	--	4.88E-04
			Acenaphthene	--	--	--	--	--	Liver	3.55E-05	7.16E-06	--	--	4.27E-05
			Acenaphthylene	--	--	--	--	--	Liver	8.74E-07	1.36E-08	--	--	8.87E-07
			Aldrin	1.11E-08	1.73E-09	--	--	1.28E-08	Liver	2.18E-04	3.38E-05	--	--	2.52E-04
			alpha-BHC	2.31E-10	3.59E-12	--	--	2.35E-10	Liver/Kidney	7.35E-07	1.14E-08	--	--	7.46E-07
			alpha-Chlordane	1.43E-10	--	--	--	1.43E-10	Liver	8.19E-06	--	--	--	8.19E-06
			Aluminum	--	--	--	--	--	CNS	4.44E-03	6.89E-06	--	--	4.45E-03
			Anthracene	--	--	--	--	--	No observed effect	1.77E-06	3.57E-07	--	--	2.13E-06
			Antimony	--	--	--	--	--	Whole body/Blood	5.13E-03	7.96E-06	--	--	5.14E-03
			Aroclor-1248	1.21E-07	2.62E-08	--	--	1.47E-07	Immune System/ Eye/Finger and Toe Nails	3.02E-02	6.56E-03	--	--	3.68E-02
			Aroclor-1254	4.47E-08	9.71E-09	--	--	5.44E-08	Immune System/ Eye/Finger and Toe Nails	1.12E-02	2.43E-03	--	--	1.36E-02
			Aroclor-1260	5.45E-08	1.18E-08	--	--	6.63E-08	Immune System/ Eye/Finger and Toe Nails	1.36E-02	2.96E-03	--	--	1.66E-02
			Aroclor-1268	2.79E-09	6.07E-10	--	--	3.40E-09	Immune System/ Eye/Finger and Toe Nails	6.98E-04	1.52E-04	--	--	8.50E-04
			Arsenic	4.65E-07	2.17E-08	--	--	4.87E-07	Skin	1.03E-02	4.81E-04	--	--	1.08E-02
			Barium	--	--	--	--	--	Kidney	4.88E-04	7.57E-07	--	--	4.88E-04
			Benzo(a)anthracene	1.84E-07	3.71E-08	--	--	2.21E-07	--	--	--	--	--	--
			Benzo(a)pyrene	6.12E-07	1.23E-07	--	--	7.35E-07	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.01E-07	2.03E-08	--	--	1.21E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.28E-05	2.58E-06	--	--	1.54E-05
			Benzo(k)fluoranthene	1.20E-08	2.42E-09	--	--	1.44E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	5.99E-05	9.30E-08	--	--	6.00E-05
			Beta-BHC	1.99E-10	3.09E-12	--	--	2.02E-10	Kidney/Liver	5.54E-06	8.59E-08	--	--	5.62E-06
			bis(2-ethylhexyl)phthalate	5.52E-09	8.56E-11	--	--	5.60E-09	Liver	1.97E-04	3.06E-06	--	--	2.00E-04
			Cadmium	--	--	--	--	--	Kidney	9.53E-03	1.48E-05	--	--	9.55E-03
			Carbon disulfide	--	--	--	--	--	Developmental	1.21E-09	4.68E-10	--	--	1.68E-09
			Chlorobenzene	--	--	--	--	--	Liver	2.77E-06	4.29E-08	--	--	2.81E-06

TABLE H2-8.11

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	3.73E-05	5.79E-08	--	--	3.74E-05		
			Chrysene	2.09E-09	4.21E-10	--	--	2.51E-09	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.91E-04	2.96E-07	--	--	--	1.91E-04	
			Copper	--	--	--	--	--	GI Tract	7.76E-04	1.20E-06	--	--	--	7.77E-04	
			Delta-BHC	7.61E-10	5.90E-11	--	--	8.20E-10	Liver/Kidney	2.11E-05	1.64E-06	--	--	--	2.28E-05	
			Dibenzo(a,h)anthracene	1.17E-07	2.35E-08	--	--	1.40E-07	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	3.27E-03	5.08E-05	--	--	--	3.32E-03	
			Dieldrin	4.44E-08	6.89E-10	--	--	4.51E-08	Liver	5.55E-04	8.61E-06	--	--	--	5.64E-04	
			Dimethylphthalate	--	--	--	--	--	--	--	1.91E-09	2.97E-11	--	--	--	1.94E-09
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	1.11E-05	1.72E-07	--	--	--	1.12E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.93E-06	1.50E-07	--	--	--	2.08E-06	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	2.00E-06	1.55E-07	--	--	--	2.15E-06	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	3.61E-06	2.80E-07	--	--	--	3.89E-06	
			Endrin aldehyde	--	--	--	--	--	Liver	7.06E-05	5.48E-06	--	--	--	7.61E-05	
			Endrin Ketone	--	--	--	--	--	Liver	1.68E-05	--	--	--	--	1.68E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	3.33E-04	6.73E-05	--	--	--	4.01E-04	
			Fluorene	--	--	--	--	--	Blood	3.67E-05	7.40E-06	--	--	--	4.41E-05	
			gamma-BHC (Lindane)	1.70E-10	1.06E-11	--	--	1.81E-10	Liver/Kidney	4.36E-08	2.71E-07	--	--	--	4.63E-08	
			gamma-Chlordane	2.31E-10	--	--	--	2.31E-10	Liver	1.32E-05	--	--	--	--	1.32E-05	
			Heptachlor	1.56E-09	2.42E-11	--	--	1.59E-09	Liver	6.94E-06	1.08E-07	--	--	--	7.05E-06	
			Heptachlor Epoxide	5.11E-09	7.93E-11	--	--	5.19E-09	Liver	4.32E-04	6.70E-06	--	--	--	4.38E-04	
			Indeno(1,2,3-cd)pyrene	3.21E-08	6.47E-09	--	--	3.85E-08	--	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	6.83E-02	1.06E-04	--	--	--	6.84E-02	
			Isophorone	9.56E-12	1.48E-12	--	--	1.10E-11	No observed effect	5.03E-07	7.81E-08	--	--	--	5.81E-07	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	6.94E-03	1.08E-05	--	--	--	6.95E-03	
			Mercury	--	--	--	--	--	Immune System	5.19E-04	--	--	--	--	5.19E-04	
			Methoxychlor	--	--	--	--	--	Developmental	1.21E-05	1.87E-07	--	--	--	1.23E-05	
			Molybdenum	--	--	--	--	--	Blood	2.52E-04	3.91E-07	--	--	--	2.52E-04	
			Naphthalene	--	--	--	--	--	Whole Body	3.27E-04	6.60E-05	--	--	--	3.93E-04	
			Nickel	--	--	--	--	--	Whole Body	9.84E-04	1.53E-06	--	--	--	9.86E-04	
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.33E-05	3.62E-07	--	--	--	2.37E-05	
			Phenol	--	--	--	--	--	Whole Body	9.73E-07	1.51E-07	--	--	--	1.12E-06	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	5.54E-07	--	--	--	--	5.54E-07	
			Pyrene	--	--	--	--	--	Kidney	4.05E-04	8.17E-05	--	--	--	4.87E-04	
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	8.93E-07	--	--	--	--	8.93E-07				
Selenium	--	--	--	--	--	Whole Body	2.26E-05	3.51E-08	--	--	--	2.26E-05				
Silver	--	--	--	--	--	Skin	1.17E-04	1.81E-07	--	--	--	1.17E-04				
Technical Chlordane	9.71E-09	6.02E-10	--	--	1.03E-08	Liver	5.55E-04	3.44E-05	--	--	--	5.89E-04				
Thallium	--	--	--	--	--	Blood	3.79E-03	--	--	--	--	3.79E-03				
Toluene	--	--	--	--	--	Liver/Kidney	2.70E-09	4.20E-11	--	--	--	2.75E-09				
Vanadium	--	--	--	--	--	Kidney	1.72E-02	2.67E-05	--	--	--	1.72E-02				

TABLE H2-8.11  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	7.61E-04	1.18E-06	--	--	7.62E-04
		Exposure Point Total	Chemical Total	1.84E-06	2.87E-07	0.00E+00	0.00E+00	2.12E-06		1.94E-01	1.32E-02	0.00E+00	0.00E+00	2.07E-01
Exposure Medium Total								2.12E-06						2.07E-01
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	1.42E-02	--	1.42E-02
		1,2,4-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	4.84E-02	--	4.84E-02
		1,2,4-Trimethylbenzene	--	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.03E-02	--	1.03E-02
		1,2-Dichlorobenzene	--	--	--	--	--	--	Body Weight	--	--	1.40E-02	--	1.40E-02
		1,2-Dichloropropane	--	--	2.92E-09	--	2.92E-09	--	Nasal	--	--	3.77E-04	--	3.77E-04
		1,3,5-Trimethylbenzene	--	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.20E-03	--	3.20E-03
		1,3-Dichlorobenzene	--	--	--	--	--	--	Kidney/Liver	--	--	8.15E-04	--	8.15E-04
		1,4-Dichlorobenzene	--	--	5.16E-07	--	5.16E-07	--	Liver	--	--	1.02E-03	--	1.02E-03
		2,4-Dimethylphenol	--	--	--	--	--	--	Blood/Whole Body	--	--	1.19E-09	--	1.19E-09
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--
		2-Methylnaphthalene	--	--	--	--	--	--	CNS/Body Weight	--	--	2.22E-04	--	2.22E-04
		4,4'-DDD	--	--	3.27E-15	--	3.27E-15	--	Liver	--	--	2.73E-10	--	2.73E-10
		4,4'-DDE	--	--	4.95E-11	--	4.95E-11	--	Liver	--	--	2.91E-06	--	2.91E-06
		4,4'-DDT	--	--	1.72E-13	--	1.72E-13	--	Liver	--	--	1.01E-08	--	1.01E-08
		4-Methylphenol	--	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	6.14E-09	--	6.14E-09
		4-Nitroaniline	--	--	1.48E-13	--	1.48E-13	--	--	--	--	7.05E-08	--	7.05E-08
		4-Nitrophenol	--	--	--	--	--	--	Blood/Kidney/Liver	--	--	8.38E-08	--	8.38E-08
		Acenaphthene	--	--	--	--	--	--	Liver	--	--	1.45E-04	--	1.45E-04
		Acenaphthylene	--	--	--	--	--	--	Liver	--	--	3.58E-06	--	3.58E-06
		Aldrin	--	--	1.44E-09	--	1.44E-09	--	Liver	--	--	2.82E-05	--	2.82E-05
		alpha-BHC	--	--	3.44E-10	--	3.44E-10	--	Liver/Kidney	--	--	1.09E-06	--	1.09E-06
		alpha-Chlordane	--	--	4.23E-11	--	4.23E-11	--	Liver	--	--	6.05E-06	--	6.05E-06
		Aluminum	--	--	--	--	--	--	Respiratory System	--	--	7.02E-04	--	7.02E-04
		Anthracene	--	--	--	--	--	--	No Observed Effect	--	--	7.25E-06	--	7.25E-06
		Antimony	--	--	--	--	--	--	--	--	--	--	--	--
		Aroclor-1248	--	--	2.73E-11	--	2.73E-11	--	Immune System/Eye/Finger and Toe Nails	--	--	6.82E-06	--	6.82E-06
		Aroclor-1254	--	--	1.01E-11	--	1.01E-11	--	Immune System/Eye/Finger and Toe nails	--	--	2.52E-06	--	2.52E-06
		Aroclor-1260	--	--	1.23E-11	--	1.23E-11	--	Immune System/Eye/Finger and Toe Nails	--	--	3.08E-06	--	3.08E-06
		Aroclor-1268	--	--	6.31E-13	--	6.31E-13	--	Immune System/Eye/Finger and Toe Nails	--	--	1.58E-07	--	1.58E-07
		Arsenic	--	--	1.05E-09	--	1.05E-09	--	--	--	--	--	--	--
		Barium	--	--	--	--	--	--	Developmental	--	--	5.51E-05	--	5.51E-05
Benzo(a)anthracene	--	--	4.15E-11	--	4.15E-11	--	--	--	--	--	--	--		
Benzo(a)pyrene	--	--	1.38E-10	--	1.38E-10	--	--	--	--	--	--	--		
Benzo(b)fluoranthene	--	--	1.94E-08	--	1.94E-08	--	--	--	--	--	--	--		
Benzo(g,h,i)perylene	--	--	--	--	--	--	Kidney	--	--	2.89E-09	--	2.89E-09		
Benzo(k)fluoranthene	--	--	2.71E-12	--	2.71E-12	--	--	--	--	--	--	--		
Beryllium	--	--	2.27E-11	--	2.27E-11	--	Immune System/Lung	--	--	4.74E-06	--	4.74E-06		
Beta-BHC	--	--	4.64E-14	--	4.64E-14	--	Liver/Kidney	--	--	1.25E-09	--	1.25E-09		

TABLE H2-8.11

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.25E-12	--	1.25E-12	Liver	--	--	4.45E-08	--	4.45E-08
			Cadmium	--	--	6.79E-10	--	6.79E-10	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.39E-07	--	3.39E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	4.57E-04	--	4.57E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	6.84E-10	--	6.84E-10	--	--	--	--	--	--
			Cobalt	--	--	8.44E-10	--	8.44E-10	Respiratory System	--	--	1.51E-04	--	1.51E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.17E-09	--	1.17E-09	Liver/Kidney	--	--	3.14E-05	--	3.14E-05
			Dibenzo(a,h)anthracene	--	--	2.64E-11	--	2.64E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	3.37E-03	--	3.37E-03
			Dieldrin	--	--	1.78E-08	--	1.78E-08	Liver	--	--	2.23E-04	--	2.23E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	4.32E-13	--	4.32E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	2.50E-09	--	2.50E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.02E-06	--	2.02E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	2.09E-06	--	2.09E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	3.77E-06	--	3.77E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.59E-08	--	1.59E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	3.79E-09	--	3.79E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.43E-05	--	6.43E-05
			Fluorene	--	--	--	--	--	Blood	--	--	6.40E-05	--	6.40E-05
			gamma-BHC (Lindane)	--	--	3.11E-10	--	3.11E-10	Liver/Kidney	--	--	7.98E-06	--	7.98E-06
			gamma-Chlordane	--	--	6.81E-11	--	6.81E-11	Liver	--	--	9.73E-06	--	9.73E-06
			Heptachlor	--	--	2.31E-08	--	2.31E-08	Liver	--	--	1.01E-04	--	1.01E-04
			Heptachlor Epoxide	--	--	1.15E-12	--	1.15E-12	Liver	--	--	9.76E-08	--	9.76E-08
			Indeno(1,2,3-cd)pyrene	--	--	7.25E-12	--	7.25E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	2.16E-15	--	2.16E-15	No observed effect	--	--	1.14E-10	--	1.14E-10
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	2.63E-03	--	2.63E-03
			Mercury	--	--	--	--	--	CNS	--	--	4.09E-07	--	4.09E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.59E-06	--	2.59E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	Respiratory System	--	--	1.22E-01	--	1.22E-01			
Nickel	--	--	--	--	--	--	--	--	--	--	--			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	9.56E-05	--	9.56E-05			
Phenol	--	--	--	--	--	Body Weight	--	--	2.20E-10	--	2.20E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.61E-04	--	2.61E-04			
Pyrene	--	--	--	--	--	Kidney	--	--	9.24E-05	--	9.24E-05			
sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.05E-04	--	1.05E-04			
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H2-8.11  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	2.87E-12	--	2.87E-12	Liver	--	--	4.09E-04	--	4.09E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	3.28E-08	--	3.28E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
Chemical Total			0.00E+00	0.00E+00	5.86E-07	0.00E+00	5.86E-07		0.00E+00	0.00E+00	2.24E-01	0.00E+00	2.24E-01	
Exposure Point Total								5.86E-07						2.24E-01
Exposure Medium Total								5.86E-07						2.24E-01
Medium Total								2.71E-06						4.31E-01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	4.54E-07	--	4.54E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.11E-05	--	1.11E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	2.18E-06	--	2.18E-06
			1,2-Dichloroethane	--	--	8.13E-10	--	8.13E-10	Liver/Kidney/CNS	--	--	6.38E-05	--	6.38E-05
			1,2-Dichloropropane	--	--	2.28E-10	--	2.28E-10	Nasal	--	--	2.94E-05	--	2.94E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.29E-06	--	6.29E-06
			1,4-Dichlorobenzene	--	--	9.30E-11	--	9.30E-11	Liver	--	--	1.84E-07	--	1.84E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.14E-09	--	1.14E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.90E-09	--	2.90E-09
			4,4'-DDE	--	--	6.60E-12	--	6.60E-12	Liver	--	--	3.88E-07	--	3.88E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	7.06E-10	--	7.06E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	9.69E-08	--	9.69E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.13E-09	--	4.13E-09
			Aldrin	--	--	5.70E-10	--	5.70E-10	Liver	--	--	1.12E-05	--	1.12E-05
			alpha-BHC	--	--	2.68E-11	--	2.68E-11	Liver/Kidney	--	--	8.50E-08	--	8.50E-08
			alpha-Chlordane	--	--	3.52E-12	--	3.52E-12	Liver	--	--	5.03E-07	--	5.03E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.64E-09	--	1.64E-09
			Benzene	--	--	1.07E-10	--	1.07E-10	Blood	--	--	4.55E-06	--	4.55E-06
			Benzo(b)fluoranthene	--	--	5.33E-12	--	5.33E-12	--	--	--	--	--	--
			Bromoform	--	--	4.25E-13	--	4.25E-13	Liver	--	--	5.52E-08	--	5.52E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.38E-06	--	3.38E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	6.47E-07	--	6.47E-07
			Chloroform	--	--	2.50E-09	--	2.50E-09	Liver/Kidney/Respiratory	--	--	2.22E-05	--	2.22E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	4.32E-06	--	4.32E-06
			Chrysene	--	--	1.44E-13	--	1.44E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	7.95E-06	--	7.95E-06
			Dieldrin	--	--	2.36E-10	--	2.36E-10	Liver	--	--	2.05E-06	--	2.05E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.60E-09	--	5.60E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	9.21E-12	--	9.21E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.03E-07	--	1.03E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.90E-09	--	1.90E-09
Fluorene	--	--	--	--	--	Blood	--	--	3.75E-09	--	3.75E-09			
gamma-BHC (Lindane)	--	--	2.42E-14	--	2.42E-14	Liver/Kidney	--	--	6.22E-10	--	6.22E-10			

TABLE H2-8.11  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	9.14E-12	--	9.14E-12	Liver	--	--	1.31E-06	--	1.31E-06
			Heptachlor	--	--	1.22E-09	--	1.22E-09	Liver	--	--	5.36E-06	--	5.36E-06
			isopropylbenzene	--	--	--	--	--	Kidney	--	--	4.67E-05	--	4.67E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	3.59E-06	--	3.59E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	9.80E-08	--	9.80E-08
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	9.51E-07	--	9.51E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	4.43E-05	--	4.43E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.06E-06	--	1.06E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.31E-09	--	1.31E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.67E-05	--	4.67E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	2.31E-09	--	2.31E-09
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	3.01E-06	--	3.01E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	3.41E-06	--	3.41E-06
			Toluene	--	--	--	--	--	CNS	--	--	3.99E-08	--	3.99E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	6.73E-06	--	6.73E-06
			Trichloroethene	--	--	5.60E-09	--	5.60E-09	CNS/Liver/Endocrine	--	--	1.40E-05	--	1.40E-05
			Vinyl chloride	--	--	8.97E-10	--	8.97E-10	Liver	--	--	1.01E-05	--	1.01E-05
					Chemical Total		0.00E+00	0.00E+00	1.23E-08	0.00E+00	1.23E-08		0.00E+00	0.00E+00
		Exposure Point Total						1.23E-08						3.59E-04
		Exposure Medium Total						1.23E-08						3.59E-04
Medium Total								1.23E-08						3.59E-04
Receptor Total								2.72E-06						4.31E-01

Notes:  
 -- Not applicable or not available  
 CNS Central nervous system  
 COPC Chemicals of Potential Concern  
 CTE Central Tendency Exposure  
 EPA U.S. Environmental Protection Agency  
 ft bgs Feet below ground surface  
 GI Gastrointestinal  
 HI Hazard Index  
 RAGS Risk Assessment Guidelines for Superfund  
 RI Remedial Investigation  
 VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	7.52E-02
Total Organ 2 (Kidney) HI Across All Media =	9.97E-02
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	2.79E-02
Total Organ 5 (Endocrine) HI Across All Media =	1.40E-05
Total Organ 6 (Blood) HI Across All Media =	2.47E-02
Total Organ 7 (Adrenal) HI Across All Media =	3.48E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	3.15E-04
Total Organ 9 (Skin) HI Across All Media =	1.09E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	8.37E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	6.78E-02
Total Organ 12 (Body Weight) HI Across All Media =	1.43E-02
Total Organ 13 (Developmental) HI Across All Media =	7.01E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.37E-01
Total Organ 15 (Whole Body) HI Across All Media =	6.60E-03
Total Organ 16 (Immune System) HI Across All Media =	6.83E-02
Total Organ 17 (Organ Weight) HI Across All Media =	1.17E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	6.78E-02
Total Organ 19 (Nasal Tissue) HI Across All Media =	4.08E-04

TABLE H2-8.12  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	6.16E-04	1.07E-04	--	--	7.24E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	2.10E-03	3.65E-05	--	--	2.13E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.11E-05	7.16E-07	--	--	4.18E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.19E-03	2.07E-05	--	--	1.21E-03
			1,2-Dichloropropane	2.87E-11	5.01E-13	--	--	2.92E-11	Nasal	1.30E-05	2.26E-07	--	--	1.32E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.32E-05	2.29E-07	--	--	1.34E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.51E-04	2.63E-06	--	--	1.53E-04
			1,4-Dichlorobenzene	1.92E-08	--	--	--	1.92E-08	Organ Weight	9.32E-04	--	--	--	9.32E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	4.32E-05	7.52E-07	--	--	4.39E-05
			2-Methylphenol	--	--	--	--	--	CNS/Body Weight	6.66E-06	1.16E-06	--	--	7.82E-06
			2-Methylnaphthalene	--	--	--	--	--	Respiratory System	1.72E-03	2.99E-05	--	--	1.75E-03
			4,4'-DDD	3.38E-11	5.89E-13	--	--	3.44E-11	Liver	9.86E-06	1.72E-07	--	--	1.00E-05
			4,4'-DDE	3.29E-09	5.73E-11	--	--	3.34E-09	Liver	6.77E-04	1.18E-05	--	--	6.88E-04
			4,4'-DDT	1.78E-09	9.28E-11	--	--	1.87E-09	Liver	3.66E-04	1.91E-05	--	--	3.85E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	2.22E-04	3.87E-05	--	--	2.61E-04
			4-Nitroaniline	1.53E-09	2.66E-10	--	--	1.80E-09	--	8.49E-04	1.48E-04	--	--	9.97E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	3.45E-03	6.01E-04	--	--	4.05E-03
			Acenaphthene	--	--	--	--	--	Liver	2.90E-04	6.57E-05	--	--	3.56E-04
			Acenaphthylene	--	--	--	--	--	Liver	7.14E-06	1.24E-07	--	--	7.26E-06
			Aldrin	2.59E-08	4.52E-09	--	--	3.05E-08	Liver	1.78E-03	3.10E-04	--	--	2.09E-03
			alpha-BHC	5.40E-10	9.41E-12	--	--	5.49E-10	Liver/Kidney	6.00E-06	1.05E-07	--	--	6.10E-06
			alpha-Chlordane	3.35E-10	--	--	--	3.35E-10	Liver	6.69E-05	--	--	--	6.69E-05
			Aluminum	--	--	--	--	--	CNS	3.63E-02	6.32E-05	--	--	3.63E-02
			Anthracene	--	--	--	--	--	No observed effect	1.45E-05	3.27E-06	--	--	1.77E-05
			Antimony	--	--	--	--	--	Whole body/Blood	4.19E-02	7.30E-05	--	--	4.20E-02
			Aroclor-1248	2.82E-07	6.87E-08	--	--	3.51E-07	Immune System/ Eye/Finger and Toe Nails	2.47E-01	6.01E-02	--	--	3.07E-01
			Aroclor-1254	1.04E-07	2.54E-08	--	--	1.30E-07	Immune System/ Eye/Finger and Toe Nails	9.13E-02	2.23E-02	--	--	1.14E-01
			Aroclor-1260	1.27E-07	3.10E-08	--	--	1.58E-07	Immune System/ Eye/Finger and Toe Nails	1.11E-01	2.71E-02	--	--	1.38E-01
			Aroclor-1268	6.52E-09	1.59E-09	--	--	8.11E-09	Immune System/ Eye/Finger and Toe Nails	5.70E-03	1.39E-03	--	--	7.10E-03
			Arsenic	1.09E-06	5.68E-08	--	--	1.14E-06	Skin	8.45E-02	4.41E-03	--	--	8.89E-02
			Barium	--	--	--	--	--	Kidney	3.98E-03	6.94E-06	--	--	3.99E-03
			Benzo(a)anthracene	4.29E-07	9.72E-08	--	--	5.26E-07	--	--	--	--	--	--
			Benzo(a)pyrene	1.43E-06	3.23E-07	--	--	1.75E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	2.35E-07	5.32E-08	--	--	2.86E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.05E-04	2.37E-05	--	--	1.28E-04
			Benzo(k)fluoranthene	2.79E-08	6.33E-09	--	--	3.43E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	4.89E-04	8.52E-07	--	--	4.90E-04
			Beta-BHC	4.65E-10	8.10E-12	--	--	4.73E-10	Kidney/Liver	4.52E-05	7.88E-07	--	--	4.60E-05
			bis(2-ethylhexyl)phthalate	1.29E-08	2.24E-10	--	--	1.31E-08	Liver	1.61E-03	2.80E-05	--	--	1.64E-03
			Cadmium	--	--	--	--	--	Kidney	7.79E-02	1.36E-04	--	--	7.80E-02
			Carbon disulfide	--	--	--	--	--	Developmental	9.86E-09	4.30E-09	--	--	1.42E-08
			Chlorobenzene	--	--	--	--	--	Liver	2.26E-05	3.94E-07	--	--	2.30E-05

TABLE H2-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1),  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	3.05E-04	5.31E-07	--	--	3.05E-04		
			Chrysene	4.87E-09	1.10E-09	--	--	5.97E-09	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.56E-03	2.71E-06	--	--	--	1.56E-03	
			Copper	--	--	--	--	--	GI Tract	6.34E-03	1.10E-05	--	--	--	6.35E-03	
			Delta-BHC	1.78E-09	1.55E-10	--	--	1.93E-09	Liver/Kidney	1.73E-04	1.50E-05	--	--	--	1.88E-04	
			Dibenzo(a,h)anthracene	2.72E-07	6.16E-08	--	--	3.34E-07	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	2.67E-02	4.65E-04	--	--	--	2.72E-02	
			Diieldrin	1.04E-07	1.80E-09	--	--	1.05E-07	Liver	4.53E-03	7.90E-05	--	--	--	4.81E-03	
			Dimethylphthalate	--	--	--	--	--	--	--	1.56E-08	2.72E-10	--	--	--	1.59E-08
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	9.04E-05	1.58E-06	--	--	--	9.20E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.58E-05	1.37E-06	--	--	--	1.71E-05	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.63E-05	1.42E-06	--	--	--	1.77E-05	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	2.95E-05	2.57E-06	--	--	--	3.20E-05	
			Endrin aldehyde	--	--	--	--	--	Liver	5.76E-04	5.02E-05	--	--	--	6.27E-04	
			Endrin Ketone	--	--	--	--	--	Liver	1.37E-04	--	--	--	--	1.37E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	2.72E-03	6.17E-04	--	--	--	3.34E-03	
			Fluorene	--	--	--	--	--	Blood	3.00E-04	6.79E-05	--	--	--	3.67E-04	
			gamma-BHC (Lindane)	3.97E-10	2.77E-11	--	--	4.25E-10	Liver/Kidney	3.56E-05	2.48E-06	--	--	--	3.81E-05	
			gamma-Chlordane	5.38E-10	--	--	--	5.38E-10	Liver	1.08E-04	--	--	--	--	1.08E-04	
			Heptachlor	3.65E-09	6.35E-11	--	--	3.71E-09	Liver	5.67E-05	9.88E-07	--	--	--	5.77E-05	
			Heptachlor Epoxide	1.19E-08	2.08E-10	--	--	1.21E-08	Liver	3.53E-03	6.14E-05	--	--	--	3.59E-03	
			Indeno(1,2,3-cd)pyrene	7.48E-08	1.69E-08	--	--	9.18E-08	--	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	5.58E-01	9.72E-04	--	--	--	5.59E-01	
			Isophorone	2.23E-11	3.89E-12	--	--	2.62E-11	No observed effect	4.11E-06	7.16E-07	--	--	--	4.83E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	5.67E-02	9.88E-05	--	--	--	5.68E-02	
			Mercury	--	--	--	--	--	Immune System	4.24E-03	--	--	--	--	4.24E-03	
			Methoxychlor	--	--	--	--	--	Developmental	9.86E-05	1.72E-06	--	--	--	1.00E-04	
			Molybdenum	--	--	--	--	--	Blood	2.06E-03	3.59E-06	--	--	--	2.06E-03	
			Naphthalene	--	--	--	--	--	Whole Body	2.67E-03	6.05E-04	--	--	--	3.28E-03	
			Nickel	--	--	--	--	--	Whole Body	8.04E-03	1.40E-05	--	--	--	8.05E-03	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.91E-04	3.32E-06	--	--	--	1.94E-04	
			Phenol	--	--	--	--	--	Whole Body	7.95E-06	1.38E-06	--	--	--	9.33E-06	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	4.52E-06	--	--	--	--	4.52E-06	
			Pyrene	--	--	--	--	--	Kidney	3.31E-03	7.49E-04	--	--	--	4.06E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	7.29E-06	--	--	--	--	7.29E-06	
			Selenium	--	--	--	--	--	Whole Body	1.84E-04	3.21E-07	--	--	--	1.85E-04	
			Silver	--	--	--	--	--	Skin	9.53E-04	1.66E-06	--	--	--	9.54E-04	
			Technical Chlordane	2.26E-08	1.58E-09	--	--	2.42E-08	Liver	4.53E-03	3.16E-04	--	--	--	4.85E-03	
			Thallium	--	--	--	--	--	Blood	3.09E-02	--	--	--	--	3.09E-02	
			Toluene	--	--	--	--	--	Liver/Kidney	2.21E-08	3.85E-10	--	--	--	2.25E-08	
Vanadium	--	--	--	--	--	Kidney	1.40E-01	2.44E-04	--	--	--	1.41E-01				

TABLE H2-8.12  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	6.21E-03	1.08E-05	--	--	6.22E-03
		Chemical Total		4.29E-06	7.52E-07	0.00E+00	0.00E+00	5.04E-06		1.58E+00	1.21E-01	0.00E+00	0.00E+00	1.70E+00
		Exposure Point Total												1.70E+00
		Exposure Medium Total						5.04E-06						1.70E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	7.65E-03	--	7.65E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.60E-02	--	2.60E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.51E-03	--	5.51E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	7.52E-03	--	7.52E-03
			1,2-Dichloropropane	--	--	4.48E-10	--	4.48E-10	Nasal	--	--	2.02E-04	--	2.02E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.72E-03	--	1.72E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	4.37E-04	--	4.37E-04
			1,4-Dichlorobenzene	--	--	7.91E-08	--	7.91E-08	Liver	--	--	5.47E-04	--	5.47E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	6.41E-10	--	6.41E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.19E-04	--	1.19E-04
			4,4'-DDD	--	--	5.02E-16	--	5.02E-16	Liver	--	--	1.46E-10	--	1.46E-10
			4,4'-DDE	--	--	7.59E-12	--	7.59E-12	Liver	--	--	1.56E-06	--	1.56E-06
			4,4'-DDT	--	--	2.64E-14	--	2.64E-14	Liver	--	--	5.43E-09	--	5.43E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	3.30E-09	--	3.30E-09
			4-Nitroaniline	--	--	2.27E-14	--	2.27E-14	--	--	--	3.78E-08	--	3.78E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	4.50E-08	--	4.50E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.80E-05	--	7.80E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.92E-06	--	1.92E-06
			Aldrin	--	--	2.20E-10	--	2.20E-10	Liver	--	--	1.51E-05	--	1.51E-05
			alpha-BHC	--	--	5.27E-11	--	5.27E-11	Liver/Kidney	--	--	5.86E-07	--	5.86E-07
			alpha-Chlordane	--	--	6.49E-12	--	6.49E-12	Liver	--	--	3.25E-06	--	3.25E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	3.77E-04	--	3.77E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.89E-06	--	3.89E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	4.18E-12	--	4.18E-12	Immune System/Eye/Finger and Toe Nails	--	--	3.66E-06	--	3.66E-06
			Aroclor-1254	--	--	1.55E-12	--	1.55E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.35E-06	--	1.35E-06
			Aroclor-1260	--	--	1.89E-12	--	1.89E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.65E-06	--	1.65E-06
			Aroclor-1268	--	--	9.68E-14	--	9.68E-14	Immune System/Eye/Finger and Toe Nails	--	--	8.47E-08	--	8.47E-08
			Arsenic	--	--	1.61E-10	--	1.61E-10	--	--	--	--	--	--
			Barium	--	--	--	--	--	Developmental	--	--	2.96E-05	--	2.96E-05
			Benzo(a)anthracene	--	--	6.37E-12	--	6.37E-12	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	2.12E-11	--	2.12E-11	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	2.97E-09	--	2.97E-09	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.55E-09	--	1.55E-09
			Benzo(k)fluoranthene	--	--	4.15E-13	--	4.15E-13	--	--	--	--	--	--
			Beryllium	--	--	3.49E-12	--	3.49E-12	Immune System/Lung	--	--	2.54E-06	--	2.54E-06
			Beta-BHC	--	--	7.12E-15	--	7.12E-15	Liver/Kidney	--	--	6.71E-10	--	6.71E-10

TABLE H2-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.91E-13	--	1.91E-13	Liver	--	--	2.39E-08	--	2.39E-08
			Cadmium	--	--	1.04E-10	--	1.04E-10	--	--	--	--	--	--
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.82E-07	--	1.82E-07
			Chlorobenzene	--	--	--	--	--	Liver	--	--	2.45E-04	--	2.45E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.05E-10	--	1.05E-10	--	--	--	--	--	--
			Cobalt	--	--	1.29E-10	--	1.29E-10	Respiratory System	--	--	8.09E-05	--	8.09E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.79E-10	--	1.79E-10	Liver/Kidney	--	--	1.69E-05	--	1.69E-05
			Dibenzo(a,h)anthracene	--	--	4.04E-12	--	4.04E-12	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.81E-03	--	1.81E-03
			Dieldrin	--	--	2.73E-09	--	2.73E-09	Liver	--	--	1.19E-04	--	1.19E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	2.32E-13	--	2.32E-13
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.34E-09	--	1.34E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.08E-06	--	1.08E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	1.12E-06	--	1.12E-06
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	--	--	2.02E-06	--	2.02E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	8.56E-09	--	8.56E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	2.03E-09	--	2.03E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.45E-05	--	3.45E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.44E-05	--	3.44E-05
			gamma-BHC (Lindane)	--	--	4.77E-11	--	4.77E-11	Liver/Kidney	--	--	4.28E-06	--	4.28E-06
			gamma-Chlordane	--	--	1.04E-11	--	1.04E-11	Liver	--	--	5.22E-06	--	5.22E-06
			Heptachlor	--	--	3.54E-09	--	3.54E-09	Liver	--	--	5.45E-05	--	5.45E-05
			Heptachlor Epoxide	--	--	1.77E-13	--	1.77E-13	Liver	--	--	5.24E-08	--	5.24E-08
			Indeno(1,2,3-cd)pyrene	--	--	1.11E-12	--	1.11E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	3.31E-16	--	3.31E-16	No observed effect	--	--	6.10E-11	--	6.10E-11
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.41E-03	--	1.41E-03
			Mercury	--	--	--	--	--	CNS	--	--	2.20E-07	--	2.20E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.39E-06	--	1.39E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	6.57E-02	--	6.57E-02
			Nickel	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.13E-05	--	5.13E-05
			Phenol	--	--	--	--	--	Body Weight	--	--	1.18E-10	--	1.18E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.40E-04	--	1.40E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	4.96E-05	--	4.96E-05
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	5.65E-05	--	5.65E-05
Selenium	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H2-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	4.39E-13	--	4.39E-13	Liver	--	--	2.20E-04	--	2.20E-04	
			Thallium	--	--	--	--	--	--	--	--	--	--	--	
			Toluene	--	--	--	--	--	--	CNS	--	--	1.76E-08	--	1.76E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	8.99E-08	0.00E+00	8.99E-08		0.00E+00	0.00E+00	1.20E-01	0.00E+00	1.20E-01	
			Exposure Point Total					8.99E-08						1.20E-01	
			Exposure Medium Total					8.99E-08						1.20E-01	
			Medium Total					5.13E-06						1.82E+00	
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	2.44E-07	--	2.44E-07	
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.93E-06	--	5.93E-06	
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.17E-06	--	1.17E-06	
			1,2-Dichloroethane	--	--	1.25E-10	--	1.25E-10	Liver/Kidney/CNS	--	--	3.42E-05	--	3.42E-05	
			1,2-Dichloropropane	--	--	3.49E-11	--	3.49E-11	Nasal	--	--	1.58E-05	--	1.58E-05	
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.38E-06	--	3.38E-06	
			1,4-Dichlorobenzene	--	--	1.43E-11	--	1.43E-11	Liver	--	--	9.86E-08	--	9.86E-08	
			2-Hexanone	--	--	--	--	--	Developmental	--	--	6.14E-10	--	6.14E-10	
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.56E-09	--	1.56E-09	
			4,4'-DDE	--	--	1.01E-12	--	1.01E-12	Liver	--	--	2.08E-07	--	2.08E-07	
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.79E-10	--	3.79E-10	
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.20E-08	--	5.20E-08	
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.22E-09	--	2.22E-09	
			Aldrin	--	--	8.74E-11	--	8.74E-11	Liver	--	--	6.00E-06	--	6.00E-06	
			alpha-BHC	--	--	4.11E-12	--	4.11E-12	Liver/Kidney	--	--	4.56E-08	--	4.56E-08	
			alpha-Chlordane	--	--	5.40E-13	--	5.40E-13	Liver	--	--	2.70E-07	--	2.70E-07	
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.82E-10	--	8.82E-10	
			Benzene	--	--	1.64E-11	--	1.64E-11	Blood	--	--	2.44E-06	--	2.44E-06	
			Benzo(b)fluoranthene	--	--	8.17E-13	--	8.17E-13	--	--	--	--	--	--	
			Bromoform	--	--	6.52E-14	--	6.52E-14	Liver	--	--	2.96E-08	--	2.96E-08	
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.81E-06	--	1.81E-06	
			Chlorobenzene	--	--	--	--	--	Liver	--	--	3.47E-07	--	3.47E-07	
			Chloroform	--	--	3.83E-10	--	3.83E-10	Liver/Kidney/Respiratory	--	--	1.19E-05	--	1.19E-05	
			Chloromethane	--	--	--	--	--	CNS	--	--	2.32E-06	--	2.32E-06	
			Chrysene	--	--	2.21E-14	--	2.21E-14	--	--	--	--	--	--	
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	4.27E-06	--	4.27E-06	
			Dieldrin	--	--	3.62E-11	--	3.62E-11	Liver	--	--	1.58E-06	--	1.58E-06	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.01E-09	--	3.01E-09	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	4.94E-12	--	4.94E-12	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	5.54E-08	--	5.54E-08	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.02E-09	--	1.02E-09	
			Fluorene	--	--	--	--	--	Blood	--	--	2.01E-09	--	2.01E-09	
gamma-BHC (Lindane)	--	--	3.72E-15	--	3.72E-15	Liver/Kidney	--	--	3.34E-10	--	3.34E-10				

TABLE H2-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	1.40E-12	--	1.40E-12	Liver	--	--	7.01E-07	--	7.01E-07	
			Heptachlor	--	--	1.87E-10	--	1.87E-10	Liver	--	--	2.88E-06	--	2.88E-06	
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.51E-05	--	2.51E-05	
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.93E-06	--	1.93E-06	
			Methoxychlor	--	--	--	--	--	Developmental	--	--	5.26E-08	--	5.26E-08	
			Naphthalene	--	--	--	--	--	Respiratory System	--	--	5.10E-07	--	5.10E-07	
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	2.38E-05	--	2.38E-05	
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	5.67E-07	--	5.67E-07	
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	7.03E-10	--	7.03E-10	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.51E-05	--	2.51E-05	
			Pyrene	--	--	--	--	--	Kidney	--	--	1.24E-09	--	1.24E-09	
			sec-Butylbenzene	--	--	--	--	--	Kidney	--	--	1.61E-06	--	1.61E-06	
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.83E-06	--	1.83E-06	
			Toluene	--	--	--	--	--	CNS	--	--	2.14E-08	--	2.14E-08	
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.61E-06	--	3.61E-06	
			Trichloroethene	--	--	8.58E-10	--	8.58E-10	CNS/Liver/Endocrine	--	--	7.51E-06	--	7.51E-06	
			Vinyl chloride	--	--	1.38E-10	--	1.38E-10	Liver	--	--	5.44E-06	--	5.44E-06	
					Exposure Point Total	Chemical Total	0.00E+00	0.00E+00	1.89E-09	0.00E+00	1.89E-09		0.00E+00	0.00E+00	1.93E-04
		Exposure Medium Total				1.89E-09		1.89E-09						1.93E-04	
Medium Total						1.89E-09		1.89E-09						1.93E-04	
Receptor Total						Receptor Risk Total		5.13E-06						Receptor HI Total	1.82E+00

- Notes:
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard Index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	5.88E-01
Total Organ 2 (Kidney) HI Across All Media =	2.98E-01
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	1.02E-01
Total Organ 5 (Endocrine) HI Across All Media =	7.51E-06
Total Organ 6 (Blood) HI Across All Media =	9.79E-02
Total Organ 7 (Adrenal) HI Across All Media =	2.86E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.79E-03
Total Organ 9 (Skin) HI Across All Media =	8.98E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	6.84E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	5.66E-01
Total Organ 12 (Body Weight) HI Across All Media =	7.72E-03
Total Organ 13 (Developmental) HI Across All Media =	1.31E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	7.55E-02
Total Organ 15 (Whole Body) HI Across All Media =	5.40E-02
Total Organ 16 (Immune System) HI Across All Media =	5.70E-01
Total Organ 17 (Organ Weight) HI Across All Media =	9.33E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	5.66E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	2.31E-04

TABLE H2-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	-	-	-	-	-	Adrenal	6.16E-04	1.07E-04	-	-	7.24E-04
			1,2,4-Trichlorobenzene	-	-	-	-	-	Adrenal	2.10E-03	3.65E-05	-	-	2.13E-03
			1,2,4-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	4.11E-05	7.16E-07	-	-	4.18E-05
			1,2-Dichlorobenzene	-	-	-	-	-	No Observed Effect	1.19E-03	2.07E-05	-	-	1.21E-03
			1,2-Dichloropropane	4.11E-11	6.92E-13	-	-	4.18E-11	Nasal	1.30E-05	2.26E-07	-	-	1.32E-05
			1,3,5-Trimethylbenzene	-	-	-	-	-	Whole Body/Liver/Kidney	1.32E-05	2.29E-07	-	-	1.34E-05
			1,3-Dichlorobenzene	-	-	-	-	-	Kidney/Liver	1.51E-04	2.63E-06	-	-	1.53E-04
			1,4-Dichlorobenzene	2.74E-08	-	-	-	2.74E-08	Organ Weight	9.32E-04	-	-	-	9.32E-04
			2,4-Dimethylphenol	-	-	-	-	-	Blood/Whole Body	4.32E-05	7.52E-07	-	-	4.39E-05
			2-Methylphenol	-	-	-	-	-	CNS/Body Weight	6.66E-06	1.16E-06	-	-	7.82E-06
			2-Methylnaphthalene	-	-	-	-	-	Respiratory System	1.72E-03	2.99E-05	-	-	1.75E-03
			4,4'-DDD	4.83E-11	8.14E-13	-	-	4.91E-11	Liver	9.86E-06	1.72E-07	-	-	1.00E-05
			4,4'-DDE	4.69E-09	7.91E-11	-	-	4.77E-09	Liver	6.77E-04	1.18E-05	-	-	6.88E-04
			4,4'-DDT	2.54E-09	1.28E-10	-	-	2.67E-09	Liver	3.66E-04	1.91E-05	-	-	3.85E-04
			4-Methylphenol	-	-	-	-	-	Whole Body/CNS/Respiratory	2.22E-04	3.87E-05	-	-	2.61E-04
			4-Nitroaniline	2.18E-09	3.68E-10	-	-	2.55E-09	-	8.49E-04	1.48E-04	-	-	9.97E-04
			4-Nitrophenol	-	-	-	-	-	Kidney/Liver/Blood	3.45E-03	6.01E-04	-	-	4.05E-03
			Acenaphthene	-	-	-	-	-	Liver	2.90E-04	6.57E-05	-	-	3.56E-04
			Acenaphthylene	-	-	-	-	-	Liver	7.14E-06	1.24E-07	-	-	7.26E-06
			Aldrin	3.71E-08	6.25E-09	-	-	4.33E-08	Liver	1.78E-03	3.10E-04	-	-	2.09E-03
			alpha-BHC	7.71E-10	1.30E-11	-	-	7.84E-10	Liver/Kidney	6.00E-06	1.05E-07	-	-	6.10E-06
			alpha-Chlordane	4.78E-10	-	-	-	4.78E-10	Liver	6.69E-05	-	-	-	6.69E-05
			Aluminum	-	-	-	-	-	CNS	3.63E-02	6.32E-05	-	-	3.63E-02
			Anthracene	-	-	-	-	-	No observed effect	1.45E-05	3.27E-06	-	-	1.77E-05
			Antimony	-	-	-	-	-	Whole body/Blood	4.19E-02	7.30E-05	-	-	4.20E-02
			Aroclor-1248	4.03E-07	9.50E-08	-	-	4.98E-07	Immune System/ Eye/Finger and Toe Nails	2.47E-01	6.01E-02	-	-	3.07E-01
			Aroclor-1254	1.49E-07	3.51E-08	-	-	1.84E-07	Immune System/ Eye/Finger and Toe Nails	9.13E-02	2.23E-02	-	-	1.14E-01
			Aroclor-1260	1.82E-07	4.28E-08	-	-	2.24E-07	Immune System/ Eye/Finger and Toe Nails	1.11E-01	2.71E-02	-	-	1.38E-01
			Aroclor-1268	9.31E-09	2.20E-09	-	-	1.15E-08	Immune System/ Eye/Finger and Toe Nails	5.70E-03	1.39E-03	-	-	7.10E-03
			Arsenic	1.55E-06	7.84E-08	-	-	1.63E-06	Skin	8.45E-02	4.41E-03	-	-	8.89E-02
			Barium	-	-	-	-	-	Kidney	3.98E-03	6.94E-06	-	-	3.99E-03
			Benzo(a)anthracene	6.13E-07	1.34E-07	-	-	7.47E-07	-	-	-	-	-	-
			Benzo(a)pyrene	2.04E-06	4.47E-07	-	-	2.49E-06	-	-	-	-	-	-
			Benzo(b)fluoranthene	3.35E-07	7.34E-08	-	-	4.09E-07	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	Kidney	1.05E-04	2.37E-05	-	-	1.28E-04
			Benzo(k)fluoranthene	3.99E-08	8.75E-09	-	-	4.87E-08	-	-	-	-	-	-
			Beryllium	-	-	-	-	-	GI Tract	4.89E-04	8.52E-07	-	-	4.90E-04
			Beta-BHC	6.64E-10	1.12E-11	-	-	6.75E-10	Kidney/Liver	4.52E-05	7.88E-07	-	-	4.60E-05
			bis(2-ethylhexyl)phthalate	1.84E-08	3.10E-10	-	-	1.87E-08	Liver	1.61E-03	2.80E-05	-	-	1.64E-03
			Cadmium	-	-	-	-	-	Kidney	7.79E-02	1.36E-04	-	-	7.80E-02
			Carbon disulfide	-	-	-	-	-	Developmental	9.86E-09	4.30E-09	-	-	1.42E-08
			Chlorobenzene	-	-	-	-	-	Liver	2.26E-05	3.94E-07	-	-	2.30E-05

TABLE H2-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No observed effect	3.05E-04	5.31E-07	--	--	3.05E-04		
			Chrysene	6.96E-09	1.52E-09	--	--	8.48E-09	--	--	--	--	--	--	--	
			Cobalt	--	--	--	--	--	Blood	1.56E-03	2.71E-06	--	--	--	1.56E-03	
			Copper	--	--	--	--	--	GI Tract	6.34E-03	1.10E-05	--	--	--	6.35E-03	
			Delta-BHC	2.54E-09	2.14E-10	--	--	2.75E-09	Liver/Kidney	1.73E-04	1.50E-05	--	--	--	1.88E-04	
			Dibenzo(a,h)anthracene	3.89E-07	8.52E-08	--	--	4.74E-07	--	--	--	--	--	--	--	
			Dibenzofuran	--	--	--	--	--	Kidney	2.67E-02	4.65E-04	--	--	--	2.72E-02	
			Diokrin	1.48E-07	2.49E-09	--	--	1.50E-07	Liver	4.53E-03	7.90E-05	--	--	--	4.61E-03	
			Dimethylphthalate	--	--	--	--	--	--	--	1.56E-08	2.72E-10	--	--	--	1.59E-08
			di-n-Butylphthalate	--	--	--	--	--	Whole Body	9.04E-05	1.58E-06	--	--	--	9.20E-05	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	1.58E-05	1.37E-06	--	--	--	1.71E-05	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	1.63E-05	1.42E-06	--	--	--	1.77E-05	
			Endosulfan Sulfate	--	--	--	--	--	Body weight/Kidney/CNS	2.95E-05	2.57E-06	--	--	--	3.20E-05	
			Endrin aldehyde	--	--	--	--	--	Liver	5.76E-04	5.02E-05	--	--	--	6.27E-04	
			Endrin Ketone	--	--	--	--	--	Liver	1.37E-04	--	--	--	--	1.37E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	2.72E-03	6.17E-04	--	--	--	3.34E-03	
			Fluorene	--	--	--	--	--	Blood	3.00E-04	6.79E-05	--	--	--	3.67E-04	
			gamma-BHC (Lindane)	5.67E-10	3.82E-11	--	--	6.05E-10	Liver/Kidney	3.56E-05	2.48E-06	--	--	--	3.81E-05	
			gamma-Chlordane	7.69E-10	--	--	--	7.69E-10	Liver	1.08E-04	--	--	--	--	1.08E-04	
			Heptachlor	5.21E-09	8.78E-11	--	--	5.30E-09	Liver	5.67E-05	9.88E-07	--	--	--	5.77E-05	
			Heptachlor Epoxide	1.70E-08	2.87E-10	--	--	1.73E-08	Liver	3.53E-03	6.14E-05	--	--	--	3.59E-03	
			Indeno(1,2,3-cd)pyrene	1.07E-07	2.34E-08	--	--	1.30E-07	--	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	5.58E-01	9.72E-04	--	--	--	5.59E-01	
			Isophorone	3.19E-11	5.37E-12	--	--	3.72E-11	No observed effect	4.11E-06	7.16E-07	--	--	--	4.83E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	5.67E-02	9.88E-05	--	--	--	5.68E-02	
			Mercury	--	--	--	--	--	Immune System	4.24E-03	--	--	--	--	4.24E-03	
			Methoxychlor	--	--	--	--	--	Developmental	9.86E-05	1.72E-06	--	--	--	1.00E-04	
			Molybdenum	--	--	--	--	--	Blood	2.06E-03	3.59E-06	--	--	--	2.06E-03	
			Naphthalene	--	--	--	--	--	Whole Body	2.67E-03	6.05E-04	--	--	--	3.28E-03	
			Nickel	--	--	--	--	--	Whole Body	8.04E-03	1.40E-05	--	--	--	8.05E-03	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.91E-04	3.32E-06	--	--	--	1.94E-04	
			Phenol	--	--	--	--	--	Whole Body	7.95E-06	1.38E-06	--	--	--	9.33E-06	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	4.52E-06	--	--	--	--	4.52E-06	
			Pyrene	--	--	--	--	--	Kidney	3.31E-03	7.49E-04	--	--	--	4.06E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	7.29E-06	--	--	--	--	7.29E-06	
			Selenium	--	--	--	--	--	Whole Body	1.84E-04	3.21E-07	--	--	--	1.85E-04	
			Silver	--	--	--	--	--	Skin	9.53E-04	1.66E-06	--	--	--	9.54E-04	
			Technical Chlordane	3.24E-08	2.18E-09	--	--	3.45E-08	Liver	4.53E-03	3.16E-04	--	--	--	4.85E-03	
			Thallium	--	--	--	--	--	Blood	3.09E-02	--	--	--	--	3.09E-02	
Toluene	--	--	--	--	--	Liver/Kidney	2.21E-08	3.85E-10	--	--	--	2.25E-08				
Vanadium	--	--	--	--	--	Kidney	1.40E-01	2.44E-04	--	--	--	1.41E-01				

TABLE H2-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	6.21E-03	1.08E-05	--	--	6.22E-03
		Exposure Point Total	Chemical Total	6.12E-06	1.04E-06	0.00E+00	0.00E+00	7.16E-06		1.58E+00	1.21E-01	0.00E+00	0.00E+00	1.70E+00
Exposure Medium Total							7.16E-06							1.70E+00
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene		--	--	--	--	--	Kidney	--	--	7.65E-03	--	7.65E-03
		1,2,4-Trichlorobenzene		--	--	--	--	--	Kidney	--	--	2.60E-02	--	2.60E-02
		1,2,4-Trimethylbenzene		--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.51E-03	--	5.51E-03
		1,2-Dichlorobenzene		--	--	--	--	--	Body Weight	--	--	7.52E-03	--	7.52E-03
		1,2-Dichloropropane		--	--	3.37E-09	--	3.37E-09	Nasal	--	--	2.02E-04	--	2.02E-04
		1,3,5-Trimethylbenzene		--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.72E-03	--	1.72E-03
		1,3-Dichlorobenzene		--	--	--	--	--	Kidney/Liver	--	--	4.37E-04	--	4.37E-04
		1,4-Dichlorobenzene		--	--	5.95E-07	--	5.95E-07	Liver	--	--	5.47E-04	--	5.47E-04
		2,4-Dimethylphenol		--	--	--	--	--	Blood/Whole Body	--	--	6.41E-10	--	6.41E-10
		2-Methylphenol		--	--	--	--	--	--	--	--	--	--	--
		2-Methylnaphthalene		--	--	--	--	--	CNS/Body Weight	--	--	1.19E-04	--	1.19E-04
		4,4'-DDD		--	--	3.78E-15	--	3.78E-15	Liver	--	--	1.46E-10	--	1.46E-10
		4,4'-DDE		--	--	5.71E-11	--	5.71E-11	Liver	--	--	1.56E-06	--	1.56E-06
		4,4'-DDT		--	--	1.98E-13	--	1.98E-13	Liver	--	--	5.43E-09	--	5.43E-09
		4-Methylphenol		--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	3.30E-09	--	3.30E-09
		4-Nitroaniline		--	--	1.71E-13	--	1.71E-13	--	--	--	3.78E-08	--	3.78E-08
		4-Nitrophenol		--	--	--	--	--	Blood/Kidney/Liver	--	--	4.50E-08	--	4.50E-08
		Acenaphthene		--	--	--	--	--	Liver	--	--	7.80E-05	--	7.80E-05
		Acenaphthylene		--	--	--	--	--	Liver	--	--	1.92E-06	--	1.92E-06
		Aldrin		--	--	1.66E-09	--	1.66E-09	Liver	--	--	1.51E-05	--	1.51E-05
		alpha-BHC		--	--	3.97E-10	--	3.97E-10	Liver/Kidney	--	--	5.86E-07	--	5.86E-07
		alpha-Chlordane		--	--	4.88E-11	--	4.88E-11	Liver	--	--	3.25E-06	--	3.25E-06
		Aluminum		--	--	--	--	--	Respiratory System	--	--	3.77E-04	--	3.77E-04
		Anthracene		--	--	--	--	--	No Observed Effect	--	--	3.89E-06	--	3.89E-06
		Antimony		--	--	--	--	--	--	--	--	--	--	--
		Aroclor-1248		--	--	3.15E-11	--	3.15E-11	Immune System/Eye/Finger and Toe Nails	--	--	3.66E-06	--	3.66E-06
		Aroclor-1254		--	--	1.16E-11	--	1.16E-11	Immune System/Eye/Finger and Toe nails	--	--	1.35E-06	--	1.35E-06
		Aroclor-1260		--	--	1.42E-11	--	1.42E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.65E-06	--	1.65E-06
		Aroclor-1268		--	--	7.28E-13	--	7.28E-13	Immune System/Eye/Finger and Toe Nails	--	--	8.47E-08	--	8.47E-08
		Arsenic		--	--	1.21E-09	--	1.21E-09	--	--	--	--	--	--
		Barium		--	--	--	--	--	Developmental	--	--	2.96E-05	--	2.96E-05
		Benzo(a)anthracene		--	--	4.79E-11	--	4.79E-11	--	--	--	--	--	--
		Benzo(a)pyrene		--	--	1.59E-10	--	1.59E-10	--	--	--	--	--	--
Benzo(b)fluoranthene		--	--	2.24E-08	--	2.24E-08	--	--	--	--	--	--		
Benzo(g,h,i)perylene		--	--	--	--	--	Kidney	--	--	1.55E-09	--	1.55E-09		
Benzo(k)fluoranthene		--	--	3.12E-12	--	3.12E-12	--	--	--	--	--	--		
Beryllium		--	--	2.62E-11	--	2.62E-11	Immune System/Lung	--	--	2.54E-06	--	2.54E-06		
Beta-BHC		--	--	5.35E-14	--	5.35E-14	Liver/Kidney	--	--	6.71E-10	--	6.71E-10		

TABLE H2-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.44E-12	--	1.44E-12	--	--	--	2.39E-08	--	2.39E-08	
			Cadmium	--	--	7.83E-10	--	7.83E-10	--	--	--	--	--	--	
			Carbon disulfide	--	--	--	--	--	--	CNS	--	--	1.82E-07	--	1.82E-07
			Chlorobenzene	--	--	--	--	--	--	Liver	--	--	2.45E-04	--	2.45E-04
			Chromium	--	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	7.89E-10	--	7.89E-10	--	--	--	--	--	--	--
			Cobalt	--	--	9.73E-10	--	9.73E-10	--	Respiratory System	--	--	8.09E-05	--	8.09E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.34E-09	--	1.34E-09	--	Liver/Kidney	--	--	1.69E-05	--	1.69E-05
			Dibenzo(a,h)anthracene	--	--	3.04E-11	--	3.04E-11	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	--	Kidney	--	--	1.81E-03	--	1.81E-03
			Dieckrin	--	--	2.05E-08	--	2.05E-08	--	Liver	--	--	1.19E-04	--	1.19E-04
			Dimethylphthalate	--	--	--	--	--	--	--	--	--	2.32E-13	--	2.32E-13
			di-n-Butylphthalate	--	--	--	--	--	--	Whole body	--	--	1.34E-09	--	1.34E-09
			Endosulfan I	--	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.08E-06	--	1.08E-06
			Endosulfan II	--	--	--	--	--	--	Body Weight/Kidney	--	--	1.12E-06	--	1.12E-06
			Endosulfan Sulfate	--	--	--	--	--	--	Body weight/Kidney/CNS	--	--	2.02E-06	--	2.02E-06
			Endrin aldehyde	--	--	--	--	--	--	Liver	--	--	8.56E-09	--	8.56E-09
			Endrin Ketone	--	--	--	--	--	--	Liver	--	--	2.03E-09	--	2.03E-09
			Fluoranthene	--	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.45E-05	--	3.45E-05
			Fluorene	--	--	--	--	--	--	Blood	--	--	3.44E-05	--	3.44E-05
			gamma-BHC (Lindane)	--	--	3.59E-10	--	3.59E-10	--	Liver/Kidney	--	--	4.28E-06	--	4.28E-06
			gamma-Chlordane	--	--	7.86E-11	--	7.86E-11	--	Liver	--	--	5.22E-06	--	5.22E-06
			Heptachlor	--	--	2.66E-08	--	2.66E-08	--	Liver	--	--	5.45E-05	--	5.45E-05
			Heptachlor Epoxide	--	--	1.33E-12	--	1.33E-12	--	Liver	--	--	5.24E-08	--	5.24E-08
			Indeno(1,2,3-cd)pyrene	--	--	8.36E-12	--	8.36E-12	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	2.49E-15	--	2.49E-15	--	No observed effect	--	--	6.10E-11	--	6.10E-11
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	--	CNS	--	--	1.41E-03	--	1.41E-03
			Mercury	--	--	--	--	--	--	CNS	--	--	2.20E-07	--	2.20E-07
			Methoxychlor	--	--	--	--	--	--	Developmental	--	--	1.39E-06	--	1.39E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	--	--	--	--	Respiratory System	--	--	6.57E-02	--	6.57E-02
			Nickel	--	--	--	--	--	--	--	--	--	--	--	--
			Phenanthrene	--	--	--	--	--	--	No Observed Effect	--	--	5.13E-05	--	5.13E-05
			Phenol	--	--	--	--	--	--	Body Weight	--	--	1.18E-10	--	1.18E-10
			p-Isopropyltoluene	--	--	--	--	--	--	Kidney	--	--	1.40E-04	--	1.40E-04
			Pyrene	--	--	--	--	--	--	Kidney	--	--	4.96E-05	--	4.96E-05
			sec-Butylbenzene	--	--	--	--	--	--	Kidney	--	--	5.65E-05	--	5.65E-05
Selenium	--	--	--	--	--	--	--	--	--	--	--	--			
Silver	--	--	--	--	--	--	--	--	--	--	--	--			

TABLE H2-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	3.30E-12	--	3.30E-12	Liver	--	--	2.20E-04	--	2.20E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.76E-08	--	1.76E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	6.76E-07	0.00E+00	6.76E-07		0.00E+00	0.00E+00	1.20E-01	0.00E+00	1.20E-01
			Exposure Point Total					6.76E-07						1.20E-01
			Exposure Medium Total					6.76E-07						1.20E-01
			Medium Total					7.84E-06						1.82E+00
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	--	--	--	No observed effect	--	--	2.44E-07	--	2.44E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.93E-06	--	5.93E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.17E-06	--	1.17E-06
			1,2-Dichloroethane	--	--	9.37E-10	--	9.37E-10	Liver/Kidney/CNS	--	--	3.42E-05	--	3.42E-05
			1,2-Dichloropropane	--	--	2.63E-10	--	2.63E-10	Nasal	--	--	1.58E-05	--	1.58E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.38E-06	--	3.38E-06
			1,4-Dichlorobenzene	--	--	1.07E-10	--	1.07E-10	Liver	--	--	9.86E-08	--	9.86E-08
			2-Hexanone	--	--	--	--	--	Developmental	--	--	6.14E-10	--	6.14E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.56E-09	--	1.56E-09
			4,4'-DDE	--	--	7.61E-12	--	7.61E-12	Liver	--	--	2.08E-07	--	2.08E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.79E-10	--	3.79E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.20E-08	--	5.20E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.22E-09	--	2.22E-09
			Aldrin	--	--	6.58E-10	--	6.58E-10	Liver	--	--	6.00E-06	--	6.00E-06
			alpha-BHC	--	--	3.09E-11	--	3.09E-11	Liver/Kidney	--	--	4.56E-08	--	4.56E-08
			alpha-Chlordane	--	--	4.06E-12	--	4.06E-12	Liver	--	--	2.70E-07	--	2.70E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.82E-10	--	8.82E-10
			Benzene	--	--	1.23E-10	--	1.23E-10	Blood	--	--	2.44E-06	--	2.44E-06
			Benzo(b)fluoranthene	--	--	6.15E-12	--	6.15E-12	--	--	--	--	--	--
			Bromoform	--	--	4.91E-13	--	4.91E-13	Liver	--	--	2.96E-08	--	2.96E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.81E-06	--	1.81E-06
			Chlorobenzene	--	--	--	--	--	Liver	--	--	3.47E-07	--	3.47E-07
			Chloroform	--	--	2.88E-09	--	2.88E-09	Liver/Kidney/Respiratory	--	--	1.19E-05	--	1.19E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	2.32E-06	--	2.32E-06
			Chrysene	--	--	1.66E-13	--	1.66E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethane	--	--	--	--	--	Blood	--	--	4.27E-06	--	4.27E-06
			Dieldrin	--	--	2.72E-10	--	2.72E-10	Liver	--	--	1.58E-06	--	1.58E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.01E-09	--	3.01E-09
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	--	--	4.94E-12	--	4.94E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	5.54E-08	--	5.54E-08
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.02E-09	--	1.02E-09			
Fluorene	--	--	--	--	--	Blood	--	--	2.01E-09	--	2.01E-09			
gamma-BHC (Lindane)	--	--	2.80E-14	--	2.80E-14	Liver/Kidney	--	--	3.34E-10	--	3.34E-10			

TABLE H2-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	1.05E-11	-	1.05E-11	Liver	-	-	7.01E-07	-	7.01E-07
			Heptachlor	-	-	1.41E-09	-	1.41E-09	Liver	-	-	2.88E-06	-	2.88E-06
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	2.51E-05	-	2.51E-05
			m,p-Xylene	-	-	-	-	-	CNS	-	-	1.93E-06	-	1.93E-06
			Methoxychlor	-	-	-	-	-	Developmental	-	-	5.26E-08	-	5.26E-08
			Naphthalene	-	-	-	-	-	Respiratory System	-	-	5.10E-07	-	5.10E-07
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	2.38E-05	-	2.38E-05
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	5.67E-07	-	5.67E-07
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	7.03E-10	-	7.03E-10
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	2.51E-05	-	2.51E-05
			Pyrene	-	-	-	-	-	Kidney	-	-	1.24E-09	-	1.24E-09
			sec-Butylbenzene	-	-	-	-	-	Kidney	-	-	1.61E-06	-	1.61E-06
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	1.83E-06	-	1.83E-06
			Toluene	-	-	-	-	-	CNS	-	-	2.14E-08	-	2.14E-08
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	3.61E-06	-	3.61E-06
			Trichloroethene	-	-	6.45E-09	-	6.45E-09	CNS/Liver/Endocrine	-	-	7.51E-06	-	7.51E-06
			Vinyl chloride	-	-	1.03E-09	-	1.03E-09	Liver	-	-	5.44E-06	-	5.44E-06
					Chemical Total		0.00E+00	0.00E+00	1.42E-08	0.00E+00	1.42E-08		0.00E+00	0.00E+00
		Exposure Point Total												1.93E-04
		Exposure Medium Total						1.42E-08						1.93E-04
Medium Total								1.42E-08						1.93E-04
Receptor Total						Receptor Risk Total		7.85E-06				Receptor HI Total		1.82E+00

- Notes:
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H2-9.1  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient									
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total				
Soil (0-2 ft bgs)	Soil	Site Soil	--	--	--	--	--	--	--	--	--	--	--	--				
			Chemical Total	1.01E-06	1.34E-07	0.00E+00	0.00E+00	1.14E-06	--	--	--	--	--	1.65E-01	9.59E-03	0.00E+00	0.00E+00	1.74E-01
			Exposure Point Total					1.14E-06										1.74E-01
	Exposure Medium Total						1.14E-06										1.74E-01	
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--	--			
			Chemical Total	0.00E+00	0.00E+00	2.24E-07	0.00E+00	2.24E-07	--	--	--	--	--	0.00E+00	0.00E+00	1.33E-01	0.00E+00	1.33E-01
			Exposure Point Total					2.24E-07										1.33E-01
		Indoor Air (Vapor Intrusion)	1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.10E+00
			1,4-Dichlorobenzene Naphthalene	--	--	2.28E-06	--	--	--	2.28E-06	--	--	--	7.01E-03	--	--	--	7.01E-03
	Chemical Total	0.00E+00	0.00E+00	2.32E-06	0.00E+00	2.32E-06	--	--	--	--	--	2.65E+00	--	--	--	2.65E+00		
Exposure Point Total					2.32E-06						4.30E+00				4.30E+00			
Exposure Medium Total						2.54E-06					4.30E+00				4.30E+00			
Medium Total						3.68E-06					4.43E+00				4.43E+00			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--				
			Chemical Total	0.00E+00	0.00E+00	4.70E-09	0.00E+00	4.70E-09	--	--	--	--	--	0.00E+00	0.00E+00	2.13E-04	0.00E+00	2.13E-04
			Exposure Point Total					4.70E-09										2.13E-04
	Exposure Medium Total						4.70E-09										2.13E-04	
	Groundwater Vapor Intrusion	Indoor Air (Inhalation)	--	--	--	--	--	--	--	--	--	--	--	--				
Chemical Total			0.00E+00	0.00E+00	9.14E-08	0.00E+00	9.14E-08	--	--	--	--	--	0.00E+00	0.00E+00	4.38E-03	0.00E+00	4.38E-03	
Exposure Point Total						9.14E-08										4.38E-03		
Exposure Medium Total						9.14E-08										4.38E-03		
Medium Total						9.61E-08										4.60E-03		
Receptor Total								3.78E-06								4.61E+00		
																Receptor HI Total		

TABLE H2-9.1

EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

**TABLE H2-9.2**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	1.05E-06	1.23E-07	0.00E+00	0.00E+00	1.17E-06	--	1.59E-01	9.52E-03	0.00E+00	0.00E+00	1.69E-01	
		Exposure Point Total													
		Exposure Medium Total					1.17E-06							1.69E-01	
	Air	Outdoor Air (Particulates and VOCs)		--	--	--	--	--	--	--	--	--	--	--	--
				--	--	--	--	--	--	--	--	--	--	--	
				Chemical Total	0.00E+00	0.00E+00	2.22E-07	0.00E+00	2.22E-07	--	0.00E+00	0.00E+00	1.33E-01	0.00E+00	1.33E-01
			Exposure Point Total					2.22E-07							
			Exposure Medium Total					2.22E-07							
			Indoor Air (Vapor Intrusion)	1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	Kidney	--	--	1.10E+00
			1,4-Dichlorobenzene	--	--	2.28E-06	--	--	2.28E-06	--	Liver	--	--	7.01E-03	7.01E-03
		Naphthalene	--	--	--	--	--	--	--	Respiratory System	--	--	2.65E+00	2.65E+00	
	Chemical Total		0.00E+00	0.00E+00	2.32E-06	0.00E+00	2.32E-06		0.00E+00	0.00E+00	4.30E+00	0.00E+00	4.30E+00		
	Exposure Point Total					2.32E-06							4.30E+00		
	Exposure Medium Total					2.54E-06							4.43E+00		
	Medium Total					3.71E-06							4.60E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	4.70E-09	0.00E+00	4.70E-09	--	0.00E+00	0.00E+00	2.13E-04	0.00E+00	2.13E-04	
		Exposure Point Total					4.70E-09								
		Exposure Medium Total					4.70E-09								
		Groundwater Vapor Intrusion Indoor Air	Indoor Air (Inhalation)	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--		
	Chemical Total		0.00E+00	0.00E+00	9.14E-08	0.00E+00	9.14E-08		0.00E+00	0.00E+00	4.38E-03	0.00E+00	4.38E-03		
	Exposure Point Total					9.14E-08							4.38E-03		
	Exposure Medium Total					9.14E-08							4.38E-03		
	Medium Total					9.61E-08							4.60E-03		
	Receptor Total					3.81E-06							4.60E+00		
													Receptor HI Total	4.60E+00	

**TABLE H2-9.2**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

**TABLE H2-9.3**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)**  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Soil (0-2 ft bgs)	Soil	Site Soil	--	--	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	1.84E-07	6.11E-08	0.00E+00	0.00E+00	2.45E-07	--	--	--	--	1.36E-01	1.97E-02	0.00E+00	0.00E+00	1.55E-01
			Exposure Point Total						2.45E-07							1.55E-01	
	Exposure Medium Total								2.45E-07							1.55E-01	
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	2.05E-08	0.00E+00	2.05E-08	--	--	--	--	0.00E+00	0.00E+00	5.56E-02	0.00E+00	5.56E-02
			Exposure Point Total						2.05E-08							5.56E-02	
	Exposure Medium Total								2.05E-08							5.56E-02	
		(Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	4.29E-10	0.00E+00	4.29E-10	--	--	--	--	0.00E+00	0.00E+00	8.77E-05	0.00E+00	8.77E-05
			Exposure Point Total						4.29E-10							8.77E-05	
	Exposure Medium Total								4.29E-10							8.77E-05	
Medium Total								4.29E-10							8.77E-05		
Receptor Total				Receptor Risk Total					2.66E-07	Receptor HI Total						2.11E-01	

- Notes:**
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

**TABLE H2-9.4**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	--	--	--	--	--	--	--	--	--	--	--	--
			--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	1.91E-07	5.60E-08	0.00E+00	0.00E+00	2.47E-07	--	1.31E-01	1.96E-02	0.00E+00	0.00E+00	1.51E-01
	Exposure Point Total					2.47E-07							1.51E-01	
	Exposure Medium Total					2.47E-07							1.51E-01	
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--
--			--	--	--	--	--	--	--	--	--	--	--	
Chemical Total			0.00E+00	0.00E+00	2.04E-08	0.00E+00	2.04E-08	--	0.00E+00	0.00E+00	5.54E-02	0.00E+00	5.54E-02	
Exposure Point Total					2.04E-08							5.54E-02		
Exposure Medium Total					2.04E-08							5.54E-02		
Medium Total					2.67E-07							2.06E-01		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	4.29E-10	0.00E+00	4.29E-10	--	0.00E+00	0.00E+00	8.77E-05	0.00E+00	8.77E-05
Exposure Point Total					4.29E-10							8.77E-05		
Exposure Medium Total					4.29E-10							8.77E-05		
Medium Total					4.29E-10							8.77E-05		
Receptor Total					2.68E-07							2.06E-01		

- Notes:**
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

**TABLE H2-9.5**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	6.34E-07	2.17E-08	--	1.36E-06	2.02E-06	Skin Liver Liver	1.41E-02	4.81E-04	--	3.02E-02	4.48E-02	
			Dieldrin	6.04E-08	6.89E-10	--	1.15E-05	1.15E-05		7.55E-04	8.61E-06	--	1.43E-01	1.44E-01	
			Heptachlor Epoxide	6.95E-09	7.93E-11	--	2.87E-06	2.88E-06		5.88E-04	6.70E-06	--	2.43E-01	2.43E-01	
			Chemical Total	2.50E-06	2.87E-07	0.00E+00	1.80E-05	2.08E-05		2.64E-01	1.32E-02	0.00E+00	2.61E+00	2.89E+00	
	Exposure Point Total						2.08E-05						2.89E+00		
	Exposure Medium Total						2.08E-05						2.89E+00		
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	8.09E-07	0.00E+00	8.09E-07	0.00E+00	0.00E+00	3.09E-01	0.00E+00	3.09E-01		
		Exposure Point Total						8.09E-07						3.09E-01	
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	--	Kidney Kidney Liver Respiratory System	--	--	1.66E+00	--	1.66E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	--		--	--	5.64E+00	--	5.64E+00
	1,4-Dichlorobenzene		--	--	1.82E-05	--	1.82E-05	--	--		--	3.60E-02	--	3.60E-02	
	Naphthalene	--	--	--	--	--	--	--	--	--	1.52E+01	--	1.52E+01		
	Chemical Total	0.00E+00	0.00E+00	1.86E-05	0.00E+00	1.86E-05	0.00E+00	0.00E+00	0.00E+00	2.37E+01	0.00E+00	0.00E+00	2.37E+01		
Exposure Point Total						1.86E-05						2.37E+01			
Exposure Medium Total						1.94E-05						2.40E+01			
Medium Total						4.02E-05						2.69E+01			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.70E-08	0.00E+00	1.70E-08	0.00E+00	0.00E+00	4.96E-04	0.00E+00	4.96E-04		
	Exposure Point Total						1.70E-08						4.96E-04		
	Exposure Medium Total						1.70E-08						4.96E-04		
	Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	--	--	--	--	--	--	--	--	--	--	--	--	
--			--	--	--	--	--	--	--	--	--	--	--		
Chemical Total			0.00E+00	0.00E+00	7.09E-07	0.00E+00	7.09E-07	0.00E+00	0.00E+00	2.05E-02	0.00E+00	2.05E-02			
Exposure Point Total						7.09E-07						2.05E-02			
Exposure Medium Total						7.09E-07						2.05E-02			
Medium Total						7.26E-07						2.10E-02			
Receptor Total								4.09E-05					Receptor HI Total	2.69E+01	

**TABLE H2-9.5**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total

- Notes:**
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H2-9.6  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	Arsenic	9.79E-07	3.35E-08	--	2.10E-06	3.12E-06	Skin	2.18E-02	7.44E-04	--	4.67E-02	6.93E-02	
			Dieldrin	5.36E-08	6.11E-10	--	1.02E-05	1.02E-05		Liver	6.70E-04	7.64E-06	--	1.27E-01	1.28E-01
			Heptachlor Epoxide	6.14E-09	7.00E-11	--	2.54E-06	2.54E-06		Liver	5.19E-04	5.92E-06	--	2.15E-01	2.15E-01
			Chemical Total	2.60E-06	2.63E-07	0.00E+00	1.68E-05	1.97E-05			2.55E-01	1.31E-02	0.00E+00	2.37E+00	2.64E+00
			Exposure Point Total											2.64E+00	
			Exposure Medium Total											2.64E+00	
		Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	
	--			--	--	--	--	--	--	--	--	--	--		
	--			--	--	--	--	--	--	--	--	--	--	--	
	Chemical Total			0.00E+00	0.00E+00	8.03E-07	0.00E+00	8.03E-07		0.00E+00	0.00E+00	3.09E-01	0.00E+00	3.09E-01	
			Exposure Point Total											3.09E-01	
			Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney Kidney Liver Respiratory System	--	--	1.66E+00	--	1.66E+00
				1,2,4-Trichlorobenzene	--	--	--	--	--		--	--	5.64E+00	--	5.64E+00
				1,4-Dichlorobenzene	--	--	1.82E-05	--	1.82E-05		--	--	3.60E-02	--	3.60E-02
				Naphthalene	--	--	--	--	--		--	--	1.52E+01	--	1.52E+01
			Chemical Total	0.00E+00	0.00E+00	1.86E-05	0.00E+00	1.86E-05		0.00E+00	0.00E+00	2.37E+01	0.00E+00	2.37E+01	
			Exposure Point Total											2.37E+01	
			Exposure Medium Total											2.40E+01	
			(Volatiles)	--	--	--	--	--	--	--	--	--	--	--	
				Chemical Total	0.00E+00	0.00E+00	1.70E-08	0.00E+00	1.70E-08		0.00E+00	0.00E+00	4.96E-04	0.00E+00	4.96E-04
		Exposure Point Total											4.96E-04		
		Exposure Medium Total											4.96E-04		
	Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	--	--	--	--	--	--	--	--	--	--	--		
				--	--	--	--	--	--	--	--	--	--		
				Chemical Total	0.00E+00	0.00E+00	7.09E-07	0.00E+00	7.09E-07		0.00E+00	0.00E+00	2.05E-02	0.00E+00	2.05E-02
		Exposure Point Total											2.05E-02		
		Exposure Medium Total											2.05E-02		
Medium Total													2.10E-02		
Receptor Total													2.66E+01		
							Receptor Risk Total	3.98E-05					Receptor HI Total	2.66E+01	

TABLE H2-9.6

EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

**TABLE H2-9.7**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	1.69E-06	5.68E-08	--	3.39E-07	2.08E-06	Skin	1.31E-01	4.41E-03	--	2.63E-02	1.62E-01			
			Benzo(a)pyrene	2.22E-06	3.23E-07	--	1.08E-08	2.55E-06		--	--	--	--	--	--		
			Dieldrin	1.61E-07	1.80E-09	--	2.85E-06	3.02E-06		Liver	7.05E-03	7.90E-05	--	1.25E-01	1.32E-01		
			Chemical Total	6.67E-06	7.52E-07	0.00E+00	4.49E-06	1.19E-05			2.46E+00	1.21E-01	0.00E+00	2.27E+00	4.86E+00		
	Exposure Point Total													1.19E-05	4.86E+00		
	Exposure Medium Total														1.19E-05	4.86E+00	
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	5.65E-07	0.00E+00	5.65E-07		0.00E+00	0.00E+00	7.56E-01	0.00E+00	7.56E-01			
		Exposure Point Total														5.65E-07	7.56E-01
		Exposure Medium Total														5.65E-07	7.56E-01
	Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00			
		1,2,4-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01			
		1,2-Dichlorobenzene	--	--	--	--	--	--	Body Weight	--	--	1.36E+00	--	1.36E+00			
1,4-Dichlorobenzene		--	--	1.27E-05	--	1.27E-05	Liver	--	--	8.79E-02	--	8.79E-02					
Naphthalene		--	--	--	--	--	Respiratory System	--	--	3.72E+01	--	3.72E+01					
Chemical Total		0.00E+00	0.00E+00	1.30E-05	0.00E+00	1.30E-05		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01					
Exposure Point Total														1.30E-05	5.78E+01		
Exposure Medium Total														1.35E-05	5.86E+01		
Medium Total														2.54E-05	6.34E+01		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--	--			
	Chemical Total		0.00E+00	0.00E+00	1.19E-08	0.00E+00	1.19E-08		0.00E+00	0.00E+00	1.21E-03	0.00E+00	1.21E-03				
	Exposure Point Total														1.19E-08	1.21E-03	
Exposure Medium Total														1.19E-08	1.21E-03		
Groundwater Vapor Intrusion	Indoor Air (inhalation)	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
		--	--	--	--	--	--	--	--	--	--	--	--	--	--		
		Chemical Total	0.00E+00	0.00E+00	4.95E-07	0.00E+00	4.95E-07		0.00E+00	0.00E+00	5.02E-02	0.00E+00	5.02E-02				
Exposure Point Total														4.95E-07	5.02E-02		
Exposure Medium Total														4.95E-07	5.02E-02		
Medium Total														5.07E-07	5.14E-02		
Receptor Total														2.60E-05	6.35E+01		

TABLE H2-9.7

EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

**TABLE H2-9.8**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs)	Soil	Site Soil	Arsenic	2.61E-06	8.78E-08	--	5.24E-07	3.22E-06	Skin	2.03E-01	6.83E-03	--	4.07E-02	2.51E-01		
			Benzo(a)pyrene	1.87E-06	2.73E-07	--	9.12E-09	2.16E-06		--	--	--	--	--		
			Dieldrin	1.43E-07	1.60E-09	--	2.53E-06	2.68E-06		Liver	6.26E-03	7.01E-05	--	1.11E-01	1.17E-01	
			Chemical Total	6.93E-06	6.90E-07	0.00E+00	4.18E-06	1.18E-05			2.38E+00	1.20E-01	0.00E+00	2.07E+00	4.57E+00	
	Exposure Point Total						1.18E-05						4.57E+00			
	Exposure Medium Total						1.18E-05						4.57E+00			
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	5.61E-07	0.00E+00	5.61E-07		0.00E+00	0.00E+00	7.55E-01	0.00E+00	7.55E-01		
		Exposure Point Total						5.61E-07						7.55E-01		
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00	
			1,2,4-Trichlorobenzene	--	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01	
	1,2-Dichlorobenzene		--	--	--	--	--	--	Body Weight	--	--	1.36E+00	--	1.36E+00		
	1,4-Dichlorobenzene	--	--	1.27E-05	--	1.27E-05	--	Liver	--	--	8.79E-02	--	8.79E-02			
Naphthalene	--	--	--	--	--	--	Respiratory System	--	--	3.72E+01	--	3.72E+01				
Chemical Total	0.00E+00	0.00E+00	1.30E-05	0.00E+00	1.30E-05			0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01				
Exposure Point Total						1.30E-05						5.78E+01				
Exposure Medium Total						1.35E-05						5.86E+01				
Medium Total													2.53E-05	6.32E+01		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--			
			--	--	--	--	--	--	--	--	--	--	--			
	Chemical Total	0.00E+00	0.00E+00	1.19E-08	0.00E+00	1.19E-08			0.00E+00	0.00E+00	1.21E-03	0.00E+00	1.21E-03			
	Exposure Point Total						1.19E-08						1.21E-03			
Exposure Medium Total						1.19E-08						1.21E-03				
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	--	--	--	--	--	--	--	--	--	--	--	--			
		--	--	--	--	--	--	--	--	--	--	--	--			
		Chemical Total	0.00E+00	0.00E+00	4.95E-07	0.00E+00	4.95E-07			0.00E+00	0.00E+00	5.02E-02	0.00E+00	5.02E-02		
Exposure Point Total						4.95E-07						5.02E-02				
Exposure Medium Total						4.95E-07						5.02E-02				
Medium Total													5.07E-07	5.14E-02		
Receptor Total													Receptor Risk Total	2.58E-05	Receptor HI Total	6.32E+01

TABLE H2-9.8

EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

TABLE H2-9.9  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	2.32E-06	7.84E-08	--	1.70E-06	4.10E-06	Skin	1.31E-01	4.41E-03	--	2.63E-02	1.62E-01	
			Benzo(a)anthracene	9.18E-07	1.34E-07	--	2.87E-08	1.08E-06		--	--	--	--	--	--
			Benzo(a)pyrene	3.05E-06	4.47E-07	--	5.42E-08	3.55E-06		--	--	--	--	--	--
			bis(2-ethylhexyl)phthalate	2.75E-08	3.10E-10	--	1.16E-06	1.19E-06		Liver	2.50E-03	2.80E-05	--	2.89E-02	3.14E-02
			Dieldrin	2.22E-07	2.49E-09	--	1.43E-05	1.45E-05		Liver	7.05E-03	7.90E-05	--	1.25E-01	1.32E-01
			Heptachlor Epoxide	2.55E-08	2.87E-10	--	3.59E-06	3.61E-06		Liver	5.49E-03	6.14E-05	--	2.11E-01	2.17E-01
			Chemical Total	9.17E-06	1.04E-06	0.00E+00	2.25E-05	3.27E-05			2.46E+00	1.21E-01	0.00E+00	2.27E+00	4.86E+00
	Exposure Point Total					3.27E-05						4.86E+00			
	Exposure Medium Total					3.27E-05						4.86E+00			
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	1.21E-06	--	1.21E-06	Liver	--	--	3.44E-03	--	3.44E-03	
			--	--	--	--	--	--		--	--	--	--		
			--	--	--	--	--	--		--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.37E-06	0.00E+00	1.37E-06			0.00E+00	0.00E+00	7.56E-01	0.00E+00	7.56E-01
		Exposure Point Total					1.37E-06						7.56E-01		
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney Kidney Body Weight Liver Respiratory System	--	--	4.05E+00	--	4.05E+00	
			1,2,4-Trichlorobenzene	--	--	--	--	--		--	--	1.38E+01	--	1.38E+01	
	1,4-Dichlorobenzene		--	--	3.09E-05	--	3.09E-05	--		--	1.36E+00	--	1.36E+00		
	Naphthalene	--	--	--	--	--	--	--	--	8.79E-02	--	8.79E-02			
	Chemical Total	0.00E+00	0.00E+00	3.15E-05	0.00E+00	3.15E-05		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01			
	Exposure Point Total					3.15E-05						5.78E+01			
Exposure Medium Total					3.29E-05						5.66E+01				
Medium Total					6.56E-05						6.34E+01				
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--		--	--	--	--	--		
			--	--	--	--	--		--	--	--	--			
			--	--	--	--	--		--	--	--	--			
			Chemical Total	0.00E+00	0.00E+00	2.88E-08	0.00E+00		2.88E-08		0.00E+00	0.00E+00	1.21E-03	0.00E+00	1.21E-03
	Exposure Point Total					2.88E-08						1.21E-03			
	Exposure Medium Total					2.88E-08						1.21E-03			
	Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	--	--	--	--	--		--	--	--	--	--		
--			--	--	--	--	--		--	--	--				
Chemical Total			0.00E+00	0.00E+00	1.20E-06	0.00E+00	1.20E-06			0.00E+00	0.00E+00	5.02E-02	0.00E+00	5.02E-02	
Exposure Point Total					1.20E-06						5.02E-02				
Exposure Medium Total					1.20E-06						5.02E-02				
Medium Total					1.23E-06						5.14E-02				
Receptor Total					6.69E-05						6.35E+01				

**TABLE H2-9.9**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

**TABLE H2-9.10**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs)	Soil	Site Soil	Arsenic	3.59E-06	1.21E-07	--	2.83E-06	6.34E-06	Skin	2.03E-01	6.83E-03	--	4.07E-02	2.51E-01		
			Benzo(a)pyrene	2.58E-06	3.77E-07	--	4.58E-08	3.00E-06	--	--	--	--	--	--		
			Dieldrin	1.97E-07	2.21E-09	--	1.27E-05	1.29E-05	Liver	6.26E-03	7.01E-05	--	1.11E-01	1.17E-01		
			Heptachlor Epoxide	2.25E-08	2.54E-10	--	3.17E-06	3.19E-06	Liver	4.85E-03	5.43E-05	--	1.87E-01	1.92E-01		
			Chemical Total	9.53E-06	9.54E-07	0.00E+00	2.10E-05	3.15E-05	--	2.38E+00	1.20E-01	0.00E+00	2.07E+00	4.57E+00		
	Exposure Point Total									3.15E-05						
	Exposure Medium Total									3.15E-05						
	Air	Outdoor Air (Particulates and VOCs)	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	1.21E-06	--	1.21E-06	Liver	--	--	3.44E-03	--	3.44E-03	
				--	--	--	--	--	--	--	--	--	--	--		
				--	--	--	--	--	--	--	--	--	--	--	--	
				Chemical Total	0.00E+00	0.00E+00	1.36E-06	0.00E+00	1.36E-06	--	0.00E+00	0.00E+00	7.55E-01	0.00E+00	7.55E-01	
		Exposure Point Total									1.36E-06					
		Indoor Air (Vapor Intrusion)	Indoor Air (Vapor Intrusion)	Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00
					1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01
					1,2-Dichlorobenzene	--	--	--	--	--	Body Weight	--	--	1.36E+00	--	1.36E+00
1,4-Dichlorobenzene					--	--	3.09E-05	--	3.09E-05	Liver	--	--	8.79E-02	--	8.79E-02	
Naphthalene					--	--	--	--	--	Respiratory System	--	--	3.72E+01	--	3.72E+01	
Chemical Total	0.00E+00				0.00E+00	3.15E-05	0.00E+00	3.15E-05	--	0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01		
Exposure Point Total									3.15E-05							
Exposure Medium Total									3.29E-05							
Medium Total									6.44E-05							
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--			
			--	--	--	--	--	--	--	--	--	--	--			
			--	--	--	--	--	--	--	--	--	--	--			
			Chemical Total	0.00E+00	0.00E+00	2.88E-08	0.00E+00	2.88E-08	--	0.00E+00	0.00E+00	1.21E-03	0.00E+00	1.21E-03		
			Exposure Point Total									2.88E-08				
	Exposure Medium Total									2.88E-08						
	Groundwater Vapor Intrusion Indoor Air	Indoor Air (Inhalation)	Indoor Air (Inhalation)	--	--	--	--	--	--	--	--	--	--	--		
				--	--	--	--	--	--	--	--	--	--	--		
				--	--	--	--	--	--	--	--	--	--	--		
				Chemical Total	0.00E+00	0.00E+00	1.20E-06	0.00E+00	1.20E-06	--	0.00E+00	0.00E+00	5.02E-02	0.00E+00	5.02E-02	
Exposure Point Total									1.20E-06							
Exposure Medium Total									1.20E-06							
Medium Total									1.23E-06							
Receptor Total				Receptor Risk Total					6.56E-05							
									Receptor HI Total							
									6.32E+01							

**TABLE H2-9.10**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard Index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

**TABLE H2-9.11**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs)	Soil	Site Soil	--	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	1.84E-06	2.87E-07	0.00E+00	0.00E+00	2.12E-06	--	1.94E-01	1.32E-02	0.00E+00	0.00E+00	2.07E-01		
			Exposure Point Total						2.12E-06						2.07E-01	
	Exposure Medium Total									2.12E-06						2.07E-01
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	5.86E-07	0.00E+00	5.86E-07	--	0.00E+00	0.00E+00	2.24E-01	0.00E+00	2.24E-01		
			Exposure Point Total						5.86E-07						2.24E-01	
	Exposure Medium Total									5.86E-07						2.24E-01
	Medium Total									2.71E-06						4.31E-01
	Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
Chemical Total				0.00E+00	0.00E+00	1.23E-08	0.00E+00	1.23E-08	--	0.00E+00	0.00E+00	3.59E-04	0.00E+00	3.59E-04		
Exposure Point Total									1.23E-08						3.59E-04	
Exposure Medium Total									1.23E-08						3.59E-04	
Medium Total									1.23E-08						3.59E-04	
Receptor Total				Receptor Risk Total					2.72E-06	Receptor HI Total					4.31E-01	

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H2-9.12  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	1.09E-06	5.68E-08	--	--	1.14E-06	Skin	8.45E-02	4.41E-03	--	--	8.89E-02		
			Benzo(a)pyrene	1.43E-06	3.23E-07	--	--	1.75E-06		--	--	--	--	--	--	
			Chemical Total	4.29E-06	7.52E-07	0.00E+00	0.00E+00	5.04E-06		1.58E+00	1.21E-01	0.00E+00	0.00E+00	0.00E+00	1.70E+00	
			Exposure Point Total											5.04E-06	1.70E+00	
			Exposure Medium Total												5.04E-06	1.70E+00
	Air	Outdoor Air (Particulates and VOCs)		--	--	--	--	--	--	--	--	--	--	--	--	
				--	--	--	--	--	--	--	--	--	--	--	--	
				--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	8.99E-08	0.00E+00	8.99E-08	0.00E+00	0.00E+00	0.00E+00	1.20E-01	0.00E+00	0.00E+00	1.20E-01	
			Exposure Point Total												8.99E-08	1.20E-01
		Exposure Medium Total												8.99E-08	1.20E-01	
Medium Total														5.13E-06	1.82E+00	
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--		
				--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.89E-09	0.00E+00	1.89E-09	0.00E+00	0.00E+00	0.00E+00	1.93E-04	0.00E+00	0.00E+00	1.93E-04	
		Exposure Point Total												1.89E-09	1.93E-04	
		Exposure Medium Total												1.89E-09	1.93E-04	
Medium Total														1.89E-09	1.93E-04	
Receptor Total														5.13E-06	1.82E+00	

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

**TABLE H2-9.13**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	1.55E-06	7.84E-08	--	--	1.63E-06	Skin	8.45E-02	4.41E-03	--	--	8.89E-02	
			Benzo(a)pyrene	2.04E-06	4.47E-07	--	--	2.49E-06		--	--	--	--	--	--
			Chemical Total	6.12E-06	1.04E-06	0.00E+00	0.00E+00	7.16E-06		1.58E+00	1.21E-01	0.00E+00	0.00E+00	1.70E+00	
			Exposure Point Total											1.70E+00	
			Exposure Medium Total											1.70E+00	
		Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--
	--			--	--	--	--	--	--	--	--	--	--	--	
	Chemical Total			0.00E+00	0.00E+00	6.76E-07	0.00E+00	6.76E-07	0.00E+00	0.00E+00	1.20E-01	0.00E+00	1.20E-01		
			Exposure Point Total											1.20E-01	
			Exposure Medium Total											1.20E-01	
Medium Total													1.82E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.42E-08	0.00E+00	1.42E-08	0.00E+00	0.00E+00	1.93E-04	0.00E+00	1.93E-04		
		Exposure Point Total											1.93E-04		
		Exposure Medium Total											1.93E-04		
Medium Total													1.93E-04		
Receptor Total							Receptor Risk Total	7.85E-06				Receptor HI Total	1.82E+00		

- Notes:**
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

**ATTACHMENT H3  
CANCER RISK AND NONCANCER HAZARD ESTIMATES (METHOD 2),  
CENTRAL TENDENCY EXPOSURE**

## **TABLES**

---

### **CTE Cancer Risks and Noncancer Hazards**

- H3-7.1 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H3-7.2 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-7.3 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H3-7.4 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-7.5 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H3-7.6 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-7.7 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface Soil (0 to 2 feet bgs)
- H3-7.8 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-7.9 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H3-7.10 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-7.11 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H3-7.12 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H3-7.13 EPA RAGS Part D Table 7a-b, Calculation of CTE Cancer Risks and Noncancer Hazards Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

### Summaries of CTE Receptor Risks and Hazards for COPCs

- H3-8.1 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H3-8.2 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-8.3 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H3-8.4 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-8.5 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H3-8.6 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-8.7 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface Soil (0 to 2 feet bgs)
- H3-8.8 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-8.9 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H3-8.10 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-8.11 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H3-8.12 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H3-8.13 EPA RAGS Part D Table 9, Summary of CTE Receptor Risk and Hazards for COPCs Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

### **CTE Risk Assessment Summaries**

- H3-9.1 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface Soil (0 to 2 feet bgs)
- H3-9.2 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-9.3 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface Soil (0 to 2 feet bgs)
- H3-9.4 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-9.5 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface Soil (0 to 2 feet bgs)
- H3-9.6 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-9.7 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface Soil (0 to 2 feet bgs)
- H3-9.8 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-9.9 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface Soil (0 to 2 feet bgs)
- H3-9.10 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)
- H3-9.11 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Adult, Surface Soil (0 to 2 feet bgs)
- H3-9.12 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child, Surface Soil (0 to 2 feet bgs)
- H3-9.13 EPA RAGS Part D Table 10, CTE Risk Assessment Summary Using Toxicity Data from DTSC-Preferred Sources (Method 2), Recreational Child + Adult, Surface Soil (0 to 2 feet bgs)

TABLE H3-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	4.13E-08	mg/kg-day	--	--	--	6.43E-07	mg/kg-day	1.00E-02	mg/kg-day	6.43E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.41E-07	mg/kg-day	--	--	--	2.19E-06	mg/kg-day	1.00E-02	mg/kg-day	2.19E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.38E-08	mg/kg-day	--	--	--	2.14E-07	mg/kg-day	5.00E-02	mg/kg-day	4.28E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	7.16E-07	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	9.00E-02	mg/kg-day	1.24E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	9.92E-11	mg/kg-day	3.60E-02	(mg/kg-day)-1	3.57E-12	1.54E-09	mg/kg-day	1.14E-03	mg/kg-day	1.35E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.41E-09	mg/kg-day	--	--	--	6.86E-08	mg/kg-day	5.00E-02	mg/kg-day	1.37E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	3.03E-08	mg/kg-day	--	--	--	4.71E-07	mg/kg-day	3.00E-02	mg/kg-day	1.57E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.87E-07	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.01E-09	2.91E-06	mg/kg-day	3.00E-02	mg/kg-day	9.71E-05
				2,4-Dimethylphenol	2.10E-01	mg/kg	5.79E-09	mg/kg-day	--	--	--	9.00E-08	mg/kg-day	2.00E-02	mg/kg-day	4.50E-06
				2-Methylphenol	8.10E-02	mg/kg	2.23E-09	mg/kg-day	--	--	--	3.47E-08	mg/kg-day	4.00E-03	mg/kg-day	6.68E-06
				2-Methylnaphthalene	1.07E+00	mg/kg	4.61E-08	mg/kg-day	--	--	--	7.16E-07	mg/kg-day	5.00E-02	mg/kg-day	1.43E-05
				4,4'-DDD	1.20E-03	mg/kg	3.31E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	7.93E-12	5.14E-10	mg/kg-day	5.00E-04	mg/kg-day	1.03E-06
				4,4'-DDE	8.23E-02	mg/kg	2.27E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.71E-10	3.53E-08	mg/kg-day	5.00E-04	mg/kg-day	7.05E-05
				4,4'-DDT	4.45E-02	mg/kg	1.23E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.17E-10	1.91E-08	mg/kg-day	5.00E-04	mg/kg-day	3.81E-05
				4-Methylphenol	2.70E-01	mg/kg	7.44E-09	mg/kg-day	--	--	--	1.16E-07	mg/kg-day	5.00E-03	mg/kg-day	2.31E-05
				4-Nitroaniline	6.20E-01	mg/kg	1.71E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.59E-10	2.66E-07	mg/kg-day	3.00E-03	mg/kg-day	8.85E-05
				4-Nitrophenol	4.20E-01	mg/kg	1.16E-08	mg/kg-day	--	--	--	1.80E-07	mg/kg-day	5.00E-04	mg/kg-day	3.60E-04
				Acenaphthene	4.23E+00	mg/kg	1.17E-07	mg/kg-day	--	--	--	1.81E-06	mg/kg-day	6.00E-02	mg/kg-day	3.02E-05
				Acenaphthylene	1.04E-01	mg/kg	2.87E-09	mg/kg-day	--	--	--	4.46E-08	mg/kg-day	6.00E-02	mg/kg-day	7.44E-07
				Aldrin	1.30E-02	mg/kg	3.58E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.09E-09	5.57E-09	mg/kg-day	3.00E-05	mg/kg-day	1.86E-04
				alpha-BHC	7.30E-04	mg/kg	2.01E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.43E-11	3.13E-10	mg/kg-day	5.00E-04	mg/kg-day	6.26E-07
				alpha-Chlordane	8.14E-03	mg/kg	2.24E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.82E-10	3.49E-09	mg/kg-day	5.00E-04	mg/kg-day	6.98E-06
				Aluminum	8.82E+03	mg/kg	2.43E-04	mg/kg-day	--	--	--	3.78E-03	mg/kg-day	1.00E+00	mg/kg-day	3.78E-03
				Anthracene	1.05E+00	mg/kg	2.91E-08	mg/kg-day	--	--	--	4.52E-07	mg/kg-day	3.00E-01	mg/kg-day	1.51E-06
				Antimony	4.08E+00	mg/kg	1.12E-07	mg/kg-day	--	--	--	1.75E-06	mg/kg-day	4.00E-04	mg/kg-day	4.37E-03
				Aroclor-1248	1.20E+00	mg/kg	3.31E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.61E-08	5.14E-07	mg/kg-day	2.00E-05	mg/kg-day	2.57E-02
				Aroclor-1254	4.44E-01	mg/kg	1.22E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.45E-08	1.90E-07	mg/kg-day	2.00E-05	mg/kg-day	9.51E-03
				Aroclor-1260	5.41E-01	mg/kg	1.49E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.98E-08	2.32E-07	mg/kg-day	2.00E-05	mg/kg-day	1.16E-02
				Aroclor-1268	2.78E-02	mg/kg	7.65E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.53E-09	1.19E-08	mg/kg-day	2.00E-05	mg/kg-day	5.95E-04
				Arsenic	6.17E+00	mg/kg	1.70E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.61E-06	2.64E-06	mg/kg-day	3.00E-04	mg/kg-day	8.81E-03
				Barium	6.78E+01	mg/kg	1.87E-06	mg/kg-day	--	--	--	2.91E-05	mg/kg-day	7.00E-02	mg/kg-day	4.15E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	1.38E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.65E-07	2.14E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.59E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	5.51E-07	7.13E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	7.54E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.05E-08	1.17E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.10E-08	mg/kg-day	--	--	--	3.27E-07	mg/kg-day	3.00E-02	mg/kg-day	1.09E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	8.98E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.08E-07	1.40E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	6.56E-09	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	2.00E-03	mg/kg-day	5.10E-05
				Beta-BHC	2.20E-03	mg/kg	6.06E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.09E-11	9.43E-10	mg/kg-day	2.00E-04	mg/kg-day	4.71E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.16E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	6.47E-10	3.36E-06	mg/kg-day	2.00E-02	mg/kg-day	1.68E-04
				Cadmium	9.47E+00	mg/kg	2.61E-07	mg/kg-day	3.80E-01	(mg/kg-day)-1	9.92E-08	4.06E-06	mg/kg-day	5.00E-04	mg/kg-day	8.12E-03
				Carbon disulfide	2.40E-04	mg/kg	6.61E-12	mg/kg-day	--	--	--	1.03E-10	mg/kg-day	1.00E-01	mg/kg-day	1.03E-09
				Chlorobenzene	1.10E-01	mg/kg	3.03E-09	mg/kg-day	--	--	--	4.71E-08	mg/kg-day	2.00E-02	mg/kg-day	2.36E-06
				Chromium	1.11E+02	mg/kg	3.06E-06	mg/kg-day	--	--	--	4.76E-05	mg/kg-day	1.50E+00	mg/kg-day	3.18E-05
				Chrysene	5.68E+00	mg/kg	1.57E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.88E-08	2.43E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.09E-07	mg/kg-day	--	--	--	3.24E-06	mg/kg-day	2.00E-02	mg/kg-day	1.62E-04
Copper	5.71E+01	mg/kg	1.57E-08	mg/kg-day	--	--	--	2.44E-05	mg/kg-day	4.00E-02	mg/kg-day	6.11E-04				
Delta-BHC	8.40E-03	mg/kg	2.31E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.47E-10	3.60E-09	mg/kg-day	2.00E-04	mg/kg-day	1.80E-05				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	8.75E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.59E-08	1.36E-07	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	3.58E-07	mg/kg-day	--	--	--	5.57E-06	mg/kg-day	2.00E-03	mg/kg-day	2.78E-03				
Diieldrin	5.51E-02	mg/kg	1.52E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.43E-08	2.36E-08	mg/kg-day	5.00E-05	mg/kg-day	4.73E-04				
Dimethylphthalate	3.80E-02	mg/kg	1.05E-09	mg/kg-day	--	--	--	1.63E-08	mg/kg-day	8.00E-01	mg/kg-day	2.04E-08				

TABLE H3-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	6.06E-08	mg/kg-day	--	--	--	9.43E-07	mg/kg-day	2.00E-01	mg/kg-day	4.71E-06				
				Endosulfan I	2.30E-02	mg/kg	6.34E-10	mg/kg-day	--	--	--	9.85E-09	mg/kg-day	6.00E-03	mg/kg-day	1.64E-06				
				Endosulfan II	2.38E-02	mg/kg	6.56E-10	mg/kg-day	--	--	--	1.02E-08	mg/kg-day	6.00E-03	mg/kg-day	1.70E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	1.18E-09	mg/kg-day	--	--	--	1.84E-08	mg/kg-day	6.00E-03	mg/kg-day	3.07E-06				
				Endnn aldehyde	4.21E-02	mg/kg	1.16E-09	mg/kg-day	--	--	--	1.80E-08	mg/kg-day	3.00E-04	mg/kg-day	6.01E-05				
				Endnn Ketone	1.00E-02	mg/kg	2.78E-10	mg/kg-day	--	--	--	4.28E-09	mg/kg-day	3.00E-04	mg/kg-day	1.43E-05				
				Fluoranthene	2.65E+01	mg/kg	7.30E-07	mg/kg-day	--	--	--	1.14E-05	mg/kg-day	4.00E-02	mg/kg-day	2.84E-04				
				Fluorene	2.92E+00	mg/kg	8.03E-08	mg/kg-day	--	--	--	1.25E-06	mg/kg-day	4.00E-02	mg/kg-day	3.12E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	7.16E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.88E-11	1.11E-09	mg/kg-day	3.00E-04	mg/kg-day	3.71E-06				
				gamma-Chlordane	1.31E-02	mg/kg	3.61E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.69E-10	5.61E-09	mg/kg-day	5.00E-04	mg/kg-day	1.12E-05				
				Heptachlor	6.90E-03	mg/kg	1.90E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.79E-10	2.96E-09	mg/kg-day	5.00E-04	mg/kg-day	5.91E-06				
				Heptachlor Epoxide	1.12E-02	mg/kg	3.07E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.69E-09	4.78E-09	mg/kg-day	1.30E-05	mg/kg-day	3.66E-04				
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.41E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.89E-08	3.74E-07	mg/kg-day	--	--	--				
				Iron	4.07E+04	mg/kg	1.12E-03	mg/kg-day	--	--	--	1.75E-02	mg/kg-day	3.00E-01	mg/kg-day	5.82E-02				
				Isophorone	2.00E-01	mg/kg	5.51E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.23E-12	8.57E-08	mg/kg-day	2.00E-01	mg/kg-day	4.28E-07				
				Lead	2.90E+03	mg/kg	8.00E-05	mg/kg-day	--	--	--	1.24E-03	mg/kg-day	--	--	--				
				Manganese	3.31E+02	mg/kg	9.12E-06	mg/kg-day	--	--	--	1.42E-04	mg/kg-day	2.40E-02	mg/kg-day	5.91E-03				
				Mercury	3.10E-01	mg/kg	8.53E-09	mg/kg-day	--	--	--	1.33E-07	mg/kg-day	3.00E-04	mg/kg-day	4.42E-04				
				Methoxychlor	1.20E-01	mg/kg	3.31E-09	mg/kg-day	--	--	--	5.14E-08	mg/kg-day	5.00E-03	mg/kg-day	1.03E-05				
				Molybdenum	2.50E+00	mg/kg	6.90E-08	mg/kg-day	--	--	--	1.07E-06	mg/kg-day	5.00E-03	mg/kg-day	2.15E-04				
				Naphthalene	1.30E+01	mg/kg	3.58E-07	mg/kg-day	--	--	--	5.57E-06	mg/kg-day	2.00E-02	mg/kg-day	2.78E-04				
				Nickel	3.91E+01	mg/kg	1.08E-06	mg/kg-day	--	--	--	1.68E-05	mg/kg-day	2.00E-02	mg/kg-day	8.38E-04				
				Phenanthrene	1.39E+01	mg/kg	3.84E-07	mg/kg-day	--	--	--	5.96E-06	mg/kg-day	3.00E-01	mg/kg-day	1.99E-05				
				Phenol	5.80E-01	mg/kg	1.60E-08	mg/kg-day	--	--	--	2.48E-07	mg/kg-day	3.00E-01	mg/kg-day	8.28E-07				
				p-Isopropyltoluene	1.10E-01	mg/kg	3.03E-09	mg/kg-day	--	--	--	4.71E-08	mg/kg-day	1.00E-01	mg/kg-day	4.71E-07				
				Pyrene	2.41E+01	mg/kg	6.65E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	3.00E-02	mg/kg-day	3.45E-04				
				sec-Butylbenzene	7.10E-02	mg/kg	1.96E-09	mg/kg-day	--	--	--	3.04E-08	mg/kg-day	4.00E-02	mg/kg-day	7.60E-07				
				Selenium	2.24E-01	mg/kg	6.18E-09	mg/kg-day	--	--	--	9.62E-08	mg/kg-day	5.00E-03	mg/kg-day	1.92E-05				
				Silver	1.16E+00	mg/kg	3.19E-08	mg/kg-day	--	--	--	4.97E-07	mg/kg-day	5.00E-03	mg/kg-day	9.93E-05				
				Technical Chlordane	5.51E-01	mg/kg	1.52E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.97E-08	2.36E-07	mg/kg-day	5.00E-04	mg/kg-day	4.72E-04				
				Thallium	4.97E-01	mg/kg	1.37E-08	mg/kg-day	--	--	--	2.13E-07	mg/kg-day	8.00E-05	mg/kg-day	2.66E-03				
				Toluene	4.30E-04	mg/kg	1.18E-11	mg/kg-day	--	--	--	1.84E-10	mg/kg-day	8.00E-02	mg/kg-day	2.30E-09				
				Vanadium	3.41E+01	mg/kg	9.41E-07	mg/kg-day	--	--	--	1.46E-05	mg/kg-day	1.00E-03	mg/kg-day	1.46E-02				
				Zinc	4.53E+02	mg/kg	1.25E-05	mg/kg-day	--	--	--	1.94E-04	mg/kg-day	3.00E-01	mg/kg-day	6.48E-04				
				<b>Exposure Route Total</b>											<b>2.88E-06</b>				<b>1.64E-01</b>	
				Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	5.46E-09	mg/kg-day	--	--	--	8.48E-08	mg/kg-day	1.00E-02	mg/kg-day	8.48E-06
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.85E-09	mg/kg-day	--	--	--	2.88E-08	mg/kg-day	1.00E-02	mg/kg-day	2.88E-06
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.82E-10	mg/kg-day	--	--	--	2.83E-09	mg/kg-day	5.00E-02	mg/kg-day	5.66E-08
								1,2-Dichlorobenzene	2.60E+01	mg/kg	9.46E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	9.00E-02	mg/kg-day	1.63E-06
								1,2-Dichloropropane	3.60E-03	mg/kg	1.31E-12	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.71E-14	2.04E-11	mg/kg-day	1.14E-03	mg/kg-day	1.79E-08
								1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.82E-11	mg/kg-day	--	--	--	9.05E-11	mg/kg-day	5.00E-02	mg/kg-day	1.81E-08
								1,3-Dichlorobenzene	1.10E+00	mg/kg	4.00E-10	mg/kg-day	--	--	--	6.22E-09	mg/kg-day	3.00E-02	mg/kg-day	2.07E-07
								1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
								2,4-Dimethylphenol	2.10E-01	mg/kg	7.64E-11	mg/kg-day	--	--	--	1.19E-09	mg/kg-day	2.00E-02	mg/kg-day	5.94E-08
								2-Methylphenol	8.10E-02	mg/kg	2.95E-10	mg/kg-day	--	--	--	4.58E-09	mg/kg-day	4.00E-03	mg/kg-day	1.15E-06
2-Methylnaphthalene	1.67E+00	mg/kg	6.08E-10					mg/kg-day	--	--	--	9.46E-09	mg/kg-day	5.00E-02	mg/kg-day	1.89E-07				
4,4'-DDD	1.20E-03	mg/kg	4.36E-13					mg/kg-day	2.40E-01	(mg/kg-day)-1	1.05E-13	6.79E-12	mg/kg-day	5.00E-04	mg/kg-day	1.36E-08				
4,4'-DDE	8.23E-02	mg/kg	2.99E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.02E-11	4.66E-10	mg/kg-day	5.00E-04	mg/kg-day	9.31E-07				
4,4'-DDT	4.45E-02	mg/kg	4.85E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.65E-11	7.55E-10	mg/kg-day	5.00E-04	mg/kg-day	1.51E-06				
4-Methylphenol	2.70E-01	mg/kg	9.82E-10					mg/kg-day	--	--	--	1.53E-08	mg/kg-day	5.00E-03	mg/kg-day	3.05E-06				
4-Nitroaniline	6.20E-01	mg/kg	2.25E-09					mg/kg-day	2.10E-02	(mg/kg-day)-1	4.74E-11	3.51E-08	mg/kg-day	3.00E-03	mg/kg-day	1.17E-05				

TABLE H3-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.53E-09	mg/kg-day	--	--	--	--	2.38E-08	mg/kg-day	5.00E-04	mg/kg-day	4.75E-05
				Acenaphthene	4.23E+00	mg/kg	2.00E-08	mg/kg-day	--	--	--	--	3.11E-07	mg/kg-day	6.00E-02	mg/kg-day	5.19E-06
				Acenaphthylene	1.04E-01	mg/kg	3.79E-11	mg/kg-day	--	--	--	--	5.89E-10	mg/kg-day	6.00E-02	mg/kg-day	9.82E-09
				Aldrin	1.30E-02	mg/kg	4.73E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.04E-10	8.04E-10	7.35E-10	mg/kg-day	3.00E-05	mg/kg-day	2.45E-05
				alpha-BHC	7.30E-04	mg/kg	2.65E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	7.17E-13	7.17E-13	4.13E-12	mg/kg-day	5.00E-04	mg/kg-day	8.26E-09
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	3.21E-07	mg/kg-day	--	--	--	--	4.99E-06	mg/kg-day	1.00E+00	mg/kg-day	4.99E-06
				Anthracene	1.05E+00	mg/kg	4.99E-09	mg/kg-day	--	--	--	--	7.76E-08	mg/kg-day	3.00E-01	mg/kg-day	2.59E-07
				Antimony	4.08E+00	mg/kg	1.48E-10	mg/kg-day	--	--	--	--	2.31E-09	mg/kg-day	4.00E-04	mg/kg-day	5.77E-06
				Aroclor-1248	1.20E+00	mg/kg	6.11E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.22E-08	1.22E-08	9.50E-08	mg/kg-day	2.00E-05	mg/kg-day	4.75E-03
				Aroclor-1254	4.44E-01	mg/kg	2.26E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.52E-09	4.52E-09	3.52E-08	mg/kg-day	2.00E-05	mg/kg-day	1.76E-03
				Aroclor-1260	5.41E-01	mg/kg	2.76E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.51E-09	5.51E-09	4.29E-08	mg/kg-day	2.00E-05	mg/kg-day	2.14E-03
				Aroclor-1268	2.78E-02	mg/kg	1.41E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.83E-10	2.83E-10	2.20E-09	mg/kg-day	2.00E-05	mg/kg-day	1.10E-04
				Arsenic	6.17E+00	mg/kg	6.73E-09	mg/kg-day	9.45E+00	(mg/kg-day)-1	6.36E-08	6.36E-08	1.05E-07	mg/kg-day	3.00E-04	mg/kg-day	3.49E-04
				Barium	6.78E+01	mg/kg	2.47E-09	mg/kg-day	--	--	--	--	3.84E-08	mg/kg-day	7.00E-02	mg/kg-day	5.48E-07
				Benzo(a)anthracene	5.00E+00	mg/kg	2.37E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.84E-08	2.84E-08	3.68E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	7.87E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	9.45E-08	9.45E-08	1.22E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.29E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.55E-08	1.55E-08	2.01E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.61E-09	mg/kg-day	--	--	--	--	5.61E-08	mg/kg-day	3.00E-02	mg/kg-day	1.87E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.54E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.85E-08	1.85E-08	2.40E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	8.66E-12	mg/kg-day	--	--	--	--	1.35E-10	mg/kg-day	2.00E-03	mg/kg-day	6.73E-08
				Beta-BHC	2.20E-03	mg/kg	8.00E-13	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.20E-12	1.20E-12	1.24E-11	mg/kg-day	2.00E-04	mg/kg-day	6.22E-08
				bis(2-ethylhexyl)phthalate	7.93E+00	mg/kg	2.85E-09	mg/kg-day	3.00E-03	(mg/kg-day)-1	8.55E-12	8.55E-12	4.43E-08	mg/kg-day	2.00E-02	mg/kg-day	2.21E-06
				Cadmium	9.47E+00	mg/kg	3.45E-10	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.31E-10	1.31E-10	5.36E-09	mg/kg-day	5.00E-04	mg/kg-day	1.07E-05
				Carbon disulfide	2.40E-04	mg/kg	2.18E-12	mg/kg-day	--	--	--	--	3.39E-11	mg/kg-day	1.00E-01	mg/kg-day	3.39E-10
				Chlorobenzene	1.10E-01	mg/kg	4.00E-11	mg/kg-day	--	--	--	--	6.22E-10	mg/kg-day	2.00E-02	mg/kg-day	3.11E-08
				Chromium	1.11E+02	mg/kg	4.04E-09	mg/kg-day	--	--	--	--	6.29E-08	mg/kg-day	1.50E+00	mg/kg-day	4.19E-08
				Chrysene	5.68E+00	mg/kg	2.69E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.22E-09	3.22E-09	4.18E-07	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.75E-10	mg/kg-day	--	--	--	--	4.28E-09	mg/kg-day	2.00E-02	mg/kg-day	2.14E-07
				Copper	5.71E+01	mg/kg	2.08E-09	mg/kg-day	--	--	--	--	3.23E-08	mg/kg-day	4.00E-02	mg/kg-day	8.07E-07
				Delta-BHC	8.40E-03	mg/kg	1.53E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.29E-11	2.29E-11	2.38E-10	mg/kg-day	2.00E-04	mg/kg-day	1.19E-06
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.50E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.15E-09	6.15E-09	2.33E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.73E-09	mg/kg-day	--	--	--	--	7.35E-08	mg/kg-day	2.00E-03	mg/kg-day	3.68E-05
				Dieldrin	5.51E-02	mg/kg	2.01E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.21E-10	3.21E-10	3.12E-10	mg/kg-day	5.00E-05	mg/kg-day	6.24E-06
				Dimethylphthalate	3.80E-02	mg/kg	1.38E-11	mg/kg-day	--	--	--	--	2.15E-10	mg/kg-day	8.00E-01	mg/kg-day	2.69E-10
				di-n-Butylphthalate	2.20E+00	mg/kg	8.00E-10	mg/kg-day	--	--	--	--	1.24E-08	mg/kg-day	2.00E-01	mg/kg-day	6.22E-08
				Endosulfan I	2.30E-02	mg/kg	4.18E-11	mg/kg-day	--	--	--	--	6.50E-10	mg/kg-day	6.00E-03	mg/kg-day	1.08E-07
				Endosulfan II	2.38E-02	mg/kg	4.33E-11	mg/kg-day	--	--	--	--	6.73E-10	mg/kg-day	6.00E-03	mg/kg-day	1.12E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	7.82E-11	mg/kg-day	--	--	--	--	1.22E-09	mg/kg-day	6.00E-03	mg/kg-day	2.03E-07
				Endrin aldehyde	4.21E-02	mg/kg	7.65E-11	mg/kg-day	--	--	--	--	1.19E-09	mg/kg-day	3.00E-04	mg/kg-day	3.97E-06
				Endrin ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	1.25E-07	mg/kg-day	--	--	--	--	1.95E-06	mg/kg-day	4.00E-02	mg/kg-day	4.87E-05
				Fluorene	2.92E+00	mg/kg	1.38E-08	mg/kg-day	--	--	--	--	2.14E-07	mg/kg-day	4.00E-02	mg/kg-day	5.36E-06
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.78E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.16E-12	4.16E-12	5.88E-11	mg/kg-day	3.00E-04	mg/kg-day	1.96E-07
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	2.51E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.03E-11	1.03E-11	3.90E-11	mg/kg-day	5.00E-04	mg/kg-day	7.80E-08
				Heptachlor Epoxide	1.12E-02	mg/kg	4.06E-12	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.23E-11	2.23E-11	6.31E-11	mg/kg-day	1.30E-05	mg/kg-day	4.85E-06
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.13E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.95E-09	4.95E-09	6.42E-08	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	1.48E-06	mg/kg-day	--	--	--	--	2.30E-05	mg/kg-day	3.00E-01	mg/kg-day	7.68E-05
				Isophorone	2.00E-01	mg/kg	7.27E-10	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.91E-13	6.91E-13	1.13E-08	mg/kg-day	2.00E-01	mg/kg-day	5.66E-08
				Lead	2.80E+03	mg/kg	1.06E-07	mg/kg-day	--	--	--	--	1.64E-06	mg/kg-day	--	--	--

TABLE H3-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	1.20E-08	mg/kg-day	--	--	--	1.87E-07	mg/kg-day	2.40E-02	mg/kg-day	7.80E-06			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	--	--	--		
				Methoxychlor	1.20E-01	mg/kg	4.36E-11	mg/kg-day	--	--	--	6.79E-10	mg/kg-day	5.00E-03	mg/kg-day	1.36E-07	1.36E-07		
				Molybdenum	2.50E+00	mg/kg	9.11E-11	mg/kg-day	--	--	--	1.42E-09	mg/kg-day	5.00E-03	mg/kg-day	2.83E-07	2.83E-07		
				Naphthalene	1.30E+01	mg/kg	6.15E-08	mg/kg-day	--	--	--	9.56E-07	mg/kg-day	2.00E-02	mg/kg-day	4.78E-05	4.78E-05		
				Nickel	3.91E+01	mg/kg	1.42E-09	mg/kg-day	--	--	--	2.21E-08	mg/kg-day	3.00E-01	mg/kg-day	1.11E-06	1.11E-06		
				Phenanthrene	1.39E+01	mg/kg	5.06E-09	mg/kg-day	--	--	--	7.87E-08	mg/kg-day	3.00E-01	mg/kg-day	2.62E-07	2.62E-07		
				Phenol	5.80E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	3.00E-01	mg/kg-day	1.09E-07	1.09E-07		
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	1.00E-01	mg/kg-day	--	--	--		
				Pyrene	2.41E+01	mg/kg	1.14E-07	mg/kg-day	--	--	--	1.78E-06	mg/kg-day	3.00E-02	mg/kg-day	5.92E-05	5.92E-05		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	4.00E-02	mg/kg-day	--	--	--		
				Selenium	2.24E-01	mg/kg	8.16E-12	mg/kg-day	--	--	--	1.27E-10	mg/kg-day	5.00E-03	mg/kg-day	2.54E-08	2.54E-08		
				Silver	1.16E+00	mg/kg	4.21E-11	mg/kg-day	--	--	--	6.55E-10	mg/kg-day	5.00E-03	mg/kg-day	1.31E-07	1.31E-07		
				Technical Chlordane	5.51E-01	mg/kg	8.02E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.04E-09	1.25E-08	mg/kg-day	5.00E-04	mg/kg-day	2.49E-05	2.49E-05		
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	8.00E-05	mg/kg-day	--	--	--		
				Toluene	4.30E-04	mg/kg	1.56E-13	mg/kg-day	--	--	--	2.43E-12	mg/kg-day	8.00E-02	mg/kg-day	3.04E-11	3.04E-11		
				Vanadium	3.41E+01	mg/kg	1.24E-09	mg/kg-day	--	--	--	1.93E-08	mg/kg-day	1.00E-03	mg/kg-day	1.93E-05	1.93E-05		
				Zinc	4.53E+02	mg/kg	1.65E-08	mg/kg-day	--	--	--	2.56E-07	mg/kg-day	3.00E-01	mg/kg-day	8.55E-07	8.55E-07		
				Exposure Point Total															8.59E-03
				Exposure Route Total															
Exposure Medium Total																1.74E-01			
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	9.12E-13	mg/kg-day	--	--	--	1.42E-11	mg/kg-day	2.00E-02	mg/kg-day	7.09E-10				
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.52E-13	mg/kg-day	--	--	--	5.47E-12	mg/kg-day	--	--	--	--			
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	5.21E-15	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.25E-15	8.10E-14	mg/kg-day	5.00E-04	mg/kg-day	1.62E-10	1.62E-10			
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	1.93E-13	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.57E-14	3.00E-12	mg/kg-day	5.00E-04	mg/kg-day	6.01E-09	6.01E-09			
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.17E-12	mg/kg-day	--	--	--	1.82E-11	mg/kg-day	5.00E-03	mg/kg-day	3.65E-09	3.65E-09			
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.69E-12	mg/kg-day	2.10E-02	(mg/kg-day)-1	5.65E-14	4.19E-11	mg/kg-day	1.00E-03	mg/kg-day	4.19E-08	4.19E-08			
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.82E-12	mg/kg-day	--	--	--	2.84E-11	mg/kg-day	5.70E-04	mg/kg-day	4.97E-08	4.97E-08			
			Aluminum	6.68E-06	mg/m <sup>3</sup>	3.93E-08	mg/kg-day	--	--	--	5.96E-07	mg/kg-day	1.43E-03	mg/kg-day	4.17E-04	4.17E-04			
			Antimony	3.09E-09	mg/m <sup>3</sup>	1.77E-11	mg/kg-day	--	--	--	2.75E-10	mg/kg-day	--	--	--	--			
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	5.21E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.04E-11	8.10E-11	mg/kg-day	2.00E-05	mg/kg-day	4.05E-06	4.05E-06			
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	1.93E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.86E-12	3.00E-11	mg/kg-day	2.00E-05	mg/kg-day	1.50E-06	1.50E-06			
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	2.35E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.70E-12	3.65E-11	mg/kg-day	2.00E-05	mg/kg-day	1.83E-06	1.83E-06			
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	1.21E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.41E-13	1.87E-12	mg/kg-day	2.00E-05	mg/kg-day	9.37E-08	9.37E-08			
			Arsenic	4.67E-09	mg/m <sup>3</sup>	2.68E-11	mg/kg-day	1.20E+01	(mg/kg-day)-1	3.21E-10	4.16E-10	mg/kg-day	8.60E-06	mg/kg-day	4.84E-05	4.84E-05			
			Barium	5.14E-08	mg/m <sup>3</sup>	2.94E-10	mg/kg-day	--	--	--	4.58E-09	mg/kg-day	1.40E-04	mg/kg-day	3.27E-05	3.27E-05			
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	2.17E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	8.47E-12	3.38E-10	mg/kg-day	--	--	--	--			
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	7.23E-12	mg/kg-day	3.90E+00	(mg/kg-day)-1	2.82E-11	1.12E-10	mg/kg-day	--	--	--	--			
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	3.31E-12	mg/kg-day	--	--	--	5.15E-11	mg/kg-day	3.00E-02	mg/kg-day	1.72E-09	1.72E-09			
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	1.42E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	5.52E-12	2.20E-10	mg/kg-day	--	--	--	--			
			Beryllium	1.80E-10	mg/m <sup>3</sup>	1.03E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	8.68E-12	1.61E-11	mg/kg-day	5.71E-06	mg/kg-day	2.81E-06	2.81E-06			
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	9.55E-15	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.43E-14	1.49E-13	mg/kg-day	2.00E-04	mg/kg-day	7.43E-10	7.43E-10			
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	3.40E-11	mg/kg-day	8.40E-03	(mg/kg-day)-1	2.86E-13	5.29E-10	mg/kg-day	2.00E-02	mg/kg-day	2.64E-08	2.64E-08			
			Cadmium	7.18E-09	mg/m <sup>3</sup>	4.11E-11	mg/kg-day	1.50E+01	(mg/kg-day)-1	6.17E-10	6.40E-10	mg/kg-day	5.71E-06	mg/kg-day	1.12E-04	1.12E-04			
			Chromium	8.42E-08	mg/m <sup>3</sup>	4.83E-10	mg/kg-day	--	--	--	7.51E-09	mg/kg-day	--	--	--	--			
			Cobalt	5.74E-09	mg/m <sup>3</sup>	3.29E-11	mg/kg-day	9.80E+00	(mg/kg-day)-1	3.22E-10	5.11E-10	mg/kg-day	5.71E-06	mg/kg-day	8.95E-05	8.95E-05			
			Copper	4.32E-08	mg/m <sup>3</sup>	2.48E-10	mg/kg-day	--	--	--	3.85E-09	mg/kg-day	--	--	--	--			
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	1.38E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.65E-12	2.14E-11	mg/kg-day	--	--	--	--			
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.65E-13	mg/kg-day	--	--	--	2.57E-12	mg/kg-day	8.00E-01	mg/kg-day	3.21E-12	3.21E-12			
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	9.55E-12	mg/kg-day	--	--	--	1.49E-10	mg/kg-day	1.00E-01	mg/kg-day	1.49E-09	1.49E-09			
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	1.83E-13	mg/kg-day	--	--	--	2.84E-12	mg/kg-day	3.00E-04	mg/kg-day	9.47E-09	9.47E-09			

TABLE H3-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	4.34E-14	mg/kg-day	--	--	--	--	6.75E-13	mg/kg-day	3.00E-04	mg/kg-day	2.25E-09				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	4.84E-14	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.66E-13	7.53E-13	mg/kg-day	1.30E-05	mg/kg-day	5.79E-08					
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	3.79E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.48E-12	5.89E-11	mg/kg-day	--	--	--					
				Iron	3.09E-05	mg/m <sup>3</sup>	1.77E-07	mg/kg-day	--	--	--	2.75E-06	mg/kg-day	--	--	--					
				Isophorone	1.52E-10	mg/m <sup>3</sup>	8.68E-13	mg/kg-day	--	--	--	1.35E-11	mg/kg-day	--	--	--					
				Lead	2.20E-06	mg/m <sup>3</sup>	1.26E-08	mg/kg-day	--	--	--	1.96E-07	mg/kg-day	--	--	--					
				Manganese	2.51E-07	mg/m <sup>3</sup>	1.44E-09	mg/kg-day	--	--	--	2.24E-08	mg/kg-day	1.43E-05	mg/kg-day	1.56E-03					
				Mercury	2.34E-10	mg/m <sup>3</sup>	1.34E-12	mg/kg-day	--	--	--	2.09E-11	mg/kg-day	8.60E-05	mg/kg-day	2.43E-07					
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	1.09E-11	mg/kg-day	--	--	--	1.69E-10	mg/kg-day	--	--	--					
				Nickel	2.96E-08	mg/m <sup>3</sup>	1.70E-10	mg/kg-day	9.10E-01	(mg/kg-day)-1	1.55E-10	2.64E-09	mg/kg-day	1.40E-05	mg/kg-day	1.89E-04					
				Phenol	4.39E-10	mg/m <sup>3</sup>	2.52E-12	mg/kg-day	--	--	--	3.92E-11	mg/kg-day	5.71E-02	mg/kg-day	6.85E-10					
				Selenium	1.70E-10	mg/m <sup>3</sup>	9.74E-13	mg/kg-day	--	--	--	1.52E-11	mg/kg-day	5.70E-03	mg/kg-day	2.66E-09					
				Silver	8.78E-10	mg/m <sup>3</sup>	5.03E-12	mg/kg-day	--	--	--	7.82E-11	mg/kg-day	--	--	--					
				Thallium	3.77E-10	mg/m <sup>3</sup>	2.16E-12	mg/kg-day	--	--	--	3.36E-11	mg/kg-day	--	--	--					
				Vanadium	2.59E-08	mg/m <sup>3</sup>	1.48E-10	mg/kg-day	--	--	--	2.31E-09	mg/kg-day	--	--	--					
				Zinc	3.44E-07	mg/m <sup>3</sup>	1.97E-09	mg/kg-day	--	--	--	3.06E-08	mg/kg-day	--	--	--					
				<b>Exposure Route Total</b>																	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.98E-07	mg/kg-day	--	--	--	9.31E-06	mg/kg-day	1.10E-03	mg/kg-day	8.45E-03	
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	2.03E-06	mg/kg-day	--	--	--	3.16E-05	mg/kg-day	1.10E-03	mg/kg-day	2.88E-02	
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.72E-07	mg/kg-day	--	--	--	1.04E-05	mg/kg-day	1.70E-03	mg/kg-day	6.14E-03	
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	3.05E-05	mg/kg-day	--	--	--	4.74E-04	mg/kg-day	5.70E-02	mg/kg-day	8.32E-03	
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.64E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.90E-10	2.55E-07	mg/kg-day	1.14E-03	mg/kg-day	2.24E-04					
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	2.09E-07	mg/kg-day	--	--	--	3.26E-06	mg/kg-day	1.70E-03	mg/kg-day	1.92E-03					
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	9.33E-07	mg/kg-day	--	--	--	1.45E-05	mg/kg-day	3.00E-02	mg/kg-day	4.84E-04					
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.95E-06	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.58E-07	1.39E-04	mg/kg-day	2.30E-01	mg/kg-day	6.05E-04					
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	4.24E-07	mg/kg-day	--	--	--	6.59E-06	mg/kg-day	5.00E-02	mg/kg-day	1.32E-04					
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	5.56E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.89E-11	8.64E-10	mg/kg-day	5.00E-04	mg/kg-day	1.73E-06					
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	3.33E-07	mg/kg-day	--	--	--	5.18E-06	mg/kg-day	6.00E-02	mg/kg-day	8.63E-05					
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	8.20E-09	mg/kg-day	--	--	--	1.27E-07	mg/kg-day	6.00E-02	mg/kg-day	2.12E-06					
				Aldrin	5.63E-09	mg/m <sup>3</sup>	3.23E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.49E-10	5.02E-10	mg/kg-day	3.00E-05	mg/kg-day	1.67E-05					
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	2.08E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.63E-11	3.24E-10	mg/kg-day	5.00E-04	mg/kg-day	6.48E-07					
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	4.62E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.54E-11	7.18E-10	mg/kg-day	2.00E-04	mg/kg-day	3.59E-06					
				Anthracene	1.45E-05	mg/m <sup>3</sup>	8.30E-08	mg/kg-day	--	--	--	1.29E-06	mg/kg-day	3.00E-01	mg/kg-day	4.30E-06					
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	1.01E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	3.96E-09	1.58E-07	mg/kg-day	--	--	--					
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.59E-09	mg/kg-day	--	--	--	4.03E-08	mg/kg-day	2.00E-01	mg/kg-day	2.02E-07					
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.97E-07	mg/kg-day	--	--	--	4.61E-06	mg/kg-day	2.86E-01	mg/kg-day	1.61E-05					
				Chrysene	6.25E-06	mg/m <sup>3</sup>	3.58E-08	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.40E-09	5.57E-07	mg/kg-day	--	--	--					
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.40E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.60E-10	3.73E-09	mg/kg-day	2.00E-04	mg/kg-day	1.87E-05					
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.57E-07	mg/kg-day	--	--	--	4.00E-06	mg/kg-day	2.00E-03	mg/kg-day	2.00E-03					
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	4.25E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.80E-09	6.61E-09	mg/kg-day	5.00E-05	mg/kg-day	1.32E-04					
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.62E-10	mg/kg-day	--	--	--	7.18E-09	mg/kg-day	6.00E-03	mg/kg-day	1.20E-06					
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	4.78E-10	mg/kg-day	--	--	--	7.43E-09	mg/kg-day	6.00E-03	mg/kg-day	1.24E-06					
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	8.63E-10	mg/kg-day	--	--	--	1.34E-08	mg/kg-day	6.00E-03	mg/kg-day	2.24E-06					
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	9.82E-08	mg/kg-day	--	--	--	1.53E-06	mg/kg-day	4.00E-02	mg/kg-day	3.82E-05					
				Fluorene	1.71E-05	mg/m <sup>3</sup>	9.78E-08	mg/kg-day	--	--	--	1.52E-06	mg/kg-day	4.00E-02	mg/kg-day	3.80E-05					
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	9.14E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.00E-10	1.42E-09	mg/kg-day	3.00E-04	mg/kg-day	4.74E-06					
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	7.43E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.92E-11	1.16E-09	mg/kg-day	2.00E-04	mg/kg-day	5.78E-06					
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.94E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.94E-09	3.01E-08	mg/kg-day	5.00E-04	mg/kg-day	6.02E-05					
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.95E-10	mg/kg-day	--	--	--	7.69E-09	mg/kg-day	5.00E-03	mg/kg-day	1.54E-06					
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	4.01E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	4.81E-07	6.23E-05	mg/kg-day	8.57E-04	mg/kg-day	7.27E-02					
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	1.10E-06	mg/kg-day	--	--	--	1.70E-05	mg/kg-day	3.00E-01	mg/kg-day	5.68E-05					

TABLE H3-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.10E-06	mg/kg-day	--	--	--	1.71E-05	mg/kg-day	1.10E-01	mg/kg-day	1.55E-04
				Pyrene	1.85E-05	mg/m <sup>3</sup>	1.06E-07	mg/kg-day	--	--	--	1.65E-06	mg/kg-day	3.00E-02	mg/kg-day	5.49E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.61E-07	mg/kg-day	--	--	--	2.50E-06	mg/kg-day	4.00E-02	mg/kg-day	6.26E-05
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	3.13E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.75E-09	4.86E-08	mg/kg-day	2.00E-04	mg/kg-day	2.43E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.79E-09	mg/kg-day	--	--	--	2.78E-08	mg/kg-day	1.43E+00	mg/kg-day	1.95E-08
				<b>Exposure Route Total</b>							<b>8.65E-07</b>				<b>1.31E-01</b>	
				<b>Exposure Point Total</b>							<b>8.66E-07</b>				<b>1.33E-01</b>	
		Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	3.99E+00	(a) ug/m <sup>3</sup>	2.29E-05	mg/kg-day	--	--	--	3.55E-04	mg/kg-day	1.10E-03	mg/kg-day	3.23E-01
				1,2,4-Trichlorobenzene	1.36E+01	(a) ug/m <sup>3</sup>	7.77E-05	mg/kg-day	--	--	--	1.21E-03	mg/kg-day	1.10E-03	mg/kg-day	1.10E+00
				1,2,4-Trimethylbenzene	1.33E+00	(a) ug/m <sup>3</sup>	7.62E-06	mg/kg-day	--	--	--	1.18E-04	mg/kg-day	1.70E-03	mg/kg-day	6.97E-02
				1,2-Dichlorobenzene	8.91E+01	(a) ug/m <sup>3</sup>	3.96E-04	mg/kg-day	--	--	--	6.16E-03	mg/kg-day	5.70E-02	mg/kg-day	1.08E-01
				1,2-Dichloropropane	9.57E-03	(a) ug/m <sup>3</sup>	5.49E-08	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.97E-09	8.53E-07	mg/kg-day	1.14E-03	mg/kg-day	7.48E-04
				1,3,5-Trimethylbenzene	4.25E-01	(a) ug/m <sup>3</sup>	2.44E-06	mg/kg-day	--	--	--	3.79E-05	mg/kg-day	1.70E-03	mg/kg-day	2.23E-02
				1,3-Dichlorobenzene	2.93E+00	(a) ug/m <sup>3</sup>	1.68E-05	mg/kg-day	--	--	--	2.61E-04	mg/kg-day	3.00E-02	mg/kg-day	8.69E-03
				1,4-Dichlorobenzene	1.81E+01	(a) ug/m <sup>3</sup>	1.04E-04	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	4.14E-06	1.61E-03	mg/kg-day	2.30E-01	mg/kg-day	7.01E-03
				2-Methylnaphthalene	1.96E+00	(a) ug/m <sup>3</sup>	1.12E-05	mg/kg-day	--	--	--	1.75E-04	mg/kg-day	5.00E-02	mg/kg-day	3.50E-03
				4,4'-DDE	2.42E-06	(a) ug/m <sup>3</sup>	1.39E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.72E-12	2.16E-10	mg/kg-day	5.00E-04	mg/kg-day	4.32E-07
				Acenaphthene	6.79E-01	(a) ug/m <sup>3</sup>	3.89E-06	mg/kg-day	--	--	--	6.05E-05	mg/kg-day	6.00E-02	mg/kg-day	1.01E-03
				Acenaphthylene	1.75E-02	(a) ug/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	6.00E-02	mg/kg-day	2.60E-05
				Aldrin	6.43E-06	(a) ug/m <sup>3</sup>	3.68E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	6.26E-10	5.73E-10	mg/kg-day	3.00E-05	mg/kg-day	1.91E-05
				alpha-BHC	4.31E-05	(a) ug/m <sup>3</sup>	2.47E-10	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	6.67E-10	3.84E-09	mg/kg-day	5.00E-04	mg/kg-day	7.68E-06
				alpha-Chlordane	2.17E-05	(a) ug/m <sup>3</sup>	1.24E-10	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.49E-10	1.93E-09	mg/kg-day	2.00E-04	mg/kg-day	9.65E-06
				Anthracene	1.79E-01	(a) ug/m <sup>3</sup>	1.02E-06	mg/kg-day	--	--	--	1.59E-05	mg/kg-day	3.00E-01	mg/kg-day	5.31E-05
				Benzo(b)fluoranthene	1.26E-03	(a) ug/m <sup>3</sup>	7.22E-09	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	2.81E-09	1.12E-07	mg/kg-day	--	--	--
				Carbon Disulfide	6.38E-04	(a) ug/m <sup>3</sup>	3.66E-09	mg/kg-day	--	--	--	5.69E-08	mg/kg-day	2.00E-01	mg/kg-day	2.84E-07
				Chlorobenzene	2.93E-01	(a) ug/m <sup>3</sup>	1.68E-06	mg/kg-day	--	--	--	2.61E-05	mg/kg-day	2.86E-01	mg/kg-day	9.12E-05
				Chrysene	7.10E-03	(a) ug/m <sup>3</sup>	4.07E-08	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	1.59E-09	6.33E-07	mg/kg-day	--	--	--
				Delta-BHC	7.37E-04	(a) ug/m <sup>3</sup>	4.22E-09	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	6.34E-09	6.57E-08	mg/kg-day	2.00E-04	mg/kg-day	3.28E-04
				Dibenzofuran	9.47E-03	(a) ug/m <sup>3</sup>	5.42E-08	mg/kg-day	--	--	--	8.44E-07	mg/kg-day	2.00E-03	mg/kg-day	4.22E-04
				Dieldrin	2.09E-04	(a) ug/m <sup>3</sup>	1.20E-09	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.92E-08	1.87E-08	mg/kg-day	5.00E-05	mg/kg-day	3.73E-04
				Endosulfan I	8.63E-04	(a) ug/m <sup>3</sup>	4.95E-09	mg/kg-day	--	--	--	7.69E-08	mg/kg-day	6.00E-03	mg/kg-day	1.28E-05
				Endosulfan II	8.78E-04	(a) ug/m <sup>3</sup>	5.03E-09	mg/kg-day	--	--	--	7.82E-08	mg/kg-day	6.00E-03	mg/kg-day	1.30E-05
				Endosulfan Sulfate	1.61E-03	(a) ug/m <sup>3</sup>	9.25E-09	mg/kg-day	--	--	--	1.44E-07	mg/kg-day	6.00E-03	mg/kg-day	2.40E-05
				fluoranthene	1.96E-03	(a) ug/m <sup>3</sup>	1.12E-08	mg/kg-day	--	--	--	1.75E-07	mg/kg-day	4.00E-02	mg/kg-day	4.37E-06
				Fluorene	1.07E-01	(a) ug/m <sup>3</sup>	6.14E-07	mg/kg-day	--	--	--	9.55E-06	mg/kg-day	4.00E-02	mg/kg-day	2.39E-04
				gamma-BHC (Lindane)	2.28E-04	(a) ug/m <sup>3</sup>	1.31E-09	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	1.44E-09	2.03E-08	mg/kg-day	3.00E-04	mg/kg-day	6.78E-05
				gamma-Chlordane	3.94E-07	(a) ug/m <sup>3</sup>	2.26E-12	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.71E-12	3.51E-11	mg/kg-day	2.00E-04	mg/kg-day	1.76E-07
				Heptachlor	4.34E-05	(a) ug/m <sup>3</sup>	2.49E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.02E-09	3.87E-09	mg/kg-day	5.00E-04	mg/kg-day	7.73E-06
				Methoxychlor	1.18E-04	(a) ug/m <sup>3</sup>	6.79E-10	mg/kg-day	--	--	--	1.06E-08	mg/kg-day	5.00E-03	mg/kg-day	2.11E-06
				Methylene Chloride	6.38E-03	(a) ug/m <sup>3</sup>	3.66E-08	mg/kg-day	3.50E-03	(mg/kg-day) <sup>-1</sup>	1.28E-10	5.69E-07	mg/kg-day	1.10E-01	mg/kg-day	5.17E-06
				Naphthalene	2.55E+01	(a) ug/m <sup>3</sup>	1.46E-04	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.75E-05	2.27E-03	mg/kg-day	8.57E-04	mg/kg-day	2.65E+00
				Phenanthrene	2.29E+00	(a) ug/m <sup>3</sup>	1.31E-05	mg/kg-day	--	--	--	2.04E-04	mg/kg-day	3.00E-01	mg/kg-day	6.80E-04
				p-isopropyltoluene	2.93E-01	(a) ug/m <sup>3</sup>	1.68E-06	mg/kg-day	--	--	--	2.61E-05	mg/kg-day	1.10E-01	mg/kg-day	2.37E-04
				Pyrene	1.59E-02	(a) ug/m <sup>3</sup>	9.11E-08	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	3.00E-02	mg/kg-day	4.72E-05
				sec-Butylbenzene	9.25E-02	(a) ug/m <sup>3</sup>	5.30E-07	mg/kg-day	--	--	--	8.25E-06	mg/kg-day	4.00E-02	mg/kg-day	2.06E-04
				Technical Chlordane	1.68E-03	(a) ug/m <sup>3</sup>	9.62E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.15E-08	1.50E-07	mg/kg-day	2.00E-04	mg/kg-day	7.48E-04
				Toluene	1.14E-03	(a) ug/m <sup>3</sup>	6.55E-09	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	1.43E+00	mg/kg-day	7.13E-08
				<b>Exposure Route Total</b>							<b>2.17E-05</b>				<b>4.30E+00</b>	
				<b>Exposure Point Total</b>							<b>2.17E-05</b>				<b>4.30E+00</b>	
				<b>Exposure Medium Total</b>							<b>2.26E-05</b>				<b>4.43E+00</b>	
				<b>Medium Total</b>							<b>2.57E-05</b>				<b>4.60E+00</b>	

TABLE H3-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.4E-09	mg/kg-day	5.70E-03	(mg/kg-day)-1	1.38E-11	3.8E-08	mg/kg-day	1.40E-01	mg/kg-day	2.70E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	7.2E-10	mg/kg-day	--	--	--	1.1E-08	mg/kg-day	1.70E-03	mg/kg-day	6.62E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.7E-09	mg/kg-day	--	--	--	7.4E-08	mg/kg-day	5.70E-02	mg/kg-day	1.29E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.4E-09	mg/kg-day	7.20E-02	(mg/kg-day)-1	2.46E-10	5.3E-08	mg/kg-day	1.40E-03	mg/kg-day	3.79E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.3E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.60E-11	2.0E-08	mg/kg-day	1.14E-03	mg/kg-day	1.74E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	4.1E-10	mg/kg-day	--	--	--	6.4E-09	mg/kg-day	1.70E-03	mg/kg-day	3.77E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.6E-09	mg/kg-day	4.00E-02	(mg/kg-day)-1	6.46E-11	2.5E-08	mg/kg-day	2.30E-01	mg/kg-day	1.09E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	6.2E-11	mg/kg-day	--	--	--	9.7E-11	mg/kg-day	1.43E+00	mg/kg-day	6.79E-10
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.5E-12	mg/kg-day	--	--	--	8.6E-11	mg/kg-day	5.00E-02	mg/kg-day	1.72E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	7.4E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.52E-12	1.2E-10	mg/kg-day	5.00E-04	mg/kg-day	2.31E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.3E-11	mg/kg-day	--	--	--	3.6E-10	mg/kg-day	8.60E-01	mg/kg-day	4.19E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.2E-10	mg/kg-day	--	--	--	3.5E-09	mg/kg-day	6.00E-02	mg/kg-day	5.76E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	9.5E-12	mg/kg-day	--	--	--	1.5E-10	mg/kg-day	6.00E-02	mg/kg-day	2.45E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.3E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.18E-10	2.0E-10	mg/kg-day	3.00E-05	mg/kg-day	6.64E-08
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.6E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.38E-12	2.5E-11	mg/kg-day	5.00E-04	mg/kg-day	5.05E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.8E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.61E-12	6.0E-11	mg/kg-day	2.00E-04	mg/kg-day	2.99E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.9E-11	mg/kg-day	--	--	--	2.9E-10	mg/kg-day	3.00E-01	mg/kg-day	9.76E-10
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.5E-09	mg/kg-day	1.00E-01	(mg/kg-day)-1	1.50E-10	2.3E-08	mg/kg-day	8.60E-03	mg/kg-day	2.70E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.8E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.09E-12	4.3E-11	mg/kg-day	--	--	--
				Benzofuran	7.36E-09	mg/m <sup>3</sup>	4.2E-11	mg/kg-day	3.90E-03	(mg/kg-day)-1	1.65E-13	6.6E-10	mg/kg-day	2.00E-02	mg/kg-day	3.28E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.6E-08	mg/kg-day	--	--	--	4.0E-07	mg/kg-day	2.00E-01	mg/kg-day	2.01E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	4.2E-10	mg/kg-day	--	--	--	6.5E-09	mg/kg-day	2.86E-01	mg/kg-day	2.26E-08
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.2E-08	mg/kg-day	1.90E-02	(mg/kg-day)-1	2.25E-10	1.8E-07	mg/kg-day	8.57E-02	mg/kg-day	2.15E-06
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	4.3E-09	mg/kg-day	--	--	--	6.7E-08	mg/kg-day	2.60E-02	mg/kg-day	2.57E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	7.5E-12	mg/kg-day	3.90E-02	(mg/kg-day)-1	2.94E-13	1.2E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	3.0E-09	mg/kg-day	--	--	--	4.7E-08	mg/kg-day	1.00E-02	mg/kg-day	4.72E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.6E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	9.01E-11	8.8E-11	mg/kg-day	5.00E-05	mg/kg-day	1.75E-06
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.3E-12	mg/kg-day	--	--	--	2.0E-11	mg/kg-day	6.00E-03	mg/kg-day	3.33E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	2.1E-15	mg/kg-day	--	--	--	3.3E-14	mg/kg-day	6.00E-03	mg/kg-day	5.47E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.1E-09	mg/kg-day	--	--	--	1.8E-08	mg/kg-day	2.90E-01	mg/kg-day	6.13E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.9E-12	mg/kg-day	--	--	--	4.5E-11	mg/kg-day	4.00E-02	mg/kg-day	1.13E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.7E-12	mg/kg-day	--	--	--	8.9E-11	mg/kg-day	4.00E-02	mg/kg-day	2.23E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	7.1E-15	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.83E-15	1.1E-13	mg/kg-day	3.00E-04	mg/kg-day	3.69E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	1.0E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.20E-11	1.6E-10	mg/kg-day	2.00E-04	mg/kg-day	7.75E-07
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	1.0E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.19E-10	1.6E-09	mg/kg-day	5.00E-04	mg/kg-day	3.18E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	2.0E-07	mg/kg-day	--	--	--	3.1E-06	mg/kg-day	1.10E-01	mg/kg-day	2.78E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	4.0E-09	mg/kg-day	--	--	--	6.2E-08	mg/kg-day	2.90E-02	mg/kg-day	2.13E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.9E-11	mg/kg-day	--	--	--	2.9E-10	mg/kg-day	5.00E-03	mg/kg-day	5.82E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	3.1E-11	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.74E-12	4.8E-10	mg/kg-day	8.57E-04	mg/kg-day	5.65E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.5E-09	mg/kg-day	--	--	--	2.3E-08	mg/kg-day	8.57E-04	mg/kg-day	2.63E-05
n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.6E-09	mg/kg-day	--	--	--	2.5E-08	mg/kg-day	4.00E-02	mg/kg-day	6.28E-07				
Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.5E-11	mg/kg-day	--	--	--	2.3E-10	mg/kg-day	3.00E-01	mg/kg-day	7.78E-10				
p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	2.0E-07	mg/kg-day	--	--	--	3.1E-06	mg/kg-day	1.10E-01	mg/kg-day	2.78E-05				
Pyrene	4.61E-10	mg/m <sup>3</sup>	2.6E-12	mg/kg-day	--	--	--	4.1E-11	mg/kg-day	3.00E-02	mg/kg-day	1.37E-09				
sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.6E-09	mg/kg-day	--	--	--	7.1E-08	mg/kg-day	4.00E-02	mg/kg-day	1.78E-06				
Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	5.2E-09	mg/kg-day	--	--	--	8.1E-08	mg/kg-day	4.00E-02	mg/kg-day	2.02E-06				
Toluene	3.80E-07	mg/m <sup>3</sup>	2.2E-09	mg/kg-day	--	--	--	3.4E-08	mg/kg-day	1.43E+00	mg/kg-day	2.37E-08				

TABLE H3-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	5.1E-09	mg/kg-day	—	—	—	8.0E-08	mg/kg-day	2.00E-02	mg/kg-day	3.99E-06
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	5.3E-09	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	3.74E-11	8.3E-08	mg/kg-day	1.70E-01	mg/kg-day	4.89E-07
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.1E-08	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	2.98E-09	1.7E-07	mg/kg-day	2.86E-02	mg/kg-day	6.01E-06
				<b>Exposure Route Total</b>							<b>4.52E-09</b>					<b>1.94E-04</b>
				<b>Exposure Point Total</b>							<b>4.52E-09</b>					<b>1.94E-04</b>
		Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	5.98E-02	ug/m <sup>3</sup>	3.43E-07	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	1.95E-09	5.33E-06	mg/kg-day	1.40E-01	mg/kg-day	3.81E-05
				1,2,4-Trimethylbenzene	2.69E-03	ug/m <sup>3</sup>	1.54E-08	mg/kg-day	—	—	—	2.40E-07	mg/kg-day	1.70E-03	mg/kg-day	1.41E-04
				1,2-Dichlorobenzene	1.72E-02	ug/m <sup>3</sup>	9.88E-08	mg/kg-day	—	—	—	1.54E-06	mg/kg-day	5.70E-02	mg/kg-day	2.70E-05
				1,2-Dichloroethane	1.31E-02	ug/m <sup>3</sup>	7.48E-08	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	5.39E-09	1.16E-06	mg/kg-day	1.40E-03	mg/kg-day	8.31E-04
				1,2-Dichloropropane	5.23E-03	ug/m <sup>3</sup>	3.00E-08	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.08E-09	4.66E-07	mg/kg-day	1.14E-03	mg/kg-day	4.09E-04
				1,3,5-Trimethylbenzene	1.54E-03	ug/m <sup>3</sup>	8.80E-09	mg/kg-day	—	—	—	1.37E-07	mg/kg-day	1.70E-03	mg/kg-day	8.05E-05
				1,4-Dichlorobenzene	5.99E-03	ug/m <sup>3</sup>	3.43E-08	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	1.37E-09	5.34E-07	mg/kg-day	2.30E-01	mg/kg-day	2.32E-06
				2-Hexanone	2.54E-04	ug/m <sup>3</sup>	1.46E-09	mg/kg-day	—	—	—	2.27E-08	mg/kg-day	1.43E+00	mg/kg-day	1.59E-08
				2-Methylnaphthalene	1.77E-05	ug/m <sup>3</sup>	1.02E-10	mg/kg-day	—	—	—	1.58E-09	mg/kg-day	5.00E-02	mg/kg-day	3.16E-08
				4,4'-DDE	4.94E-08	ug/m <sup>3</sup>	2.83E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	9.62E-14	4.40E-12	mg/kg-day	5.00E-04	mg/kg-day	8.80E-09
				4-Methyl-2-pentanone	9.24E-05	ug/m <sup>3</sup>	5.30E-10	mg/kg-day	—	—	—	8.24E-09	mg/kg-day	6.60E-01	mg/kg-day	9.58E-09
				Acenaphthene	8.04E-04	ug/m <sup>3</sup>	4.61E-09	mg/kg-day	—	—	—	7.16E-08	mg/kg-day	6.00E-02	mg/kg-day	1.19E-06
				Acenaphthylene	3.42E-05	ug/m <sup>3</sup>	1.96E-10	mg/kg-day	—	—	—	3.05E-09	mg/kg-day	6.00E-02	mg/kg-day	5.08E-08
				Aldrin	1.05E-07	ug/m <sup>3</sup>	6.01E-13	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.02E-11	9.34E-12	mg/kg-day	3.00E-05	mg/kg-day	3.11E-07
				alpha-BHC	1.39E-08	ug/m <sup>3</sup>	7.86E-14	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	2.15E-13	1.24E-12	mg/kg-day	5.00E-04	mg/kg-day	2.48E-09
				alpha-Chlordane	8.38E-08	ug/m <sup>3</sup>	4.80E-13	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	5.76E-13	7.46E-12	mg/kg-day	2.00E-04	mg/kg-day	3.73E-08
				Anthracene	6.79E-05	ug/m <sup>3</sup>	3.89E-10	mg/kg-day	—	—	—	6.05E-09	mg/kg-day	3.00E-01	mg/kg-day	2.02E-08
				Benzene	6.09E-03	ug/m <sup>3</sup>	3.49E-08	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	3.49E-09	5.42E-07	mg/kg-day	8.60E-03	mg/kg-day	6.31E-05
				Benzo(b)fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.91E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.91E-11	7.63E-10	mg/kg-day	—	—	—
				Bromoform	2.09E-04	ug/m <sup>3</sup>	1.20E-09	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	4.68E-12	1.87E-08	mg/kg-day	2.00E-02	mg/kg-day	9.33E-07
				Carbon disulfide	1.07E-01	ug/m <sup>3</sup>	6.11E-07	mg/kg-day	—	—	—	9.50E-06	mg/kg-day	2.00E-01	mg/kg-day	4.75E-05
				Chlorobenzene	1.65E-03	ug/m <sup>3</sup>	9.44E-09	mg/kg-day	—	—	—	1.47E-07	mg/kg-day	2.86E-01	mg/kg-day	5.14E-07
				Chloroform	4.74E-02	ug/m <sup>3</sup>	2.72E-07	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	5.16E-09	4.23E-06	mg/kg-day	6.57E-02	mg/kg-day	4.93E-05
				Chloromethane	1.86E-02	ug/m <sup>3</sup>	1.07E-07	mg/kg-day	—	—	—	1.66E-06	mg/kg-day	2.60E-02	mg/kg-day	6.37E-05
				Chrysene	2.39E-05	ug/m <sup>3</sup>	1.37E-10	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	5.34E-12	2.13E-09	mg/kg-day	—	—	—
				cis-1,2-Dichloroethene	1.31E-02	ug/m <sup>3</sup>	7.53E-08	mg/kg-day	—	—	—	1.17E-06	mg/kg-day	1.00E-02	mg/kg-day	1.17E-04
				Dieldrin	1.62E-08	ug/m <sup>3</sup>	9.26E-14	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.48E-12	1.44E-12	mg/kg-day	5.00E-05	mg/kg-day	2.88E-08
				Endosulfan I	2.10E-08	ug/m <sup>3</sup>	1.20E-13	mg/kg-day	—	—	—	1.87E-12	mg/kg-day	6.00E-03	mg/kg-day	3.11E-10
				Endosulfan II	7.00E-09	ug/m <sup>3</sup>	4.01E-14	mg/kg-day	—	—	—	6.23E-13	mg/kg-day	6.00E-03	mg/kg-day	1.04E-10
				Ethylbenzene	4.38E-03	ug/m <sup>3</sup>	2.51E-08	mg/kg-day	—	—	—	3.90E-07	mg/kg-day	2.90E-01	mg/kg-day	1.35E-06
				Fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.91E-11	mg/kg-day	—	—	—	7.63E-10	mg/kg-day	4.00E-02	mg/kg-day	1.91E-08
				Fluorene	2.18E-05	ug/m <sup>3</sup>	1.25E-10	mg/kg-day	—	—	—	1.94E-09	mg/kg-day	4.00E-02	mg/kg-day	4.85E-08
				gamma-BHC (Lindane)	1.87E-08	ug/m <sup>3</sup>	1.07E-13	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	1.18E-13	1.67E-12	mg/kg-day	3.00E-04	mg/kg-day	5.57E-09
				gamma-Chlordane	4.05E-08	ug/m <sup>3</sup>	2.32E-13	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.79E-13	3.61E-12	mg/kg-day	2.00E-04	mg/kg-day	1.81E-08
				Heptachlor	2.94E-07	ug/m <sup>3</sup>	1.68E-12	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	6.91E-12	2.62E-11	mg/kg-day	5.00E-04	mg/kg-day	5.24E-08
				Isopropylbenzene	6.87E-01	ug/m <sup>3</sup>	3.94E-06	mg/kg-day	—	—	—	6.12E-05	mg/kg-day	1.10E-01	mg/kg-day	5.57E-04
				m,p-Xylene	1.54E-02	ug/m <sup>3</sup>	8.82E-08	mg/kg-day	—	—	—	1.37E-06	mg/kg-day	2.90E-02	mg/kg-day	4.73E-05
				Methoxychlor	5.41E-08	ug/m <sup>3</sup>	3.10E-13	mg/kg-day	—	—	—	4.82E-12	mg/kg-day	5.00E-03	mg/kg-day	9.65E-10
				Naphthalene	1.13E-04	ug/m <sup>3</sup>	6.45E-10	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	7.74E-11	1.00E-08	mg/kg-day	8.57E-04	mg/kg-day	1.17E-05
				n-Butylbenzene	5.41E-03	ug/m <sup>3</sup>	3.10E-08	mg/kg-day	—	—	—	4.82E-07	mg/kg-day	8.57E-04	mg/kg-day	5.62E-04
				n-Propylbenzene	6.10E-03	ug/m <sup>3</sup>	3.50E-08	mg/kg-day	—	—	—	5.44E-07	mg/kg-day	4.00E-02	mg/kg-day	1.36E-05
				Phenanthrene	5.55E-05	ug/m <sup>3</sup>	3.18E-10	mg/kg-day	—	—	—	4.94E-09	mg/kg-day	3.00E-01	mg/kg-day	1.65E-08
				p-Isopropyltoluene	6.87E-01	ug/m <sup>3</sup>	3.94E-06	mg/kg-day	—	—	—	6.12E-05	mg/kg-day	1.10E-01	mg/kg-day	5.57E-04
				Pyrene	7.39E-06	ug/m <sup>3</sup>	4.24E-11	mg/kg-day	—	—	—	6.59E-10	mg/kg-day	3.00E-02	mg/kg-day	2.20E-08
				sec-Butylbenzene	2.17E-04	ug/m <sup>3</sup>	1.25E-09	mg/kg-day	—	—	—	1.94E-08	mg/kg-day	4.00E-02	mg/kg-day	4.85E-07
				Tert-Butylbenzene	2.17E-02	ug/m <sup>3</sup>	1.24E-07	mg/kg-day	—	—	—	1.93E-06	mg/kg-day	4.00E-02	mg/kg-day	4.83E-05

TABLE H3-7.1

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Toluene	8.34E-04	ug/m <sup>3</sup>	4.78E-09	mg/kg-day	--	--	--	7.43E-08	mg/kg-day	1.43E+00	mg/kg-day	5.20E-08	
				trans-1,2-Dichloroethene	2.31E-02	ug/m <sup>3</sup>	1.32E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	2.00E-02	mg/kg-day	1.03E-04	
				Trichloroethene	2.18E-02	ug/m <sup>3</sup>	1.25E-07	mg/kg-day	7.00E-03	(mg/kg-day)-1	8.76E-10	1.95E-06	mg/kg-day	1.70E-01	mg/kg-day	1.14E-05	
				Vinyl chloride	4.98E-02	ug/m <sup>3</sup>	2.85E-07	mg/kg-day	2.70E-01	(mg/kg-day)-1	7.70E-08	4.44E-06	mg/kg-day	2.86E-02	mg/kg-day	1.55E-04	
		Exposure Point Total	Exposure Route Total														
		Exposure Medium Total															
Medium Total																	
Total of Receptor Risks Across All Media										2.58E-05	Total of Receptor Hazards Across All Media					4.61E+00	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	4.13E-08	mg/kg-day	--	--	--	6.43E-07	mg/kg-day	1.00E-02	mg/kg-day	6.43E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.41E-07	mg/kg-day	--	--	--	2.19E-06	mg/kg-day	1.00E-02	mg/kg-day	2.19E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.38E-08	mg/kg-day	--	--	--	2.14E-07	mg/kg-day	5.00E-02	mg/kg-day	4.28E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	7.16E-07	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	9.00E-02	mg/kg-day	1.24E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	9.92E-11	mg/kg-day	3.60E-02	(mg/kg-day)-1	3.57E-12	1.54E-09	mg/kg-day	1.14E-03	mg/kg-day	1.35E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.41E-09	mg/kg-day	--	--	--	6.86E-08	mg/kg-day	5.00E-02	mg/kg-day	1.37E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	3.03E-08	mg/kg-day	--	--	--	4.71E-07	mg/kg-day	3.00E-02	mg/kg-day	1.57E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.87E-07	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.01E-09	2.91E-06	mg/kg-day	3.00E-02	mg/kg-day	9.71E-05
				2,4-Dimethylphenol	2.10E-01	mg/kg	5.79E-09	mg/kg-day	--	--	--	9.00E-08	mg/kg-day	2.00E-02	mg/kg-day	4.50E-06
				2-Methylphenol	8.10E-02	mg/kg	2.23E-09	mg/kg-day	--	--	--	3.47E-08	mg/kg-day	4.00E-03	mg/kg-day	8.68E-06
				2-Methylnaphthalene	1.45E+00	mg/kg	3.99E-08	mg/kg-day	--	--	--	6.21E-07	mg/kg-day	5.00E-02	mg/kg-day	1.24E-05
				4,4'-DDD	1.20E-03	mg/kg	3.31E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	7.93E-12	5.14E-10	mg/kg-day	5.00E-04	mg/kg-day	1.03E-06
				4,4'-DDE	7.50E-02	mg/kg	2.07E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.03E-10	3.21E-08	mg/kg-day	5.00E-04	mg/kg-day	6.43E-05
				4,4'-DDT	4.20E-02	mg/kg	1.16E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.93E-10	1.80E-08	mg/kg-day	5.00E-04	mg/kg-day	3.60E-05
				4-Methylphenol	2.70E-01	mg/kg	7.44E-09	mg/kg-day	--	--	--	1.16E-07	mg/kg-day	5.00E-03	mg/kg-day	2.31E-05
				4-Nitroaniline	6.20E-01	mg/kg	1.71E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.59E-10	2.66E-07	mg/kg-day	3.00E-03	mg/kg-day	8.85E-05
				4-Nitrophenol	4.20E-01	mg/kg	1.16E-08	mg/kg-day	--	--	--	1.80E-07	mg/kg-day	5.00E-04	mg/kg-day	3.60E-04
				Acenaphthene	3.47E+00	mg/kg	9.56E-08	mg/kg-day	--	--	--	1.49E-06	mg/kg-day	6.00E-02	mg/kg-day	2.48E-05
				Acenaphthylene	8.96E-02	mg/kg	2.47E-09	mg/kg-day	--	--	--	3.84E-08	mg/kg-day	6.00E-02	mg/kg-day	6.40E-07
				Aldrin	1.30E-02	mg/kg	3.58E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.09E-09	5.57E-09	mg/kg-day	3.00E-05	mg/kg-day	1.86E-04
				alpha-BHC	7.30E-04	mg/kg	2.01E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.43E-11	3.13E-10	mg/kg-day	5.00E-04	mg/kg-day	6.26E-07
				alpha-Chlordane	6.98E-03	mg/kg	1.92E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.50E-10	2.99E-09	mg/kg-day	5.00E-04	mg/kg-day	5.98E-06
				Aluminum	9.05E+03	mg/kg	2.49E-04	mg/kg-day	--	--	--	3.88E-03	mg/kg-day	1.00E+00	mg/kg-day	3.88E-03
				Anthracene	9.13E-01	mg/kg	2.52E-08	mg/kg-day	--	--	--	3.91E-07	mg/kg-day	3.00E-01	mg/kg-day	1.30E-06
				Antimony	2.72E+00	mg/kg	7.50E-08	mg/kg-day	--	--	--	1.17E-06	mg/kg-day	4.00E-04	mg/kg-day	2.92E-03
				Aroclor-1248	1.20E+00	mg/kg	3.31E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.61E-08	5.14E-07	mg/kg-day	2.00E-05	mg/kg-day	2.57E-02
				Aroclor-1254	4.38E-01	mg/kg	1.21E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.41E-08	1.88E-07	mg/kg-day	2.00E-05	mg/kg-day	9.38E-03
				Aroclor-1260	4.88E-01	mg/kg	1.35E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.69E-08	2.09E-07	mg/kg-day	2.00E-05	mg/kg-day	1.05E-02
				Aroclor-1268	2.72E-02	mg/kg	7.49E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.50E-09	1.15E-08	mg/kg-day	2.00E-05	mg/kg-day	5.82E-04
				Arsenic	9.53E+00	mg/kg	2.63E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	2.48E-06	4.08E-06	mg/kg-day	3.00E-04	mg/kg-day	1.36E-02
				Barium	6.94E+01	mg/kg	1.91E-06	mg/kg-day	--	--	--	2.98E-05	mg/kg-day	7.00E-02	mg/kg-day	4.25E-04
				Benzo(a)anthracene	4.21E+00	mg/kg	1.16E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.39E-07	1.80E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	3.87E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	4.65E-07	6.02E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	6.54E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.84E-08	1.02E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.78E-08	mg/kg-day	--	--	--	2.78E-07	mg/kg-day	3.00E-02	mg/kg-day	9.25E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	7.78E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.34E-08	1.21E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	6.28E-09	mg/kg-day	--	--	--	9.76E-08	mg/kg-day	2.00E-03	mg/kg-day	4.88E-05
				Beta-BHC	2.20E-03	mg/kg	6.06E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.09E-11	9.43E-10	mg/kg-day	2.00E-04	mg/kg-day	4.71E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.46E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	4.38E-10	2.27E-06	mg/kg-day	2.00E-02	mg/kg-day	1.13E-04
				Cadmium	8.65E+00	mg/kg	2.38E-07	mg/kg-day	3.80E-01	(mg/kg-day)-1	9.05E-08	3.71E-08	mg/kg-day	5.00E-04	mg/kg-day	7.41E-03
				Carbon disulfide	2.40E+04	mg/kg	6.61E-12	mg/kg-day	--	--	--	1.03E-10	mg/kg-day	1.00E-01	mg/kg-day	1.03E-09
				Chlorobenzene	1.10E-01	mg/kg	3.03E-09	mg/kg-day	--	--	--	4.71E-08	mg/kg-day	2.00E-02	mg/kg-day	2.36E-06
				Chromium	1.00E+02	mg/kg	2.75E-06	mg/kg-day	--	--	--	4.28E-05	mg/kg-day	1.50E+00	mg/kg-day	2.86E-05
				Chrysene	4.80E+00	mg/kg	1.32E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.59E-08	2.05E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.05E-07	mg/kg-day	--	--	--	3.19E-06	mg/kg-day	2.00E-02	mg/kg-day	1.59E-04
Copper	6.01E+01	mg/kg	1.65E-06	mg/kg-day	--	--	--	2.57E-05	mg/kg-day	4.00E-02	mg/kg-day	6.43E-04				
Delta-BHC	8.40E-03	mg/kg	2.31E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.47E-10	3.60E-09	mg/kg-day	2.00E-04	mg/kg-day	1.80E-05				
Dibenzo(a,h)anthracene	2.78E-01	mg/kg	7.59E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.11E-08	1.18E-07	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	3.58E-07	mg/kg-day	--	--	--	5.57E-06	mg/kg-day	2.00E-03	mg/kg-day	2.78E-03				
Dieldrin	4.89E-02	mg/kg	1.35E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.16E-08	2.10E-08	mg/kg-day	5.00E-05	mg/kg-day	4.19E-04				
Dimethylphthalate	3.80E-02	mg/kg	1.05E-09	mg/kg-day	--	--	--	1.63E-08	mg/kg-day	8.00E-01	mg/kg-day	2.04E-08				

TABLE H3-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	6.34E-08	mg/kg-day	--	--	--	9.85E-07	mg/kg-day	2.00E-01	mg/kg-day	4.93E-06				
				Endosulfan I	2.30E-02	mg/kg	6.34E-10	mg/kg-day	--	--	--	9.85E-09	mg/kg-day	6.00E-03	mg/kg-day	1.64E-06				
				Endosulfan II	2.34E-02	mg/kg	6.44E-10	mg/kg-day	--	--	--	1.00E-08	mg/kg-day	6.00E-03	mg/kg-day	1.67E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	1.18E-09	mg/kg-day	--	--	--	1.84E-08	mg/kg-day	6.00E-03	mg/kg-day	3.07E-06				
				Endrin aldehyde	6.30E-02	mg/kg	1.74E-09	mg/kg-day	--	--	--	2.70E-08	mg/kg-day	3.00E-04	mg/kg-day	9.00E-05				
				Endrin Ketone	1.00E-02	mg/kg	2.76E-10	mg/kg-day	--	--	--	4.28E-09	mg/kg-day	3.00E-04	mg/kg-day	1.43E-05				
				Fluoranthene	2.23E+01	mg/kg	6.13E-07	mg/kg-day	--	--	--	9.53E-06	mg/kg-day	4.00E-02	mg/kg-day	2.38E-04				
				Fluorene	2.53E+00	mg/kg	6.96E-08	mg/kg-day	--	--	--	1.08E-06	mg/kg-day	4.00E-02	mg/kg-day	2.71E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	7.16E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.88E-11	1.11E-09	mg/kg-day	3.00E-04	mg/kg-day	3.71E-06				
				gamma-Chlordane	1.27E-02	mg/kg	3.50E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.55E-10	5.44E-09	mg/kg-day	5.00E-04	mg/kg-day	1.09E-05				
				Heptachlor	6.90E-03	mg/kg	1.90E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.79E-10	2.96E-09	mg/kg-day	5.00E-04	mg/kg-day	5.91E-06				
				Heptachlor Epoxide	9.86E-03	mg/kg	2.72E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.49E-09	4.22E-09	mg/kg-day	1.30E-05	mg/kg-day	3.25E-04				
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.37E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.64E-08	2.13E-07	mg/kg-day	--	--	--				
				Iron	3.68E+04	mg/kg	1.01E-03	mg/kg-day	--	--	--	1.58E-02	mg/kg-day	3.00E-01	mg/kg-day	5.25E-02				
				Isophorone	2.00E-01	mg/kg	5.51E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.23E-12	8.57E-08	mg/kg-day	2.00E-01	mg/kg-day	4.28E-07				
				Lead	2.39E+03	mg/kg	6.58E-05	mg/kg-day	--	--	--	1.02E-03	mg/kg-day	--	--	--				
				Manganese	3.04E+02	mg/kg	8.38E-06	mg/kg-day	--	--	--	1.30E-04	mg/kg-day	2.40E-02	mg/kg-day	5.43E-03				
				Mercury	2.65E-01	mg/kg	7.31E-09	mg/kg-day	--	--	--	1.14E-07	mg/kg-day	3.00E-04	mg/kg-day	3.79E-04				
				Methoxychlor	1.20E-01	mg/kg	3.31E-09	mg/kg-day	--	--	--	5.14E-08	mg/kg-day	5.00E-03	mg/kg-day	1.03E-05				
				Methylene chloride	2.40E-03	mg/kg	6.61E-11	mg/kg-day	1.40E-02	(mg/kg-day)-1	9.26E-13	1.03E-09	mg/kg-day	6.00E-02	mg/kg-day	1.71E-08				
				Molybdenum	2.18E+00	mg/kg	6.00E-08	mg/kg-day	--	--	--	9.34E-07	mg/kg-day	5.00E-03	mg/kg-day	1.87E-04				
				Naphthalene	1.30E+01	mg/kg	3.58E-07	mg/kg-day	--	--	--	5.57E-06	mg/kg-day	2.00E-02	mg/kg-day	2.78E-04				
				Nickel	3.89E+01	mg/kg	1.07E-06	mg/kg-day	--	--	--	1.67E-05	mg/kg-day	2.00E-02	mg/kg-day	8.34E-04				
				Phenanthrene	1.17E+01	mg/kg	3.22E-07	mg/kg-day	--	--	--	5.01E-06	mg/kg-day	3.00E-01	mg/kg-day	1.67E-05				
				Phenol	5.80E-01	mg/kg	1.60E-08	mg/kg-day	--	--	--	2.48E-07	mg/kg-day	3.00E-01	mg/kg-day	8.28E-07				
				p-Isopropyltoluene	1.10E-01	mg/kg	3.03E-09	mg/kg-day	--	--	--	4.71E-08	mg/kg-day	1.00E-01	mg/kg-day	4.71E-07				
				Pyrene	2.03E+01	mg/kg	5.60E-07	mg/kg-day	--	--	--	8.72E-06	mg/kg-day	3.00E-02	mg/kg-day	2.91E-04				
				sec-Butylbenzene	7.10E-02	mg/kg	1.95E-09	mg/kg-day	--	--	--	3.04E-08	mg/kg-day	4.00E-02	mg/kg-day	7.60E-07				
				Selenium	2.84E-01	mg/kg	7.81E-09	mg/kg-day	--	--	--	1.22E-07	mg/kg-day	5.00E-03	mg/kg-day	2.43E-05				
				Silver	9.80E-01	mg/kg	2.70E-08	mg/kg-day	--	--	--	4.20E-07	mg/kg-day	5.00E-03	mg/kg-day	8.40E-05				
				Technical Chlordane	5.41E-01	mg/kg	1.49E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.94E-08	2.32E-07	mg/kg-day	5.00E-04	mg/kg-day	4.63E-04				
				Thallium	4.83E-01	mg/kg	1.33E-08	mg/kg-day	--	--	--	2.07E-07	mg/kg-day	8.00E-05	mg/kg-day	2.58E-03				
				Toluene	4.30E-04	mg/kg	1.18E-11	mg/kg-day	--	--	--	1.84E-10	mg/kg-day	8.00E-02	mg/kg-day	2.30E-09				
				Vanadium	3.37E+01	mg/kg	9.28E-07	mg/kg-day	--	--	--	1.44E-05	mg/kg-day	1.00E-03	mg/kg-day	1.42E-02				
				Zinc	3.32E+02	mg/kg	9.14E-08	mg/kg-day	--	--	--	1.42E-04	mg/kg-day	3.00E-01	mg/kg-day	4.74E-04				
				<b>Exposure Route Total</b>																
				Dermal	Dermal	Dermal	Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	5.46E-09	mg/kg-day	--	--	--	8.48E-08	mg/kg-day	1.00E-02	mg/kg-day	8.48E-06
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.85E-09	mg/kg-day	--	--	--	2.88E-08	mg/kg-day	1.00E-02	mg/kg-day	2.88E-06
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.82E-10	mg/kg-day	--	--	--	2.83E-09	mg/kg-day	5.00E-02	mg/kg-day	5.66E-08
								1,2-Dichlorobenzene	2.60E+01	mg/kg	9.46E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	9.00E-02	mg/kg-day	1.63E-06
1,2-Dichloropropane	3.60E-03	mg/kg	1.31E-12					mg/kg-day	3.60E-02	(mg/kg-day)-1	4.71E-14	2.04E-11	mg/kg-day	1.14E-03	mg/kg-day	1.79E-08				
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	5.82E-11					mg/kg-day	--	--	--	9.05E-10	mg/kg-day	5.00E-02	mg/kg-day	1.81E-08				
1,3-Dichlorobenzene	1.10E+00	mg/kg	4.00E-10					mg/kg-day	--	--	--	6.22E-09	mg/kg-day	3.00E-02	mg/kg-day	2.07E-07				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	7.64E-11					mg/kg-day	--	--	--	1.19E-09	mg/kg-day	2.00E-02	mg/kg-day	5.94E-08				
2-Methylphenol	8.10E-02	mg/kg	2.95E-10					mg/kg-day	--	--	--	4.58E-09	mg/kg-day	4.00E-03	mg/kg-day	1.15E-06				
2-Methylnaphthalene	1.45E+00	mg/kg	5.27E-10					mg/kg-day	--	--	--	8.20E-09	mg/kg-day	5.00E-02	mg/kg-day	1.64E-07				
4,4'-DDD	1.20E-03	mg/kg	4.36E-13					mg/kg-day	2.40E-01	(mg/kg-day)-1	1.05E-13	6.79E-12	mg/kg-day	5.00E-04	mg/kg-day	1.36E-08				
4,4'-DDE	7.50E-02	mg/kg	2.73E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	9.27E-12	4.24E-10	mg/kg-day	5.00E-04	mg/kg-day	8.48E-07				
4,4'-DDT	4.20E-02	mg/kg	4.58E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.56E-11	7.12E-10	mg/kg-day	5.00E-04	mg/kg-day	1.42E-06				
4-Methylphenol	2.70E-01	mg/kg	9.82E-10					mg/kg-day	--	--	--	1.53E-08	mg/kg-day	5.00E-03	mg/kg-day	3.05E-06				

TABLE H3-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	2.25E-09	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.74E-11	3.51E-08	mg/kg-day	3.00E-03	mg/kg-day	1.17E-05
				4-Nitrophenol	4.20E-01	mg/kg	1.53E-09	mg/kg-day	--	--	--	2.38E-08	mg/kg-day	5.00E-04	mg/kg-day	4.75E-05
				Acenaphthene	3.47E+00	mg/kg	1.64E-08	mg/kg-day	--	--	--	2.55E-07	mg/kg-day	6.00E-02	mg/kg-day	4.25E-06
				Acenaphthylene	8.96E-02	mg/kg	3.26E-11	mg/kg-day	--	--	--	5.07E-10	mg/kg-day	6.00E-02	mg/kg-day	8.44E-09
				Aldrin	1.30E-02	mg/kg	4.73E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.04E-10	7.35E-10	mg/kg-day	3.00E-05	mg/kg-day	2.45E-05
				alpha-BHC	7.30E-04	mg/kg	2.65E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	7.17E-13	4.13E-12	mg/kg-day	5.00E-04	mg/kg-day	8.26E-09
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	3.29E-07	mg/kg-day	--	--	--	5.12E-08	mg/kg-day	1.00E+00	mg/kg-day	5.12E-06
				Anthracene	9.13E-01	mg/kg	4.32E-09	mg/kg-day	--	--	--	6.71E-08	mg/kg-day	3.00E-01	mg/kg-day	2.24E-07
				Antimony	2.72E+00	mg/kg	9.91E-11	mg/kg-day	--	--	--	1.54E-09	mg/kg-day	4.00E-04	mg/kg-day	3.85E-06
				Aroclor-1248	1.20E+00	mg/kg	6.11E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.22E-08	9.50E-08	mg/kg-day	2.00E-05	mg/kg-day	4.75E-03
				Aroclor-1254	4.38E-01	mg/kg	2.23E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.46E-09	3.47E-08	mg/kg-day	2.00E-05	mg/kg-day	1.73E-03
				Aroclor-1260	4.88E-01	mg/kg	2.49E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.97E-09	3.87E-08	mg/kg-day	2.00E-05	mg/kg-day	1.93E-03
				Aroclor-1268	2.72E-02	mg/kg	1.38E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.77E-10	2.15E-09	mg/kg-day	2.00E-05	mg/kg-day	1.08E-04
				Arsenic	9.53E+00	mg/kg	1.04E-08	mg/kg-day	9.45E+00	(mg/kg-day)-1	9.83E-08	1.62E-07	mg/kg-day	3.00E-04	mg/kg-day	5.39E-04
				Barium	6.94E+01	mg/kg	2.53E-09	mg/kg-day	--	--	--	3.93E-08	mg/kg-day	7.00E-02	mg/kg-day	5.61E-07
				Benzo(a)anthracene	4.21E+00	mg/kg	1.99E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.39E-08	3.10E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	6.65E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	7.98E-08	1.03E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.12E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.35E-08	1.74E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	3.06E-09	mg/kg-day	--	--	--	4.76E-08	mg/kg-day	3.00E-02	mg/kg-day	1.59E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.34E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.60E-08	2.08E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	8.28E-12	mg/kg-day	--	--	--	1.29E-10	mg/kg-day	2.00E-03	mg/kg-day	6.44E-08
				Beta-BHC	2.20E-03	mg/kg	8.00E-13	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.20E-12	1.24E-11	mg/kg-day	2.00E-04	mg/kg-day	6.22E-08
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.93E-09	mg/kg-day	3.00E-03	(mg/kg-day)-1	5.78E-12	2.99E-08	mg/kg-day	2.00E-02	mg/kg-day	1.50E-06
				Cadmium	8.65E+00	mg/kg	3.14E-10	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.20E-10	4.89E-09	mg/kg-day	5.00E-04	mg/kg-day	9.78E-06
				Carbon disulfide	2.40E-04	mg/kg	2.18E-12	mg/kg-day	--	--	--	3.39E-11	mg/kg-day	1.00E-01	mg/kg-day	3.39E-10
				Chlorobenzene	1.10E-01	mg/kg	4.00E-11	mg/kg-day	--	--	--	6.22E-10	mg/kg-day	2.00E-02	mg/kg-day	3.11E-08
				Chromium	1.00E+02	mg/kg	3.64E-09	mg/kg-day	--	--	--	5.65E-08	mg/kg-day	1.50E+00	mg/kg-day	3.77E-08
				Chrysene	4.80E+00	mg/kg	2.27E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.72E-09	3.53E-07	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.71E-10	mg/kg-day	--	--	--	4.21E-09	mg/kg-day	2.00E-02	mg/kg-day	2.10E-07
				Copper	6.01E+01	mg/kg	2.18E-09	mg/kg-day	--	--	--	3.40E-08	mg/kg-day	4.00E-02	mg/kg-day	8.49E-07
				Delta-BHC	8.40E-03	mg/kg	1.53E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.29E-11	2.38E-10	mg/kg-day	2.00E-04	mg/kg-day	1.19E-06
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.30E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.34E-09	2.03E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	4.73E-09	mg/kg-day	--	--	--	7.35E-08	mg/kg-day	2.00E-03	mg/kg-day	3.68E-05
				Dieldrin	4.89E-02	mg/kg	1.78E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.85E-10	2.77E-10	mg/kg-day	5.00E-05	mg/kg-day	5.53E-06
				Dimethylphthalate	3.80E-02	mg/kg	1.38E-11	mg/kg-day	--	--	--	2.15E-10	mg/kg-day	8.00E-01	mg/kg-day	2.69E-10
				di-n-Butylphthalate	2.30E+00	mg/kg	8.36E-10	mg/kg-day	--	--	--	1.30E-08	mg/kg-day	2.00E-01	mg/kg-day	6.50E-08
				Endosulfan I	2.30E-02	mg/kg	4.18E-11	mg/kg-day	--	--	--	6.50E-10	mg/kg-day	6.00E-03	mg/kg-day	1.08E-07
				Endosulfan II	2.34E-02	mg/kg	4.25E-11	mg/kg-day	--	--	--	6.61E-10	mg/kg-day	6.00E-03	mg/kg-day	1.10E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	7.82E-11	mg/kg-day	--	--	--	1.22E-09	mg/kg-day	6.00E-03	mg/kg-day	2.03E-07
				Endrin aldehyde	6.30E-02	mg/kg	1.15E-10	mg/kg-day	--	--	--	1.78E-09	mg/kg-day	3.00E-04	mg/kg-day	5.94E-06
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	1.05E-07	mg/kg-day	--	--	--	1.64E-06	mg/kg-day	4.00E-02	mg/kg-day	4.09E-05
				Fluorene	2.53E+00	mg/kg	1.19E-08	mg/kg-day	--	--	--	1.86E-07	mg/kg-day	4.00E-02	mg/kg-day	4.65E-06
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.78E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.16E-12	5.88E-11	mg/kg-day	3.00E-04	mg/kg-day	1.96E-07
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	2.51E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.03E-11	3.90E-11	mg/kg-day	5.00E-04	mg/kg-day	7.80E-08
				Heptachlor Epoxide	9.86E-03	mg/kg	3.58E-12	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.97E-11	5.57E-11	mg/kg-day	1.30E-05	mg/kg-day	4.29E-06
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	2.35E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.82E-09	3.65E-08	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	1.34E-06	mg/kg-day	--	--	--	2.08E-05	mg/kg-day	3.00E-01	mg/kg-day	6.93E-05
				Isophorone	2.00E-01	mg/kg	7.27E-10	mg/kg-day	9.50E-04	(mg/kg-day)-1	6.91E-13	1.13E-08	mg/kg-day	2.00E-01	mg/kg-day	5.66E-08

TABLE H3-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	8.69E-08	mg/kg-day	--	--	--	1.35E-06	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	1.11E-08	mg/kg-day	--	--	--	1.72E-07	mg/kg-day	2.40E-02	mg/kg-day	7.17E-06
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	4.36E-11	mg/kg-day	--	--	--	6.79E-10	mg/kg-day	5.00E-03	mg/kg-day	1.36E-07
				Methylene chloride	2.40E-03	mg/kg	8.73E-13	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	1.22E-14	1.35E-11	mg/kg-day	6.00E-02	mg/kg-day	2.26E-10
				Molybdenum	2.18E+00	mg/kg	7.93E-11	mg/kg-day	--	--	--	1.23E-09	mg/kg-day	5.00E-03	mg/kg-day	2.47E-07
				Naphthalene	1.30E+01	mg/kg	6.15E-08	mg/kg-day	--	--	--	9.56E-07	mg/kg-day	2.00E-02	mg/kg-day	4.78E-05
				Nickel	3.89E+01	mg/kg	1.42E-09	mg/kg-day	--	--	--	2.20E-08	mg/kg-day	2.00E-02	mg/kg-day	1.10E-06
				Phenanthrene	1.17E+01	mg/kg	4.25E-09	mg/kg-day	--	--	--	6.61E-08	mg/kg-day	3.00E-01	mg/kg-day	2.20E-07
				Phenol	5.80E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	3.00E-01	mg/kg-day	1.09E-07
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	9.62E-08	mg/kg-day	--	--	--	1.50E-06	mg/kg-day	3.00E-02	mg/kg-day	4.99E-05
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	1.03E-11	mg/kg-day	--	--	--	1.60E-10	mg/kg-day	5.00E-03	mg/kg-day	3.21E-08
				Silver	9.80E-01	mg/kg	3.56E-11	mg/kg-day	--	--	--	5.54E-10	mg/kg-day	5.00E-03	mg/kg-day	1.11E-07
				Technical Chlordane	5.41E-01	mg/kg	7.87E-10	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.02E-09	1.22E-08	mg/kg-day	5.00E-04	mg/kg-day	2.45E-05
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	1.56E-13	mg/kg-day	--	--	--	2.43E-12	mg/kg-day	8.00E-02	mg/kg-day	3.04E-11
				Vanadium	3.37E+01	mg/kg	1.22E-09	mg/kg-day	--	--	--	1.90E-08	mg/kg-day	1.00E-03	mg/kg-day	1.90E-05
				Zinc	3.32E+02	mg/kg	1.21E-08	mg/kg-day	--	--	--	1.88E-07	mg/kg-day	3.00E-01	mg/kg-day	6.25E-07
							Exposure Route Total							2.67E-07		
			Exposure Point Total							2.67E-07					9.51E-03	
			Exposure Medium Total							3.85E-06					1.68E-01	
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	9.12E-13	mg/kg-day	--	--	--	1.42E-11	mg/kg-day	2.00E-02	mg/kg-day	7.09E-10	
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	3.52E-13	mg/kg-day	--	--	--	5.47E-12	mg/kg-day	--	--	--	
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	5.21E-15	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	1.25E-15	8.10E-14	mg/kg-day	5.00E-04	mg/kg-day	1.62E-10	
			4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	1.82E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	6.20E-14	2.84E-12	mg/kg-day	5.00E-04	mg/kg-day	5.67E-09	
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	1.17E-12	mg/kg-day	--	--	--	1.82E-11	mg/kg-day	5.00E-03	mg/kg-day	3.65E-09	
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	2.69E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	5.65E-14	4.19E-11	mg/kg-day	1.00E-03	mg/kg-day	4.19E-08	
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.82E-12	mg/kg-day	--	--	--	2.84E-11	mg/kg-day	5.70E-04	mg/kg-day	4.97E-08	
			Aluminum	6.86E-06	mg/m <sup>3</sup>	3.93E-08	mg/kg-day	--	--	--	6.11E-07	mg/kg-day	1.43E-03	mg/kg-day	4.27E-04	
			Antimony	2.06E-09	mg/m <sup>3</sup>	1.18E-11	mg/kg-day	--	--	--	1.84E-10	mg/kg-day	--	--	--	
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	5.21E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.04E-11	8.10E-11	mg/kg-day	2.00E-05	mg/kg-day	4.05E-06	
			Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	1.90E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.80E-12	2.95E-11	mg/kg-day	2.00E-05	mg/kg-day	1.48E-06	
			Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	2.12E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.24E-12	3.30E-11	mg/kg-day	2.00E-05	mg/kg-day	1.65E-06	
			Aroclor-1268	2.08E-11	mg/m <sup>3</sup>	1.18E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.36E-13	1.84E-12	mg/kg-day	2.00E-05	mg/kg-day	9.18E-08	
			Arsenic	7.22E-09	mg/m <sup>3</sup>	4.14E-11	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	4.97E-10	6.44E-10	mg/kg-day	8.60E-06	mg/kg-day	7.48E-05	
			Barium	5.26E-08	mg/m <sup>3</sup>	3.02E-10	mg/kg-day	--	--	--	4.69E-09	mg/kg-day	1.40E-04	mg/kg-day	3.35E-05	
			Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	1.83E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	7.13E-12	2.84E-10	mg/kg-day	--	--	--	
			Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	6.10E-12	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	2.38E-11	9.49E-11	mg/kg-day	--	--	--	
			Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	2.81E-12	mg/kg-day	--	--	--	4.37E-11	mg/kg-day	3.00E-02	mg/kg-day	1.46E-09	
			Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	1.23E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	4.78E-12	1.91E-10	mg/kg-day	--	--	--	
			Beryllium	1.73E-10	mg/m <sup>3</sup>	9.89E-13	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	8.31E-12	1.54E-11	mg/kg-day	5.71E-06	mg/kg-day	2.69E-06	
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	9.55E-15	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.43E-14	1.49E-13	mg/kg-day	2.00E-04	mg/kg-day	7.43E-10	
			bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	2.30E-11	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	1.93E-13	3.57E-10	mg/kg-day	2.00E-02	mg/kg-day	1.79E-08	
			Cadmium	6.55E-09	mg/m <sup>3</sup>	3.75E-11	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	5.63E-10	5.84E-10	mg/kg-day	5.71E-06	mg/kg-day	1.02E-04	
			Chromium	7.57E-08	mg/m <sup>3</sup>	4.34E-10	mg/kg-day	--	--	--	6.75E-09	mg/kg-day	--	--	--	
			Cobalt	5.64E-09	mg/m <sup>3</sup>	3.23E-11	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	3.17E-10	5.03E-10	mg/kg-day	5.71E-06	mg/kg-day	8.80E-05	
			Copper	4.55E-08	mg/m <sup>3</sup>	2.61E-10	mg/kg-day	--	--	--	4.06E-09	mg/kg-day	--	--	--	
			Dibenzol(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	1.20E-12	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	4.91E-12	1.86E-11	mg/kg-day	--	--	--	
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.65E-13	mg/kg-day	--	--	--	2.57E-12	mg/kg-day	8.00E-01	mg/kg-day	3.21E-12	

TABLE H3-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2) COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	9.99E-12	mg/kg-day	--	--	--	1.55E-10	mg/kg-day	1.00E-01	mg/kg-day	1.55E-09				
				Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	2.74E-13	mg/kg-day	--	--	--	4.25E-12	mg/kg-day	3.00E-04	mg/kg-day	1.42E-08				
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	4.34E-14	mg/kg-day	--	--	--	6.75E-13	mg/kg-day	3.00E-04	mg/kg-day	2.25E-09				
				Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	4.28E-14	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.35E-13	6.66E-13	mg/kg-day	1.30E-05	mg/kg-day	5.12E-08				
				Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	2.16E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	8.42E-13	3.36E-11	mg/kg-day	--	--	--				
				Iron	2.79E-05	mg/m <sup>3</sup>	1.60E-07	mg/kg-day	--	--	--	2.48E-06	mg/kg-day	--	--	--				
				Isophorone	1.52E-10	mg/m <sup>3</sup>	8.68E-13	mg/kg-day	--	--	--	1.35E-11	mg/kg-day	--	--	--				
				Lead	1.81E-06	mg/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	1.61E-07	mg/kg-day	--	--	--				
				Manganese	2.31E-07	mg/m <sup>3</sup>	1.32E-09	mg/kg-day	--	--	--	2.05E-08	mg/kg-day	1.43E-05	mg/kg-day	1.44E-03				
				Mercury	2.01E-10	mg/m <sup>3</sup>	1.15E-12	mg/kg-day	--	--	--	1.79E-11	mg/kg-day	8.60E-05	mg/kg-day	2.08E-07				
				Nickel	2.95E-08	mg/m <sup>3</sup>	1.69E-10	mg/kg-day	9.10E-01	(mg/kg-day)-1	1.54E-10	2.63E-09	mg/kg-day	1.40E-05	mg/kg-day	1.88E-04				
				Phenol	4.39E-10	mg/m <sup>3</sup>	2.52E-12	mg/kg-day	--	--	--	3.92E-11	mg/kg-day	5.71E-02	mg/kg-day	6.85E-10				
				Selenium	2.15E-10	mg/m <sup>3</sup>	1.23E-12	mg/kg-day	--	--	--	1.81E-11	mg/kg-day	5.70E-03	mg/kg-day	3.36E-09				
				Silver	7.42E-10	mg/m <sup>3</sup>	4.25E-12	mg/kg-day	--	--	--	6.62E-11	mg/kg-day	--	--	--				
				Thallium	3.66E-10	mg/m <sup>3</sup>	2.10E-12	mg/kg-day	--	--	--	3.26E-11	mg/kg-day	--	--	--				
				Vanadium	2.55E-08	mg/m <sup>3</sup>	1.46E-10	mg/kg-day	--	--	--	2.27E-09	mg/kg-day	--	--	--				
				Zinc	2.51E-07	mg/m <sup>3</sup>	1.44E-09	mg/kg-day	--	--	--	2.24E-08	mg/kg-day	--	--	--				
				Exposure Route Total										1.60E-09			2.36E-03			
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.98E-07	mg/kg-day	--	--	--	9.31E-06	mg/kg-day	1.10E-03	mg/kg-day	8.46E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	2.03E-06	mg/kg-day	--	--	--	3.16E-05	mg/kg-day	1.10E-03	mg/kg-day	2.88E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.72E-07	mg/kg-day	--	--	--	1.04E-05	mg/kg-day	1.70E-03	mg/kg-day	6.14E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	3.05E-05	mg/kg-day	--	--	--	4.74E-04	mg/kg-day	5.70E-02	mg/kg-day	8.32E-03
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.64E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.90E-10	2.55E-07	mg/kg-day	1.14E-03	mg/kg-day	2.24E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	2.05E-07	mg/kg-day	--	--	--	3.26E-06	mg/kg-day	1.70E-03	mg/kg-day	1.92E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	9.33E-07	mg/kg-day	--	--	--	1.45E-05	mg/kg-day	3.00E-02	mg/kg-day	4.84E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.95E-06	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.58E-07	1.39E-04	mg/kg-day	2.30E-01	mg/kg-day	6.05E-04
								2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	3.68E-07	mg/kg-day	--	--	--	5.72E-06	mg/kg-day	5.00E-02	mg/kg-day	1.14E-04
4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	5.06E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.72E-11	7.88E-10	mg/kg-day	5.00E-04	mg/kg-day	1.58E-06				
Acenaphthene	4.77E-05	mg/m <sup>3</sup>	2.73E-07					mg/kg-day	--	--	--	4.25E-06	mg/kg-day	6.00E-02	mg/kg-day	7.08E-05				
Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	7.05E-09					mg/kg-day	--	--	--	1.10E-07	mg/kg-day	6.00E-02	mg/kg-day	1.83E-06				
Aldrin	5.83E-09	mg/m <sup>3</sup>	3.23E-11					mg/kg-day	1.70E+01	(mg/kg-day)-1	5.49E-10	5.02E-10	mg/kg-day	3.00E-05	mg/kg-day	1.67E-05				
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	2.08E-11					mg/kg-day	2.70E+00	(mg/kg-day)-1	5.63E-11	3.24E-10	mg/kg-day	5.00E-04	mg/kg-day	6.48E-07				
alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	3.96E-11					mg/kg-day	1.20E+00	(mg/kg-day)-1	4.75E-11	6.16E-10	mg/kg-day	2.00E-04	mg/kg-day	3.08E-06				
Anthracene	1.25E-05	mg/m <sup>3</sup>	7.18E-08					mg/kg-day	--	--	--	1.12E-06	mg/kg-day	3.00E-01	mg/kg-day	3.72E-06				
Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	8.79E-09					mg/kg-day	3.90E-01	(mg/kg-day)-1	3.43E-09	1.37E-07	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.59E-09					mg/kg-day	--	--	--	4.03E-08	mg/kg-day	2.00E-01	mg/kg-day	2.02E-07				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.97E-07					mg/kg-day	--	--	--	4.61E-06	mg/kg-day	2.86E-01	mg/kg-day	1.61E-05				
Chrysene	5.27E-06	mg/m <sup>3</sup>	3.02E-08					mg/kg-day	3.90E-02	(mg/kg-day)-1	1.18E-09	4.70E-07	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.40E-10					mg/kg-day	1.50E+00	(mg/kg-day)-1	3.60E-10	3.73E-09	mg/kg-day	2.00E-04	mg/kg-day	1.87E-05				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.57E-07					mg/kg-day	--	--	--	4.00E-06	mg/kg-day	2.00E-03	mg/kg-day	2.00E-03				
Dieldrin	6.58E-08	mg/m <sup>3</sup>	3.77E-10					mg/kg-day	1.60E+01	(mg/kg-day)-1	6.03E-09	5.86E-09	mg/kg-day	5.00E-05	mg/kg-day	1.17E-04				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.62E-10					mg/kg-day	--	--	--	7.18E-09	mg/kg-day	6.00E-03	mg/kg-day	1.20E-06				
Endosulfan II	8.19E-08	mg/m <sup>3</sup>	4.69E-10					mg/kg-day	--	--	--	7.29E-09	mg/kg-day	6.00E-03	mg/kg-day	1.22E-06				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	8.63E-10					mg/kg-day	--	--	--	1.34E-08	mg/kg-day	6.00E-03	mg/kg-day	2.24E-06				
Fluoranthene	1.44E-05	mg/m <sup>3</sup>	8.24E-08					mg/kg-day	--	--	--	1.28E-06	mg/kg-day	4.00E-02	mg/kg-day	3.21E-05				
Fluorene	1.48E-05	mg/m <sup>3</sup>	8.48E-08	mg/kg-day	--	--	--	1.32E-06	mg/kg-day	4.00E-02	mg/kg-day	3.30E-05								
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	9.14E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.00E-10	1.42E-09	mg/kg-day	3.00E-04	mg/kg-day	4.74E-06								
gamma-Chlordane	1.26E-06	mg/m <sup>3</sup>	7.20E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.64E-11	1.12E-09	mg/kg-day	2.00E-04	mg/kg-day	5.60E-06								
Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.94E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.94E-09	3.01E-08	mg/kg-day	5.00E-04	mg/kg-day	6.02E-05								
Methoxychlor	8.63E-06	mg/m <sup>3</sup>	4.95E-10	mg/kg-day	--	--	--	7.69E-09	mg/kg-day	5.00E-03	mg/kg-day	1.54E-06								
Naphthalene	6.99E-04	mg/m <sup>3</sup>	4.01E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	4.81E-07	6.23E-05	mg/kg-day	8.57E-04	mg/kg-day	7.27E-02								

TABLE H3-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	1.60E-04	mg/m <sup>3</sup>	9.19E-07	mg/kg-day	--	--	--	1.43E-05	mg/kg-day	3.00E-01	mg/kg-day	4.76E-05				
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.10E-06	mg/kg-day	--	--	--	1.71E-05	mg/kg-day	1.10E-01	mg/kg-day	1.55E-04				
				Pyrene	1.58E-05	mg/m <sup>3</sup>	8.92E-08	mg/kg-day	--	--	--	1.39E-06	mg/kg-day	3.00E-02	mg/kg-day	4.62E-05				
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.61E-07	mg/kg-day	--	--	--	2.50E-06	mg/kg-day	4.00E-02	mg/kg-day	6.26E-05				
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	3.07E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.68E-09	4.77E-08	mg/kg-day	2.00E-04	mg/kg-day	2.99E-04				
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.79E-09	mg/kg-day	--	--	--	2.78E-08	mg/kg-day	1.43E+00	mg/kg-day	1.95E-08				
				Exposure Route Total							8.63E-07					1.31E-01				
				Exposure Point Total							8.65E-07					1.33E-01				
				Indoor Air (Vapor Intrusion)	Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	3.99E+00	(a) ug/m <sup>3</sup>	2.29E-05	mg/kg-day	--	--	--	3.55E-04	mg/kg-day	1.10E-03	mg/kg-day	3.23E-01	
							1,2,4-Trichlorobenzene	1.36E+01	(a) ug/m <sup>3</sup>	7.77E-05	mg/kg-day	--	--	--	1.21E-03	mg/kg-day	1.10E-03	mg/kg-day	1.10E+00	
							1,2,4-Trimethylbenzene	1.33E+00	(a) ug/m <sup>3</sup>	7.62E-06	mg/kg-day	--	--	--	1.18E-04	mg/kg-day	1.70E-03	mg/kg-day	6.97E-02	
							1,2-Dichlorobenzene	6.91E+01	(a) ug/m <sup>3</sup>	3.96E-04	mg/kg-day	--	--	--	6.16E-03	mg/kg-day	5.70E-02	mg/kg-day	1.08E-01	
							1,2-Dichloropropane	9.57E-03	(a) ug/m <sup>3</sup>	5.49E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.97E-09	8.53E-07	mg/kg-day	1.14E-03	mg/kg-day	7.49E-04	
							1,3,5-Trimethylbenzene	4.25E-01	(a) ug/m <sup>3</sup>	2.44E-06	mg/kg-day	--	--	--	3.79E-05	mg/kg-day	1.70E-03	mg/kg-day	2.23E-02	
							1,3-Dichlorobenzene	2.93E+00	(a) ug/m <sup>3</sup>	1.68E-05	mg/kg-day	--	--	--	2.61E-04	mg/kg-day	3.00E-02	mg/kg-day	8.69E-03	
							1,4-Dichlorobenzene	1.81E+01	(a) ug/m <sup>3</sup>	1.04E-04	mg/kg-day	4.00E-02	(mg/kg-day)-1	4.14E-06	1.61E-03	mg/kg-day	2.30E-01	mg/kg-day	7.01E-03	
							2-Methylnaphthalene	1.96E+00	(a) ug/m <sup>3</sup>	1.12E-05	mg/kg-day	--	--	--	1.75E-04	mg/kg-day	5.00E-02	mg/kg-day	3.50E-03	
							4,4'-DDE	2.42E-06	(a) ug/m <sup>3</sup>	1.39E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.72E-12	2.16E-10	mg/kg-day	5.00E-04	mg/kg-day	4.32E-07	
							Acenaphthene	6.79E-01	(a) ug/m <sup>3</sup>	3.89E-06	mg/kg-day	--	--	--	6.05E-05	mg/kg-day	6.00E-02	mg/kg-day	1.01E-03	
							Acenaphthylene	1.75E-02	(a) ug/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	1.56E-06	mg/kg-day	6.00E-02	mg/kg-day	2.60E-05	
							Aldrin	6.43E-06	(a) ug/m <sup>3</sup>	3.68E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.26E-10	5.73E-10	mg/kg-day	3.00E-05	mg/kg-day	1.91E-05	
alpha-BHC	4.31E-05	(a) ug/m <sup>3</sup>	2.47E-10				mg/kg-day	2.70E+00	(mg/kg-day)-1	6.67E-10	3.84E-09	mg/kg-day	5.00E-04	mg/kg-day	7.68E-06					
alpha-Chlordane	2.17E-05	(a) ug/m <sup>3</sup>	1.24E-10				mg/kg-day	1.20E+00	(mg/kg-day)-1	1.49E-10	1.93E-09	mg/kg-day	2.00E-04	mg/kg-day	9.65E-06					
Anthracene	1.79E-01	(a) ug/m <sup>3</sup>	1.02E-06				mg/kg-day	--	--	--	1.59E-05	mg/kg-day	3.00E-01	mg/kg-day	5.31E-05					
Benzo(b)fluoranthene	1.26E-03	(a) ug/m <sup>3</sup>	7.22E-09				mg/kg-day	3.90E-01	(mg/kg-day)-1	2.81E-09	1.12E-07	mg/kg-day	--	--	--					
Carbon Disulfide	6.38E-04	(a) ug/m <sup>3</sup>	3.66E-09				mg/kg-day	--	--	--	5.69E-08	mg/kg-day	2.00E-01	mg/kg-day	2.84E-07					
Chlorobenzene	2.93E-01	(a) ug/m <sup>3</sup>	1.68E-06				mg/kg-day	--	--	--	2.61E-05	mg/kg-day	2.86E-01	mg/kg-day	9.12E-05					
Chrysene	7.10E-03	(a) ug/m <sup>3</sup>	4.07E-08				mg/kg-day	3.90E-02	(mg/kg-day)-1	1.59E-09	6.33E-07	mg/kg-day	--	--	--					
Delta-BHC	7.37E-04	(a) ug/m <sup>3</sup>	4.22E-09				mg/kg-day	1.50E+00	(mg/kg-day)-1	6.34E-09	6.57E-08	mg/kg-day	2.00E-04	mg/kg-day	3.28E-04					
Dibenzofuran	9.47E-03	(a) ug/m <sup>3</sup>	5.42E-08	mg/kg-day	--	--	--	8.44E-07	mg/kg-day	2.00E-03	mg/kg-day	4.22E-04								
Dieldrin	2.09E-04	(a) ug/m <sup>3</sup>	1.20E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.92E-08	1.87E-08	mg/kg-day	5.00E-05	mg/kg-day	3.73E-04								
Endosulfan I	8.63E-04	(a) ug/m <sup>3</sup>	4.95E-09	mg/kg-day	--	--	--	7.69E-08	mg/kg-day	6.00E-03	mg/kg-day	1.28E-05								
Endosulfan II	8.78E-04	(a) ug/m <sup>3</sup>	5.03E-09	mg/kg-day	--	--	--	7.82E-08	mg/kg-day	6.00E-03	mg/kg-day	1.30E-05								
Endosulfan Sulfate	1.61E-03	(a) ug/m <sup>3</sup>	9.25E-09	mg/kg-day	--	--	--	1.44E-07	mg/kg-day	6.00E-03	mg/kg-day	2.40E-05								
fluoranthene	1.96E-03	(a) ug/m <sup>3</sup>	1.12E-08	mg/kg-day	--	--	--	1.75E-07	mg/kg-day	4.00E-02	mg/kg-day	4.37E-06								
Fluorene	1.07E-01	(a) ug/m <sup>3</sup>	6.14E-07	mg/kg-day	--	--	--	9.55E-06	mg/kg-day	4.00E-02	mg/kg-day	2.99E-04								
gamma-BHC (Lindane)	2.28E-04	(a) ug/m <sup>3</sup>	1.31E-09	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.44E-09	2.03E-08	mg/kg-day	3.00E-04	mg/kg-day	6.78E-05								
gamma-Chlordane	3.94E-07	(a) ug/m <sup>3</sup>	2.26E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.71E-12	3.51E-11	mg/kg-day	2.00E-04	mg/kg-day	1.76E-07								
Heptachlor	4.34E-05	(a) ug/m <sup>3</sup>	2.49E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.02E-09	3.87E-09	mg/kg-day	5.00E-04	mg/kg-day	7.73E-06								
Methoxychlor	1.18E-04	(a) ug/m <sup>3</sup>	6.79E-10	mg/kg-day	--	--	--	1.06E-08	mg/kg-day	5.00E-03	mg/kg-day	2.11E-06								
Methylene Chloride	6.38E-03	(a) ug/m <sup>3</sup>	3.66E-08	mg/kg-day	3.50E-03	(mg/kg-day)-1	1.28E-10	5.69E-07	mg/kg-day	1.10E-01	mg/kg-day	5.17E-06								
Naphthalene	2.55E+01	(a) ug/m <sup>3</sup>	1.46E-04	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.75E-05	2.27E-03	mg/kg-day	8.57E-04	mg/kg-day	2.65E+00								
Phenanthrene	2.29E+00	(a) ug/m <sup>3</sup>	1.31E-05	mg/kg-day	--	--	--	2.04E-04	mg/kg-day	3.00E-01	mg/kg-day	6.80E-04								
p-Isopropyltoluene	2.93E-01	(a) ug/m <sup>3</sup>	1.68E-06	mg/kg-day	--	--	--	2.61E-05	mg/kg-day	1.10E-01	mg/kg-day	2.37E-04								
Pyrene	1.59E-02	(a) ug/m <sup>3</sup>	9.11E-08	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	3.00E-02	mg/kg-day	4.72E-05								

TABLE H3-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Industrial Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	sec-Butylbenzene	9.25E-02	(a) ug/m <sup>3</sup>	5.30E-07	mg/kg-day	--	--	--	--	8.25E-06	mg/kg-day	4.00E-02	mg/kg-day	2.06E-04	
				Technical Chlordane	1.68E-03	(a) ug/m <sup>3</sup>	9.62E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.15E-08	1.50E-07	mg/kg-day	2.00E-04	mg/kg-day	7.48E-04		
				Toluene	1.14E-03	(a) ug/m <sup>3</sup>	6.55E-09	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	1.43E+00	mg/kg-day	7.13E-08		
				Exposure Route Total														
	Exposure Point Total																	
	Exposure Medium Total																	
Medium Total																		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.4E-09	mg/kg-day	5.70E-03	(mg/kg-day)-1	1.38E-11	3.8E-08	mg/kg-day	1.40E-01	mg/kg-day	2.70E-07		
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	7.2E-10	mg/kg-day	--	--	--	1.1E-08	mg/kg-day	1.70E-03	mg/kg-day	6.62E-06		
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.7E-09	mg/kg-day	--	--	--	7.4E-08	mg/kg-day	5.70E-02	mg/kg-day	1.29E-06		
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.4E-09	mg/kg-day	7.20E-02	(mg/kg-day)-1	2.46E-10	5.3E-08	mg/kg-day	1.40E-03	mg/kg-day	3.79E-05		
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.3E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.60E-11	2.0E-08	mg/kg-day	1.14E-03	mg/kg-day	1.74E-05		
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	4.1E-10	mg/kg-day	--	--	--	6.4E-09	mg/kg-day	1.70E-03	mg/kg-day	3.77E-06		
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.6E-09	mg/kg-day	4.00E-02	(mg/kg-day)-1	6.46E-11	2.5E-08	mg/kg-day	2.30E-01	mg/kg-day	1.09E-07		
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	6.2E-11	mg/kg-day	--	--	--	9.7E-10	mg/kg-day	1.43E+00	mg/kg-day	6.79E-10		
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.5E-12	mg/kg-day	--	--	--	8.6E-11	mg/kg-day	5.00E-02	mg/kg-day	1.72E-09		
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	7.4E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.52E-12	1.2E-10	mg/kg-day	5.00E-04	mg/kg-day	2.31E-07		
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.3E-11	mg/kg-day	--	--	--	3.6E-10	mg/kg-day	8.60E-01	mg/kg-day	4.19E-10		
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.2E-10	mg/kg-day	--	--	--	3.5E-09	mg/kg-day	6.00E-02	mg/kg-day	5.76E-08		
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	9.5E-12	mg/kg-day	--	--	--	1.5E-10	mg/kg-day	6.00E-02	mg/kg-day	2.45E-09		
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.3E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.18E-10	2.0E-10	mg/kg-day	3.00E-05	mg/kg-day	6.64E-06		
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.6E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.38E-12	2.5E-11	mg/kg-day	5.00E-04	mg/kg-day	5.05E-08		
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.8E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.61E-12	6.0E-11	mg/kg-day	2.00E-04	mg/kg-day	2.99E-07		
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.9E-11	mg/kg-day	--	--	--	2.9E-10	mg/kg-day	3.00E-01	mg/kg-day	9.76E-10		
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.5E-09	mg/kg-day	1.00E-01	(mg/kg-day)-1	1.50E-10	2.3E-08	mg/kg-day	8.60E-03	mg/kg-day	2.70E-06		
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.8E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.09E-12	4.3E-11	mg/kg-day	--	--	--		
				Bromoforn	7.36E-09	mg/m <sup>3</sup>	4.2E-11	mg/kg-day	3.90E-03	(mg/kg-day)-1	1.65E-13	6.6E-10	mg/kg-day	2.00E-02	mg/kg-day	3.28E-08		
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.6E-08	mg/kg-day	--	--	--	4.0E-07	mg/kg-day	2.00E-01	mg/kg-day	2.01E-06		
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	4.2E-10	mg/kg-day	--	--	--	6.5E-09	mg/kg-day	2.85E-01	mg/kg-day	2.28E-08		
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.2E-08	mg/kg-day	1.90E-02	(mg/kg-day)-1	2.25E-10	1.8E-07	mg/kg-day	8.57E-02	mg/kg-day	2.15E-06		
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	4.3E-09	mg/kg-day	--	--	--	6.7E-08	mg/kg-day	2.60E-02	mg/kg-day	2.57E-06		
				Chrysene	1.32E-09	mg/m <sup>3</sup>	7.5E-12	mg/kg-day	3.90E-02	(mg/kg-day)-1	2.94E-13	1.2E-10	mg/kg-day	--	--	--		
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	3.0E-09	mg/kg-day	--	--	--	4.7E-08	mg/kg-day	1.00E-02	mg/kg-day	4.72E-06		
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.6E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	9.01E-11	8.8E-11	mg/kg-day	5.00E-05	mg/kg-day	1.75E-06		
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.3E-12	mg/kg-day	--	--	--	2.0E-11	mg/kg-day	6.00E-03	mg/kg-day	3.33E-09		
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	2.1E-15	mg/kg-day	--	--	--	3.3E-14	mg/kg-day	6.00E-03	mg/kg-day	5.47E-12		
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.1E-09	mg/kg-day	--	--	--	1.8E-08	mg/kg-day	2.90E-01	mg/kg-day	6.13E-08		
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.9E-12	mg/kg-day	--	--	--	4.5E-11	mg/kg-day	4.00E-02	mg/kg-day	1.13E-09		
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.7E-12	mg/kg-day	--	--	--	8.9E-11	mg/kg-day	4.00E-02	mg/kg-day	2.23E-09		
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	7.1E-15	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.80E-15	1.1E-13	mg/kg-day	3.00E-04	mg/kg-day	3.69E-10		
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	1.0E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.20E-11	1.6E-10	mg/kg-day	2.00E-04	mg/kg-day	7.75E-07		
				Hepachlor	1.79E-08	mg/m <sup>3</sup>	1.0E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.19E-10	1.6E-09	mg/kg-day	5.00E-04	mg/kg-day	3.18E-06		
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	2.0E-07	mg/kg-day	--	--	--	3.1E-06	mg/kg-day	1.10E-01	mg/kg-day	2.78E-05		
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	4.0E-09	mg/kg-day	--	--	--	6.2E-08	mg/kg-day	2.90E-02	mg/kg-day	2.13E-06		
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.9E-11	mg/kg-day	--	--	--	2.9E-10	mg/kg-day	5.00E-03	mg/kg-day	5.82E-08		
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	3.1E-11	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.74E-12	4.8E-10	mg/kg-day	8.57E-04	mg/kg-day	6.55E-07		
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.5E-09	mg/kg-day	--	--	--	2.3E-08	mg/kg-day	8.57E-04	mg/kg-day	2.63E-05		
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.6E-09	mg/kg-day	--	--	--	2.5E-08	mg/kg-day	4.00E-02	mg/kg-day	6.28E-07		
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.5E-11	mg/kg-day	--	--	--	2.3E-10	mg/kg-day	3.00E-01	mg/kg-day	7.78E-10		
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	2.0E-07	mg/kg-day	--	--	--	3.1E-06	mg/kg-day	1.10E-01	mg/kg-day	2.78E-05		
				Pyrene	4.81E-10	mg/m <sup>3</sup>	2.6E-12	mg/kg-day	--	--	--	4.1E-11	mg/kg-day	3.00E-02	mg/kg-day	1.37E-09		

TABLE H3-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.6E-09	mg/kg-day	--	--	--	--	7.1E-08	mg/kg-day	4.00E-02	mg/kg-day	1.78E-06				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	5.2E-09	mg/kg-day	--	--	--	--	8.1E-08	mg/kg-day	4.00E-02	mg/kg-day	2.02E-06				
				Toluene	3.80E-07	mg/m <sup>3</sup>	2.2E-09	mg/kg-day	--	--	--	--	3.4E-08	mg/kg-day	1.43E+00	mg/kg-day	2.37E-08				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	5.1E-09	mg/kg-day	--	--	--	--	8.0E-08	mg/kg-day	2.00E-02	mg/kg-day	3.99E-06				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	5.3E-09	mg/kg-day	7.00E-03	(mg/kg-day)-1	3.74E-11	--	8.3E-08	mg/kg-day	1.70E-01	mg/kg-day	4.89E-07				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.1E-08	mg/kg-day	2.70E-01	(mg/kg-day)-1	2.98E-09	--	1.7E-07	mg/kg-day	2.88E-02	mg/kg-day	6.01E-06				
				Exposure Route Total							4.52E-09				1.94E-04						
				Exposure Point Total							4.52E-09				1.94E-04						
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	5.98E-02	ug/m <sup>3</sup>	3.43E-07	mg/kg-day	5.70E-03	(mg/kg-day)-1	1.95E-09	--	5.33E-06	mg/kg-day	1.40E-01	mg/kg-day	3.81E-05
								1,2,4-Trimethylbenzene	2.69E-03	ug/m <sup>3</sup>	1.54E-08	mg/kg-day	--	--	--	--	2.40E-07	mg/kg-day	1.70E-03	mg/kg-day	1.41E-04
								1,2-Dichlorobenzene	1.72E-02	ug/m <sup>3</sup>	9.88E-08	mg/kg-day	--	--	--	--	1.54E-06	mg/kg-day	5.70E-02	mg/kg-day	2.70E-05
								1,2-Dichloroethane	1.31E-02	ug/m <sup>3</sup>	7.48E-08	mg/kg-day	7.20E-02	(mg/kg-day)-1	5.39E-09	--	1.16E-06	mg/kg-day	1.40E-03	mg/kg-day	8.31E-04
								1,2-Dichloropropane	5.23E-03	ug/m <sup>3</sup>	3.00E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.08E-09	--	4.68E-07	mg/kg-day	1.14E-03	mg/kg-day	4.09E-04
								1,3,5-Trimethylbenzene	1.54E-03	ug/m <sup>3</sup>	8.80E-09	mg/kg-day	--	--	--	--	1.37E-07	mg/kg-day	1.70E-03	mg/kg-day	8.05E-05
								1,4-Dichlorobenzene	5.99E-03	ug/m <sup>3</sup>	3.43E-08	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.37E-09	--	5.34E-07	mg/kg-day	2.30E-01	mg/kg-day	2.32E-06
2-Hexanone	2.54E-04	ug/m <sup>3</sup>	1.46E-09					mg/kg-day	--	--	--	--	2.27E-08	mg/kg-day	1.43E+00	mg/kg-day	1.59E-08				
2-Methylnaphthalene	1.77E-05	ug/m <sup>3</sup>	1.02E-10					mg/kg-day	--	--	--	--	1.58E-09	mg/kg-day	5.00E-02	mg/kg-day	3.16E-08				
4,4'-DDE	4.94E-08	ug/m <sup>3</sup>	2.83E-13					mg/kg-day	3.40E-01	(mg/kg-day)-1	9.62E-14	--	4.40E-12	mg/kg-day	5.00E-04	mg/kg-day	8.80E-09				
4-Methyl-2-pentanone	9.24E-05	ug/m <sup>3</sup>	5.30E-10					mg/kg-day	--	--	--	--	8.24E-09	mg/kg-day	8.60E-01	mg/kg-day	9.58E-09				
Acenaphthene	8.04E-04	ug/m <sup>3</sup>	4.61E-09					mg/kg-day	--	--	--	--	7.16E-08	mg/kg-day	6.00E-02	mg/kg-day	1.19E-06				
Acenaphthylene	3.42E-05	ug/m <sup>3</sup>	1.96E-10					mg/kg-day	--	--	--	--	3.05E-09	mg/kg-day	6.00E-02	mg/kg-day	5.08E-08				
Aldrin	1.05E-07	ug/m <sup>3</sup>	6.01E-13					mg/kg-day	1.70E+01	(mg/kg-day)-1	1.02E-11	--	9.34E-12	mg/kg-day	3.00E-05	mg/kg-day	3.11E-07				
alpha-BHC	1.39E-08	ug/m <sup>3</sup>	7.96E-14					mg/kg-day	2.70E+00	(mg/kg-day)-1	2.15E-13	--	1.24E-12	mg/kg-day	5.00E-04	mg/kg-day	2.48E-09				
alpha-Chlordane	8.38E-08	ug/m <sup>3</sup>	4.80E-13					mg/kg-day	1.20E+00	(mg/kg-day)-1	5.76E-13	--	7.46E-12	mg/kg-day	2.00E-04	mg/kg-day	3.73E-08				
Anthracene	6.79E-05	ug/m <sup>3</sup>	3.89E-10					mg/kg-day	--	--	--	--	6.05E-09	mg/kg-day	3.00E-01	mg/kg-day	2.02E-08				
Benzen	6.09E-03	ug/m <sup>3</sup>	3.49E-08					mg/kg-day	1.00E-01	(mg/kg-day)-1	3.49E-09	--	5.42E-07	mg/kg-day	8.60E-03	mg/kg-day	6.31E-05				
Benzo(b)fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.91E-11					mg/kg-day	3.90E-01	(mg/kg-day)-1	1.91E-11	--	7.63E-10	mg/kg-day	--	--	--				
Bromoform	2.09E-04	ug/m <sup>3</sup>	1.20E-09					mg/kg-day	3.90E-03	(mg/kg-day)-1	4.68E-12	--	1.87E-08	mg/kg-day	2.00E-02	mg/kg-day	9.33E-07				
Carbon disulfide	1.07E-01	ug/m <sup>3</sup>	6.11E-07					mg/kg-day	--	--	--	--	9.50E-06	mg/kg-day	2.00E-01	mg/kg-day	4.75E-05				
Chlorobenzene	1.65E-03	ug/m <sup>3</sup>	9.44E-09					mg/kg-day	--	--	--	--	1.47E-07	mg/kg-day	2.86E-01	mg/kg-day	5.14E-07				
Chloroform	4.74E-02	ug/m <sup>3</sup>	2.72E-07					mg/kg-day	1.90E-02	(mg/kg-day)-1	5.16E-09	--	4.23E-06	mg/kg-day	8.57E-02	mg/kg-day	4.93E-05				
Chloromethane	1.86E-02	ug/m <sup>3</sup>	1.07E-07					mg/kg-day	--	--	--	--	1.68E-06	mg/kg-day	2.60E-02	mg/kg-day	6.37E-05				
Chrysene	2.39E-05	ug/m <sup>3</sup>	1.37E-10					mg/kg-day	3.90E-02	(mg/kg-day)-1	5.34E-12	--	2.13E-09	mg/kg-day	--	--	--				
cis-1,2-Dichloroethene	1.31E-02	ug/m <sup>3</sup>	7.53E-08					mg/kg-day	--	--	--	--	1.17E-06	mg/kg-day	1.00E-02	mg/kg-day	1.17E-04				
Dieldrin	1.62E-08	ug/m <sup>3</sup>	9.26E-14					mg/kg-day	1.60E+01	(mg/kg-day)-1	1.48E-12	--	1.44E-12	mg/kg-day	5.00E-05	mg/kg-day	2.88E-08				
Endosulfan I	2.10E-09	ug/m <sup>3</sup>	1.20E-13					mg/kg-day	--	--	--	--	1.87E-12	mg/kg-day	6.00E-03	mg/kg-day	3.11E-10				
Endosulfan II	7.00E-09	ug/m <sup>3</sup>	4.01E-14					mg/kg-day	--	--	--	--	6.23E-13	mg/kg-day	6.00E-03	mg/kg-day	1.04E-10				
Ethylbenzene	4.38E-03	ug/m <sup>3</sup>	2.51E-08					mg/kg-day	--	--	--	--	3.90E-07	mg/kg-day	2.90E-01	mg/kg-day	1.35E-06				
Fluoranthene	8.57E-06	ug/m <sup>3</sup>	4.91E-11					mg/kg-day	--	--	--	--	7.63E-10	mg/kg-day	4.00E-02	mg/kg-day	1.91E-08				
Fluorene	2.18E-05	ug/m <sup>3</sup>	1.25E-10					mg/kg-day	--	--	--	--	1.94E-09	mg/kg-day	4.00E-02	mg/kg-day	4.65E-08				
gamma-BHC (Lindane)	1.87E-08	ug/m <sup>3</sup>	1.07E-13					mg/kg-day	1.10E+00	(mg/kg-day)-1	1.18E-13	--	1.67E-12	mg/kg-day	3.00E-04	mg/kg-day	5.57E-09				
gamma-Chlordane	4.05E-08	ug/m <sup>3</sup>	2.32E-13					mg/kg-day	1.20E+00	(mg/kg-day)-1	2.79E-13	--	3.61E-12	mg/kg-day	2.00E-04	mg/kg-day	1.81E-08				
Heptachlor	2.94E-07	ug/m <sup>3</sup>	1.68E-12					mg/kg-day	4.10E+00	(mg/kg-day)-1	6.91E-12	--	2.62E-11	mg/kg-day	5.00E-04	mg/kg-day	5.24E-08				
Isopropylbenzene	6.87E-01	ug/m <sup>3</sup>	3.94E-06	mg/kg-day	--	--	--	--	6.12E-05	mg/kg-day	1.10E-01	mg/kg-day	5.57E-04								
m,p-Xylene	1.54E-02	ug/m <sup>3</sup>	8.82E-08	mg/kg-day	--	--	--	--	1.37E-06	mg/kg-day	2.90E-02	mg/kg-day	4.73E-05								
Methoxychlor	5.41E-08	ug/m <sup>3</sup>	3.10E-13	mg/kg-day	--	--	--	--	4.82E-12	mg/kg-day	5.00E-03	mg/kg-day	9.65E-10								
Naphthalene	1.13E-04	ug/m <sup>3</sup>	6.45E-10	mg/kg-day	1.20E-01	(mg/kg-day)-1	7.74E-11	--	1.00E-08	mg/kg-day	8.57E-04	mg/kg-day	1.17E-05								
n-Butylbenzene	5.41E-03	ug/m <sup>3</sup>	3.10E-08	mg/kg-day	--	--	--	--	4.82E-07	mg/kg-day	8.57E-04	mg/kg-day	5.62E-04								
n-Propylbenzene	6.10E-03	ug/m <sup>3</sup>	3.50E-08	mg/kg-day	--	--	--	--	5.44E-07	mg/kg-day	4.00E-02	mg/kg-day	1.36E-05								
Phenanthrene	5.55E-05	ug/m <sup>3</sup>	3.18E-10	mg/kg-day	--	--	--	--	4.94E-09	mg/kg-day	3.00E-01	mg/kg-day	1.65E-08								
p-Isopropyltoluene	6.87E-01	ug/m <sup>3</sup>	3.94E-06	mg/kg-day	--	--	--	--	6.12E-05	mg/kg-day	1.10E-01	mg/kg-day	5.57E-04								

TABLE H3-7.2

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Pyrene	7.39E-08	ug/m <sup>3</sup>	4.24E-11	mg/kg-day	--	--	--	6.59E-10	mg/kg-day	3.00E-02	mg/kg-day	2.20E-08
				sec-Butylbenzene	2.17E-04	ug/m <sup>3</sup>	1.25E-09	mg/kg-day	--	--	--	1.94E-08	mg/kg-day	4.00E-02	mg/kg-day	4.85E-07
				Tert-Butylbenzene	2.17E-02	ug/m <sup>3</sup>	1.24E-07	mg/kg-day	--	--	--	1.93E-06	mg/kg-day	4.00E-02	mg/kg-day	4.83E-05
				Toluene	8.34E-04	ug/m <sup>3</sup>	4.78E-09	mg/kg-day	--	--	--	7.43E-08	mg/kg-day	1.43E+00	mg/kg-day	5.20E-08
				trans-1,2-Dichloroethene	2.31E-02	ug/m <sup>3</sup>	1.32E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	2.00E-02	mg/kg-day	1.03E-04
				Trichloroethene	2.18E-02	ug/m <sup>3</sup>	1.25E-07	mg/kg-day	7.00E-03	(mg/kg-day)-1	8.76E-10	1.95E-06	mg/kg-day	1.70E-01	mg/kg-day	1.14E-05
				Vinyl chloride	4.98E-02	ug/m <sup>3</sup>	2.85E-07	mg/kg-day	2.70E-01	(mg/kg-day)-1	7.70E-08	4.44E-06	mg/kg-day	2.86E-02	mg/kg-day	1.55E-04
				Exposure Route Total												
		Exposure Point Total														3.94E-03
		Exposure Medium Total														3.94E-03
Medium Total																3.94E-03
Total of Receptor Risks Across All Media										2.65E-05	Total of Receptor Hazards Across All Media					4.60E+00

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.55E-09	mg/kg-day	--	--	--	--	5.28E-07	mg/kg-day	1.00E-02	mg/kg-day	5.28E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.57E-08	mg/kg-day	--	--	--	--	1.80E-06	mg/kg-day	1.00E-02	mg/kg-day	1.80E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.52E-09	mg/kg-day	--	--	--	--	1.76E-07	mg/kg-day	5.00E-02	mg/kg-day	3.52E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.31E-07	mg/kg-day	--	--	--	--	9.16E-06	mg/kg-day	9.00E-02	mg/kg-day	1.02E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.81E-11	mg/kg-day	3.60E-02	(mg/kg-day)-1	6.52E-13	1.27E-09	mg/kg-day	1.14E-03	mg/kg-day	1.11E-06	
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	8.05E-10	mg/kg-day	--	--	--	--	5.64E-08	mg/kg-day	5.00E-02	mg/kg-day	1.13E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.54E-09	mg/kg-day	--	--	--	--	3.87E-07	mg/kg-day	3.00E-02	mg/kg-day	1.29E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.42E-08	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.85E-10	2.40E-06	mg/kg-day	3.00E-02	mg/kg-day	7.98E-05	
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.06E-09	mg/kg-day	--	--	--	--	7.40E-08	mg/kg-day	2.00E-02	mg/kg-day	3.70E-06
				2-Methylphenol	8.10E-02	mg/kg	4.08E-10	mg/kg-day	--	--	--	--	2.85E-08	mg/kg-day	4.00E-03	mg/kg-day	7.13E-06
				2-Methylnaphthalene	1.67E+00	mg/kg	8.41E-09	mg/kg-day	--	--	--	--	5.89E-07	mg/kg-day	5.00E-02	mg/kg-day	1.18E-05
				4,4-DDD	1.20E-03	mg/kg	6.04E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-12	4.23E-10	mg/kg-day	5.00E-04	mg/kg-day	8.45E-07	
				4,4-DDE	8.23E-02	mg/kg	4.14E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.41E-10	2.90E-08	mg/kg-day	5.00E-04	mg/kg-day	5.80E-05	
				4,4-DDT	4.45E-02	mg/kg	2.24E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.81E-11	1.57E-08	mg/kg-day	5.00E-04	mg/kg-day	3.13E-05	
				4-Methylphenol	2.70E-01	mg/kg	1.36E-09	mg/kg-day	--	--	--	--	9.51E-08	mg/kg-day	5.00E-03	mg/kg-day	1.90E-05
				4-Nitroaniline	6.20E-01	mg/kg	3.12E-09	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.55E-11	2.18E-07	mg/kg-day	3.00E-03	mg/kg-day	7.28E-05	
				4-Nitrophenol	4.20E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	--	1.48E-07	mg/kg-day	5.00E-04	mg/kg-day	2.96E-04
				Acenaphthene	4.23E+00	mg/kg	2.13E-08	mg/kg-day	--	--	--	--	1.49E-06	mg/kg-day	6.00E-02	mg/kg-day	2.49E-05
				Acenaphthylene	1.04E-01	mg/kg	5.24E-10	mg/kg-day	--	--	--	--	3.67E-08	mg/kg-day	6.00E-02	mg/kg-day	6.12E-07
				Aldrin	1.30E-02	mg/kg	6.54E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.11E-09	4.58E-09	mg/kg-day	3.00E-05	mg/kg-day	1.53E-04	
				alpha-BHC	7.30E-04	mg/kg	3.67E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.92E-12	2.57E-10	mg/kg-day	5.00E-04	mg/kg-day	5.14E-07	
				alpha-Chlordane	8.14E-03	mg/kg	4.10E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.33E-11	2.87E-09	mg/kg-day	5.00E-04	mg/kg-day	5.74E-06	
				Aluminum	8.82E+03	mg/kg	4.44E-05	mg/kg-day	--	--	--	--	3.11E-03	mg/kg-day	1.00E+00	mg/kg-day	3.11E-03
				Anthracene	1.05E+00	mg/kg	5.31E-09	mg/kg-day	--	--	--	--	3.72E-07	mg/kg-day	3.00E-01	mg/kg-day	1.24E-06
				Antimony	4.08E+00	mg/kg	2.05E-08	mg/kg-day	--	--	--	--	1.44E-06	mg/kg-day	4.00E-04	mg/kg-day	3.59E-03
				Aroclor-1248	1.20E+00	mg/kg	6.04E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.21E-08	4.23E-07	mg/kg-day	2.00E-05	mg/kg-day	2.11E-02	
				Aroclor-1254	4.44E-01	mg/kg	2.23E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.47E-09	1.56E-07	mg/kg-day	2.00E-05	mg/kg-day	7.82E-03	
				Aroclor-1260	5.41E-01	mg/kg	2.72E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.45E-09	1.91E-07	mg/kg-day	2.00E-05	mg/kg-day	9.53E-03	
				Aroclor-1268	2.78E-02	mg/kg	1.40E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.79E-10	9.78E-09	mg/kg-day	2.00E-05	mg/kg-day	4.89E-04	
				Arsenic	6.17E+00	mg/kg	3.10E-08	mg/kg-day	9.45E+00	(mg/kg-day)-1	2.93E-07	2.17E-06	mg/kg-day	3.00E-04	mg/kg-day	7.24E-03	
				Barium	6.78E+01	mg/kg	3.41E-07	mg/kg-day	--	--	--	--	2.39E-05	mg/kg-day	7.00E-02	mg/kg-day	3.41E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	2.52E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.02E-08	1.76E-06	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.67E+00	mg/kg	8.38E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.01E-07	5.87E-07	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.38E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.65E-08	9.65E-07	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.84E-09	mg/kg-day	--	--	--	--	2.69E-07	mg/kg-day	3.00E-02	mg/kg-day	8.97E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.64E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.97E-08	1.15E-06	mg/kg-day	--	--	--	
				Beryllium	2.38E-01	mg/kg	1.20E-09	mg/kg-day	--	--	--	--	8.39E-08	mg/kg-day	2.00E-03	mg/kg-day	4.19E-05
				Beta-BHC	2.20E-03	mg/kg	1.11E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.66E-11	7.75E-10	mg/kg-day	2.00E-04	mg/kg-day	3.87E-06	
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.94E-08	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.18E-10	2.76E-06	mg/kg-day	2.00E-02	mg/kg-day	1.38E-04	
				Cadmium	9.47E+00	mg/kg	4.77E-08	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.81E-08	3.34E-06	mg/kg-day	5.00E-04	mg/kg-day	6.67E-03	
				Carbon disulfide	2.40E-04	mg/kg	1.21E-12	mg/kg-day	--	--	--	--	8.45E-11	mg/kg-day	1.00E-01	mg/kg-day	8.45E-10
				Chlorobenzene	1.10E-01	mg/kg	5.54E-10	mg/kg-day	--	--	--	--	3.87E-08	mg/kg-day	2.00E-02	mg/kg-day	1.94E-06
				Chromium	1.11E+02	mg/kg	5.60E-07	mg/kg-day	--	--	--	--	3.82E-05	mg/kg-day	1.50E+00	mg/kg-day	2.61E-05
				Chrysene	5.68E+00	mg/kg	2.86E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.43E-09	2.00E-06	mg/kg-day	--	--	--	
				Cobalt	7.57E+00	mg/kg	3.81E-08	mg/kg-day	--	--	--	--	2.67E-06	mg/kg-day	2.00E-02	mg/kg-day	1.33E-04
				Copper	5.71E+01	mg/kg	2.87E-07	mg/kg-day	--	--	--	--	2.01E-05	mg/kg-day	4.00E-02	mg/kg-day	5.02E-04
				Delta-BHC	8.40E-03	mg/kg	4.23E-11	mg/kg-day	1.60E+00	(mg/kg-day)-1	6.34E-11	2.96E-09	mg/kg-day	2.00E-04	mg/kg-day	1.48E-05	
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.60E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.55E-09	1.12E-07	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	6.54E-08	mg/kg-day	--	--	--	--	4.58E-06	mg/kg-day	2.00E-03	mg/kg-day	2.29E-03
				Dieldrin	5.51E-02	mg/kg	2.77E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.44E-09	1.94E-08	mg/kg-day	5.00E-05	mg/kg-day	3.88E-04	
Dimethylphthalate	3.80E-02	mg/kg	1.91E-10	mg/kg-day	--	--	--	--	1.34E-08	mg/kg-day	8.00E-01	mg/kg-day	1.67E-08				

TABLE H3-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient																	
							Value	Units	Value	Units		Value	Units	Value	Units																		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	1.11E-08	mg/kg-day	--	--	--	--	7.75E-07	mg/kg-day	2.00E-01	mg/kg-day	3.87E-06																
				Endosulfan I	2.30E-02	mg/kg	1.18E-10	mg/kg-day	--	--	--	--	8.10E-09	mg/kg-day	6.00E-03	mg/kg-day	1.35E-08																
				Endosulfan II	2.38E-02	mg/kg	1.20E-10	mg/kg-day	--	--	--	--	8.39E-09	mg/kg-day	6.00E-03	mg/kg-day	1.40E-06																
				Endosulfan Sulfate	4.30E-02	mg/kg	2.16E-10	mg/kg-day	--	--	--	--	1.51E-08	mg/kg-day	6.00E-03	mg/kg-day	2.52E-06																
				Endrin aldehyde	4.21E-02	mg/kg	2.12E-10	mg/kg-day	--	--	--	--	1.48E-08	mg/kg-day	3.00E-04	mg/kg-day	4.94E-05																
				Endrin Ketone	1.00E-02	mg/kg	5.03E-11	mg/kg-day	--	--	--	--	3.52E-09	mg/kg-day	3.00E-04	mg/kg-day	1.17E-05																
				Fluoranthene	2.65E+01	mg/kg	1.33E-07	mg/kg-day	--	--	--	--	9.34E-08	mg/kg-day	4.00E-02	mg/kg-day	2.33E-04																
				Fluorene	2.92E+00	mg/kg	1.47E-08	mg/kg-day	--	--	--	--	1.03E-06	mg/kg-day	4.00E-02	mg/kg-day	2.57E-05																
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.31E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.44E-11		9.16E-10	mg/kg-day	3.00E-04	mg/kg-day	3.05E-06																
				gamma-Chlordane	1.31E-02	mg/kg	6.59E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.57E-11		4.62E-09	mg/kg-day	5.00E-04	mg/kg-day	9.23E-06																
				Heptachlor	6.90E-03	mg/kg	3.47E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.42E-10		2.43E-09	mg/kg-day	5.00E-04	mg/kg-day	4.86E-06																
				Heptachlor Epoxide	1.12E-02	mg/kg	5.61E-11	mg/kg-day	5.50E+00	(mg/kg-day)-1	3.09E-10		3.93E-09	mg/kg-day	1.30E-05	mg/kg-day	3.02E-04																
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.39E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.27E-09		3.07E-07	mg/kg-day	--	--	--																
				Iron	4.07E+04	mg/kg	2.05E-04	mg/kg-day	--	--	--		1.43E-02	mg/kg-day	3.00E-01	mg/kg-day	4.78E-02																
				Isophorone	2.00E-01	mg/kg	1.01E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.56E-13		7.05E-08	mg/kg-day	2.00E-01	mg/kg-day	3.52E-07																
				Lead	2.90E+03	mg/kg	1.46E-05	mg/kg-day	--	--	--		1.02E-03	mg/kg-day	--	--	--																
				Manganese	3.31E+02	mg/kg	1.67E-06	mg/kg-day	--	--	--		1.17E-04	mg/kg-day	2.40E-02	mg/kg-day	4.86E-03																
				Mercury	3.10E-01	mg/kg	1.56E-09	mg/kg-day	--	--	--		1.09E-07	mg/kg-day	3.00E-04	mg/kg-day	3.63E-04																
				Methoxychlor	1.20E-01	mg/kg	6.04E-10	mg/kg-day	--	--	--		4.23E-08	mg/kg-day	5.00E-03	mg/kg-day	8.45E-06																
				Molybdenum	2.50E+00	mg/kg	1.26E-08	mg/kg-day	--	--	--		8.82E-07	mg/kg-day	5.00E-03	mg/kg-day	1.76E-04																
				Naphthalene	1.30E+01	mg/kg	6.54E-08	mg/kg-day	--	--	--		4.58E-06	mg/kg-day	2.00E-02	mg/kg-day	2.29E-04																
				Nickel	3.91E+01	mg/kg	1.97E-07	mg/kg-day	--	--	--		1.38E-05	mg/kg-day	2.00E-02	mg/kg-day	6.89E-04																
				Phenanthrene	1.39E+01	mg/kg	7.00E-08	mg/kg-day	--	--	--		4.90E-06	mg/kg-day	3.00E-01	mg/kg-day	1.63E-05																
				Phenol	5.80E-01	mg/kg	2.92E-09	mg/kg-day	--	--	--		2.04E-07	mg/kg-day	3.00E-01	mg/kg-day	6.81E-07																
				p-Isopropyltoluene	1.10E-01	mg/kg	5.54E-10	mg/kg-day	--	--	--		3.87E-08	mg/kg-day	1.00E-01	mg/kg-day	3.87E-07																
				Pyrene	2.41E+01	mg/kg	1.22E-07	mg/kg-day	--	--	--		8.51E-06	mg/kg-day	3.00E-02	mg/kg-day	2.84E-04																
				sec-Butylbenzene	7.10E-02	mg/kg	3.57E-10	mg/kg-day	--	--	--		2.50E-08	mg/kg-day	4.00E-02	mg/kg-day	6.25E-07																
				Selenium	2.24E-01	mg/kg	1.13E-09	mg/kg-day	--	--	--		7.91E-08	mg/kg-day	5.00E-03	mg/kg-day	1.58E-05																
				Silver	1.16E+00	mg/kg	5.83E-09	mg/kg-day	--	--	--		4.08E-07	mg/kg-day	5.00E-03	mg/kg-day	8.16E-05																
				Technical Chlordane	5.51E-01	mg/kg	2.77E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.61E-09		1.94E-07	mg/kg-day	5.00E-04	mg/kg-day	3.88E-04																
				Thallium	4.97E-01	mg/kg	2.50E-09	mg/kg-day	--	--	--		1.75E-07	mg/kg-day	8.00E-05	mg/kg-day	2.19E-03																
				Toluene	4.30E-04	mg/kg	2.16E-12	mg/kg-day	--	--	--		1.51E-10	mg/kg-day	8.00E-02	mg/kg-day	1.89E-09																
				Vanadium	3.41E+01	mg/kg	1.72E-07	mg/kg-day	--	--	--		1.20E-05	mg/kg-day	1.00E-03	mg/kg-day	1.20E-02																
				Zinc	4.53E+02	mg/kg	2.28E-06	mg/kg-day	--	--	--		1.60E-04	mg/kg-day	3.00E-01	mg/kg-day	5.32E-04																
				Exposure Route Total							5.28E-07					1.35E-01																	
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4'-DDD	4,4'-DDE	4,4'-DDT	4-Methylphenol	4-Nitroaniline	1.50E+00	mg/kg	2.49E-09	mg/kg-day	--	--	--	--	1.74E-07	mg/kg-day	1.00E-02	mg/kg-day	1.74E-05
																					5.10E+00	mg/kg	8.47E-10	mg/kg-day	--	--	--	--	5.93E-08	mg/kg-day	1.00E-02	mg/kg-day	5.93E-06
																					5.00E-01	mg/kg	8.30E-11	mg/kg-day	--	--	--	--	5.81E-09	mg/kg-day	5.00E-02	mg/kg-day	1.16E-07
																					2.60E+01	mg/kg	4.32E-09	mg/kg-day	--	--	--	--	3.02E-07	mg/kg-day	9.00E-02	mg/kg-day	3.36E-06
																					3.60E-03	mg/kg	5.98E-13	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.15E-14		4.18E-11	mg/kg-day	1.14E-03	mg/kg-day	3.67E-08
																					1.60E-01	mg/kg	2.66E-11	mg/kg-day	--	--	--	--	1.85E-09	mg/kg-day	5.00E-02	mg/kg-day	3.72E-08
																					1.10E+00	mg/kg	1.83E-10	mg/kg-day	--	--	--	--	1.28E-08	mg/kg-day	3.00E-02	mg/kg-day	4.26E-07
																					6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--		--	mg/kg-day	3.00E-02	mg/kg-day	--
																					2.10E-01	mg/kg	3.49E-11	mg/kg-day	--	--	--	--	2.44E-09	mg/kg-day	2.00E-02	mg/kg-day	1.22E-07
																					8.10E-02	mg/kg	1.35E-10	mg/kg-day	--	--	--	--	9.42E-09	mg/kg-day	4.00E-03	mg/kg-day	2.35E-06
																					1.67E+00	mg/kg	2.78E-10	mg/kg-day	--	--	--	--	1.94E-08	mg/kg-day	5.00E-02	mg/kg-day	3.89E-07
																					1.20E-03	mg/kg	1.99E-13	mg/kg-day	2.40E-01	(mg/kg-day)-1	4.78E-14		1.39E-11	mg/kg-day	5.00E-04	mg/kg-day	2.79E-08
8.23E-02	mg/kg	1.37E-11	mg/kg-day																		3.40E-01	(mg/kg-day)-1	4.65E-12		9.57E-10	mg/kg-day	5.00E-04	mg/kg-day	1.91E-06				
4.45E-02	mg/kg	2.22E-11	mg/kg-day																		3.40E-01	(mg/kg-day)-1	7.54E-12		1.55E-09	mg/kg-day	5.00E-04	mg/kg-day	3.10E-06				
2.70E-01	mg/kg	4.48E-10	mg/kg-day																		--	--	--		3.14E-08	mg/kg-day	5.00E-03	mg/kg-day	6.28E-06				
6.20E-01	mg/kg	1.03E-09	mg/kg-day																		2.10E-02	(mg/kg-day)-1	2.16E-11		7.21E-08	mg/kg-day	3.00E-03	mg/kg-day	2.40E-05				

TABLE H3-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	6.97E-10	mg/kg-day	--	--	--	4.88E-08	mg/kg-day	5.00E-04	mg/kg-day	9.76E-05
				Acenaphthene	4.23E+00	mg/kg	9.14E-09	mg/kg-day	--	--	--	6.40E-07	mg/kg-day	6.00E-02	mg/kg-day	1.07E-05
				Acenaphthylene	1.04E-01	mg/kg	1.73E-11	mg/kg-day	--	--	--	1.21E-09	mg/kg-day	6.00E-02	mg/kg-day	2.02E-08
				Aldrin	1.30E-02	mg/kg	2.16E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.67E-10	1.51E-09	mg/kg-day	3.00E-05	mg/kg-day	5.04E-05
				alpha-BHC	7.30E-04	mg/kg	1.21E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.27E-13	8.49E-12	mg/kg-day	5.00E-04	mg/kg-day	1.70E-08
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	1.47E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	1.00E+00	mg/kg-day	1.03E-05
				Anthracene	1.05E+00	mg/kg	2.28E-09	mg/kg-day	--	--	--	1.59E-07	mg/kg-day	3.00E-01	mg/kg-day	5.31E-07
				Antimony	4.08E+00	mg/kg	6.77E-11	mg/kg-day	--	--	--	4.74E-09	mg/kg-day	4.00E-04	mg/kg-day	1.19E-05
				Aroclor-1248	1.20E+00	mg/kg	2.79E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.58E-09	1.95E-07	mg/kg-day	2.00E-05	mg/kg-day	9.76E-03
				Aroclor-1254	4.44E-01	mg/kg	1.03E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.06E-09	7.23E-08	mg/kg-day	2.00E-05	mg/kg-day	3.61E-03
				Aroclor-1260	5.41E-01	mg/kg	1.26E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.52E-09	8.81E-08	mg/kg-day	2.00E-05	mg/kg-day	4.41E-03
				Aroclor-1268	2.78E-02	mg/kg	6.45E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.29E-10	4.52E-09	mg/kg-day	2.00E-05	mg/kg-day	2.26E-04
				Arsenic	6.17E+00	mg/kg	3.07E-09	mg/kg-day	9.45E+00	(mg/kg-day)-1	2.90E-08	2.15E-07	mg/kg-day	3.00E-04	mg/kg-day	7.17E-04
				Barium	6.78E+01	mg/kg	1.13E-09	mg/kg-day	--	--	--	7.88E-08	mg/kg-day	7.00E-02	mg/kg-day	1.13E-06
				Benzo(a)anthracene	5.00E+00	mg/kg	1.08E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.30E-08	7.56E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	3.60E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	4.31E-08	2.52E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	5.91E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.09E-09	4.14E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.65E-09	mg/kg-day	--	--	--	1.15E-07	mg/kg-day	3.00E-02	mg/kg-day	3.85E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	7.04E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.45E-09	4.93E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	3.95E-12	mg/kg-day	--	--	--	2.77E-10	mg/kg-day	2.00E-03	mg/kg-day	1.38E-07
				Beta-BHC	2.20E-03	mg/kg	3.65E-13	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.48E-13	2.56E-11	mg/kg-day	2.00E-04	mg/kg-day	1.28E-07
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.30E-09	mg/kg-day	3.00E-03	(mg/kg-day)-1	3.90E-12	9.10E-08	mg/kg-day	2.00E-02	mg/kg-day	4.55E-06
				Cadmium	9.47E+00	mg/kg	1.57E-10	mg/kg-day	3.80E-01	(mg/kg-day)-1	5.98E-11	1.10E-08	mg/kg-day	5.00E-04	mg/kg-day	2.20E-05
				Carbon disulfide	2.40E-04	mg/kg	9.96E-13	mg/kg-day	--	--	--	6.97E-11	mg/kg-day	1.00E-01	mg/kg-day	6.97E-10
				Chlorobenzene	1.10E-01	mg/kg	1.83E-11	mg/kg-day	--	--	--	1.28E-09	mg/kg-day	2.00E-02	mg/kg-day	6.39E-08
				Chromium	1.11E+02	mg/kg	1.85E-09	mg/kg-day	--	--	--	1.29E-07	mg/kg-day	1.50E+00	mg/kg-day	8.62E-08
				Chrysene	5.68E+00	mg/kg	1.23E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.47E-09	8.59E-07	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.26E-10	mg/kg-day	--	--	--	8.80E-09	mg/kg-day	2.00E-02	mg/kg-day	4.40E-07
				Copper	5.71E+01	mg/kg	9.48E-10	mg/kg-day	--	--	--	6.63E-08	mg/kg-day	4.00E-02	mg/kg-day	1.66E-06
				Delta-BHC	8.40E-03	mg/kg	6.97E-12	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.05E-11	4.88E-10	mg/kg-day	2.00E-04	mg/kg-day	2.44E-06
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	6.85E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.81E-09	4.80E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.16E-09	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	2.00E-03	mg/kg-day	7.56E-05
				Dieldrin	5.51E-02	mg/kg	9.16E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.47E-10	6.41E-10	mg/kg-day	5.00E-05	mg/kg-day	1.28E-05
				Dimethylphthalate	3.80E-02	mg/kg	6.31E-12	mg/kg-day	--	--	--	4.42E-10	mg/kg-day	8.00E-01	mg/kg-day	5.52E-10
				di-n-Butylphthalate	2.20E+00	mg/kg	3.65E-10	mg/kg-day	--	--	--	2.56E-08	mg/kg-day	2.00E-01	mg/kg-day	1.28E-07
				Endosulfan I	2.30E-02	mg/kg	1.91E-11	mg/kg-day	--	--	--	1.34E-09	mg/kg-day	6.00E-03	mg/kg-day	2.23E-07
				Endosulfan II	2.38E-02	mg/kg	1.98E-11	mg/kg-day	--	--	--	1.38E-09	mg/kg-day	6.00E-03	mg/kg-day	2.31E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	3.57E-11	mg/kg-day	--	--	--	2.50E-09	mg/kg-day	6.00E-03	mg/kg-day	4.17E-07
				Endrin aldehyde	4.21E-02	mg/kg	3.49E-11	mg/kg-day	--	--	--	2.45E-09	mg/kg-day	3.00E-04	mg/kg-day	8.15E-06
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	5.72E-08	mg/kg-day	--	--	--	4.01E-06	mg/kg-day	4.00E-02	mg/kg-day	1.00E-04
				Fluorene	2.92E+00	mg/kg	6.30E-09	mg/kg-day	--	--	--	4.41E-07	mg/kg-day	4.00E-02	mg/kg-day	1.10E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.73E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.90E-12	1.21E-10	mg/kg-day	3.00E-04	mg/kg-day	4.03E-07
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.15E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.70E-12	8.02E-11	mg/kg-day	5.00E-04	mg/kg-day	1.60E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	1.85E-12	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.02E-11	1.30E-10	mg/kg-day	1.30E-05	mg/kg-day	9.97E-06
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.88E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.26E-09	1.32E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	6.76E-07	mg/kg-day	--	--	--	4.73E-05	mg/kg-day	3.00E-01	mg/kg-day	1.58E-04
				Isophorone	2.00E-01	mg/kg	3.32E-10	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.16E-13	2.32E-08	mg/kg-day	2.00E-01	mg/kg-day	1.16E-07
Lead	2.90E+03	mg/kg	4.82E-08	mg/kg-day	--	--	--	3.37E-06	mg/kg-day	--	--	--				

TABLE H3-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	5.50E-09	mg/kg-day	--	--	--	3.85E-07	mg/kg-day	2.40E-02	mg/kg-day	1.60E-05			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	--	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	1.99E-11	mg/kg-day	--	--	--	1.39E-09	mg/kg-day	5.00E-03	mg/kg-day	2.79E-07	mg/kg-day	5.82E-07	
				Molybdenum	2.50E+00	mg/kg	4.16E-11	mg/kg-day	--	--	--	2.91E-09	mg/kg-day	5.00E-03	mg/kg-day	5.00E-03	mg/kg-day	2.27E-06	
				Naphthalene	1.30E+01	mg/kg	2.81E-08	mg/kg-day	--	--	--	1.96E-06	mg/kg-day	2.00E-02	mg/kg-day	9.82E-05	mg/kg-day	2.27E-06	
				Nickel	3.91E+01	mg/kg	6.50E-10	mg/kg-day	--	--	--	4.55E-08	mg/kg-day	2.00E-02	mg/kg-day	5.39E-07	mg/kg-day	2.25E-07	
				Phenanthrene	1.39E+01	mg/kg	2.31E-09	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	3.00E-01	mg/kg-day	2.25E-07	mg/kg-day	--	
				Phenol	5.80E-01	mg/kg	9.63E-10	mg/kg-day	--	--	--	6.74E-08	mg/kg-day	3.00E-01	mg/kg-day	1.00E-01	mg/kg-day	--	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	1.22E-04	mg/kg-day	--	
				Pyrene	2.41E+01	mg/kg	5.21E-08	mg/kg-day	--	--	--	3.65E-06	mg/kg-day	3.00E-02	mg/kg-day	4.00E-02	mg/kg-day	1.22E-04	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	5.00E-03	mg/kg-day	5.22E-08	mg/kg-day	2.69E-07	
				Selenium	2.24E-01	mg/kg	3.73E-12	mg/kg-day	--	--	--	2.61E-10	mg/kg-day	5.00E-03	mg/kg-day	5.00E-03	mg/kg-day	5.12E-05	
				Silver	1.16E+00	mg/kg	1.92E-11	mg/kg-day	--	--	--	1.35E-09	mg/kg-day	5.00E-03	mg/kg-day	8.00E-05	mg/kg-day	--	
				Technical Chlordane	5.51E-01	mg/kg	3.66E-10	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	4.76E-10	2.56E-08	mg/kg-day	5.00E-04	mg/kg-day	8.00E-05	mg/kg-day	6.25E-11	
				Thallium	4.87E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	3.97E-08	mg/kg-day	3.97E-05	
				Toluene	4.30E-04	mg/kg	7.14E-14	mg/kg-day	--	--	--	5.00E-12	mg/kg-day	8.00E-02	mg/kg-day	1.00E-03	mg/kg-day	1.76E-06	
				Vanadium	3.41E+01	mg/kg	5.67E-10	mg/kg-day	--	--	--	3.97E-08	mg/kg-day	1.00E-03	mg/kg-day	3.00E-01	mg/kg-day	1.97E-02	
				Zinc	4.53E+02	mg/kg	7.53E-09	mg/kg-day	--	--	--	5.27E-07	mg/kg-day	3.00E-01	mg/kg-day	--	mg/kg-day	1.55E-01	
							Exposure Route Total							1.19E-07					1.97E-02
							Exposure Point Total							6.45E-07					1.55E-01
			Exposure Medium Total							6.45E-07					1.55E-01				
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	3.19E-10	mg/m <sup>3</sup>	1.67E-13	mg/kg-day	--	--	--	1.17E-11	mg/kg-day	2.00E-02	mg/kg-day	5.85E-10				
			2-Methylphenol	1.23E-10	mg/m <sup>3</sup>	6.44E-14	mg/kg-day	--	--	--	4.51E-12	mg/kg-day	--	--	--				
			4,4'-DDD	1.82E-12	mg/m <sup>3</sup>	9.54E-16	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	2.29E-16	6.68E-14	mg/kg-day	5.00E-04	mg/kg-day	1.34E-10				
			4,4'-DDT	6.76E-11	mg/m <sup>3</sup>	3.54E-14	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.20E-14	2.48E-12	mg/kg-day	5.00E-04	mg/kg-day	4.95E-09				
			4-Methylphenol	4.10E-10	mg/m <sup>3</sup>	2.15E-13	mg/kg-day	--	--	--	1.50E-11	mg/kg-day	5.00E-03	mg/kg-day	3.01E-09				
			4-Nitroaniline	9.42E-10	mg/m <sup>3</sup>	4.93E-13	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.04E-14	3.45E-11	mg/kg-day	1.00E-03	mg/kg-day	3.45E-08				
			4-Nitrophenol	6.38E-10	mg/m <sup>3</sup>	3.34E-13	mg/kg-day	--	--	--	2.34E-11	mg/kg-day	5.70E-04	mg/kg-day	4.10E-08				
			Aluminum	1.34E-05	mg/m <sup>3</sup>	7.02E-09	mg/kg-day	--	--	--	4.91E-07	mg/kg-day	1.43E-03	mg/kg-day	3.44E-04				
			Antimony	6.20E-09	mg/m <sup>3</sup>	3.24E-12	mg/kg-day	--	--	--	2.27E-10	mg/kg-day	--	--	--				
			Aroclor-1248	1.82E-09	mg/m <sup>3</sup>	9.54E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.91E-12	6.68E-11	mg/kg-day	2.00E-05	mg/kg-day	3.34E-06				
			Aroclor-1254	6.75E-10	mg/m <sup>3</sup>	3.53E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	7.06E-13	2.47E-11	mg/kg-day	2.00E-05	mg/kg-day	1.24E-06				
			Aroclor-1260	8.23E-10	mg/m <sup>3</sup>	4.31E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	8.61E-13	3.01E-11	mg/kg-day	2.00E-05	mg/kg-day	1.51E-06				
			Aroclor-1268	4.22E-11	mg/m <sup>3</sup>	2.21E-14	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.42E-14	1.55E-12	mg/kg-day	2.00E-05	mg/kg-day	7.73E-08				
			Arsenic	9.37E-09	mg/m <sup>3</sup>	4.90E-12	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	5.89E-11	3.43E-10	mg/kg-day	6.60E-06	mg/kg-day	3.99E-05				
			Barium	1.03E-07	mg/m <sup>3</sup>	5.39E-11	mg/kg-day	--	--	--	3.78E-09	mg/kg-day	1.40E-04	mg/kg-day	2.70E-05				
			Benzo(a)anthracene	7.61E-09	mg/m <sup>3</sup>	3.98E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.55E-12	2.79E-10	mg/kg-day	--	--	--				
			Benzo(a)pyrene	2.53E-09	mg/m <sup>3</sup>	1.32E-12	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	5.17E-12	9.27E-11	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	1.16E-09	mg/m <sup>3</sup>	6.07E-13	mg/kg-day	--	--	--	4.25E-11	mg/kg-day	3.00E-02	mg/kg-day	1.42E-09				
			Benzo(k)fluoranthene	4.95E-09	mg/m <sup>3</sup>	2.59E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.01E-12	1.82E-10	mg/kg-day	--	--	--				
			Beryllium	3.62E-10	mg/m <sup>3</sup>	1.89E-13	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	1.59E-12	1.33E-11	mg/kg-day	5.71E-06	mg/kg-day	2.32E-06				
			Beta-BHC	3.34E-12	mg/m <sup>3</sup>	1.75E-15	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	2.62E-15	1.22E-13	mg/kg-day	2.00E-04	mg/kg-day	6.12E-10				
			bis(2-ethylhexyl)phthalate	1.19E-08	mg/m <sup>3</sup>	6.23E-12	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	5.23E-14	4.36E-10	mg/kg-day	2.00E-02	mg/kg-day	2.18E-08				
			Cadmium	1.44E-08	mg/m <sup>3</sup>	7.53E-12	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.13E-10	5.27E-10	mg/kg-day	5.71E-06	mg/kg-day	9.23E-05				
			Chromium	1.69E-07	mg/m <sup>3</sup>	8.84E-11	mg/kg-day	--	--	--	6.19E-09	mg/kg-day	--	--	--				
			Cobalt	1.15E-08	mg/m <sup>3</sup>	6.02E-12	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	5.90E-11	4.22E-10	mg/kg-day	5.71E-06	mg/kg-day	7.38E-05				
			Copper	8.67E-08	mg/m <sup>3</sup>	4.54E-11	mg/kg-day	--	--	--	3.18E-09	mg/kg-day	--	--	--				
			Dibenzo(a,h)anthracene	4.83E-10	mg/m <sup>3</sup>	2.53E-13	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.04E-12	1.77E-11	mg/kg-day	--	--	--				
			Dimethylphthalate	5.78E-11	mg/m <sup>3</sup>	3.02E-14	mg/kg-day	--	--	--	2.12E-12	mg/kg-day	8.00E-01	mg/kg-day	2.64E-12				
			di-n-Butylphthalate	3.34E-09	mg/m <sup>3</sup>	1.75E-12	mg/kg-day	--	--	--	1.22E-10	mg/kg-day	1.00E-01	mg/kg-day	1.22E-09				
			Endrin aldehyde	6.33E-11	mg/m <sup>3</sup>	3.35E-14	mg/kg-day	--	--	--	2.34E-12	mg/kg-day	3.00E-04	mg/kg-day	7.81E-09				

**TABLE H3-7.3**  
**EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations										
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient						
							Value	Units	Value	Units		Value	Units	Value	Units							
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	1.52E-11	mg/m <sup>3</sup>	7.95E-15	mg/kg-day	--	--	--	--	5.57E-13	mg/kg-day	3.00E-04	mg/kg-day	1.86E-09					
				Heptachlor Epoxide	1.70E-11	mg/m <sup>3</sup>	8.87E-15	mg/kg-day	5.50E+00	(mg/kg-day)-1	4.88E-14	6.21E-13	mg/kg-day	1.30E-05	mg/kg-day	4.78E-08						
				Indeno(1,2,3-cd)pyrene	1.33E-09	mg/m <sup>3</sup>	6.94E-13	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.71E-13	4.86E-11	mg/kg-day	--	--	--						
				Iron	6.19E-05	mg/m <sup>3</sup>	3.24E-08	mg/kg-day	--	--	--	2.27E-06	mg/kg-day	--	--	--						
				Isophorone	3.04E-10	mg/m <sup>3</sup>	1.59E-13	mg/kg-day	--	--	--	1.11E-11	mg/kg-day	--	--	--						
				Lead	4.41E-06	mg/m <sup>3</sup>	2.31E-09	mg/kg-day	--	--	--	1.62E-07	mg/kg-day	--	--	--						
				Manganese	5.03E-07	mg/m <sup>3</sup>	2.63E-10	mg/kg-day	--	--	--	1.84E-08	mg/kg-day	1.43E-05	mg/kg-day	1.29E-03						
				Mercury	4.70E-10	mg/m <sup>3</sup>	2.46E-13	mg/kg-day	--	--	--	1.72E-11	mg/kg-day	8.60E-05	mg/kg-day	2.00E-07						
				Molybdenum	3.81E-09	mg/m <sup>3</sup>	1.99E-12	mg/kg-day	--	--	--	1.39E-10	mg/kg-day	--	--	--						
				Nickel	5.95E-08	mg/m <sup>3</sup>	3.11E-11	mg/kg-day	9.10E-01	(mg/kg-day)-1	2.83E-11	2.18E-09	mg/kg-day	1.40E-05	mg/kg-day	1.56E-04						
				Phenol	8.81E-10	mg/m <sup>3</sup>	4.61E-13	mg/kg-day	--	--	--	3.23E-11	mg/kg-day	5.71E-02	mg/kg-day	5.65E-10						
				Selenium	3.41E-10	mg/m <sup>3</sup>	1.79E-13	mg/kg-day	--	--	--	1.25E-11	mg/kg-day	5.70E-03	mg/kg-day	2.19E-09						
				Silver	1.76E-09	mg/m <sup>3</sup>	9.22E-13	mg/kg-day	--	--	--	6.45E-11	mg/kg-day	--	--	--						
				Thallium	7.55E-10	mg/m <sup>3</sup>	3.95E-13	mg/kg-day	--	--	--	2.77E-11	mg/kg-day	--	--	--						
				Vanadium	5.19E-08	mg/m <sup>3</sup>	2.72E-11	mg/kg-day	--	--	--	1.90E-09	mg/kg-day	--	--	--						
				Zinc	6.89E-07	mg/m <sup>3</sup>	3.61E-10	mg/kg-day	--	--	--	2.52E-08	mg/kg-day	--	--	--						
				<b>Exposure Route Total</b>																		
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.46E-08	mg/kg-day	--	--	--	3.83E-06	mg/kg-day	1.10E-03	mg/kg-day	3.48E-03		
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.86E-07	mg/kg-day	--	--	--	1.30E-05	mg/kg-day	1.10E-03	mg/kg-day	1.18E-02		
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.13E-08	mg/kg-day	--	--	--	4.29E-06	mg/kg-day	1.70E-03	mg/kg-day	2.53E-03		
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.79E-06	mg/kg-day	--	--	--	1.95E-04	mg/kg-day	5.70E-02	mg/kg-day	3.42E-03		
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.50E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.39E-11	1.05E-07	mg/kg-day	1.14E-03	mg/kg-day	9.20E-05		
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.91E-08	mg/kg-day	--	--	--	1.34E-08	mg/kg-day	1.70E-03	mg/kg-day	7.87E-04		
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	8.52E-08	mg/kg-day	--	--	--	5.97E-08	mg/kg-day	3.00E-02	mg/kg-day	1.99E-04		
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.18E-07	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.27E-08	5.72E-05	mg/kg-day	2.30E-01	mg/kg-day	2.49E-04		
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	3.87E-08	mg/kg-day	--	--	--	2.71E-06	mg/kg-day	5.00E-02	mg/kg-day	5.42E-05		
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	5.08E-12	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.73E-12	3.56E-10	mg/kg-day	5.00E-04	mg/kg-day	7.11E-07		
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	3.04E-08	mg/kg-day	--	--	--	2.13E-06	mg/kg-day	6.00E-02	mg/kg-day	3.55E-05						
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	7.48E-10	mg/kg-day	--	--	--	5.24E-08	mg/kg-day	6.00E-02	mg/kg-day	8.73E-07						
				Aldrin	5.63E-09	mg/m <sup>3</sup>	2.95E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.01E-11	2.06E-10	mg/kg-day	3.00E-05	mg/kg-day	6.98E-06						
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.80E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.14E-12	1.33E-10	mg/kg-day	5.00E-04	mg/kg-day	2.67E-07						
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	4.22E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.06E-12	2.95E-10	mg/kg-day	2.00E-04	mg/kg-day	1.48E-06						
				Anthracene	1.45E-05	mg/m <sup>3</sup>	7.58E-09	mg/kg-day	--	--	--	5.31E-07	mg/kg-day	3.00E-01	mg/kg-day	1.77E-06						
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	9.27E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	3.61E-10	6.49E-08	mg/kg-day	--	--	--						
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.37E-10	mg/kg-day	--	--	--	1.66E-08	mg/kg-day	2.00E-01	mg/kg-day	8.29E-08						
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.71E-08	mg/kg-day	--	--	--	1.90E-06	mg/kg-day	2.86E-01	mg/kg-day	6.64E-06						
				Chrysene	6.25E-06	mg/m <sup>3</sup>	3.27E-09	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.28E-10	2.29E-07	mg/kg-day	--	--	--						
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.19E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.29E-11	1.53E-09	mg/kg-day	2.00E-04	mg/kg-day	7.67E-06						
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.35E-08	mg/kg-day	--	--	--	1.64E-06	mg/kg-day	2.00E-03	mg/kg-day	8.22E-04						
				Diieldrin	7.42E-08	mg/m <sup>3</sup>	3.88E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.21E-10	2.72E-09	mg/kg-day	5.00E-05	mg/kg-day	5.43E-05						
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.22E-11	mg/kg-day	--	--	--	2.95E-09	mg/kg-day	6.00E-03	mg/kg-day	4.92E-07						
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	4.37E-11	mg/kg-day	--	--	--	3.06E-09	mg/kg-day	6.00E-03	mg/kg-day	5.09E-07						
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	7.88E-11	mg/kg-day	--	--	--	5.52E-09	mg/kg-day	6.00E-03	mg/kg-day	9.20E-07						
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	8.97E-09	mg/kg-day	--	--	--	6.28E-07	mg/kg-day	4.00E-02	mg/kg-day	1.57E-05						
				Fluorene	1.71E-05	mg/m <sup>3</sup>	8.93E-09	mg/kg-day	--	--	--	6.25E-07	mg/kg-day	4.00E-02	mg/kg-day	1.56E-05						
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	8.34E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	9.18E-12	5.84E-10	mg/kg-day	3.00E-04	mg/kg-day	1.95E-06						
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	6.79E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.15E-12	4.75E-10	mg/kg-day	2.00E-04	mg/kg-day	2.38E-06						
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.77E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.25E-10	1.24E-08	mg/kg-day	5.00E-04	mg/kg-day	2.48E-05						
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.52E-11	mg/kg-day	--	--	--	3.16E-09	mg/kg-day	5.00E-03	mg/kg-day	6.33E-07						
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.66E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	4.39E-08	2.56E-05	mg/kg-day	8.57E-04	mg/kg-day	2.99E-02						
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	7.00E-06	mg/kg-day	3.00E-01	mg/kg-day	2.33E-05						

TABLE H3-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	7.02E-08	mg/kg-day	1.10E-01	mg/kg-day	6.38E-05	
				Pyrene	1.85E-05	mg/m <sup>3</sup>	9.66E-09	mg/kg-day	--	--	--	6.77E-07	mg/kg-day	3.00E-02	mg/kg-day	2.26E-05	
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.47E-08	mg/kg-day	--	--	--	1.03E-06	mg/kg-day	4.00E-02	mg/kg-day	2.57E-05	
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	2.85E-10	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.43E-10	2.00E-08	mg/kg-day	2.00E-04	mg/kg-day	9.99E-05	
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.63E-10	mg/kg-day	--	--	--	1.14E-08	mg/kg-day	1.43E+00	mg/kg-day	8.01E-09	
Exposure Route Total																	
Exposure Point Total																	
Exposure Medium Total																	
Medium Total										7.24E-07							
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.22E-10	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	1.26E-12	1.55E-08	mg/kg-day	1.40E-01	mg/kg-day	1.11E-07	
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.61E-11	mg/kg-day	--	--	--	4.62E-09	mg/kg-day	1.70E-03	mg/kg-day	2.72E-08	
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.33E-10	mg/kg-day	--	--	--	3.03E-08	mg/kg-day	5.70E-02	mg/kg-day	5.32E-07	
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	2.24E-11	2.18E-08	mg/kg-day	1.40E-03	mg/kg-day	1.56E-05	
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	4.20E-12	8.17E-09	mg/kg-day	1.14E-03	mg/kg-day	7.17E-06	
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.76E-11	mg/kg-day	--	--	--	2.63E-09	mg/kg-day	1.70E-03	mg/kg-day	1.55E-06	
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.47E-10	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	5.90E-12	1.03E-08	mg/kg-day	2.30E-01	mg/kg-day	4.49E-08	
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	5.70E-12	mg/kg-day	--	--	--	3.99E-10	mg/kg-day	1.43E+00	mg/kg-day	2.79E-10	
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.06E-13	mg/kg-day	--	--	--	3.54E-11	mg/kg-day	5.00E-02	mg/kg-day	7.09E-10	
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	6.77E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.30E-13	4.74E-11	mg/kg-day	5.00E-04	mg/kg-day	9.48E-08	
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.12E-12	mg/kg-day	--	--	--	1.48E-10	mg/kg-day	8.60E-01	mg/kg-day	1.72E-10	
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.03E-11	mg/kg-day	--	--	--	1.42E-09	mg/kg-day	8.00E-02	mg/kg-day	2.37E-08	
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	8.64E-13	mg/kg-day	--	--	--	6.05E-11	mg/kg-day	6.00E-02	mg/kg-day	1.01E-09	
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.17E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.99E-11	8.19E-11	mg/kg-day	3.00E-05	mg/kg-day	2.73E-06	
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.48E-13	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	4.00E-13	1.04E-11	mg/kg-day	5.00E-04	mg/kg-day	2.07E-08	
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.51E-13	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.21E-13	2.45E-11	mg/kg-day	2.00E-04	mg/kg-day	1.23E-07	
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.72E-12	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	3.00E-01	mg/kg-day	4.01E-10	
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.37E-10	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	1.37E-11	9.56E-09	mg/kg-day	8.60E-03	mg/kg-day	1.11E-06	
				Benzo(b)fluoranthene	4.85E-10	mg/m <sup>3</sup>	2.55E-13	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	9.93E-14	1.78E-11	mg/kg-day	--	--	--	
				Bromotom	7.36E-09	mg/m <sup>3</sup>	3.85E-12	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	1.50E-14	2.70E-10	mg/kg-day	2.00E-02	mg/kg-day	1.35E-08	
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.36E-09	mg/kg-day	--	--	--	1.65E-07	mg/kg-day	2.00E-01	mg/kg-day	8.25E-07	
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	3.83E-11	mg/kg-day	--	--	--	2.68E-09	mg/kg-day	2.86E-01	mg/kg-day	9.39E-09	
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.08E-09	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	2.06E-11	7.57E-08	mg/kg-day	8.57E-02	mg/kg-day	8.84E-07	
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	3.92E-10	mg/kg-day	--	--	--	2.74E-08	mg/kg-day	2.60E-02	mg/kg-day	1.06E-06	
				Chrysene	1.32E-09	mg/m <sup>3</sup>	6.89E-13	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	2.69E-14	4.82E-11	mg/kg-day	--	--	--	
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.77E-10	mg/kg-day	--	--	--	1.94E-08	mg/kg-day	1.00E-02	mg/kg-day	1.94E-06	
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.14E-13	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	8.23E-12	3.60E-11	mg/kg-day	5.00E-05	mg/kg-day	7.20E-07	
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.17E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09	
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.93E-16	mg/kg-day	--	--	--	1.35E-14	mg/kg-day	6.00E-03	mg/kg-day	2.25E-12	
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.04E-10	mg/kg-day	--	--	--	7.31E-09	mg/kg-day	2.90E-01	mg/kg-day	2.52E-08	
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.65E-13	mg/kg-day	--	--	--	1.85E-11	mg/kg-day	4.00E-02	mg/kg-day	4.63E-10	
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.23E-13	mg/kg-day	--	--	--	3.66E-11	mg/kg-day	4.00E-02	mg/kg-day	9.15E-10	
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.50E-16	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	7.15E-16	4.55E-14	mg/kg-day	3.00E-04	mg/kg-day	1.52E-10	
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	9.11E-13	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.09E-12	6.37E-11	mg/kg-day	2.00E-04	mg/kg-day	3.19E-07	
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	9.34E-12	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	3.83E-11	6.54E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-08	
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.79E-08	mg/kg-day	--	--	--	1.26E-08	mg/kg-day	1.10E-01	mg/kg-day	1.14E-05	
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.63E-10	mg/kg-day	--	--	--	2.54E-08	mg/kg-day	2.90E-02	mg/kg-day	8.77E-07	
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.71E-12	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	5.00E-03	mg/kg-day	2.39E-08	
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	2.84E-12	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	3.41E-13	1.99E-10	mg/kg-day	8.57E-04	mg/kg-day	2.32E-07	
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.32E-10	mg/kg-day	--	--	--	9.27E-09	mg/kg-day	8.57E-04	mg/kg-day	1.08E-05	
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.47E-10	mg/kg-day	--	--	--	1.03E-08	mg/kg-day	4.00E-02	mg/kg-day	2.58E-07	
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.37E-12	mg/kg-day	--	--	--	9.59E-11	mg/kg-day	3.00E-01	mg/kg-day	3.20E-10	

TABLE H3-7.3

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.79E-08	mg/kg-day	--	--	--	1.26E-06	mg/kg-day	1.10E-01	mg/kg-day	1.14E-05					
				Pyrene	4.81E-10	mg/m <sup>3</sup>	2.41E-13	mg/kg-day	--	--	--	1.69E-11	mg/kg-day	3.00E-02	mg/kg-day	5.63E-10					
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.19E-10	mg/kg-day	--	--	--	2.93E-08	mg/kg-day	4.00E-02	mg/kg-day	7.34E-07					
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	4.75E-10	mg/kg-day	--	--	--	3.33E-08	mg/kg-day	4.00E-02	mg/kg-day	8.32E-07					
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.99E-10	mg/kg-day	--	--	--	1.39E-08	mg/kg-day	1.43E+00	mg/kg-day	9.74E-09					
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.69E-10	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	2.00E-02	mg/kg-day	1.64E-06					
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	4.88E-10	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	3.41E-12	3.41E-08	mg/kg-day	1.70E-01	mg/kg-day	2.01E-07					
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.01E-09	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	2.72E-10	7.06E-08	mg/kg-day	2.86E-02	mg/kg-day	2.47E-06					
				Exposure Route Total																4.13E-10	7.98E-05
				Exposure Point Total																	4.13E-10
Exposure Medium Total																	4.13E-10	7.98E-05			
Medium Total																	4.13E-10	7.98E-05			
Total of Receptor Risks Across All Media										7.25E-07	Total of Receptor Hazards Across All Media					2.11E-01					

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.55E-09	mg/kg-day	--	--	--	5.28E-07	mg/kg-day	1.00E-02	mg/kg-day	5.28E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.57E-08	mg/kg-day	--	--	--	1.80E-06	mg/kg-day	1.00E-02	mg/kg-day	1.80E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.52E-09	mg/kg-day	--	--	--	1.76E-07	mg/kg-day	5.00E-02	mg/kg-day	3.52E-08
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.31E-07	mg/kg-day	--	--	--	9.16E-06	mg/kg-day	9.00E-02	mg/kg-day	1.02E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.81E-11	mg/kg-day	3.60E-02	(mg/kg-day)-1	6.52E-13	1.27E-09	mg/kg-day	1.14E-03	mg/kg-day	1.11E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	8.05E-10	mg/kg-day	--	--	--	5.64E-08	mg/kg-day	5.00E-02	mg/kg-day	1.13E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.54E-09	mg/kg-day	--	--	--	3.87E-07	mg/kg-day	3.00E-02	mg/kg-day	1.29E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.42E-08	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.85E-10	2.40E-06	mg/kg-day	3.00E-02	mg/kg-day	7.98E-05
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.06E-09	mg/kg-day	--	--	--	7.40E-08	mg/kg-day	2.00E-02	mg/kg-day	3.70E-06
				2-Methylphenol	8.10E-02	mg/kg	4.08E-10	mg/kg-day	--	--	--	2.85E-08	mg/kg-day	4.00E-03	mg/kg-day	7.13E-06
				2-Methylnaphthalene	1.45E+00	mg/kg	7.29E-09	mg/kg-day	--	--	--	5.11E-07	mg/kg-day	5.00E-02	mg/kg-day	1.02E-05
				4,4'-DDD	1.20E-03	mg/kg	6.04E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-12	4.23E-10	mg/kg-day	5.00E-04	mg/kg-day	8.45E-07
				4,4'-DDE	7.50E-02	mg/kg	3.77E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.28E-10	2.64E-08	mg/kg-day	5.00E-04	mg/kg-day	5.28E-05
				4,4'-DDT	4.20E-02	mg/kg	2.11E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.18E-11	1.48E-08	mg/kg-day	5.00E-04	mg/kg-day	2.96E-05
				4-Methylphenol	2.70E-01	mg/kg	1.36E-09	mg/kg-day	--	--	--	9.51E-08	mg/kg-day	5.00E-03	mg/kg-day	1.90E-05
				4-Nitroaniline	6.20E-01	mg/kg	3.12E-09	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.55E-11	2.18E-07	mg/kg-day	3.00E-03	mg/kg-day	7.28E-05
				4-Nitrophenol	4.20E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	1.48E-07	mg/kg-day	5.00E-04	mg/kg-day	2.96E-04
				Acenaphthene	3.47E+00	mg/kg	1.75E-08	mg/kg-day	--	--	--	1.22E-06	mg/kg-day	6.00E-02	mg/kg-day	2.04E-05
				Acenaphthylene	8.96E-02	mg/kg	4.51E-10	mg/kg-day	--	--	--	3.16E-08	mg/kg-day	6.00E-02	mg/kg-day	5.26E-07
				Aldrin	1.30E-02	mg/kg	6.54E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.11E-09	4.58E-09	mg/kg-day	3.00E-05	mg/kg-day	1.53E-04
				alpha-BHC	7.30E-04	mg/kg	3.67E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.92E-12	2.57E-10	mg/kg-day	5.00E-04	mg/kg-day	5.14E-07
				alpha-Chlordane	6.98E-03	mg/kg	3.51E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.57E-11	2.46E-09	mg/kg-day	5.00E-04	mg/kg-day	4.92E-06
				Aluminum	9.05E+03	mg/kg	4.56E-05	mg/kg-day	--	--	--	3.19E-03	mg/kg-day	1.00E+00	mg/kg-day	3.19E-03
				Anthracene	9.13E-01	mg/kg	4.80E-09	mg/kg-day	--	--	--	3.22E-07	mg/kg-day	3.00E-01	mg/kg-day	1.07E-06
				Antimony	2.72E+00	mg/kg	1.37E-08	mg/kg-day	--	--	--	9.59E-07	mg/kg-day	4.00E-04	mg/kg-day	2.40E-03
				Aroclor-1248	1.20E+00	mg/kg	6.04E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.21E-08	4.23E-07	mg/kg-day	2.00E-05	mg/kg-day	2.11E-02
				Aroclor-1254	4.38E-01	mg/kg	2.20E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.40E-09	1.54E-07	mg/kg-day	2.00E-05	mg/kg-day	7.71E-03
				Aroclor-1260	4.88E-01	mg/kg	2.46E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.91E-09	1.72E-07	mg/kg-day	2.00E-05	mg/kg-day	8.60E-03
				Aroclor-1268	2.72E-02	mg/kg	1.37E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.74E-10	9.57E-09	mg/kg-day	2.00E-05	mg/kg-day	4.79E-04
				Arsenic	9.53E+00	mg/kg	4.80E-08	mg/kg-day	9.45E+00	(mg/kg-day)-1	4.53E-07	3.36E-06	mg/kg-day	3.00E-04	mg/kg-day	1.12E-02
				Barium	6.94E+01	mg/kg	3.48E-07	mg/kg-day	--	--	--	2.45E-05	mg/kg-day	7.00E-02	mg/kg-day	3.49E-04
				Benzo(a)anthracene	4.21E+00	mg/kg	2.12E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.54E-08	1.48E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	7.08E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	8.49E-08	4.95E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.19E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.43E-08	8.36E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	3.26E-09	mg/kg-day	--	--	--	2.28E-07	mg/kg-day	3.00E-02	mg/kg-day	7.61E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.42E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.71E-08	9.95E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.15E-09	mg/kg-day	--	--	--	8.02E-08	mg/kg-day	2.00E-03	mg/kg-day	4.01E-05
				Beta-BHC	2.20E-03	mg/kg	1.11E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.66E-11	7.75E-10	mg/kg-day	2.00E-04	mg/kg-day	3.87E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	2.68E-08	mg/kg-day	3.00E-03	(mg/kg-day)-1	7.99E-11	1.87E-06	mg/kg-day	2.00E-02	mg/kg-day	9.33E-05
				Cadmium	8.65E+00	mg/kg	4.35E-08	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.65E-08	3.05E-06	mg/kg-day	5.00E-04	mg/kg-day	6.09E-03
				Carbon disulfide	2.40E-04	mg/kg	1.21E-12	mg/kg-day	--	--	--	8.45E-11	mg/kg-day	1.00E-01	mg/kg-day	8.45E-10
				Chlorobenzene	1.10E-01	mg/kg	5.54E-10	mg/kg-day	--	--	--	3.87E-08	mg/kg-day	2.00E-02	mg/kg-day	1.94E-06
				Chromium	1.00E+02	mg/kg	5.03E-07	mg/kg-day	--	--	--	3.52E-05	mg/kg-day	1.50E+00	mg/kg-day	2.35E-05
				Chrysene	4.80E+00	mg/kg	2.41E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.90E-09	1.69E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	3.75E-08	mg/kg-day	--	--	--	2.62E-06	mg/kg-day	2.00E-02	mg/kg-day	1.31E-04
				Copper	6.01E+01	mg/kg	3.02E-07	mg/kg-day	--	--	--	2.12E-05	mg/kg-day	4.00E-02	mg/kg-day	5.29E-04
				Delta-BHC	8.40E-03	mg/kg	4.23E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	6.34E-11	2.96E-09	mg/kg-day	2.00E-04	mg/kg-day	1.48E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.39E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.69E-09	9.71E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	6.54E-08	mg/kg-day	--	--	--	4.58E-06	mg/kg-day	2.00E-03	mg/kg-day	2.29E-03
				Dieldrin	4.89E-02	mg/kg	2.46E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.94E-09	1.72E-08	mg/kg-day	5.00E-05	mg/kg-day	3.45E-04
Dimethylphthalate	3.80E-02	mg/kg	1.91E-10	mg/kg-day	--	--	--	1.34E-08	mg/kg-day	8.00E-01	mg/kg-day	1.67E-08				

TABLE H3-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	1.16E-08	mg/kg-day	--	--	--	8.10E-07	mg/kg-day	2.00E-01	mg/kg-day	4.05E-06				
				Endosulfan I	2.30E-02	mg/kg	1.16E-10	mg/kg-day	--	--	--	8.10E-09	mg/kg-day	6.00E-03	mg/kg-day	1.35E-06				
				Endosulfan II	2.34E-02	mg/kg	1.18E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	2.16E-10	mg/kg-day	--	--	--	1.51E-08	mg/kg-day	6.00E-03	mg/kg-day	2.52E-06				
				Endrin aldehyde	6.30E-02	mg/kg	3.17E-10	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	3.00E-04	mg/kg-day	7.40E-05				
				Endrin Ketone	1.00E-02	mg/kg	5.03E-11	mg/kg-day	--	--	--	3.52E-09	mg/kg-day	3.00E-04	mg/kg-day	1.17E-05				
				Fluoranthene	2.23E+01	mg/kg	1.12E-07	mg/kg-day	--	--	--	7.84E-08	mg/kg-day	4.00E-02	mg/kg-day	1.96E-04				
				Fluorene	2.53E+00	mg/kg	1.27E-08	mg/kg-day	--	--	--	8.90E-07	mg/kg-day	4.00E-02	mg/kg-day	2.23E-05				
				gamma-BHC (Lindane)	2.60E+03	mg/kg	1.31E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.44E-11	9.16E-10	mg/kg-day	3.00E-04	mg/kg-day	3.05E-06				
				gamma-Chlordane	1.27E-02	mg/kg	6.39E-11	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.31E-11	4.47E-09	mg/kg-day	5.00E-04	mg/kg-day	8.95E-06				
				Heptachlor	6.90E-03	mg/kg	3.47E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.42E-10	2.43E-09	mg/kg-day	5.00E-04	mg/kg-day	4.86E-06				
				Heptachlor Epoxide	9.88E-03	mg/kg	4.96E-11	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.73E-10	3.47E-09	mg/kg-day	1.30E-05	mg/kg-day	2.67E-04				
				Indeno(1,2,3-cd)pyrene	4.67E-01	mg/kg	2.50E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.00E-09	1.75E-07	mg/kg-day	--	--	--				
				Iron	3.68E+04	mg/kg	1.85E-04	mg/kg-day	--	--	--	1.30E-02	mg/kg-day	3.00E-01	mg/kg-day	4.32E-02				
				Isophorone	2.00E-01	mg/kg	1.01E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.56E-13	7.05E-08	mg/kg-day	2.00E-01	mg/kg-day	3.52E-07				
				Lead	2.39E+03	mg/kg	1.20E-05	mg/kg-day	--	--	--	8.42E-04	mg/kg-day	--	--	--				
				Manganese	3.04E+02	mg/kg	1.53E-06	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	2.40E-02	mg/kg-day	4.47E-03				
				Mercury	2.65E-01	mg/kg	1.34E-09	mg/kg-day	--	--	--	9.35E-08	mg/kg-day	3.00E-04	mg/kg-day	3.12E-04				
				Methoxychlor	1.20E-01	mg/kg	6.04E-10	mg/kg-day	--	--	--	4.23E-08	mg/kg-day	5.00E-03	mg/kg-day	8.45E-06				
				Methylene chloride	2.40E-03	mg/kg	1.21E-11	mg/kg-day	1.40E-02	(mg/kg-day)-1	1.69E-13	8.45E-10	mg/kg-day	6.00E-02	mg/kg-day	1.41E-08				
				Molybdenum	2.18E+00	mg/kg	1.10E-08	mg/kg-day	--	--	--	7.68E-07	mg/kg-day	5.00E-03	mg/kg-day	1.54E-04				
				Naphthalene	1.30E+01	mg/kg	6.54E-08	mg/kg-day	--	--	--	4.58E-06	mg/kg-day	2.00E-02	mg/kg-day	2.29E-04				
				Nickel	3.89E+01	mg/kg	1.96E-07	mg/kg-day	--	--	--	1.37E-05	mg/kg-day	2.00E-02	mg/kg-day	6.86E-04				
				Phenanthrene	1.17E+01	mg/kg	5.88E-08	mg/kg-day	--	--	--	4.12E-06	mg/kg-day	3.00E-01	mg/kg-day	1.37E-05				
				Phenol	5.80E-01	mg/kg	2.92E-09	mg/kg-day	--	--	--	2.04E-07	mg/kg-day	3.00E-01	mg/kg-day	6.81E-07				
				p-Isopropyltoluene	1.10E-01	mg/kg	5.54E-10	mg/kg-day	--	--	--	3.87E-08	mg/kg-day	1.00E-01	mg/kg-day	3.87E-07				
				Pyrene	2.03E+01	mg/kg	1.02E-07	mg/kg-day	--	--	--	7.17E-06	mg/kg-day	3.00E-02	mg/kg-day	2.39E-04				
				sec-Butylbenzene	7.10E-02	mg/kg	3.57E-10	mg/kg-day	--	--	--	2.50E-08	mg/kg-day	4.00E-02	mg/kg-day	6.25E-07				
				Selenium	2.84E-01	mg/kg	1.43E-09	mg/kg-day	--	--	--	9.99E-08	mg/kg-day	5.00E-03	mg/kg-day	2.00E-05				
				Silver	9.80E-01	mg/kg	4.93E-09	mg/kg-day	--	--	--	3.45E-07	mg/kg-day	5.00E-03	mg/kg-day	6.90E-05				
				Technical Chlordane	5.41E-01	mg/kg	2.72E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.54E-09	1.90E-07	mg/kg-day	5.00E-04	mg/kg-day	3.81E-04				
				Thallium	4.83E-01	mg/kg	2.43E-09	mg/kg-day	--	--	--	1.70E-07	mg/kg-day	8.00E-05	mg/kg-day	2.12E-03				
				Toluene	4.30E-04	mg/kg	2.16E-12	mg/kg-day	--	--	--	1.51E-10	mg/kg-day	8.00E-02	mg/kg-day	1.89E-09				
				Vanadium	3.37E+01	mg/kg	1.69E-07	mg/kg-day	--	--	--	1.19E-05	mg/kg-day	1.00E-03	mg/kg-day	1.19E-02				
				Zinc	3.32E+02	mg/kg	1.67E-06	mg/kg-day	--	--	--	1.17E-04	mg/kg-day	3.00E-01	mg/kg-day	3.90E-04				
				<b>Exposure Route Total</b>											<b>6.55E-07</b>				<b>1.30E-01</b>	
				Dermal	Dermal	Dermal	Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.49E-09	mg/kg-day	--	--	--	1.74E-07	mg/kg-day	1.00E-02	mg/kg-day	1.74E-05
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	8.47E-10	mg/kg-day	--	--	--	5.93E-08	mg/kg-day	1.00E-02	mg/kg-day	5.93E-06
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	8.30E-11	mg/kg-day	--	--	--	5.81E-09	mg/kg-day	5.00E-02	mg/kg-day	1.16E-07
								1,2-Dichlorobenzene	2.60E+01	mg/kg	4.32E-09	mg/kg-day	--	--	--	3.02E-07	mg/kg-day	9.00E-02	mg/kg-day	3.36E-06
								1,2-Dichloropropane	3.60E-03	mg/kg	5.98E-13	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.15E-14	4.18E-11	mg/kg-day	1.14E-03	mg/kg-day	3.67E-08
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.66E-11					mg/kg-day	--	--	--	1.86E-09	mg/kg-day	5.00E-02	mg/kg-day	3.72E-08				
1,3-Dichlorobenzene	1.10E+00	mg/kg	1.83E-10					mg/kg-day	--	--	--	1.28E-08	mg/kg-day	3.00E-02	mg/kg-day	4.26E-07				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	3.49E-11					mg/kg-day	--	--	--	2.44E-09	mg/kg-day	2.00E-02	mg/kg-day	1.22E-07				
2-Methylphenol	8.10E-02	mg/kg	1.35E-10					mg/kg-day	--	--	--	9.42E-09	mg/kg-day	4.00E-03	mg/kg-day	2.35E-06				
2-Methylnaphthalene	1.45E+00	mg/kg	2.41E-10					mg/kg-day	--	--	--	1.68E-08	mg/kg-day	5.00E-02	mg/kg-day	3.37E-07				
4,4'-DDD	1.20E-03	mg/kg	1.99E-13					mg/kg-day	2.40E-01	(mg/kg-day)-1	4.78E-14	1.39E-11	mg/kg-day	5.00E-04	mg/kg-day	2.79E-08				
4,4'-DDE	7.50E-02	mg/kg	1.25E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	4.23E-12	8.72E-10	mg/kg-day	5.00E-04	mg/kg-day	1.74E-06				
4,4'-DDT	4.20E-02	mg/kg	2.09E-11					mg/kg-day	3.40E-01	(mg/kg-day)-1	7.11E-12	1.46E-09	mg/kg-day	5.00E-04	mg/kg-day	2.93E-06				
4-Methylphenol	2.70E-01	mg/kg	4.48E-10					mg/kg-day	--	--	--	3.14E-08	mg/kg-day	5.00E-03	mg/kg-day	6.28E-06				

TABLE H3-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	1.03E-09	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.16E-11	7.21E-08	mg/kg-day	3.00E-03	mg/kg-day	2.40E-05
				4-Nitrophenol	4.20E-01	mg/kg	6.97E-10	mg/kg-day	--	--	--	4.88E-08	mg/kg-day	5.00E-04	mg/kg-day	9.76E-05
				Acenaphthene	3.47E+00	mg/kg	7.49E-09	mg/kg-day	--	--	--	5.25E-07	mg/kg-day	6.00E-02	mg/kg-day	8.74E-06
				Acenaphthylene	8.96E-02	mg/kg	1.49E-11	mg/kg-day	--	--	--	1.04E-09	mg/kg-day	6.00E-02	mg/kg-day	1.74E-08
				Aldrin	1.30E-02	mg/kg	2.16E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.67E-10	1.51E-09	mg/kg-day	3.00E-05	mg/kg-day	5.04E-05
				alpha-BHC	7.30E-04	mg/kg	1.21E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.27E-13	8.49E-12	mg/kg-day	5.00E-04	mg/kg-day	1.70E-08
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	1.50E-07	mg/kg-day	--	--	--	1.05E-05	mg/kg-day	1.00E+00	mg/kg-day	1.05E-05
				Anthracene	9.13E-01	mg/kg	1.97E-09	mg/kg-day	--	--	--	1.38E-07	mg/kg-day	3.00E-01	mg/kg-day	4.60E-07
				Antimony	2.72E+00	mg/kg	4.52E-11	mg/kg-day	--	--	--	3.17E-09	mg/kg-day	4.00E-04	mg/kg-day	7.92E-06
				Aroclor-1248	1.20E+00	mg/kg	2.79E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.58E-09	1.95E-09	mg/kg-day	2.00E-05	mg/kg-day	9.76E-03
				Aroclor-1254	4.38E-01	mg/kg	1.02E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.03E-09	7.12E-08	mg/kg-day	2.00E-05	mg/kg-day	3.56E-03
				Aroclor-1260	4.88E-01	mg/kg	1.14E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.27E-09	7.95E-08	mg/kg-day	2.00E-05	mg/kg-day	3.97E-03
				Aroclor-1268	2.72E-02	mg/kg	6.32E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.26E-10	4.42E-09	mg/kg-day	2.00E-05	mg/kg-day	2.21E-04
				Arsenic	8.53E+00	mg/kg	4.75E-09	mg/kg-day	9.45E+00	(mg/kg-day)-1	4.49E-08	3.32E-07	mg/kg-day	3.00E-04	mg/kg-day	1.11E-03
				Barium	6.94E+01	mg/kg	1.15E-09	mg/kg-day	--	--	--	8.07E-08	mg/kg-day	7.00E-02	mg/kg-day	1.15E-06
				Benzo(a)anthracene	4.21E+00	mg/kg	9.09E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.09E-08	6.37E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	3.04E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	3.64E-08	2.12E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	5.12E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.15E-09	3.59E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.40E-09	mg/kg-day	--	--	--	9.79E-08	mg/kg-day	3.00E-02	mg/kg-day	3.26E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	6.10E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.32E-09	4.27E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	3.78E-12	mg/kg-day	--	--	--	2.65E-10	mg/kg-day	2.00E-03	mg/kg-day	1.32E-07
				Beta-BHC	2.20E-03	mg/kg	3.65E-13	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.48E-13	2.56E-11	mg/kg-day	2.00E-04	mg/kg-day	1.28E-07
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	8.79E-10	mg/kg-day	3.00E-03	(mg/kg-day)-1	2.64E-12	6.16E-08	mg/kg-day	2.00E-02	mg/kg-day	3.08E-06
				Cadmium	8.65E+00	mg/kg	1.44E-10	mg/kg-day	3.80E-01	(mg/kg-day)-1	5.46E-11	1.01E-08	mg/kg-day	5.00E-04	mg/kg-day	2.01E-05
				Carbon disulfide	2.40E-04	mg/kg	9.96E-13	mg/kg-day	--	--	--	6.97E-11	mg/kg-day	1.00E-01	mg/kg-day	6.97E-10
				Chlorobenzene	1.10E-01	mg/kg	1.83E-11	mg/kg-day	--	--	--	1.28E-09	mg/kg-day	2.00E-02	mg/kg-day	6.39E-08
				Chromium	1.00E+02	mg/kg	1.66E-09	mg/kg-day	--	--	--	1.16E-07	mg/kg-day	1.50E+00	mg/kg-day	7.75E-08
				Chrysene	4.80E+00	mg/kg	1.04E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.24E-09	7.25E-07	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.24E-10	mg/kg-day	--	--	--	8.65E-09	mg/kg-day	2.00E-02	mg/kg-day	4.33E-07
				Copper	6.01E+01	mg/kg	9.98E-10	mg/kg-day	--	--	--	6.98E-08	mg/kg-day	4.00E-02	mg/kg-day	1.75E-06
				Delta-BHC	8.40E-03	mg/kg	6.97E-12	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.05E-11	4.88E-10	mg/kg-day	2.00E-04	mg/kg-day	2.44E-08
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	5.95E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.44E-09	4.17E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.16E-09	mg/kg-day	--	--	--	1.51E-07	mg/kg-day	2.00E-03	mg/kg-day	7.56E-05
				Dieldrin	4.89E-02	mg/kg	8.12E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.30E-10	5.69E-10	mg/kg-day	5.00E-05	mg/kg-day	1.14E-05
				Dimethylphthalate	3.80E-02	mg/kg	6.31E-12	mg/kg-day	--	--	--	4.42E-10	mg/kg-day	8.00E-01	mg/kg-day	5.52E-10
				di-n-Butylphthalate	2.30E+00	mg/kg	3.82E-10	mg/kg-day	--	--	--	2.67E-08	mg/kg-day	2.00E-01	mg/kg-day	1.34E-07
				Endosulfan I	2.30E-02	mg/kg	1.91E-11	mg/kg-day	--	--	--	1.34E-09	mg/kg-day	6.00E-03	mg/kg-day	2.23E-07
				Endosulfan II	2.34E-02	mg/kg	1.94E-11	mg/kg-day	--	--	--	1.36E-09	mg/kg-day	6.00E-03	mg/kg-day	2.26E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	3.57E-11	mg/kg-day	--	--	--	2.50E-09	mg/kg-day	6.00E-03	mg/kg-day	4.17E-07
				Endrin aldehyde	6.30E-02	mg/kg	5.23E-11	mg/kg-day	--	--	--	3.66E-09	mg/kg-day	3.00E-04	mg/kg-day	1.22E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	4.80E-08	mg/kg-day	--	--	--	3.36E-06	mg/kg-day	4.00E-02	mg/kg-day	8.41E-05
				Fluorene	2.53E+00	mg/kg	5.46E-09	mg/kg-day	--	--	--	3.82E-07	mg/kg-day	4.00E-02	mg/kg-day	9.55E-06
gamma-BHC (Lindane)	2.60E-03	mg/kg	1.73E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.90E-12	1.21E-10	mg/kg-day	3.00E-04	mg/kg-day	4.03E-07				
gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Heptachlor	6.90E-03	mg/kg	1.15E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.70E-12	8.02E-11	mg/kg-day	5.00E-04	mg/kg-day	1.60E-07				
Heptachlor Epoxide	9.86E-03	mg/kg	1.64E-12	mg/kg-day	5.50E+00	(mg/kg-day)-1	9.00E-12	1.15E-10	mg/kg-day	1.30E-05	mg/kg-day	8.81E-06				
Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.07E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.29E-09	7.51E-08	mg/kg-day	--	--	--				
Iron	3.68E+04	mg/kg	6.11E-07	mg/kg-day	--	--	--	4.27E-05	mg/kg-day	3.00E-01	mg/kg-day	1.42E-04				
Isophorone	2.00E-01	mg/kg	3.32E-10	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.16E-13	2.32E-08	mg/kg-day	2.00E-01	mg/kg-day	1.16E-07				

TABLE H3-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	3.97E-08	mg/kg-day	--	--	--	--	2.78E-06	mg/kg-day	--	--	--	
				Manganese	3.04E+02	mg/kg	5.05E-09	mg/kg-day	--	--	--	--	3.54E-07	mg/kg-day	2.40E-02	mg/kg-day	1.47E+05	
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	
				Methoxychlor	1.20E-01	mg/kg	1.99E-11	mg/kg-day	--	--	--	--	1.39E-09	mg/kg-day	5.00E-03	mg/kg-day	2.79E-07	
				Methylene chloride	2.40E-03	mg/kg	3.99E-13	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	5.58E-15	2.79E-11	mg/kg-day	6.00E-02	mg/kg-day	4.65E-10		
				Molybdenum	2.18E+00	mg/kg	3.62E-11	mg/kg-day	--	--	--	2.53E-09	mg/kg-day	5.00E-03	mg/kg-day	5.07E-07		
				Naphthalene	1.30E+01	mg/kg	2.81E-08	mg/kg-day	--	--	--	1.96E-06	mg/kg-day	2.00E-02	mg/kg-day	9.82E-05		
				Nickel	3.89E+01	mg/kg	6.47E-10	mg/kg-day	--	--	--	4.53E-08	mg/kg-day	2.00E-02	mg/kg-day	2.26E-06		
				Phenanthrene	1.17E+01	mg/kg	1.94E-09	mg/kg-day	--	--	--	1.36E-07	mg/kg-day	3.00E-01	mg/kg-day	4.53E-07		
				Phenol	5.80E-01	mg/kg	9.63E-10	mg/kg-day	--	--	--	6.74E-08	mg/kg-day	3.00E-01	mg/kg-day	2.25E-07		
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--		
				Pyrene	2.03E+01	mg/kg	4.39E-08	mg/kg-day	--	--	--	3.07E-06	mg/kg-day	3.00E-02	mg/kg-day	1.02E-04		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--		
				Selenium	2.84E-01	mg/kg	4.71E-12	mg/kg-day	--	--	--	3.30E-10	mg/kg-day	5.00E-03	mg/kg-day	6.59E-08		
				Silver	9.80E-01	mg/kg	1.63E-11	mg/kg-day	--	--	--	1.14E-09	mg/kg-day	5.00E-03	mg/kg-day	2.28E-07		
				Technical Chlordane	5.41E-01	mg/kg	3.59E-10	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	4.67E-10	2.51E-08	mg/kg-day	5.00E-04	mg/kg-day	5.03E-05		
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--		
				Toluene	4.30E-04	mg/kg	7.14E-14	mg/kg-day	--	--	--	5.00E-12	mg/kg-day	8.00E-02	mg/kg-day	6.25E-11		
				Vanadium	3.37E+01	mg/kg	5.59E-10	mg/kg-day	--	--	--	3.92E-08	mg/kg-day	1.00E-03	mg/kg-day	3.92E-05		
				Zinc	3.32E+02	mg/kg	5.51E-09	mg/kg-day	--	--	--	3.86E-07	mg/kg-day	3.00E-01	mg/kg-day	1.29E-06		
				Exposure Route Total														
Exposure Point Total																		1.60E-01
Exposure Medium Total																		1.50E-01
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	3.19E-10	mg/m <sup>3</sup>	1.67E-13	mg/kg-day	--	--	--	--	1.17E-11	mg/kg-day	2.00E-02	mg/kg-day	5.85E-10		
			2-Methylphenol	1.23E-10	mg/m <sup>3</sup>	6.44E-14	mg/kg-day	--	--	--	4.51E-12	mg/kg-day	--	--	--			
			4,4'-DDD	1.82E-12	mg/m <sup>3</sup>	9.54E-16	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	2.29E-16	6.68E-14	mg/kg-day	5.00E-04	mg/kg-day	1.34E-10			
			4,4'-DDT	6.38E-11	mg/m <sup>3</sup>	3.34E-14	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.14E-14	2.34E-12	mg/kg-day	5.00E-04	mg/kg-day	4.68E-09			
			4-Methylphenol	4.10E-10	mg/m <sup>3</sup>	2.15E-13	mg/kg-day	--	--	--	1.50E-11	mg/kg-day	5.00E-03	mg/kg-day	3.01E-09			
			4-Nitroaniline	9.42E-10	mg/m <sup>3</sup>	4.93E-13	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.04E-14	3.45E-11	mg/kg-day	1.00E-03	mg/kg-day	3.45E-08			
			4-Nitrophenol	6.38E-10	mg/m <sup>3</sup>	3.34E-13	mg/kg-day	--	--	--	2.34E-11	mg/kg-day	5.70E-04	mg/kg-day	4.10E-08			
			Aluminum	1.38E-05	mg/m <sup>3</sup>	7.20E-09	mg/kg-day	--	--	--	5.04E-07	mg/kg-day	1.43E-03	mg/kg-day	3.53E-04			
			Antimony	4.14E-09	mg/m <sup>3</sup>	2.17E-12	mg/kg-day	--	--	--	1.52E-10	mg/kg-day	--	--	--			
			Aroclor-1248	1.82E-09	mg/m <sup>3</sup>	9.54E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.91E-12	6.68E-11	mg/kg-day	2.00E-05	mg/kg-day	3.34E-06			
			Aroclor-1254	6.65E-10	mg/m <sup>3</sup>	3.48E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.96E-13	2.44E-11	mg/kg-day	2.00E-05	mg/kg-day	1.22E-06			
			Aroclor-1260	7.42E-10	mg/m <sup>3</sup>	3.88E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	7.77E-13	2.72E-11	mg/kg-day	2.00E-05	mg/kg-day	1.36E-06			
			Aroclor-1268	4.13E-11	mg/m <sup>3</sup>	2.16E-14	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.32E-14	1.51E-12	mg/kg-day	2.00E-05	mg/kg-day	7.57E-08			
			Arsenic	1.45E-08	mg/m <sup>3</sup>	7.58E-12	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	9.10E-11	5.31E-10	mg/kg-day	8.80E-06	mg/kg-day	6.17E-05			
			Barium	1.06E-07	mg/m <sup>3</sup>	5.52E-11	mg/kg-day	--	--	--	3.87E-09	mg/kg-day	1.40E-04	mg/kg-day	2.76E-05			
			Benzo(a)anthracene	6.40E-09	mg/m <sup>3</sup>	3.35E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.31E-12	2.35E-10	mg/kg-day	--	--	--			
			Benzo(a)pyrene	2.14E-09	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	4.36E-12	7.83E-11	mg/kg-day	--	--	--			
			Benzo(g,h,i)perylene	9.84E-10	mg/m <sup>3</sup>	5.15E-13	mg/kg-day	--	--	--	3.61E-11	mg/kg-day	3.00E-02	mg/kg-day	1.20E-09			
			Benzo(k)fluoranthene	4.29E-09	mg/m <sup>3</sup>	2.25E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	8.76E-13	1.57E-10	mg/kg-day	--	--	--			
			Beryllium	3.46E-10	mg/m <sup>3</sup>	1.81E-13	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	1.52E-12	1.27E-11	mg/kg-day	5.71E-06	mg/kg-day	2.22E-08			
			Beta-BHC	3.34E-12	mg/m <sup>3</sup>	1.75E-15	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	2.62E-15	1.22E-13	mg/kg-day	2.00E-04	mg/kg-day	6.12E-10			
			bis(2-ethylhexyl)phthalate	8.05E-09	mg/m <sup>3</sup>	4.21E-12	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	3.54E-14	2.95E-10	mg/kg-day	2.00E-02	mg/kg-day	1.47E-08			
			Cadmium	1.31E-08	mg/m <sup>3</sup>	6.88E-12	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.03E-10	4.81E-10	mg/kg-day	5.71E-06	mg/kg-day	8.43E-05			
			Chromium	1.52E-07	mg/m <sup>3</sup>	7.95E-11	mg/kg-day	--	--	--	5.57E-09	mg/kg-day	--	--	--			
			Cobalt	1.13E-08	mg/m <sup>3</sup>	5.82E-12	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	5.80E-11	4.14E-10	mg/kg-day	5.71E-06	mg/kg-day	7.26E-05			
			Copper	9.13E-08	mg/m <sup>3</sup>	4.78E-11	mg/kg-day	--	--	--	3.34E-09	mg/kg-day	--	--	--			
			Dibenz(a,h)anthracene	4.19E-10	mg/m <sup>3</sup>	2.19E-13	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	8.99E-13	1.53E-11	mg/kg-day	--	--	--			
			Dimethylphthalate	5.78E-11	mg/m <sup>3</sup>	3.02E-14	mg/kg-day	--	--	--	2.12E-12	mg/kg-day	8.00E-01	mg/kg-day	2.64E-12			

TABLE H3-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	di-n-Butylphthalate	3.50E-09	mg/m <sup>3</sup>	1.83E-12	mg/kg-day	--	--	--	--	1.28E-10	mg/kg-day	1.00E-01	mg/kg-day	1.28E-09				
				Endrin aldehyde	9.57E-11	mg/m <sup>3</sup>	5.01E-14	mg/kg-day	--	--	--	--	3.51E-12	mg/kg-day	3.00E-04	mg/kg-day	1.17E-08				
				Endrin Ketone	1.52E-11	mg/m <sup>3</sup>	7.95E-15	mg/kg-day	--	--	--	--	5.57E-13	mg/kg-day	3.00E-04	mg/kg-day	1.86E-09				
				Heptachlor Epoxide	1.50E-11	mg/m <sup>3</sup>	7.84E-15	mg/kg-day	5.50E+00	(mg/kg-day)-1	4.31E-14	5.49E-13	mg/kg-day	1.30E-05	mg/kg-day	4.22E-08					
				Indeno(1,2,3-cd)pyrene	7.55E-10	mg/m <sup>3</sup>	3.95E-13	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.54E-13	2.77E-11	mg/kg-day	--	--	--					
				Iron	5.59E-05	mg/m <sup>3</sup>	2.92E-08	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	--	--	--					
				Isophorone	3.04E-10	mg/m <sup>3</sup>	1.59E-13	mg/kg-day	--	--	--	1.11E-11	mg/kg-day	--	--	--					
				Lead	3.63E-06	mg/m <sup>3</sup>	1.90E-09	mg/kg-day	--	--	--	1.33E-07	mg/kg-day	--	--	--					
				Manganese	4.63E-07	mg/m <sup>3</sup>	2.42E-10	mg/kg-day	--	--	--	1.69E-08	mg/kg-day	1.43E-05	mg/kg-day	1.19E-03					
				Mercury	4.03E-10	mg/m <sup>3</sup>	2.11E-13	mg/kg-day	--	--	--	1.48E-11	mg/kg-day	8.60E-05	mg/kg-day	1.72E-07					
				Nickel	5.92E-08	mg/m <sup>3</sup>	3.10E-11	mg/kg-day	9.10E-01	(mg/kg-day)-1	2.82E-11	2.17E-09	mg/kg-day	1.40E-05	mg/kg-day	1.55E-04					
				Phenol	8.81E-10	mg/m <sup>3</sup>	4.61E-13	mg/kg-day	--	--	--	3.23E-11	mg/kg-day	5.71E-02	mg/kg-day	5.85E-10					
				Selenium	4.31E-10	mg/m <sup>3</sup>	2.26E-13	mg/kg-day	--	--	--	1.58E-11	mg/kg-day	5.70E-03	mg/kg-day	2.77E-09					
				Silver	1.49E-09	mg/m <sup>3</sup>	7.79E-13	mg/kg-day	--	--	--	5.46E-11	mg/kg-day	--	--	--					
				Thallium	7.33E-10	mg/m <sup>3</sup>	3.84E-13	mg/kg-day	--	--	--	2.69E-11	mg/kg-day	--	--	--					
				Vanadium	5.12E-08	mg/m <sup>3</sup>	2.68E-11	mg/kg-day	--	--	--	1.88E-09	mg/kg-day	--	--	--					
				Zinc	5.04E-07	mg/m <sup>3</sup>	2.64E-10	mg/kg-day	--	--	--	1.85E-08	mg/kg-day	--	--	--					
				Exposure Route Total											2.93E-10					1.95E-03	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	5.46E-08	mg/kg-day	--	--	--	--	3.83E-06	mg/kg-day	1.10E-03	mg/kg-day	3.48E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.86E-07	mg/kg-day	--	--	--	--	1.30E-05	mg/kg-day	1.10E-03	mg/kg-day	1.18E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	6.13E-08	mg/kg-day	--	--	--	--	4.29E-06	mg/kg-day	1.70E-03	mg/kg-day	2.53E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	2.79E-06	mg/kg-day	--	--	--	--	1.95E-04	mg/kg-day	5.70E-02	mg/kg-day	3.42E-03
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.50E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	5.39E-11	1.05E-07	mg/kg-day	1.14E-03	mg/kg-day	9.20E-05	
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.91E-08	mg/kg-day	--	--	--	--	1.34E-06	mg/kg-day	1.70E-03	mg/kg-day	7.87E-04
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	8.52E-08	mg/kg-day	--	--	--	--	5.97E-06	mg/kg-day	3.00E-02	mg/kg-day	1.99E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	8.18E-07	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.27E-08	5.72E-05	mg/kg-day	2.30E-01	mg/kg-day	2.49E-04	
								2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	3.36E-08	mg/kg-day	--	--	--	--	2.35E-06	mg/kg-day	5.00E-02	mg/kg-day	4.70E-05
4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	4.62E-12					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.57E-12	3.24E-10	mg/kg-day	5.00E-04	mg/kg-day	6.47E-07					
Acenaphthene	4.77E-05	mg/m <sup>3</sup>	2.49E-08					mg/kg-day	--	--	--	--	1.75E-06	mg/kg-day	6.00E-02	mg/kg-day	2.91E-05				
Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	6.44E-10					mg/kg-day	--	--	--	--	4.51E-08	mg/kg-day	6.00E-02	mg/kg-day	7.51E-07				
Aldrin	5.63E-09	mg/m <sup>3</sup>	2.95E-12					mg/kg-day	1.70E+01	(mg/kg-day)-1	5.01E-11	2.06E-10	mg/kg-day	3.00E-05	mg/kg-day	6.88E-06					
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.90E-12					mg/kg-day	2.70E+00	(mg/kg-day)-1	5.14E-12	1.33E-10	mg/kg-day	5.00E-04	mg/kg-day	2.67E-07					
alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	3.62E-12					mg/kg-day	1.20E+00	(mg/kg-day)-1	4.34E-12	2.53E-10	mg/kg-day	2.00E-04	mg/kg-day	1.27E-06					
Anthracene	1.25E-05	mg/m <sup>3</sup>	6.56E-09					mg/kg-day	--	--	--	--	4.59E-07	mg/kg-day	3.00E-01	mg/kg-day	1.53E-06				
Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	8.03E-10					mg/kg-day	3.90E-01	(mg/kg-day)-1	3.13E-10	5.62E-08	mg/kg-day	--	--	--					
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	2.37E-10					mg/kg-day	--	--	--	--	1.66E-08	mg/kg-day	2.00E-01	mg/kg-day	8.29E-08				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	2.71E-08					mg/kg-day	--	--	--	--	1.90E-06	mg/kg-day	2.86E-01	mg/kg-day	6.64E-08				
Chrysene	5.27E-06	mg/m <sup>3</sup>	2.76E-09					mg/kg-day	3.90E-02	(mg/kg-day)-1	1.08E-10	1.93E-07	mg/kg-day	--	--	--					
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	2.19E-11					mg/kg-day	1.50E+00	(mg/kg-day)-1	3.29E-11	1.53E-09	mg/kg-day	2.00E-04	mg/kg-day	7.67E-06					
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	2.35E-08					mg/kg-day	--	--	--	--	1.64E-06	mg/kg-day	2.00E-03	mg/kg-day	8.22E-04				
Dieldrin	6.58E-08	mg/m <sup>3</sup>	3.44E-11					mg/kg-day	1.60E+01	(mg/kg-day)-1	5.51E-10	2.41E-09	mg/kg-day	5.00E-05	mg/kg-day	4.82E-05					
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	4.22E-11					mg/kg-day	--	--	--	--	2.95E-09	mg/kg-day	6.00E-03	mg/kg-day	4.92E-07				
Endosulfan II	8.19E-08	mg/m <sup>3</sup>	4.28E-11					mg/kg-day	--	--	--	--	3.00E-09	mg/kg-day	6.00E-03	mg/kg-day	5.00E-07				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	7.88E-11					mg/kg-day	--	--	--	--	5.52E-09	mg/kg-day	6.00E-03	mg/kg-day	9.20E-07				
Fluoranthene	1.44E-05	mg/m <sup>3</sup>	7.53E-09					mg/kg-day	--	--	--	--	5.27E-07	mg/kg-day	4.00E-02	mg/kg-day	1.32E-05				
Fluorene	1.48E-05	mg/m <sup>3</sup>	7.74E-09					mg/kg-day	--	--	--	--	5.42E-07	mg/kg-day	4.00E-02	mg/kg-day	1.35E-05				
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	8.34E-12					mg/kg-day	1.10E+00	(mg/kg-day)-1	9.18E-12	5.84E-10	mg/kg-day	3.00E-04	mg/kg-day	1.95E-08					
gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	6.58E-12					mg/kg-day	1.20E+00	(mg/kg-day)-1	7.89E-12	4.61E-10	mg/kg-day	2.00E-04	mg/kg-day	2.30E-06					
Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.77E-10					mg/kg-day	4.10E+00	(mg/kg-day)-1	7.25E-10	1.24E-08	mg/kg-day	5.00E-04	mg/kg-day	2.48E-05					
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	4.52E-11					mg/kg-day	--	--	--	--	3.16E-09	mg/kg-day	5.00E-03	mg/kg-day	6.33E-07				
Naphthalene	6.99E-04	mg/m <sup>3</sup>	3.66E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	4.39E-08	2.56E-05	mg/kg-day	8.57E-04	mg/kg-day	2.89E-02									

TABLE H3-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Construction Worker  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	1.60E-04	mg/m <sup>3</sup>	8.39E-08	mg/kg-day	--	--	--	5.88E-06	mg/kg-day	3.00E-01	mg/kg-day	1.96E-05
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	7.02E-06	mg/kg-day	1.10E-01	mg/kg-day	6.38E-05
				Pyrene	1.56E-05	mg/m <sup>3</sup>	8.14E-09	mg/kg-day	--	--	--	5.70E-07	mg/kg-day	3.00E-02	mg/kg-day	1.90E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	1.47E-08	mg/kg-day	--	--	--	1.03E-06	mg/kg-day	4.00E-02	mg/kg-day	2.57E-05
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	2.80E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.36E-10	1.96E-08	mg/kg-day	2.00E-04	mg/kg-day	9.81E-05
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.83E-10	mg/kg-day	--	--	--	1.14E-08	mg/kg-day	1.43E+00	mg/kg-day	8.01E-09
				Exposure Route Total								7.88E-08				
Exposure Point Total								7.91E-08								5.57E-02
Exposure Medium Total								7.91E-08								5.57E-02
Medium Total								8.55E-07								2.06E-01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	2.22E-10	mg/kg-day	5.70E-03	(mg/kg-day)-1	1.26E-12	1.55E-08	mg/kg-day	1.40E-01	mg/kg-day	1.11E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	6.61E-11	mg/kg-day	--	--	--	4.62E-09	mg/kg-day	1.70E-03	mg/kg-day	2.72E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	4.33E-10	mg/kg-day	--	--	--	3.03E-08	mg/kg-day	5.70E-02	mg/kg-day	5.32E-07
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	7.20E-02	(mg/kg-day)-1	2.24E-11	2.18E-08	mg/kg-day	1.40E-03	mg/kg-day	1.56E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	4.20E-12	8.17E-09	mg/kg-day	1.14E-03	mg/kg-day	7.17E-06
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	3.76E-11	mg/kg-day	--	--	--	2.63E-09	mg/kg-day	1.70E-03	mg/kg-day	1.55E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	1.47E-10	mg/kg-day	4.00E-02	(mg/kg-day)-1	5.90E-12	1.03E-08	mg/kg-day	2.30E-01	mg/kg-day	4.49E-08
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	5.70E-12	mg/kg-day	--	--	--	3.99E-10	mg/kg-day	1.43E+00	mg/kg-day	2.79E-10
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	5.06E-13	mg/kg-day	--	--	--	3.54E-11	mg/kg-day	5.00E-02	mg/kg-day	7.08E-10
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	6.77E-13	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.30E-13	4.74E-11	mg/kg-day	5.00E-04	mg/kg-day	9.48E-08
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	2.12E-12	mg/kg-day	--	--	--	1.48E-10	mg/kg-day	8.60E-01	mg/kg-day	1.72E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	2.03E-11	mg/kg-day	--	--	--	1.42E-09	mg/kg-day	6.00E-02	mg/kg-day	2.37E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	8.84E-13	mg/kg-day	--	--	--	6.05E-11	mg/kg-day	6.00E-02	mg/kg-day	1.01E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	1.17E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.99E-11	8.19E-11	mg/kg-day	3.00E-05	mg/kg-day	2.73E-06
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	1.48E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.00E-13	1.04E-11	mg/kg-day	5.00E-04	mg/kg-day	2.07E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	3.51E-13	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.21E-13	2.45E-11	mg/kg-day	2.00E-04	mg/kg-day	1.23E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.72E-12	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	3.00E-01	mg/kg-day	4.01E-10
				Benzene	2.61E-07	mg/m <sup>3</sup>	1.37E-10	mg/kg-day	1.00E-01	(mg/kg-day)-1	1.37E-11	9.56E-09	mg/kg-day	8.60E-03	mg/kg-day	1.11E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	2.55E-13	mg/kg-day	3.90E-01	(mg/kg-day)-1	9.93E-14	1.78E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	3.85E-12	mg/kg-day	3.90E-03	(mg/kg-day)-1	1.50E-14	2.70E-10	mg/kg-day	2.00E-02	mg/kg-day	1.35E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	2.36E-09	mg/kg-day	--	--	--	1.65E-07	mg/kg-day	2.00E-01	mg/kg-day	8.25E-07
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	3.83E-11	mg/kg-day	--	--	--	2.68E-09	mg/kg-day	2.86E-01	mg/kg-day	9.39E-09
				Chloroform	2.07E-06	mg/m <sup>3</sup>	1.08E-09	mg/kg-day	1.90E-02	(mg/kg-day)-1	2.06E-11	7.57E-08	mg/kg-day	8.57E-02	mg/kg-day	8.84E-07
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	3.92E-10	mg/kg-day	--	--	--	2.74E-08	mg/kg-day	2.60E-02	mg/kg-day	1.08E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	6.89E-13	mg/kg-day	3.90E-02	(mg/kg-day)-1	2.69E-14	4.82E-11	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	2.77E-10	mg/kg-day	--	--	--	1.84E-08	mg/kg-day	1.00E-02	mg/kg-day	1.94E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	5.14E-13	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.23E-12	3.60E-11	mg/kg-day	5.00E-05	mg/kg-day	7.20E-07
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	1.17E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09
				Endosulfan II	3.88E-13	mg/m <sup>3</sup>	1.93E-16	mg/kg-day	--	--	--	1.35E-14	mg/kg-day	6.00E-03	mg/kg-day	2.25E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	1.04E-10	mg/kg-day	--	--	--	7.31E-09	mg/kg-day	2.90E-01	mg/kg-day	2.52E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	2.65E-13	mg/kg-day	--	--	--	1.85E-11	mg/kg-day	4.00E-02	mg/kg-day	4.63E-10
				Fluorene	1.00E-09	mg/m <sup>3</sup>	5.23E-13	mg/kg-day	--	--	--	3.66E-11	mg/kg-day	4.00E-02	mg/kg-day	9.15E-10
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	6.50E-16	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.15E-16	4.55E-14	mg/kg-day	3.00E-04	mg/kg-day	1.52E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	9.11E-13	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.09E-12	6.37E-11	mg/kg-day	2.00E-04	mg/kg-day	3.19E-07
Heptachlor	1.79E-08	mg/m <sup>3</sup>	9.34E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.83E-11	6.54E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-06				
Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.79E-08	mg/kg-day	--	--	--	1.26E-06	mg/kg-day	1.10E-01	mg/kg-day	1.14E-05				
m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	3.63E-10	mg/kg-day	--	--	--	2.54E-08	mg/kg-day	2.90E-02	mg/kg-day	8.77E-07				
Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.71E-12	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	5.00E-03	mg/kg-day	2.39E-08				
Naphthalene	5.43E-09	mg/m <sup>3</sup>	2.84E-12	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.41E-13	1.99E-10	mg/kg-day	8.57E-04	mg/kg-day	2.32E-07				
n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	1.32E-10	mg/kg-day	--	--	--	9.27E-09	mg/kg-day	8.57E-04	mg/kg-day	1.08E-05				
n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	1.47E-10	mg/kg-day	--	--	--	1.03E-08	mg/kg-day	4.00E-02	mg/kg-day	2.58E-07				

TABLE H3-7.4

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Phenanthrene	2.62E-09	mg/m <sup>3</sup>	1.37E-12	mg/kg-day	--	--	--	9.59E-11	mg/kg-day	3.00E-01	mg/kg-day	3.20E-10
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.79E-08	mg/kg-day	--	--	--	1.26E-06	mg/kg-day	1.10E-01	mg/kg-day	1.14E-05
				Pyrene	4.61E-10	mg/m <sup>3</sup>	2.41E-13	mg/kg-day	--	--	--	1.69E-11	mg/kg-day	3.00E-02	mg/kg-day	5.63E-10
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	4.19E-10	mg/kg-day	--	--	--	2.93E-08	mg/kg-day	4.00E-02	mg/kg-day	7.34E-07
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	4.75E-10	mg/kg-day	--	--	--	3.33E-08	mg/kg-day	4.00E-02	mg/kg-day	8.32E-07
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.99E-10	mg/kg-day	--	--	--	1.39E-08	mg/kg-day	1.43E+00	mg/kg-day	9.74E-09
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	4.69E-10	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	2.00E-02	mg/kg-day	1.64E-06
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	4.88E-10	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	3.41E-12	3.41E-08	mg/kg-day	1.70E-01	mg/kg-day	2.01E-07
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	1.01E-09	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	2.72E-10	7.06E-08	mg/kg-day	2.86E-02	mg/kg-day	2.47E-06
				Exposure Route Total										4.13E-10		
Exposure Point Total										4.13E-10					7.98E-05	
Exposure Medium Total										4.13E-10					7.98E-05	
Medium Total										4.13E-10					7.98E-05	
Total of Receptor Risks Across All Media										8.56E-07	Total of Receptor Hazards Across All Media					2.06E-01

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.03E-07	mg/kg-day	--	--	--	1.03E-08	mg/kg-day	1.00E-02	mg/kg-day	1.03E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	3.49E-07	mg/kg-day	--	--	--	3.49E-08	mg/kg-day	1.00E-02	mg/kg-day	3.49E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	3.42E-08	mg/kg-day	--	--	--	3.42E-07	mg/kg-day	5.00E-02	mg/kg-day	6.85E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.78E-06	mg/kg-day	--	--	--	1.78E-05	mg/kg-day	9.00E-02	mg/kg-day	1.98E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	2.47E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	8.88E-12	2.47E-09	mg/kg-day	1.14E-03	mg/kg-day	2.16E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.10E-08	mg/kg-day	--	--	--	1.10E-07	mg/kg-day	5.00E-02	mg/kg-day	2.19E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	7.53E-08	mg/kg-day	--	--	--	7.53E-07	mg/kg-day	3.00E-02	mg/kg-day	2.51E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	4.68E-07	mg/kg-day	5.40E-03	(mg/kg-day)-1	2.52E-09	4.68E-06	mg/kg-day	3.00E-02	mg/kg-day	1.55E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.44E-08	mg/kg-day	--	--	--	1.44E-07	mg/kg-day	2.00E-02	mg/kg-day	7.19E-06
				2-Methylphenol	8.10E-02	mg/kg	5.55E-09	mg/kg-day	--	--	--	5.55E-08	mg/kg-day	4.00E-03	mg/kg-day	1.39E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	1.15E-07	mg/kg-day	--	--	--	1.15E-06	mg/kg-day	5.00E-02	mg/kg-day	2.29E-05
				4,4'-DDD	1.20E-03	mg/kg	8.22E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.97E-11	8.22E-10	mg/kg-day	5.00E-04	mg/kg-day	1.64E-06
				4,4'-DDE	8.23E-02	mg/kg	5.64E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.92E-09	5.64E-08	mg/kg-day	5.00E-04	mg/kg-day	1.13E-04
				4,4'-DDT	4.45E-02	mg/kg	3.05E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.04E-09	3.05E-08	mg/kg-day	5.00E-04	mg/kg-day	6.09E-05
				4-Methylphenol	2.70E-01	mg/kg	1.85E-08	mg/kg-day	--	--	--	1.85E-07	mg/kg-day	5.00E-03	mg/kg-day	3.70E-05
				4-Nitroaniline	6.20E-01	mg/kg	4.25E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	8.92E-10	4.25E-07	mg/kg-day	3.00E-03	mg/kg-day	1.42E-04
				4-Nitrophenol	4.20E-01	mg/kg	2.88E-08	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	5.00E-04	mg/kg-day	5.75E-04
				Acenaphthene	4.23E+00	mg/kg	2.90E-07	mg/kg-day	--	--	--	2.90E-06	mg/kg-day	6.00E-02	mg/kg-day	4.83E-05
				Acenaphthylene	1.04E-01	mg/kg	7.14E-09	mg/kg-day	--	--	--	7.14E-08	mg/kg-day	6.00E-02	mg/kg-day	1.19E-06
				Aldrin	1.30E-02	mg/kg	8.90E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.51E-08	8.90E-09	mg/kg-day	3.00E-05	mg/kg-day	2.97E-04
				alpha-BHC	7.30E-04	mg/kg	5.00E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.35E-10	5.00E-10	mg/kg-day	5.00E-04	mg/kg-day	1.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	5.58E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	7.25E-10	5.58E-09	mg/kg-day	5.00E-04	mg/kg-day	1.12E-05
				Aluminum	8.82E+03	mg/kg	6.04E-04	mg/kg-day	--	--	--	6.04E-03	mg/kg-day	1.00E+00	mg/kg-day	6.04E-03
				Anthracene	1.05E+00	mg/kg	7.23E-08	mg/kg-day	--	--	--	7.23E-07	mg/kg-day	3.00E-01	mg/kg-day	2.41E-06
				Antimony	4.08E+00	mg/kg	2.79E-07	mg/kg-day	--	--	--	2.79E-06	mg/kg-day	4.00E-04	mg/kg-day	6.98E-03
				Aroclor-1248	1.20E+00	mg/kg	8.22E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.64E-07	8.22E-07	mg/kg-day	2.00E-05	mg/kg-day	4.11E-02
				Aroclor-1254	4.44E-01	mg/kg	3.04E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.08E-08	3.04E-07	mg/kg-day	2.00E-05	mg/kg-day	1.52E-02
				Aroclor-1260	5.41E-01	mg/kg	3.71E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.42E-08	3.71E-07	mg/kg-day	2.00E-05	mg/kg-day	1.85E-02
				Aroclor-1268	2.78E-02	mg/kg	1.90E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.80E-09	1.90E-08	mg/kg-day	2.00E-05	mg/kg-day	9.51E-04
				Arsenic	6.17E+00	mg/kg	4.22E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	3.99E-06	4.22E-06	mg/kg-day	3.00E-04	mg/kg-day	1.41E-02
				Barium	6.78E+01	mg/kg	4.65E-06	mg/kg-day	--	--	--	4.65E-05	mg/kg-day	7.00E-02	mg/kg-day	6.64E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	3.43E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.11E-07	3.43E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.14E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.37E-06	1.14E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.88E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.25E-07	1.88E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	5.23E-08	mg/kg-day	--	--	--	5.23E-07	mg/kg-day	3.00E-02	mg/kg-day	1.74E-05
				Benzo(k)fluoranthene	3.28E+00	mg/kg	2.23E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.68E-07	2.23E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.63E-08	mg/kg-day	--	--	--	1.63E-07	mg/kg-day	2.00E-03	mg/kg-day	8.16E-05
				Beta-BHC	2.20E-03	mg/kg	1.51E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.26E-10	1.51E-09	mg/kg-day	2.00E-04	mg/kg-day	7.53E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	5.36E-07	mg/kg-day	3.00E+03	(mg/kg-day)-1	1.61E-09	5.36E-06	mg/kg-day	2.00E-02	mg/kg-day	2.68E-04
				Cadmium	9.47E+00	mg/kg	6.49E-07	mg/kg-day	3.80E-01	(mg/kg-day)-1	2.47E-07	6.49E-06	mg/kg-day	5.00E-04	mg/kg-day	1.30E-02
				Carbon disulfide	2.40E-04	mg/kg	1.64E-11	mg/kg-day	--	--	--	1.64E-10	mg/kg-day	1.00E-01	mg/kg-day	1.64E-09
				Chlorobenzene	1.10E-01	mg/kg	7.53E-09	mg/kg-day	--	--	--	7.53E-08	mg/kg-day	2.00E-02	mg/kg-day	3.77E-06
				Chromium	1.11E+02	mg/kg	7.62E-06	mg/kg-day	--	--	--	7.62E-05	mg/kg-day	1.50E+00	mg/kg-day	5.08E-05
				Chrysene	5.68E+00	mg/kg	3.89E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	4.67E-08	3.89E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	5.19E-07	mg/kg-day	--	--	--	5.19E-06	mg/kg-day	2.00E-02	mg/kg-day	2.59E-04
Copper	5.71E+01	mg/kg	3.91E-06	mg/kg-day	--	--	--	3.91E-05	mg/kg-day	4.00E-02	mg/kg-day	9.77E-04				
Delta-BHC	8.40E-03	mg/kg	5.75E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	8.63E-10	5.75E-09	mg/kg-day	2.00E-04	mg/kg-day	2.88E-05				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	2.17E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.92E-08	2.17E-07	mg/kg-day	--	--	--				
Dibenzofuran	1.30E-01	mg/kg	8.90E-07	mg/kg-day	--	--	--	8.90E-06	mg/kg-day	2.00E-03	mg/kg-day	4.45E-03				
Dieldrin	5.51E-02	mg/kg	3.78E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.04E-08	3.78E-08	mg/kg-day	5.00E-05	mg/kg-day	7.55E-04				
Dimethylphthalate	3.80E-02	mg/kg	2.60E-09	mg/kg-day	--	--	--	2.60E-08	mg/kg-day	8.00E-01	mg/kg-day	3.25E-08				

TABLE H3-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	1.51E-07	mg/kg-day	--	--	--	1.51E-06	mg/kg-day	2.00E-01	mg/kg-day	7.53E-06				
				Endosulfan I	2.30E-02	mg/kg	1.58E-09	mg/kg-day	--	--	--	1.58E-08	mg/kg-day	6.00E-03	mg/kg-day	2.63E-06				
				Endosulfan II	2.38E-02	mg/kg	1.63E-09	mg/kg-day	--	--	--	1.63E-08	mg/kg-day	6.00E-03	mg/kg-day	2.72E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	2.95E-09	mg/kg-day	--	--	--	2.95E-08	mg/kg-day	6.00E-03	mg/kg-day	4.91E-06				
				Endrin aldehyde	4.21E-02	mg/kg	2.88E-09	mg/kg-day	--	--	--	2.88E-08	mg/kg-day	3.00E-04	mg/kg-day	9.61E-05				
				Endrin Ketone	1.00E-02	mg/kg	6.85E-10	mg/kg-day	--	--	--	6.85E-09	mg/kg-day	3.00E-04	mg/kg-day	2.28E-05				
				Fluoranthene	2.65E+01	mg/kg	1.82E-06	mg/kg-day	--	--	--	1.82E-05	mg/kg-day	4.00E-02	mg/kg-day	4.54E-04				
				Fluorene	2.92E+00	mg/kg	2.00E-07	mg/kg-day	--	--	--	2.00E-06	mg/kg-day	4.00E-02	mg/kg-day	4.99E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.78E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.96E-10	1.78E-09	mg/kg-day	3.00E-04	mg/kg-day	5.94E-06				
				gamma-Chlordane	1.31E-02	mg/kg	8.97E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.17E-09	8.97E-09	mg/kg-day	5.00E-04	mg/kg-day	1.79E-05				
				Heptachlor	6.90E-03	mg/kg	4.73E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.94E-09	4.73E-09	mg/kg-day	5.00E-04	mg/kg-day	9.45E-06				
				Heptachlor Epoxide	1.12E-02	mg/kg	7.64E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	4.20E-09	7.64E-09	mg/kg-day	1.30E-05	mg/kg-day	5.88E-04				
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	5.98E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.17E-08	5.98E-07	mg/kg-day	--	--	--				
				Iron	4.07E+04	mg/kg	2.79E-03	mg/kg-day	--	--	--	2.79E-02	mg/kg-day	3.00E-01	mg/kg-day	9.30E-02				
				Isophorone	2.00E-01	mg/kg	1.37E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.30E-11	1.37E-07	mg/kg-day	2.00E-01	mg/kg-day	6.85E-07				
				Lead	2.90E+03	mg/kg	1.99E-04	mg/kg-day	--	--	--	1.99E-03	mg/kg-day	--	--	--				
				Manganese	3.31E+02	mg/kg	2.27E-05	mg/kg-day	--	--	--	2.27E-04	mg/kg-day	2.40E-02	mg/kg-day	9.45E-03				
				Mercury	3.10E-01	mg/kg	2.12E-08	mg/kg-day	--	--	--	2.12E-07	mg/kg-day	3.00E-04	mg/kg-day	7.07E-04				
				Methoxychlor	1.20E-01	mg/kg	8.22E-09	mg/kg-day	--	--	--	8.22E-08	mg/kg-day	5.00E-03	mg/kg-day	1.64E-05				
				Molybdenum	2.50E+00	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.72E-06	mg/kg-day	5.00E-03	mg/kg-day	3.43E-04				
				Naphthalene	1.30E+01	mg/kg	8.90E-07	mg/kg-day	--	--	--	8.90E-06	mg/kg-day	2.00E-02	mg/kg-day	4.45E-04				
				Nickel	3.91E+01	mg/kg	2.68E-06	mg/kg-day	--	--	--	2.68E-05	mg/kg-day	2.00E-02	mg/kg-day	1.34E-03				
				Phenanthrene	1.39E+01	mg/kg	9.53E-07	mg/kg-day	--	--	--	9.53E-06	mg/kg-day	3.00E-01	mg/kg-day	3.18E-05				
				Phenol	5.80E-01	mg/kg	3.97E-08	mg/kg-day	--	--	--	3.97E-07	mg/kg-day	3.00E-01	mg/kg-day	1.32E-06				
				p-Isopropyltoluene	1.10E-01	mg/kg	7.53E-09	mg/kg-day	--	--	--	7.53E-08	mg/kg-day	1.00E-01	mg/kg-day	7.53E-07				
				Pyrene	2.41E+01	mg/kg	1.65E-08	mg/kg-day	--	--	--	1.65E-05	mg/kg-day	3.00E-02	mg/kg-day	5.51E-04				
				sec-Butylbenzene	7.10E-02	mg/kg	4.86E-09	mg/kg-day	--	--	--	4.86E-08	mg/kg-day	4.00E-02	mg/kg-day	1.22E-06				
				Selenium	2.24E-01	mg/kg	1.54E-08	mg/kg-day	--	--	--	1.54E-07	mg/kg-day	5.00E-03	mg/kg-day	3.07E-05				
				Silver	1.16E+00	mg/kg	7.94E-08	mg/kg-day	--	--	--	7.94E-07	mg/kg-day	5.00E-03	mg/kg-day	1.59E-04				
				Technical Chlordane	5.51E-01	mg/kg	3.77E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.91E-08	3.77E-07	mg/kg-day	5.00E-04	mg/kg-day	7.55E-04				
				Thallium	4.97E-01	mg/kg	3.40E-08	mg/kg-day	--	--	--	3.40E-07	mg/kg-day	8.00E-05	mg/kg-day	4.26E-03				
				Toluene	4.30E-04	mg/kg	2.95E-11	mg/kg-day	--	--	--	2.95E-10	mg/kg-day	8.00E-02	mg/kg-day	3.68E-09				
				Vanadium	3.41E+01	mg/kg	2.34E-06	mg/kg-day	--	--	--	2.34E-05	mg/kg-day	1.00E-03	mg/kg-day	2.34E-02				
				Zinc	4.53E+02	mg/kg	3.11E-05	mg/kg-day	--	--	--	3.11E-04	mg/kg-day	3.00E-01	mg/kg-day	1.04E-03				
				Exposure Route Total							7.16E-06					2.62E-01				
				Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1,2,3-Trichlorobenzene	1.17E-08	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	1.00E-02	mg/kg-day	1.17E-05		
								1,2,4-Trichlorobenzene	3.98E-09	mg/kg-day	--	--	--	3.98E-08	mg/kg-day	1.00E-02	mg/kg-day	3.98E-06		
								1,2,4-Trimethylbenzene	3.90E-10	mg/kg-day	--	--	--	3.90E-09	mg/kg-day	5.00E-02	mg/kg-day	7.81E-08		
								1,2-Dichlorobenzene	2.03E-08	mg/kg-day	--	--	--	2.03E-07	mg/kg-day	9.00E-02	mg/kg-day	2.26E-06		
								1,2-Dichloropropane	2.81E-12	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.01E-13	2.81E-11	mg/kg-day	1.14E-03	mg/kg-day	2.47E-08		
								1,3,5-Trimethylbenzene	1.25E-10	mg/kg-day	--	--	--	1.25E-09	mg/kg-day	5.00E-02	mg/kg-day	2.50E-08		
								1,3-Dichlorobenzene	8.59E-10	mg/kg-day	--	--	--	8.59E-09	mg/kg-day	3.00E-02	mg/kg-day	2.86E-07		
								1,4-Dichlorobenzene	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--	
								2,4-Dimethylphenol	1.64E-10	mg/kg-day	--	--	--	1.64E-09	mg/kg-day	2.00E-02	mg/kg-day	8.20E-08		
								2-Methylphenol	6.32E-10	mg/kg-day	--	--	--	6.32E-09	mg/kg-day	4.00E-03	mg/kg-day	1.58E-06		
2-Methylnaphthalene	1.31E-09	mg/kg-day	--					--	--	1.31E-08	mg/kg-day	5.00E-02	mg/kg-day	2.61E-07						
4,4'-DDD	9.37E-13	mg/kg-day	2.40E-01					(mg/kg-day)-1	2.25E-13	9.37E-12	mg/kg-day	5.00E-04	mg/kg-day	1.87E-08						
4,4'-DDE	6.43E-11	mg/kg-day	3.40E-01					(mg/kg-day)-1	2.19E-11	6.43E-10	mg/kg-day	5.00E-04	mg/kg-day	1.29E-06						
4,4'-DDT	1.04E-10	mg/kg-day	3.40E-01					(mg/kg-day)-1	3.54E-11	1.04E-09	mg/kg-day	5.00E-04	mg/kg-day	2.08E-06						
4-Methylphenol	2.11E-09	mg/kg-day	--					--	--	2.11E-08	mg/kg-day	5.00E-03	mg/kg-day	4.22E-06						
4-Nitroaniline	4.84E-09	mg/kg-day	2.10E-02					(mg/kg-day)-1	1.02E-10	4.84E-08	mg/kg-day	3.00E-03	mg/kg-day	1.61E-05						

TABLE H3-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	3.28E-09	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	5.00E-04	mg/kg-day	6.56E-05
				Acenaphthene	4.23E+00	mg/kg	4.30E-08	mg/kg-day	--	--	--	4.30E-07	mg/kg-day	6.00E-02	mg/kg-day	7.16E-06
				Acenaphthylene	1.04E-01	mg/kg	8.13E-11	mg/kg-day	--	--	--	8.13E-10	mg/kg-day	6.00E-02	mg/kg-day	1.36E-08
				Aldrin	1.30E-02	mg/kg	1.02E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.73E-09	1.02E-09	mg/kg-day	3.00E-05	mg/kg-day	3.38E-05
				alpha-BHC	7.30E-04	mg/kg	5.70E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.54E-12	5.70E-12	mg/kg-day	5.00E-04	mg/kg-day	1.14E-08
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	6.89E-07	mg/kg-day	--	--	--	6.89E-06	mg/kg-day	1.00E+00	mg/kg-day	6.89E-06
				Anthracene	1.05E+00	mg/kg	1.07E-08	mg/kg-day	--	--	--	1.07E-07	mg/kg-day	3.00E-01	mg/kg-day	3.57E-07
				Antimony	4.08E+00	mg/kg	3.18E-10	mg/kg-day	--	--	--	3.18E-09	mg/kg-day	4.00E-04	mg/kg-day	7.96E-06
				Aroclor-1248	1.20E+00	mg/kg	1.31E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.62E-08	1.31E-07	mg/kg-day	2.00E-05	mg/kg-day	6.56E-03
				Aroclor-1254	4.44E-01	mg/kg	4.85E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.71E-09	4.85E-08	mg/kg-day	2.00E-05	mg/kg-day	2.43E-03
				Aroclor-1260	5.41E-01	mg/kg	5.92E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.18E-08	5.92E-08	mg/kg-day	2.00E-05	mg/kg-day	2.96E-03
				Aroclor-1268	2.78E-02	mg/kg	3.03E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.07E-10	3.03E-09	mg/kg-day	2.00E-05	mg/kg-day	1.52E-04
				Arsenic	6.17E+00	mg/kg	1.44E-08	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.36E-07	1.44E-07	mg/kg-day	3.00E-04	mg/kg-day	4.81E-04
				Barium	6.78E+01	mg/kg	5.30E-09	mg/kg-day	--	--	--	5.30E-08	mg/kg-day	7.00E-02	mg/kg-day	7.57E-07
				Benzo(a)anthracene	5.00E+00	mg/kg	5.08E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.10E-08	5.08E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.69E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	2.03E-07	1.69E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.78E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.34E-08	2.78E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	7.75E-09	mg/kg-day	--	--	--	7.75E-08	mg/kg-day	3.00E-02	mg/kg-day	2.58E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.31E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.97E-08	3.31E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.86E-11	mg/kg-day	--	--	--	1.86E-10	mg/kg-day	2.00E-03	mg/kg-day	9.30E-08
				Beta-BHC	2.20E-03	mg/kg	1.72E-12	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.58E-12	1.72E-11	mg/kg-day	2.00E-04	mg/kg-day	8.59E-08
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	6.12E-09	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.83E-11	6.12E-08	mg/kg-day	2.00E-02	mg/kg-day	3.06E-06
				Cadmium	9.47E+00	mg/kg	7.40E-10	mg/kg-day	3.80E-01	(mg/kg-day)-1	2.81E-10	7.40E-09	mg/kg-day	5.00E-04	mg/kg-day	1.48E-05
				Carbon disulfide	2.40E-04	mg/kg	4.68E-12	mg/kg-day	--	--	--	4.68E-11	mg/kg-day	1.00E-01	mg/kg-day	4.68E-10
				Chlorobenzene	1.10E-01	mg/kg	8.59E-11	mg/kg-day	--	--	--	8.59E-10	mg/kg-day	2.00E-02	mg/kg-day	4.29E-08
				Chromium	1.11E+02	mg/kg	8.68E-09	mg/kg-day	--	--	--	8.68E-08	mg/kg-day	1.50E+00	mg/kg-day	5.79E-08
				Chrysene	5.68E+00	mg/kg	5.77E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	6.92E-09	5.77E-07	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	5.91E-10	mg/kg-day	--	--	--	5.91E-09	mg/kg-day	2.00E-02	mg/kg-day	2.96E-07
				Copper	5.71E+01	mg/kg	4.46E-09	mg/kg-day	--	--	--	4.46E-08	mg/kg-day	4.00E-02	mg/kg-day	1.11E-06
				Delta-BHC	8.40E-03	mg/kg	3.28E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.92E-11	3.28E-10	mg/kg-day	2.00E-04	mg/kg-day	1.64E-06
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	3.22E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.32E-08	3.22E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	1.02E-08	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	2.00E-03	mg/kg-day	5.08E-05
				Dieldrin	5.51E-02	mg/kg	4.31E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.89E-10	4.31E-10	mg/kg-day	5.00E-05	mg/kg-day	8.61E-06
				Dimethylphthalate	3.80E-02	mg/kg	2.97E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	8.00E-01	mg/kg-day	3.71E-10
				di-n-Butylphthalate	2.20E+00	mg/kg	1.72E-09	mg/kg-day	--	--	--	1.72E-08	mg/kg-day	2.00E-01	mg/kg-day	8.59E-08
				Endosulfan I	2.30E-02	mg/kg	8.98E-11	mg/kg-day	--	--	--	8.98E-10	mg/kg-day	6.00E-03	mg/kg-day	1.50E-07
				Endosulfan II	2.38E-02	mg/kg	9.30E-11	mg/kg-day	--	--	--	9.30E-10	mg/kg-day	6.00E-03	mg/kg-day	1.55E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	1.68E-10	mg/kg-day	--	--	--	1.68E-09	mg/kg-day	6.00E-03	mg/kg-day	2.80E-07
				Endrin aldehyde	4.21E-02	mg/kg	1.64E-10	mg/kg-day	--	--	--	1.64E-09	mg/kg-day	3.00E-04	mg/kg-day	5.48E-06
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	2.69E-07	mg/kg-day	--	--	--	2.69E-06	mg/kg-day	4.00E-02	mg/kg-day	6.73E-05
				Fluorene	2.92E+00	mg/kg	2.96E-08	mg/kg-day	--	--	--	2.96E-07	mg/kg-day	4.00E-02	mg/kg-day	7.40E-06
				gamma-BHC (Lindane)	2.60E-03	mg/kg	8.12E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	8.93E-12	8.12E-11	mg/kg-day	3.00E-04	mg/kg-day	2.71E-07
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	5.39E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.21E-11	5.39E-11	mg/kg-day	5.00E-04	mg/kg-day	1.08E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	8.71E-12	mg/kg-day	5.50E+00	(mg/kg-day)-1	4.79E-11	8.71E-11	mg/kg-day	1.30E-05	mg/kg-day	6.70E-06
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	8.86E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.06E-08	8.86E-08	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	3.18E-06	mg/kg-day	--	--	--	3.18E-05	mg/kg-day	3.00E-01	mg/kg-day	1.06E-04
				Isophorone	2.00E-01	mg/kg	1.56E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.48E-12	1.56E-08	mg/kg-day	2.00E-01	mg/kg-day	7.81E-08
				Lead	2.90E+03	mg/kg	2.27E-07	mg/kg-day	--	--	--	2.27E-06	mg/kg-day	--	--	--

TABLE H3-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	2.58E-08	mg/kg-day	--	--	--	--	2.58E-07	mg/kg-day	2.40E-02	mg/kg-day	1.08E-05				
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	3.00E-04	mg/kg-day	--	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	9.37E-11	mg/kg-day	--	--	--	--	--	9.37E-10	mg/kg-day	5.00E-03	mg/kg-day	1.87E-07			
				Molybdenum	2.50E+00	mg/kg	1.96E-10	mg/kg-day	--	--	--	--	--	1.96E-09	mg/kg-day	5.00E-03	mg/kg-day	3.91E-07			
				Naphthalene	1.30E+01	mg/kg	1.32E-07	mg/kg-day	--	--	--	--	--	1.32E-06	mg/kg-day	2.00E-02	mg/kg-day	6.60E-05			
				Nickel	3.91E+01	mg/kg	3.05E-09	mg/kg-day	--	--	--	--	--	3.05E-08	mg/kg-day	2.00E-02	mg/kg-day	1.53E-06			
				Phenanthrene	1.39E+01	mg/kg	1.09E-08	mg/kg-day	--	--	--	--	--	1.09E-07	mg/kg-day	3.00E-01	mg/kg-day	3.62E-07			
				Phenol	5.80E-01	mg/kg	4.53E-09	mg/kg-day	--	--	--	--	--	4.53E-08	mg/kg-day	3.00E-01	mg/kg-day	1.51E-07			
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	1.00E-01	mg/kg-day	--	mg/kg-day	--		
				Pyrene	2.41E+01	mg/kg	2.45E-07	mg/kg-day	--	--	--	--	--	2.45E-06	mg/kg-day	3.00E-02	mg/kg-day	8.17E-05			
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	--	4.00E-02	mg/kg-day	--	mg/kg-day	--		
				Selenium	2.24E-01	mg/kg	1.75E-11	mg/kg-day	--	--	--	--	--	1.75E-10	mg/kg-day	5.00E-03	mg/kg-day	3.51E-08			
				Silver	1.16E+00	mg/kg	9.05E-11	mg/kg-day	--	--	--	--	--	9.05E-10	mg/kg-day	5.00E-03	mg/kg-day	1.81E-07			
				Technical Chlordane	5.51E-01	mg/kg	1.72E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.24E-09	1.72E-08	mg/kg-day	5.00E-04	mg/kg-day	3.44E-05					
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	8.00E-05	mg/kg-day	--	mg/kg-day	--		
				Toluene	4.30E-04	mg/kg	3.36E-13	mg/kg-day	--	--	--	--	--	3.36E-12	mg/kg-day	8.00E-02	mg/kg-day	4.20E-11			
				Vanadium	3.41E+01	mg/kg	2.67E-09	mg/kg-day	--	--	--	--	--	2.67E-08	mg/kg-day	1.00E-03	mg/kg-day	2.67E-05			
				Zinc	4.53E+02	mg/kg	3.54E-08	mg/kg-day	--	--	--	--	--	3.54E-07	mg/kg-day	3.00E-01	mg/kg-day	1.18E-06			
				<b>Exposure Point Total</b>																	
								<b>Exposure Route Total</b>						5.58E-07						1.32E-02	
										7.72E-08						2.76E-01					
Homegrown Produce			Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--				
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--			
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
				1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--			
				1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	3.60E-02	(mg/kg-day)-1	--	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--			
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
				1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
				2,4-Dimethylphenol	2.10E-01	mg/kg	4.01E-06	mg/kg-day	--	--	--	--	--	4.01E-05	mg/kg-day	2.00E-02	mg/kg-day	2.01E-03			
				2-Methylphenol	8.10E-02	mg/kg	3.68E-06	mg/kg-day	--	--	--	--	--	3.68E-05	mg/kg-day	4.00E-03	mg/kg-day	9.21E-03			
				2-Methylnaphthalene	1.67E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--			
				4,4-DDD	1.20E-03	mg/kg	3.91E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	9.38E-12	3.91E-10	mg/kg-day	5.00E-04	mg/kg-day	7.81E-07					
				4,4-DDE	8.23E-02	mg/kg	1.94E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.60E-10	1.94E-08	mg/kg-day	5.00E-04	mg/kg-day	3.86E-05					
				4,4-DDT	4.45E-02	mg/kg	4.52E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.54E-09	4.52E-08	mg/kg-day	5.00E-04	mg/kg-day	9.05E-05					
				4-Methylphenol	2.70E-01	mg/kg	1.26E-05	mg/kg-day	--	--	--	1.26E-04	mg/kg-day	5.00E-03	mg/kg-day	2.52E-02					
				4-Nitroaniline	6.20E-01	mg/kg	1.98E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	4.16E-07	1.98E-04	mg/kg-day	3.00E-03	mg/kg-day	6.81E-02					
				4-Nitrophenol	4.20E-01	mg/kg	2.02E-05	mg/kg-day	--	--	--	2.02E-04	mg/kg-day	5.00E-04	mg/kg-day	4.03E-01					
				Acenaphthene	4.23E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--					
				Acenaphthylene	1.04E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--					
				Aldrin	1.30E-02	mg/kg	6.93E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.18E-08	6.93E-09	mg/kg-day	3.00E-05	mg/kg-day	2.31E-04					
				alpha-BHC	7.30E-04	mg/kg	8.40E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.27E-08	8.40E-08	mg/kg-day	5.00E-04	mg/kg-day	1.66E-04					
				alpha-Chlordane	8.14E-03	mg/kg	9.53E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.24E-09	9.53E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05					
				Aluminum	8.82E+03	mg/kg	1.41E-04	mg/kg-day	--	--	--	1.41E-03	mg/kg-day	1.00E+00	mg/kg-day	1.41E-03					
				Antimony	1.05E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--					
				Antimony	4.08E+00	mg/kg	3.00E-06	mg/kg-day	--	--	--	3.00E-05	mg/kg-day	4.00E-04	mg/kg-day	7.50E-02					
				Aroclor-1248	1.20E+00	mg/kg	3.92E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	7.84E-08	3.92E-07	mg/kg-day	2.00E-05	mg/kg-day	1.96E-02					
				Aroclor-1254	4.44E-01	mg/kg	1.94E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.88E-07	1.94E-06	mg/kg-day	2.00E-05	mg/kg-day	9.70E-02					
Aroclor-1260	5.41E-01	mg/kg	8.46E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.69E-08	8.46E-08	mg/kg-day	2.00E-05	mg/kg-day	4.23E-03									
Aroclor-1268	2.78E-02	mg/kg	1.21E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.43E-08	1.21E-07	mg/kg-day	2.00E-05	mg/kg-day	6.07E-03									
Arsenic	6.17E+00	mg/kg	9.07E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	8.57E-06	9.07E-06	mg/kg-day	3.00E-04	mg/kg-day	3.02E-02									
Barium	6.78E+01	mg/kg	2.49E-05	mg/kg-day	--	--	--	2.49E-04	mg/kg-day	7.00E-02	mg/kg-day	3.56E-03									

TABLE H3-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	3.15E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.78E-08	3.15E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	5.95E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	7.13E-08	5.95E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	9.78E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.17E-07	9.78E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.08E-08	mg/kg-day	--	--	--	2.08E-07	mg/kg-day	3.00E-02	mg/kg-day	6.93E-08
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.16E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.40E-07	1.16E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	8.76E-09	mg/kg-day	--	--	--	8.76E-08	mg/kg-day	2.00E-03	mg/kg-day	4.38E-05
				Beta-BHC	2.20E-03	mg/kg	2.53E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.80E-08	2.53E-07	mg/kg-day	2.00E-04	mg/kg-day	1.27E-03
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	6.64E-05	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.89E-07	6.64E-04	mg/kg-day	2.00E-02	mg/kg-day	3.32E-02
				Cadmium	9.47E+00	mg/kg	3.48E-05	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.32E-05	3.48E-04	mg/kg-day	5.00E-04	mg/kg-day	6.87E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	1.23E-05	mg/kg-day	--	--	--	1.23E-04	mg/kg-day	1.50E+00	mg/kg-day	8.18E-05
				Chrysene	5.68E+00	mg/kg	2.51E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.01E-08	2.51E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.30E-06	mg/kg-day	--	--	--	1.30E-05	mg/kg-day	2.00E-02	mg/kg-day	6.50E-04
				Copper	5.71E+01	mg/kg	3.50E-04	mg/kg-day	--	--	--	3.50E-03	mg/kg-day	4.00E-02	mg/kg-day	8.74E-02
				Delta-BHC	8.40E-03	mg/kg	7.87E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.18E-09	7.87E-09	mg/kg-day	2.00E-04	mg/kg-day	3.94E-05
				Dibenz(a,h)anthracene	3.17E-01	mg/kg	7.00E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.87E-08	7.00E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	7.16E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.15E-05	7.16E-06	mg/kg-day	5.00E-05	mg/kg-day	1.43E-01
				Dimethylphthalate	3.80E-02	mg/kg	1.39E-06	mg/kg-day	--	--	--	1.39E-05	mg/kg-day	8.00E-01	mg/kg-day	1.73E-05
				di-n-Butylphthalate	2.20E+00	mg/kg	1.12E-07	mg/kg-day	--	--	--	1.12E-06	mg/kg-day	2.00E-01	mg/kg-day	5.62E-06
				Endosulfan I	2.30E-02	mg/kg	2.53E-07	mg/kg-day	--	--	--	2.53E-06	mg/kg-day	6.00E-03	mg/kg-day	4.21E-04
				Endosulfan II	2.38E-02	mg/kg	2.51E-07	mg/kg-day	--	--	--	2.51E-06	mg/kg-day	6.00E-03	mg/kg-day	4.18E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	4.42E-07	mg/kg-day	--	--	--	4.42E-08	mg/kg-day	6.00E-03	mg/kg-day	7.37E-04
				Endrin aldehyde	4.21E-02	mg/kg	1.71E-09	mg/kg-day	--	--	--	1.71E-08	mg/kg-day	3.00E-04	mg/kg-day	5.70E-05
				Endrin Ketone	1.00E-02	mg/kg	4.07E-10	mg/kg-day	--	--	--	4.07E-09	mg/kg-day	3.00E-04	mg/kg-day	1.36E-05
				Fluoranthene	2.65E+01	mg/kg	1.76E-06	mg/kg-day	--	--	--	1.76E-05	mg/kg-day	4.00E-02	mg/kg-day	4.39E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.05E-07	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.16E-07	1.05E-06	mg/kg-day	3.00E-04	mg/kg-day	3.51E-03
				gamma-Chlordane	1.31E-02	mg/kg	1.53E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.99E-09	1.53E-08	mg/kg-day	5.00E-04	mg/kg-day	3.07E-05
				Heptachlor	6.90E-03	mg/kg	6.00E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.46E-09	6.00E-09	mg/kg-day	5.00E-04	mg/kg-day	1.20E-05
				Heptachlor Epoxide	1.12E-02	mg/kg	3.16E-07	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.74E-06	3.16E-06	mg/kg-day	1.30E-05	mg/kg-day	2.43E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.33E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.80E-08	2.33E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	9.93E-04	mg/kg-day	--	--	--	9.93E-03	mg/kg-day	3.00E-01	mg/kg-day	3.31E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	6.40E-04	mg/kg-day	--	--	--	6.40E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	4.06E-04	mg/kg-day	--	--	--	4.06E-03	mg/kg-day	2.40E-02	mg/kg-day	1.69E-01
				Mercury	3.10E-01	mg/kg	1.52E-06	mg/kg-day	--	--	--	1.52E-05	mg/kg-day	3.00E-04	mg/kg-day	5.06E-02
				Methoxychlor	1.20E-01	mg/kg	2.55E-09	mg/kg-day	--	--	--	2.55E-08	mg/kg-day	5.00E-03	mg/kg-day	5.10E-06
				Molybdenum	2.50E+00	mg/kg	3.68E-06	mg/kg-day	--	--	--	3.68E-05	mg/kg-day	5.00E-03	mg/kg-day	7.37E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.91E+01	mg/kg	5.76E-05	mg/kg-day	--	--	--	5.76E-04	mg/kg-day	2.00E-02	mg/kg-day	2.88E-02
				Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
				Phenol	5.80E-01	mg/kg	7.01E-05	mg/kg-day	--	--	--	7.01E-04	mg/kg-day	3.00E-01	mg/kg-day	2.34E-03
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.24E-01	mg/kg	1.38E-07	mg/kg-day	--	--	--	1.38E-06	mg/kg-day	5.00E-03	mg/kg-day	2.75E-04
				Silver	1.16E+00	mg/kg	2.84E-06	mg/kg-day	--	--	--	2.84E-05	mg/kg-day	5.00E-03	mg/kg-day	5.68E-03
				Technical Chlordane	5.51E-01	mg/kg	6.45E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.38E-08	6.45E-07	mg/kg-day	5.00E-04	mg/kg-day	1.29E-03
				Thallium	4.97E-01	mg/kg	4.87E-09	mg/kg-day	--	--	--	4.87E-08	mg/kg-day	8.00E-05	mg/kg-day	6.09E-04

TABLE H3-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--	
				Vanadium	3.41E+01	mg/kg	2.51E-06	mg/kg-day	--	--	--	2.51E-05	mg/kg-day	1.00E-03	mg/kg-day	2.51E-02	
				Zinc	4.53E+02	mg/kg	1.00E-02	mg/kg-day	--	--	--	1.00E-01	mg/kg-day	3.00E-01	mg/kg-day	3.34E-01	
Exposure Route Total														2.61E+00			
Exposure Point Total														2.61E+00			
Exposure Medium Total														2.89E+00			
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.6E-10	mg/m <sup>3</sup>	3.30E-12	mg/kg-day	--	--	--	--	3.30E-11	mg/kg-day	2.0E-02	mg/kg-day	1.65E-09	
			2-Methylphenol	6.1E-11	mg/m <sup>3</sup>	1.27E-12	mg/kg-day	--	--	--	--	--	1.27E-11	mg/kg-day	--	--	--
			4,4-DDD	9.1E-13	mg/m <sup>3</sup>	1.88E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	4.52E-15	1.88E-13	mg/kg-day	5.00E-04	mg/kg-day	3.77E-10		
			4,4-DDT	3.4E-11	mg/m <sup>3</sup>	6.98E-13	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.37E-13	6.98E-12	mg/kg-day	5.00E-04	mg/kg-day	1.40E-08		
			4-Methylphenol	2.0E-10	mg/m <sup>3</sup>	4.24E-12	mg/kg-day	--	--	--	4.24E-11	mg/kg-day	5.00E-03	mg/kg-day	8.47E-09		
			4-Nitroaniline	4.7E-10	mg/m <sup>3</sup>	9.73E-12	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.04E-13	9.73E-11	mg/kg-day	1.00E-03	mg/kg-day	9.73E-08		
			4-Nitrophenol	3.2E-10	mg/m <sup>3</sup>	6.59E-12	mg/kg-day	--	--	--	6.59E-11	mg/kg-day	5.70E-04	mg/kg-day	1.16E-07		
			Aluminum	6.7E-08	mg/m <sup>3</sup>	1.38E-07	mg/kg-day	--	--	--	1.38E-06	mg/kg-day	1.43E-03	mg/kg-day	9.68E-04		
			Antimony	3.1E-09	mg/m <sup>3</sup>	6.40E-11	mg/kg-day	--	--	--	6.40E-10	mg/kg-day	--	--	--		
			Aroclor-1248	9.1E-10	mg/m <sup>3</sup>	1.88E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.77E-11	1.88E-10	mg/kg-day	2.00E-05	mg/kg-day	9.41E-06		
			Aroclor-1254	3.4E-10	mg/m <sup>3</sup>	6.97E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.39E-11	6.97E-11	mg/kg-day	2.00E-05	mg/kg-day	3.48E-06		
			Aroclor-1260	4.1E-10	mg/m <sup>3</sup>	8.49E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.70E-11	8.49E-11	mg/kg-day	2.00E-05	mg/kg-day	4.25E-06		
			Aroclor-1268	2.1E-11	mg/m <sup>3</sup>	4.36E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	8.71E-13	4.36E-12	mg/kg-day	2.00E-05	mg/kg-day	2.18E-07		
			Arsenic	4.7E-09	mg/m <sup>3</sup>	9.68E-11	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.16E-09	9.68E-10	mg/kg-day	8.60E-06	mg/kg-day	1.13E-04		
			Barium	5.1E-08	mg/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	1.06E-08	mg/kg-day	1.40E-04	mg/kg-day	7.60E-05		
			Benzo(a)anthracene	3.8E-09	mg/m <sup>3</sup>	7.65E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	3.06E-11	7.65E-10	mg/kg-day	--	--	--		
			Benzo(a)pyrene	1.3E-09	mg/m <sup>3</sup>	2.61E-11	mg/kg-day	3.90E+00	(mg/kg-day)-1	1.02E-10	2.61E-10	mg/kg-day	--	--	--		
			Benzo(g,h,i)perylene	5.8E-10	mg/m <sup>3</sup>	1.20E-11	mg/kg-day	--	--	--	1.20E-10	mg/kg-day	3.00E-02	mg/kg-day	3.99E-09		
			Benzo(k)fluoranthene	2.5E-09	mg/m <sup>3</sup>	5.12E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.00E-11	5.12E-10	mg/kg-day	--	--	--		
			Beryllium	1.8E-10	mg/m <sup>3</sup>	3.74E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	3.14E-11	3.74E-11	mg/kg-day	5.71E-06	mg/kg-day	6.54E-06		
			Beta-BHC	1.7E-12	mg/m <sup>3</sup>	3.45E-14	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.18E-14	3.45E-13	mg/kg-day	2.00E-04	mg/kg-day	1.73E-09		
			bis(2-ethylhexyl)phthalate	5.9E-09	mg/m <sup>3</sup>	1.23E-10	mg/kg-day	8.40E-03	(mg/kg-day)-1	1.03E-12	1.23E-09	mg/kg-day	2.00E-02	mg/kg-day	6.14E-08		
			Cadmium	7.2E-09	mg/m <sup>3</sup>	1.49E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	2.23E-09	1.49E-09	mg/kg-day	5.71E-06	mg/kg-day	2.60E-04		
			Chromium	8.4E-08	mg/m <sup>3</sup>	1.74E-09	mg/kg-day	--	--	--	1.74E-08	mg/kg-day	--	--	--		
			Cobalt	5.7E-09	mg/m <sup>3</sup>	1.19E-10	mg/kg-day	9.80E+00	(mg/kg-day)-1	1.16E-09	1.19E-09	mg/kg-day	5.71E-06	mg/kg-day	2.08E-04		
			Copper	4.3E-08	mg/m <sup>3</sup>	8.95E-10	mg/kg-day	--	--	--	8.95E-09	mg/kg-day	--	--	--		
			Dibenzo(a,h)anthracene	2.4E-10	mg/m <sup>3</sup>	4.98E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.04E-11	4.98E-11	mg/kg-day	--	--	--		
			Dimethylphthalate	2.9E-11	mg/m <sup>3</sup>	5.96E-13	mg/kg-day	--	--	--	5.96E-12	mg/kg-day	8.00E-01	mg/kg-day	7.45E-12		
			di-n-Butylphthalate	1.7E-09	mg/m <sup>3</sup>	3.45E-11	mg/kg-day	--	--	--	3.45E-10	mg/kg-day	1.00E-01	mg/kg-day	3.45E-09		
			Endrin aldehyde	3.2E-11	mg/m <sup>3</sup>	6.60E-13	mg/kg-day	--	--	--	6.60E-12	mg/kg-day	3.00E-04	mg/kg-day	2.20E-08		
			Endrin Ketone	7.6E-12	mg/m <sup>3</sup>	1.57E-13	mg/kg-day	--	--	--	1.57E-12	mg/kg-day	3.00E-04	mg/kg-day	5.23E-09		
			Heptachlor Epoxide	8.5E-12	mg/m <sup>3</sup>	1.75E-13	mg/kg-day	5.50E+00	(mg/kg-day)-1	9.63E-13	1.75E-12	mg/kg-day	1.30E-05	mg/kg-day	1.35E-07		
			Indeno(1,2,3-cd)pyrene	6.6E-10	mg/m <sup>3</sup>	1.37E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	5.34E-12	1.37E-10	mg/kg-day	--	--	--		
			Iron	3.1E-05	mg/m <sup>3</sup>	6.39E-07	mg/kg-day	--	--	--	6.39E-06	mg/kg-day	--	--	--		
			Isophorone	1.5E-10	mg/m <sup>3</sup>	3.14E-12	mg/kg-day	--	--	--	3.14E-11	mg/kg-day	--	--	--		
			Lead	2.2E-06	mg/m <sup>3</sup>	4.55E-08	mg/kg-day	--	--	--	4.55E-07	mg/kg-day	--	--	--		
Manganese	2.5E-07	mg/m <sup>3</sup>	5.19E-09	mg/kg-day	--	--	--	5.19E-08	mg/kg-day	1.43E-05	mg/kg-day	3.64E-03					
Mercury	2.3E-10	mg/m <sup>3</sup>	4.86E-12	mg/kg-day	--	--	--	4.86E-11	mg/kg-day	8.60E-05	mg/kg-day	5.65E-07					
Molybdenum	1.9E-09	mg/m <sup>3</sup>	3.93E-11	mg/kg-day	--	--	--	3.93E-10	mg/kg-day	--	--	--					
Nickel	3.0E-08	mg/m <sup>3</sup>	6.14E-10	mg/kg-day	9.10E-01	(mg/kg-day)-1	5.59E-10	6.14E-09	mg/kg-day	1.40E-05	mg/kg-day	4.39E-04					
Phenol	4.4E-10	mg/m <sup>3</sup>	9.10E-12	mg/kg-day	--	--	--	9.10E-11	mg/kg-day	5.71E-02	mg/kg-day	1.59E-09					
Selenium	1.7E-10	mg/m <sup>3</sup>	3.52E-12	mg/kg-day	--	--	--	3.52E-11	mg/kg-day	5.70E-03	mg/kg-day	6.18E-09					
Silver	8.8E-10	mg/m <sup>3</sup>	1.82E-11	mg/kg-day	--	--	--	1.82E-10	mg/kg-day	--	--	--					

TABLE H3-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.8E-10	mg/m <sup>3</sup>	7.80E-12	mg/kg-day	--	--	--	7.80E-11	mg/kg-day	--	--	--
				Vanadium	2.6E-08	mg/m <sup>3</sup>	5.38E-10	mg/kg-day	--	--	--	5.38E-09	mg/kg-day	--	--	--
				Zinc	3.4E-07	mg/m <sup>3</sup>	7.12E-09	mg/kg-day	--	--	--	7.12E-08	mg/kg-day	--	--	--
				<b>Exposure Route Total</b>												<b>5.72E-03</b>
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.16E-06	mg/kg-day	--	--	--	2.16E-05	mg/kg-day	1.10E-03	mg/kg-day	1.97E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	7.35E-06	mg/kg-day	--	--	--	7.35E-05	mg/kg-day	1.10E-03	mg/kg-day	6.68E-02
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.43E-06	mg/kg-day	--	--	--	2.43E-05	mg/kg-day	1.70E-03	mg/kg-day	1.43E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.10E-04	mg/kg-day	--	--	--	1.10E-03	mg/kg-day	5.70E-02	mg/kg-day	1.93E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	5.93E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.13E-09	5.93E-07	mg/kg-day	1.14E-03	mg/kg-day	5.20E-04
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	7.57E-07	mg/kg-day	--	--	--	7.57E-06	mg/kg-day	1.70E-03	mg/kg-day	4.45E-03
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	3.37E-06	mg/kg-day	--	--	--	3.37E-05	mg/kg-day	3.00E-02	mg/kg-day	1.12E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	3.24E-05	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.29E-06	3.24E-04	mg/kg-day	2.30E-01	mg/kg-day	1.41E-03
				2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.53E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	5.00E-02	mg/kg-day	3.06E-04
				4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	2.01E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.83E-11	2.01E-09	mg/kg-day	5.00E-04	mg/kg-day	4.02E-06
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.20E-06	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	6.00E-02	mg/kg-day	2.01E-04
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.96E-08	mg/kg-day	--	--	--	2.96E-07	mg/kg-day	6.00E-02	mg/kg-day	4.94E-06
				Aldrin	5.63E-09	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.98E-09	1.17E-09	mg/kg-day	3.00E-05	mg/kg-day	3.89E-05
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	7.53E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.03E-10	7.53E-10	mg/kg-day	5.00E-04	mg/kg-day	1.51E-06
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.67E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.00E-10	1.67E-09	mg/kg-day	2.00E-04	mg/kg-day	8.35E-06
				Anthracene	1.45E-05	mg/m <sup>3</sup>	3.00E-07	mg/kg-day	--	--	--	3.00E-06	mg/kg-day	3.00E-01	mg/kg-day	1.00E-05
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	3.67E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.43E-08	3.67E-07	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	9.37E-09	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	2.00E-01	mg/kg-day	4.69E-07
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.07E-06	mg/kg-day	--	--	--	1.07E-05	mg/kg-day	2.86E-01	mg/kg-day	3.75E-05
				Chrysene	6.25E-06	mg/m <sup>3</sup>	1.29E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	5.05E-09	1.29E-06	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	8.67E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.30E-09	8.67E-09	mg/kg-day	2.00E-04	mg/kg-day	4.33E-05
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	9.29E-07	mg/kg-day	--	--	--	9.29E-06	mg/kg-day	2.00E-03	mg/kg-day	4.65E-03
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.54E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.46E-08	1.54E-08	mg/kg-day	5.00E-05	mg/kg-day	3.07E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.67E-09	mg/kg-day	--	--	--	1.67E-08	mg/kg-day	6.00E-03	mg/kg-day	2.78E-06
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.73E-09	mg/kg-day	--	--	--	1.73E-08	mg/kg-day	6.00E-03	mg/kg-day	2.88E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	3.12E-09	mg/kg-day	--	--	--	3.12E-08	mg/kg-day	6.00E-03	mg/kg-day	5.20E-06
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	3.55E-07	mg/kg-day	--	--	--	3.55E-06	mg/kg-day	4.00E-02	mg/kg-day	8.88E-05
				Fluorene	1.71E-05	mg/m <sup>3</sup>	3.54E-07	mg/kg-day	--	--	--	3.54E-06	mg/kg-day	4.00E-02	mg/kg-day	8.84E-05
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	3.30E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.63E-10	3.30E-09	mg/kg-day	3.00E-04	mg/kg-day	1.10E-05
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.69E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.22E-10	2.69E-09	mg/kg-day	2.00E-04	mg/kg-day	1.34E-05
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	7.00E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.87E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.79E-09	mg/kg-day	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	3.58E-06
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.45E-05	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.74E-06	1.45E-04	mg/kg-day	8.57E-04	mg/kg-day	1.69E-01
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	3.96E-06	mg/kg-day	--	--	--	3.96E-05	mg/kg-day	3.00E-01	mg/kg-day	1.32E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	3.97E-06	mg/kg-day	--	--	--	3.97E-05	mg/kg-day	1.10E-01	mg/kg-day	3.61E-04
				Pyrene	1.85E-05	mg/m <sup>3</sup>	3.83E-07	mg/kg-day	--	--	--	3.83E-06	mg/kg-day	3.00E-02	mg/kg-day	1.28E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	5.82E-07	mg/kg-day	--	--	--	5.82E-06	mg/kg-day	4.00E-02	mg/kg-day	1.45E-04
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	1.13E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.36E-08	1.13E-07	mg/kg-day	2.00E-04	mg/kg-day	5.65E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	6.47E-09	mg/kg-day	--	--	--	6.47E-08	mg/kg-day	1.43E+00	mg/kg-day	4.53E-08
				<b>Exposure Route Total</b>												<b>3.04E-01</b>
				<b>Exposure Point Total</b>												<b>3.10E-01</b>
		Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	1.82E-04	mg/kg-day	--	--	--	1.82E-03	mg/kg-day	1.10E-03	mg/kg-day	1.66E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	6.20E-04	mg/kg-day	--	--	--	6.20E-03	mg/kg-day	1.10E-03	mg/kg-day	5.64E+00
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	6.08E-05	mg/kg-day	--	--	--	6.08E-04	mg/kg-day	1.70E-03	mg/kg-day	3.68E-01
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	3.16E-03	mg/kg-day	--	--	--	3.16E-02	mg/kg-day	5.70E-02	mg/kg-day	5.55E-01
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	4.38E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.58E-08	4.38E-06	mg/kg-day	1.14E-03	mg/kg-day	3.84E-03
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	1.95E-05	mg/kg-day	--	--	--	1.95E-04	mg/kg-day	1.70E-03	mg/kg-day	1.14E-01

TABLE H3-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	1.34E-04	mg/kg-day	--	--	--	1.34E-03	mg/kg-day	3.00E-02	mg/kg-day	4.46E-02	
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	8.27E-04	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.31E-05	--	8.27E-03	mg/kg-day	2.30E-01	mg/kg-day	3.60E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	1.00E-04	mg/kg-day	--	--	--	--	1.00E-03	mg/kg-day	5.00E-02	mg/kg-day	2.01E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	1.26E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.27E-11	--	1.26E-09	mg/kg-day	5.00E-04	mg/kg-day	2.51E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	3.51E-05	mg/kg-day	--	--	--	--	3.51E-04	mg/kg-day	6.00E-02	mg/kg-day	5.85E-03
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	9.06E-07	mg/kg-day	--	--	--	--	9.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.51E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	3.33E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.67E-09	--	3.33E-09	mg/kg-day	3.00E-05	mg/kg-day	1.11E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	2.23E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	6.02E-09	--	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	1.12E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.35E-09	--	1.12E-08	mg/kg-day	2.00E-04	mg/kg-day	5.62E-05
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	9.23E-06	mg/kg-day	--	--	--	--	9.23E-05	mg/kg-day	3.00E-01	mg/kg-day	3.08E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	6.53E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.55E-08	--	6.53E-07	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.92E-08	mg/kg-day	--	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	1.34E-05	mg/kg-day	--	--	--	--	1.34E-04	mg/kg-day	2.86E-01	mg/kg-day	4.68E-04
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	3.68E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.44E-08	--	3.68E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	3.81E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.71E-08	--	3.81E-07	mg/kg-day	2.00E-04	mg/kg-day	1.90E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	4.91E-07	mg/kg-day	--	--	--	--	4.91E-06	mg/kg-day	2.00E-03	mg/kg-day	2.45E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	1.09E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.74E-07	--	1.09E-07	mg/kg-day	5.00E-05	mg/kg-day	2.17E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	4.47E-08	mg/kg-day	--	--	--	--	4.47E-07	mg/kg-day	6.00E-03	mg/kg-day	7.45E-05
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	4.55E-08	mg/kg-day	--	--	--	--	4.55E-07	mg/kg-day	6.00E-03	mg/kg-day	7.58E-05
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	8.35E-08	mg/kg-day	--	--	--	--	8.35E-07	mg/kg-day	6.00E-03	mg/kg-day	1.39E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	1.02E-07	mg/kg-day	--	--	--	--	1.02E-06	mg/kg-day	4.00E-02	mg/kg-day	2.54E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	5.55E-06	mg/kg-day	--	--	--	--	5.55E-05	mg/kg-day	4.00E-02	mg/kg-day	1.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	1.18E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.30E-08	--	1.18E-07	mg/kg-day	3.00E-04	mg/kg-day	3.93E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	2.04E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.45E-11	--	2.04E-10	mg/kg-day	2.00E-04	mg/kg-day	1.02E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	2.25E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	9.22E-09	--	2.25E-08	mg/kg-day	5.00E-04	mg/kg-day	4.50E-05
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	6.14E-09	mg/kg-day	--	--	--	--	6.14E-08	mg/kg-day	5.00E-03	mg/kg-day	1.23E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.92E-07	mg/kg-day	3.50E-03	(mg/kg-day)-1	1.02E-09	--	2.92E-06	mg/kg-day	1.10E-01	mg/kg-day	2.65E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	1.30E-03	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.56E-04	--	1.30E-02	mg/kg-day	8.57E-04	mg/kg-day	1.52E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	1.18E-04	mg/kg-day	--	--	--	--	1.18E-03	mg/kg-day	3.00E-01	mg/kg-day	3.94E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	1.34E-05	mg/kg-day	--	--	--	--	1.34E-04	mg/kg-day	1.10E-01	mg/kg-day	1.22E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	8.24E-07	mg/kg-day	--	--	--	--	8.24E-06	mg/kg-day	3.00E-02	mg/kg-day	2.75E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	4.74E-06	mg/kg-day	--	--	--	--	4.74E-05	mg/kg-day	4.00E-02	mg/kg-day	1.19E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	8.71E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.05E-07	--	8.71E-07	mg/kg-day	2.00E-04	mg/kg-day	4.36E-03
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	5.23E-08	mg/kg-day	--	--	--	--	5.23E-07	mg/kg-day	1.43E+00	mg/kg-day	3.66E-07				
Exposure Route Total											1.90E-04				2.37E+01		
Exposure Point Total											1.90E-04				2.37E+01		
Exposure Medium Total											1.93E-04				2.40E+01		
Medium Total											2.38E-04				2.69E+01		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	8.77E-09	mg/kg-day	5.70E-03	(mg/kg-day)-1	5.00E-11	--	8.77E-08	mg/kg-day	1.40E-01	mg/kg-day	6.26E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.61E-09	mg/kg-day	--	--	--	--	2.61E-08	mg/kg-day	1.70E-03	mg/kg-day	1.54E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.71E-08	mg/kg-day	--	--	--	--	1.71E-07	mg/kg-day	5.70E-02	mg/kg-day	3.01E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	7.20E-02	(mg/kg-day)-1	8.87E-10	--	1.23E-07	mg/kg-day	1.40E-03	mg/kg-day	8.80E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	4.62E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.66E-10	--	4.62E-08	mg/kg-day	1.14E-03	mg/kg-day	4.05E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.49E-09	mg/kg-day	--	--	--	--	1.49E-08	mg/kg-day	1.70E-03	mg/kg-day	8.76E-08
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	5.83E-09	mg/kg-day	4.00E-02	(mg/kg-day)-1	2.33E-10	--	5.83E-08	mg/kg-day	2.30E-01	mg/kg-day	2.54E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	2.25E-10	mg/kg-day	--	--	--	--	2.25E-09	mg/kg-day	1.43E+00	mg/kg-day	1.58E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	2.00E-11	mg/kg-day	--	--	--	--	2.00E-10	mg/kg-day	5.00E-02	mg/kg-day	4.01E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.68E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.11E-12	--	2.68E-10	mg/kg-day	5.00E-04	mg/kg-day	5.36E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	8.38E-11	mg/kg-day	--	--	--	--	8.38E-10	mg/kg-day	8.60E-01	mg/kg-day	9.74E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	8.03E-10	mg/kg-day	--	--	--	--	8.03E-09	mg/kg-day	6.00E-02	mg/kg-day	1.34E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	3.42E-11	mg/kg-day	--	--	--	--	3.42E-10	mg/kg-day	6.00E-02	mg/kg-day	5.70E-09

TABLE H3-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	4.63E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	7.87E-10	4.63E-10	mg/kg-day	3.00E-05	mg/kg-day	1.54E-05			
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	5.86E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.58E-11	5.86E-11	mg/kg-day	5.00E-04	mg/kg-day	1.17E-07			
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.39E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.67E-11	1.39E-10	mg/kg-day	2.00E-04	mg/kg-day	6.94E-07			
				Anthracene	3.29E-09	mg/m <sup>3</sup>	6.80E-11	mg/kg-day	--	--	--	6.80E-10	mg/kg-day	3.00E-01	mg/kg-day	2.27E-09			
				Benzene	2.61E-07	mg/m <sup>3</sup>	5.40E-09	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	5.40E-10	5.40E-08	mg/kg-day	8.60E-03	mg/kg-day	6.28E-06			
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.01E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.93E-12	1.01E-10	mg/kg-day	--	--	--			
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.52E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	5.95E-13	1.52E-09	mg/kg-day	2.00E-02	mg/kg-day	7.62E-08			
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	9.33E-08	mg/kg-day	--	--	--	9.33E-07	mg/kg-day	2.00E-01	mg/kg-day	4.67E-06			
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.52E-09	mg/kg-day	--	--	--	1.52E-08	mg/kg-day	2.86E-01	mg/kg-day	5.31E-08			
				Chloroform	2.07E-06	mg/m <sup>3</sup>	4.28E-08	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	8.14E-10	4.28E-07	mg/kg-day	8.57E-02	mg/kg-day	5.00E-06			
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.55E-08	mg/kg-day	--	--	--	1.55E-07	mg/kg-day	2.80E-02	mg/kg-day	5.97E-06			
				Chrysene	1.32E-09	mg/m <sup>3</sup>	2.73E-11	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	1.06E-12	2.73E-10	mg/kg-day	--	--	--			
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.10E-07	mg/kg-day	1.00E-02	mg/kg-day	1.10E-05			
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.03E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.26E-10	2.03E-10	mg/kg-day	5.00E-05	mg/kg-day	4.07E-08			
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	4.64E-12	mg/kg-day	--	--	--	4.64E-11	mg/kg-day	6.00E-03	mg/kg-day	7.73E-09			
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	7.62E-15	mg/kg-day	--	--	--	7.62E-14	mg/kg-day	6.00E-03	mg/kg-day	1.27E-11			
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	4.13E-09	mg/kg-day	--	--	--	4.13E-08	mg/kg-day	2.90E-01	mg/kg-day	1.42E-07			
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.05E-11	mg/kg-day	--	--	--	1.05E-10	mg/kg-day	4.00E-02	mg/kg-day	2.62E-09			
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.07E-11	mg/kg-day	--	--	--	2.07E-10	mg/kg-day	4.00E-02	mg/kg-day	5.18E-09			
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.57E-14	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.83E-14	2.57E-13	mg/kg-day	3.00E-04	mg/kg-day	8.58E-10			
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	3.60E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.32E-11	3.60E-10	mg/kg-day	2.00E-04	mg/kg-day	1.80E-06			
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	3.70E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.52E-09	3.70E-09	mg/kg-day	5.00E-04	mg/kg-day	7.40E-06			
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	7.10E-07	mg/kg-day	--	--	--	7.10E-06	mg/kg-day	1.10E-01	mg/kg-day	6.45E-05			
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.44E-08	mg/kg-day	--	--	--	1.44E-07	mg/kg-day	2.90E-02	mg/kg-day	4.96E-06			
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	6.77E-11	mg/kg-day	--	--	--	6.77E-10	mg/kg-day	5.00E-03	mg/kg-day	1.35E-07			
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.13E-10	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.35E-11	1.13E-09	mg/kg-day	8.57E-04	mg/kg-day	1.31E-06			
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	5.24E-09	mg/kg-day	--	--	--	5.24E-08	mg/kg-day	8.57E-04	mg/kg-day	6.11E-05			
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	5.83E-09	mg/kg-day	--	--	--	5.83E-08	mg/kg-day	4.00E-02	mg/kg-day	1.46E-06			
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	5.42E-11	mg/kg-day	--	--	--	5.42E-10	mg/kg-day	3.00E-01	mg/kg-day	1.81E-09			
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	7.10E-07	mg/kg-day	--	--	--	7.10E-06	mg/kg-day	1.10E-01	mg/kg-day	6.45E-05			
				Pyrene	4.61E-10	mg/m <sup>3</sup>	9.55E-12	mg/kg-day	--	--	--	9.55E-11	mg/kg-day	3.00E-02	mg/kg-day	3.18E-09			
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.66E-08	mg/kg-day	--	--	--	1.66E-07	mg/kg-day	4.00E-02	mg/kg-day	4.15E-06			
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	--	--	--	1.88E-07	mg/kg-day	4.00E-02	mg/kg-day	4.70E-06			
				Toluene	3.80E-07	mg/m <sup>3</sup>	7.87E-09	mg/kg-day	--	--	--	7.87E-08	mg/kg-day	1.43E+00	mg/kg-day	5.51E-08			
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.86E-08	mg/kg-day	--	--	--	1.86E-07	mg/kg-day	2.00E-02	mg/kg-day	9.28E-06			
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.93E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	1.35E-10	1.93E-07	mg/kg-day	1.70E-01	mg/kg-day	1.14E-06			
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	3.99E-08	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	1.08E-08	3.99E-07	mg/kg-day	2.86E-02	mg/kg-day	1.40E-05			
				Exposure Route Total										1.83E-08					4.51E-04
				Exposure Point Total										1.83E-08					4.51E-04
						Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.54E-06	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	8.79E-09	1.54E-05	mg/kg-day	1.40E-01	mg/kg-day
1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	6.77E-08					mg/kg-day	--	--	--	6.77E-07	mg/kg-day	1.70E-03	mg/kg-day	3.98E-04			
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	4.56E-07					mg/kg-day	--	--	--	4.56E-06	mg/kg-day	5.70E-02	mg/kg-day	7.99E-05			
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	3.69E-07					mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	2.66E-08	3.69E-06	mg/kg-day	1.40E-03	mg/kg-day	2.64E-03			
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	1.37E-07					mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	4.92E-09	1.37E-06	mg/kg-day	1.14E-03	mg/kg-day	1.20E-03			
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	3.87E-08					mg/kg-day	--	--	--	3.87E-07	mg/kg-day	1.70E-03	mg/kg-day	2.28E-04			
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.56E-07					mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	6.25E-09	1.56E-06	mg/kg-day	2.30E-01	mg/kg-day	6.80E-06			
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	1.16E-08					mg/kg-day	--	--	--	1.16E-07	mg/kg-day	1.43E+00	mg/kg-day	8.12E-08			
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	5.62E-10					mg/kg-day	--	--	--	5.62E-09	mg/kg-day	5.00E-02	mg/kg-day	1.12E-07			
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	2.41E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	8.21E-13	2.41E-11	mg/kg-day	5.00E-04	mg/kg-day	4.83E-08			
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	3.44E-09					mg/kg-day	--	--	--	3.44E-08	mg/kg-day	8.60E-01	mg/kg-day	4.00E-08			
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	3.42E-08					mg/kg-day	--	--	--	3.42E-07	mg/kg-day	6.00E-02	mg/kg-day	5.70E-06			

TABLE H3-7.5

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	1.46E-09	mg/kg-day	--	--	--	1.46E-08	mg/kg-day	6.00E-02	mg/kg-day	2.43E-07
				Aldrin	2.44E-07	ug/m <sup>3</sup>	5.05E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.58E-11	5.05E-11	mg/kg-day	3.00E-05	mg/kg-day	1.68E-06
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	7.52E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.03E-12	7.52E-12	mg/kg-day	5.00E-04	mg/kg-day	1.50E-08
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	4.66E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.47E-12	4.66E-11	mg/kg-day	2.00E-04	mg/kg-day	2.28E-07
				Anthracene	1.40E-04	ug/m <sup>3</sup>	2.89E-09	mg/kg-day	--	--	--	2.89E-08	mg/kg-day	3.00E-01	mg/kg-day	9.64E-08
				Benzene	7.66E-03	ug/m <sup>3</sup>	1.59E-07	mg/kg-day	1.00E-01	(mg/kg-day)-1	1.59E-08	1.59E-06	mg/kg-day	8.60E-03	mg/kg-day	1.85E-04
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	4.24E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.65E-10	4.24E-09	mg/kg-day	--	--	--
				Bromoform	3.95E-04	ug/m <sup>3</sup>	8.19E-09	mg/kg-day	3.90E-03	(mg/kg-day)-1	3.19E-11	8.19E-08	mg/kg-day	2.00E-02	mg/kg-day	4.09E-06
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	2.80E-06	mg/kg-day	--	--	--	2.80E-05	mg/kg-day	2.00E-01	mg/kg-day	1.40E-04
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	4.25E-08	mg/kg-day	--	--	--	4.25E-07	mg/kg-day	2.86E-01	mg/kg-day	1.49E-06
				Chloroform	6.13E-02	ug/m <sup>3</sup>	1.27E-06	mg/kg-day	1.90E-02	(mg/kg-day)-1	2.41E-08	1.27E-05	mg/kg-day	8.57E-02	mg/kg-day	1.48E-04
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	5.03E-07	mg/kg-day	--	--	--	5.03E-06	mg/kg-day	2.60E-02	mg/kg-day	1.93E-04
				Chrysene	5.75E-05	ug/m <sup>3</sup>	1.19E-09	mg/kg-day	3.90E-02	(mg/kg-day)-1	4.65E-11	1.19E-08	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	7.12E-07	mg/kg-day	--	--	--	7.12E-06	mg/kg-day	1.00E-02	mg/kg-day	7.12E-04
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	7.80E-13	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.25E-11	7.80E-12	mg/kg-day	5.00E-05	mg/kg-day	1.56E-07
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	1.01E-11	mg/kg-day	6.00E-03	mg/kg-day	1.68E-09
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	3.36E-13	mg/kg-day	--	--	--	3.36E-12	mg/kg-day	6.00E-03	mg/kg-day	5.59E-10
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	1.12E-07	mg/kg-day	--	--	--	1.12E-06	mg/kg-day	2.90E-01	mg/kg-day	3.85E-06
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	4.24E-10	mg/kg-day	--	--	--	4.24E-09	mg/kg-day	4.00E-02	mg/kg-day	1.06E-07
				Fluorene	5.21E-05	ug/m <sup>3</sup>	1.08E-09	mg/kg-day	--	--	--	1.08E-08	mg/kg-day	4.00E-02	mg/kg-day	2.70E-07
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	1.02E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.12E-12	1.02E-11	mg/kg-day	3.00E-04	mg/kg-day	3.39E-08
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	2.21E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.65E-12	2.21E-11	mg/kg-day	2.00E-04	mg/kg-day	1.10E-07
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	9.97E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.09E-11	9.97E-11	mg/kg-day	5.00E-04	mg/kg-day	1.99E-07
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	3.73E-05	mg/kg-day	--	--	--	3.73E-04	mg/kg-day	1.10E-01	mg/kg-day	3.39E-03
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	8.35E-07	mg/kg-day	--	--	--	8.35E-06	mg/kg-day	2.90E-02	mg/kg-day	2.88E-04
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	2.93E-12	mg/kg-day	--	--	--	2.93E-11	mg/kg-day	5.00E-03	mg/kg-day	5.87E-09
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	6.10E-09	mg/kg-day	1.20E-01	(mg/kg-day)-1	7.33E-10	6.10E-08	mg/kg-day	8.57E-04	mg/kg-day	7.12E-05
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	2.94E-07	mg/kg-day	--	--	--	2.94E-06	mg/kg-day	8.57E-04	mg/kg-day	3.43E-03
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	3.31E-07	mg/kg-day	--	--	--	3.31E-06	mg/kg-day	4.00E-02	mg/kg-day	8.28E-05
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	3.01E-09	mg/kg-day	--	--	--	3.01E-08	mg/kg-day	3.00E-01	mg/kg-day	1.00E-07
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	3.73E-05	mg/kg-day	--	--	--	3.73E-04	mg/kg-day	1.10E-01	mg/kg-day	3.39E-03
				Pyrene	1.92E-05	ug/m <sup>3</sup>	3.98E-10	mg/kg-day	--	--	--	3.98E-09	mg/kg-day	3.00E-02	mg/kg-day	1.33E-07
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	1.18E-08	mg/kg-day	--	--	--	1.18E-07	mg/kg-day	4.00E-02	mg/kg-day	2.94E-06
Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	1.18E-08	mg/kg-day	--	--	--	1.18E-05	mg/kg-day	4.00E-02	mg/kg-day	2.95E-04				
Toluene	2.18E-03	ug/m <sup>3</sup>	4.51E-08	mg/kg-day	--	--	--	4.51E-07	mg/kg-day	1.43E+00	mg/kg-day	3.16E-07				
trans-1,2-Dichloroethene	8.03E-02	ug/m <sup>3</sup>	1.25E-08	mg/kg-day	--	--	--	1.25E-05	mg/kg-day	2.00E-02	mg/kg-day	6.25E-04				
Trichloroethene	5.71E-02	ug/m <sup>3</sup>	1.18E-06	mg/kg-day	7.00E-03	(mg/kg-day)-1	8.27E-09	1.18E-05	mg/kg-day	1.70E-01	mg/kg-day	6.95E-05				
Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	2.89E-08	mg/kg-day	2.70E-01	(mg/kg-day)-1	7.25E-07	2.69E-05	mg/kg-day	2.66E-02	mg/kg-day	9.40E-04				
			Exposure Route Total							8.21E-07					1.86E-02	
			Exposure Point Total							8.21E-07					1.86E-02	
			Exposure Medium Total							8.38E-07					1.91E-02	
Medium Total										8.36E-07					1.91E-02	
Total of Receptor Risks Across All Media										2.38E-04	Total of Receptor Hazards Across All Media					2.69E+01

**TABLE H3-7.5**

**EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.03E-07	mg/kg-day	--	--	--	1.03E-06	mg/kg-day	1.00E-02	mg/kg-day	1.03E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	3.49E-07	mg/kg-day	--	--	--	3.49E-06	mg/kg-day	1.00E-02	mg/kg-day	3.49E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	3.42E-08	mg/kg-day	--	--	--	3.42E-07	mg/kg-day	5.00E-02	mg/kg-day	6.85E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.78E-06	mg/kg-day	--	--	--	1.78E-05	mg/kg-day	9.00E-02	mg/kg-day	1.98E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	2.47E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	8.88E-12	2.47E-09	mg/kg-day	1.14E-03	mg/kg-day	2.16E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.10E-08	mg/kg-day	--	--	--	1.10E-07	mg/kg-day	5.00E-02	mg/kg-day	2.19E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	7.53E-08	mg/kg-day	--	--	--	7.53E-07	mg/kg-day	3.00E-02	mg/kg-day	2.51E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	4.66E-07	mg/kg-day	5.40E-03	(mg/kg-day)-1	2.52E-09	4.66E-06	mg/kg-day	3.00E-02	mg/kg-day	1.55E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.44E-08	mg/kg-day	--	--	--	1.44E-07	mg/kg-day	2.00E-02	mg/kg-day	7.19E-06
				2-Methylphenol	8.10E-02	mg/kg	5.55E-09	mg/kg-day	--	--	--	5.55E-08	mg/kg-day	4.00E-03	mg/kg-day	1.39E-05
				2-Methylnaphthalene	1.45E+00	mg/kg	9.93E-08	mg/kg-day	--	--	--	9.93E-07	mg/kg-day	5.00E-02	mg/kg-day	1.99E-05
				4,4'-DDD	1.20E-03	mg/kg	8.22E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.97E-11	8.22E-10	mg/kg-day	5.00E-04	mg/kg-day	1.64E-06
				4,4'-DDE	7.50E-02	mg/kg	5.14E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.75E-09	5.14E-08	mg/kg-day	5.00E-04	mg/kg-day	1.03E-04
				4,4'-DDT	4.20E-02	mg/kg	2.88E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.78E-10	2.88E-08	mg/kg-day	5.00E-04	mg/kg-day	5.75E-05
				4-Methylphenol	2.70E-01	mg/kg	1.85E-08	mg/kg-day	--	--	--	1.85E-07	mg/kg-day	5.00E-03	mg/kg-day	3.70E-05
				4-Nitroaniline	6.20E-01	mg/kg	4.25E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	8.92E-10	4.25E-07	mg/kg-day	3.00E-03	mg/kg-day	1.42E-04
				4-Nitrophenol	4.20E-01	mg/kg	2.88E-08	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	5.00E-04	mg/kg-day	5.75E-04
				Acenaphthene	3.47E+00	mg/kg	2.38E-07	mg/kg-day	--	--	--	2.38E-06	mg/kg-day	6.00E-02	mg/kg-day	3.96E-05
				Acenaphthylene	8.96E-02	mg/kg	6.14E-09	mg/kg-day	--	--	--	6.14E-08	mg/kg-day	6.00E-02	mg/kg-day	1.02E-06
				Aldrin	1.30E-02	mg/kg	8.90E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.51E-08	8.90E-09	mg/kg-day	3.00E-05	mg/kg-day	2.97E-04
				alpha-BHC	7.30E-04	mg/kg	5.00E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.35E-10	5.00E-10	mg/kg-day	5.00E-04	mg/kg-day	1.00E-06
				alpha-Chlordane	6.98E-03	mg/kg	4.78E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	6.22E-10	4.78E-09	mg/kg-day	5.00E-04	mg/kg-day	9.56E-06
				Aluminum	9.05E+03	mg/kg	6.20E-04	mg/kg-day	--	--	--	6.20E-03	mg/kg-day	1.00E+00	mg/kg-day	6.20E-03
				Anthracene	9.13E-01	mg/kg	6.26E-08	mg/kg-day	--	--	--	6.26E-07	mg/kg-day	3.00E-01	mg/kg-day	2.69E-06
				Antimony	2.72E+00	mg/kg	1.87E-07	mg/kg-day	--	--	--	1.87E-06	mg/kg-day	4.00E-04	mg/kg-day	4.66E-03
				Aroclor-1248	1.20E+00	mg/kg	8.22E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.64E-07	8.22E-07	mg/kg-day	2.00E-05	mg/kg-day	4.11E-02
				Aroclor-1254	4.38E-01	mg/kg	3.00E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.00E-08	3.00E-07	mg/kg-day	2.00E-05	mg/kg-day	1.50E-02
				Aroclor-1260	4.88E-01	mg/kg	3.34E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.69E-08	3.34E-07	mg/kg-day	2.00E-05	mg/kg-day	1.67E-02
				Aroclor-1268	2.72E-02	mg/kg	1.86E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.72E-09	1.86E-08	mg/kg-day	2.00E-05	mg/kg-day	9.31E-04
				Arsenic	9.53E+00	mg/kg	6.53E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	6.17E-06	6.53E-06	mg/kg-day	3.00E-04	mg/kg-day	2.18E-02
				Barium	6.94E+01	mg/kg	4.76E-08	mg/kg-day	--	--	--	4.76E-05	mg/kg-day	7.00E-02	mg/kg-day	6.80E-04
				Benzo(a)anthracene	4.21E+00	mg/kg	2.89E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.46E-07	2.89E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	9.63E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.18E-06	9.63E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.63E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.95E-07	1.63E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	4.44E-08	mg/kg-day	--	--	--	4.44E-07	mg/kg-day	3.00E-02	mg/kg-day	1.48E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.93E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.32E-07	1.93E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.56E-08	mg/kg-day	--	--	--	1.56E-07	mg/kg-day	2.00E-03	mg/kg-day	7.80E-05
				Beta-BHC	2.20E-03	mg/kg	1.51E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.26E-10	1.51E-09	mg/kg-day	2.00E-04	mg/kg-day	7.53E-06
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	3.63E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.09E-09	3.63E-06	mg/kg-day	2.00E-02	mg/kg-day	1.81E-04
				Cadmium	8.65E+00	mg/kg	5.92E-07	mg/kg-day	3.80E-01	(mg/kg-day)-1	2.25E-07	5.92E-06	mg/kg-day	5.00E-04	mg/kg-day	1.18E-02
				Carbon disulfide	2.40E-04	mg/kg	1.64E-11	mg/kg-day	--	--	--	1.64E-10	mg/kg-day	1.00E-01	mg/kg-day	1.64E-09
				Chlorobenzene	1.10E-01	mg/kg	7.53E-09	mg/kg-day	--	--	--	7.53E-08	mg/kg-day	2.00E-02	mg/kg-day	3.77E-06
				Chromium	1.00E+02	mg/kg	6.85E-06	mg/kg-day	--	--	--	6.85E-05	mg/kg-day	1.50E+00	mg/kg-day	4.56E-05
				Chrysene	4.80E+00	mg/kg	3.28E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.94E-08	3.28E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	5.10E-07	mg/kg-day	--	--	--	5.10E-06	mg/kg-day	2.00E-02	mg/kg-day	2.55E-04
				Copper	6.01E+01	mg/kg	4.11E-06	mg/kg-day	--	--	--	4.11E-05	mg/kg-day	4.00E-02	mg/kg-day	1.03E-03
				Delta-BHC	8.40E-03	mg/kg	5.75E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	8.63E-10	5.75E-09	mg/kg-day	2.00E-04	mg/kg-day	2.88E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.89E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.74E-08	1.89E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	8.90E-07	mg/kg-day	--	--	--	8.90E-06	mg/kg-day	2.00E-03	mg/kg-day	4.45E-03
				Dieldrin	4.89E-02	mg/kg	3.35E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	5.36E-08	3.35E-08	mg/kg-day	5.00E-05	mg/kg-day	6.70E-04
				Dimethylphthalate	3.80E-02	mg/kg	2.60E-09	mg/kg-day	--	--	--	2.60E-08	mg/kg-day	8.00E-01	mg/kg-day	3.25E-08



TABLE H3-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	4.84E-09	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.02E-10	4.84E-08	mg/kg-day	3.00E-03	mg/kg-day	1.61E-05
				4-Nitrophenol	4.20E-01	mg/kg	3.28E-09	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	5.00E-04	mg/kg-day	6.50E-05
				Acenaphthene	3.47E+00	mg/kg	3.52E-08	mg/kg-day	--	--	--	3.52E-07	mg/kg-day	6.00E-02	mg/kg-day	5.87E-06
				Acenaphthylene	8.96E-02	mg/kg	6.99E-11	mg/kg-day	--	--	--	6.99E-10	mg/kg-day	6.00E-02	mg/kg-day	1.17E-08
				Aldrin	1.30E-02	mg/kg	1.02E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.73E-09	1.02E-09	mg/kg-day	3.00E-05	mg/kg-day	3.38E-05
				alpha-BHC	7.30E-04	mg/kg	5.70E-13	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.54E-12	5.70E-12	mg/kg-day	5.00E-04	mg/kg-day	1.14E-08
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	7.07E-07	mg/kg-day	--	--	--	7.07E-06	mg/kg-day	1.00E+00	mg/kg-day	7.07E-06
				Anthracene	9.13E-01	mg/kg	9.27E-09	mg/kg-day	--	--	--	9.27E-08	mg/kg-day	3.00E-01	mg/kg-day	3.09E-07
				Antimony	2.72E+00	mg/kg	2.13E-10	mg/kg-day	--	--	--	2.13E-09	mg/kg-day	4.00E-04	mg/kg-day	5.32E-06
				Aroclor-1248	1.20E+00	mg/kg	1.31E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.62E-08	1.31E-07	mg/kg-day	2.00E-05	mg/kg-day	6.56E-03
				Aroclor-1254	4.38E-01	mg/kg	4.78E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	9.57E-09	4.78E-08	mg/kg-day	2.00E-05	mg/kg-day	2.39E-03
				Aroclor-1260	4.88E-01	mg/kg	5.34E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.07E-08	5.34E-08	mg/kg-day	2.00E-05	mg/kg-day	2.67E-03
				Aroclor-1268	2.72E-02	mg/kg	2.97E-10	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	5.94E-10	2.97E-09	mg/kg-day	2.00E-05	mg/kg-day	1.49E-04
				Arsenic	9.53E+00	mg/kg	2.23E-08	mg/kg-day	9.45E+00	(mg/kg-day) <sup>-1</sup>	2.11E-07	2.23E-07	mg/kg-day	3.00E-04	mg/kg-day	7.44E-04
				Barium	6.84E+01	mg/kg	5.42E-09	mg/kg-day	--	--	--	5.42E-08	mg/kg-day	7.00E-02	mg/kg-day	7.75E-07
				Benzo(a)anthracene	4.21E+00	mg/kg	4.28E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	5.13E-08	4.28E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.43E-08	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	1.71E-07	1.43E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	2.41E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.89E-08	2.41E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	6.58E-09	mg/kg-day	--	--	--	6.58E-08	mg/kg-day	3.00E-02	mg/kg-day	2.19E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	2.87E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.44E-08	2.87E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.78E-11	mg/kg-day	--	--	--	1.78E-10	mg/kg-day	2.00E-03	mg/kg-day	8.89E-08
				Beta-BHC	2.20E-03	mg/kg	1.72E-12	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	2.58E-12	1.72E-11	mg/kg-day	2.00E-04	mg/kg-day	8.59E-08
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	4.13E-09	mg/kg-day	3.00E-03	(mg/kg-day) <sup>-1</sup>	1.24E-11	4.13E-08	mg/kg-day	2.00E-02	mg/kg-day	2.07E-06
				Cadmium	8.65E+00	mg/kg	6.75E-10	mg/kg-day	3.80E-01	(mg/kg-day) <sup>-1</sup>	2.57E-10	6.75E-09	mg/kg-day	5.00E-04	mg/kg-day	1.35E-05
				Carbon disulfide	2.40E-04	mg/kg	4.68E-12	mg/kg-day	--	--	--	4.68E-11	mg/kg-day	1.00E-01	mg/kg-day	4.68E-10
				Chlorobenzene	1.10E-01	mg/kg	8.59E-11	mg/kg-day	--	--	--	8.59E-10	mg/kg-day	2.00E-02	mg/kg-day	4.29E-08
				Chromium	1.00E+02	mg/kg	7.81E-09	mg/kg-day	--	--	--	7.81E-08	mg/kg-day	1.50E+00	mg/kg-day	5.20E-08
				Chrysene	4.80E+00	mg/kg	4.87E-08	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	5.84E-09	4.87E-07	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	5.81E-10	mg/kg-day	--	--	--	5.81E-09	mg/kg-day	2.00E-02	mg/kg-day	2.91E-07
				Copper	6.01E+01	mg/kg	4.69E-09	mg/kg-day	--	--	--	4.69E-08	mg/kg-day	4.00E-02	mg/kg-day	1.17E-06
				Delta-BHC	8.40E-03	mg/kg	3.28E-11	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	4.92E-11	3.28E-10	mg/kg-day	2.00E-04	mg/kg-day	1.64E-06
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	2.80E-09	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.15E-08	2.80E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	1.02E-08	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	2.00E-03	mg/kg-day	5.08E-05
				Dieldrin	4.89E-02	mg/kg	3.82E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	6.11E-10	3.82E-10	mg/kg-day	5.00E-05	mg/kg-day	7.64E-06
				Dimethylphthalate	3.80E-02	mg/kg	2.97E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	8.00E-01	mg/kg-day	3.71E-10
				Di-n-Butylphthalate	2.30E+00	mg/kg	1.80E-09	mg/kg-day	--	--	--	1.80E-08	mg/kg-day	2.00E-01	mg/kg-day	8.98E-08
				Endosulfan I	2.30E-02	mg/kg	8.98E-11	mg/kg-day	--	--	--	8.98E-10	mg/kg-day	6.00E-03	mg/kg-day	1.50E-07
				Endosulfan II	2.34E-02	mg/kg	9.12E-11	mg/kg-day	--	--	--	9.12E-10	mg/kg-day	6.00E-03	mg/kg-day	1.52E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	1.68E-10	mg/kg-day	--	--	--	1.68E-09	mg/kg-day	6.00E-03	mg/kg-day	2.80E-07
				Endrin aldehyde	6.30E-02	mg/kg	2.46E-10	mg/kg-day	--	--	--	2.46E-09	mg/kg-day	3.00E-04	mg/kg-day	8.20E-06
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	2.26E-07	mg/kg-day	--	--	--	2.26E-06	mg/kg-day	4.00E-02	mg/kg-day	5.65E-05
				Fluorene	2.53E+00	mg/kg	2.57E-08	mg/kg-day	--	--	--	2.57E-07	mg/kg-day	4.00E-02	mg/kg-day	6.41E-06
				gamma-BHC (Lindane)	2.60E-03	mg/kg	8.12E-12	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	8.93E-12	8.12E-11	mg/kg-day	3.00E-04	mg/kg-day	2.71E-07
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	5.39E-12	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	2.21E-11	5.39E-11	mg/kg-day	5.00E-04	mg/kg-day	1.08E-07
				Heptachlor Epoxide	9.86E-03	mg/kg	7.70E-12	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	4.23E-11	7.70E-11	mg/kg-day	1.30E-05	mg/kg-day	5.92E-06
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	5.05E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	6.06E-09	5.05E-08	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	2.87E-06	mg/kg-day	--	--	--	2.87E-05	mg/kg-day	3.00E-01	mg/kg-day	9.57E-05
				Isophorone	2.00E-01	mg/kg	1.56E-09	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	1.48E-12	1.56E-08	mg/kg-day	2.00E-01	mg/kg-day	7.81E-08

TABLE H3-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	1.87E-07	mg/kg-day	--	--	--	--	1.87E-06	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	2.38E-08	mg/kg-day	--	--	--	--	2.38E-07	mg/kg-day	2.40E-02	mg/kg-day	9.90E-06
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	9.37E-11	mg/kg-day	--	--	--	--	9.37E-10	mg/kg-day	5.00E-03	mg/kg-day	1.87E-07
				Methylene chloride	2.40E-03	mg/kg	1.87E-12	mg/kg-day	1.40E-02	(mg/kg-day) <sup>-1</sup>	2.62E-14	--	1.87E-11	mg/kg-day	6.00E-02	mg/kg-day	3.12E-10
				Molybdenum	2.18E+00	mg/kg	1.70E-10	mg/kg-day	--	--	--	--	1.70E-09	mg/kg-day	5.00E-03	mg/kg-day	3.40E-07
				Naphthalene	1.30E+01	mg/kg	1.32E-07	mg/kg-day	--	--	--	--	1.32E-06	mg/kg-day	2.00E-02	mg/kg-day	6.60E-05
				Nickel	3.89E+01	mg/kg	3.04E-09	mg/kg-day	--	--	--	--	3.04E-08	mg/kg-day	2.00E-02	mg/kg-day	1.52E-06
				Phenanthrene	1.17E+01	mg/kg	9.12E-09	mg/kg-day	--	--	--	--	9.12E-08	mg/kg-day	3.00E-01	mg/kg-day	3.04E-07
				Phenol	5.80E-01	mg/kg	4.53E-09	mg/kg-day	--	--	--	--	4.53E-08	mg/kg-day	3.00E-01	mg/kg-day	1.51E-07
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	2.06E-07	mg/kg-day	--	--	--	--	2.06E-06	mg/kg-day	3.00E-02	mg/kg-day	6.88E-05
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	2.21E-11	mg/kg-day	--	--	--	--	2.21E-10	mg/kg-day	5.00E-03	mg/kg-day	4.43E-08
				Silver	9.80E-01	mg/kg	7.65E-11	mg/kg-day	--	--	--	--	7.65E-10	mg/kg-day	5.00E-03	mg/kg-day	1.53E-07
				Technical Chlordane	5.41E-01	mg/kg	1.69E-09	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	2.20E-09	--	1.69E-08	mg/kg-day	5.00E-04	mg/kg-day	3.38E-05
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	3.36E-13	mg/kg-day	--	--	--	--	3.36E-12	mg/kg-day	8.00E-02	mg/kg-day	4.20E-11
				Vanadium	3.37E+01	mg/kg	2.63E-09	mg/kg-day	--	--	--	--	2.63E-08	mg/kg-day	1.00E-03	mg/kg-day	2.63E-05
				Zinc	3.32E+02	mg/kg	2.59E-08	mg/kg-day	--	--	--	--	2.59E-07	mg/kg-day	3.00E-01	mg/kg-day	8.64E-07
				Exposure Route Total									5.72E-07				
Exposure Point Total									9.48E-06						2.67E-01		
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--		
		1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--		
		1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
		1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--		
		1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--		
		1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
		1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
		1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day) <sup>-1</sup>	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
		2,4-Dimethylphenol	2.10E-01	mg/kg	4.01E-06	mg/kg-day	--	--	--	--	4.01E-05	mg/kg-day	2.00E-02	mg/kg-day	2.01E-03		
		2-Methylphenol	8.10E-02	mg/kg	3.68E-06	mg/kg-day	--	--	--	--	3.68E-05	mg/kg-day	4.00E-03	mg/kg-day	9.21E-03		
		2-Methylnaphthalene	1.45E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--		
		4,4'-DDD	1.20E-03	mg/kg	3.91E-11	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	9.38E-12	--	3.91E-10	mg/kg-day	5.00E-04	mg/kg-day	7.81E-07		
		4,4'-DDE	7.50E-02	mg/kg	1.77E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	6.01E-10	--	1.77E-08	mg/kg-day	5.00E-04	mg/kg-day	3.54E-05		
		4,4'-DDT	4.20E-02	mg/kg	4.27E-09	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.45E-09	--	4.27E-08	mg/kg-day	5.00E-04	mg/kg-day	8.54E-05		
		4-Methylphenol	2.70E-01	mg/kg	1.26E-05	mg/kg-day	--	--	--	--	1.26E-04	mg/kg-day	5.00E-03	mg/kg-day	2.52E-02		
		4-Nitroaniline	6.20E-01	mg/kg	1.98E-05	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	4.16E-07	--	1.98E-04	mg/kg-day	3.00E-03	mg/kg-day	6.61E-02		
		4-Nitrophenol	4.20E-01	mg/kg	2.02E-05	mg/kg-day	--	--	--	--	2.02E-04	mg/kg-day	5.00E-04	mg/kg-day	4.03E-01		
		Acenaphthene	3.47E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
		Acenaphthylene	8.96E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--		
		Aldrin	1.30E-02	mg/kg	6.93E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.18E-08	--	6.93E-09	mg/kg-day	3.00E-05	mg/kg-day	2.31E-04		
		alpha-BHC	7.30E-04	mg/kg	8.40E-09	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	2.27E-08	--	8.40E-08	mg/kg-day	5.00E-04	mg/kg-day	1.68E-04		
		alpha-Chlordane	6.98E-03	mg/kg	8.17E-10	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.06E-09	--	8.17E-09	mg/kg-day	5.00E-04	mg/kg-day	1.63E-05		
		Aluminum	9.05E+03	mg/kg	1.44E-04	mg/kg-day	--	--	--	--	1.44E-03	mg/kg-day	1.00E+00	mg/kg-day	1.44E-03		
		Anthracene	9.13E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--		
		Antimony	2.72E+00	mg/kg	2.00E-06	mg/kg-day	--	--	--	--	2.00E-05	mg/kg-day	4.00E-04	mg/kg-day	5.01E-02		
		Aroclor-1248	1.20E+00	mg/kg	3.92E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	7.84E-08	--	3.92E-07	mg/kg-day	2.00E-05	mg/kg-day	1.96E-02		
		Aroclor-1254	4.38E-01	mg/kg	1.91E-07	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.83E-07	--	1.91E-06	mg/kg-day	2.00E-05	mg/kg-day	9.56E-02		
		Aroclor-1260	4.88E-01	mg/kg	7.63E-09	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.53E-08	--	7.63E-08	mg/kg-day	2.00E-05	mg/kg-day	3.82E-03		
Aroclor-1268	2.72E-02	mg/kg	1.19E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.36E-08	--	1.19E-07	mg/kg-day	2.00E-05	mg/kg-day	5.94E-03				

TABLE H3-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	1.40E-08	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.33E-05	1.40E-05	mg/kg-day	3.00E-04	mg/kg-day	4.67E-02
				Barium	6.94E+01	mg/kg	2.55E-05	mg/kg-day	--	--	--	2.55E-04	mg/kg-day	7.00E-02	mg/kg-day	3.65E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	2.65E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.18E-08	2.65E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	5.02E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	6.02E-08	5.02E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	8.47E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.02E-07	8.47E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.76E-08	mg/kg-day	--	--	--	1.76E-07	mg/kg-day	3.00E-02	mg/kg-day	5.88E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.01E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.21E-07	1.01E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	8.38E-09	mg/kg-day	--	--	--	8.38E-08	mg/kg-day	2.00E-03	mg/kg-day	4.19E-05
				Beta-BHC	2.20E-03	mg/kg	2.53E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.80E-08	2.53E-07	mg/kg-day	2.00E-04	mg/kg-day	1.27E-03
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	4.49E-05	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.35E-07	4.49E-04	mg/kg-day	2.00E-02	mg/kg-day	2.24E-02
				Cadmium	8.65E+00	mg/kg	3.18E-05	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.21E-05	3.18E-04	mg/kg-day	5.00E-04	mg/kg-day	6.36E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	1.10E-05	mg/kg-day	--	--	--	1.10E-04	mg/kg-day	1.50E+00	mg/kg-day	7.35E-05
				Chrysene	4.80E+00	mg/kg	2.12E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.54E-08	2.12E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.28E-08	mg/kg-day	--	--	--	1.28E-05	mg/kg-day	2.00E-02	mg/kg-day	6.39E-04
				Copper	6.01E+01	mg/kg	3.68E-04	mg/kg-day	--	--	--	3.68E-03	mg/kg-day	4.00E-02	mg/kg-day	9.20E-02
				Delta-BHC	8.40E-03	mg/kg	7.87E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.18E-09	7.87E-09	mg/kg-day	2.00E-04	mg/kg-day	3.94E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	6.08E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.49E-08	6.08E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	6.36E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.02E-05	6.36E-06	mg/kg-day	5.00E-05	mg/kg-day	1.27E-01
				Dimethylphthalate	3.80E-02	mg/kg	1.39E-06	mg/kg-day	--	--	--	1.39E-05	mg/kg-day	8.00E-01	mg/kg-day	1.73E-05
				di-n-Butylphthalate	2.30E+00	mg/kg	1.17E-07	mg/kg-day	--	--	--	1.17E-06	mg/kg-day	2.00E-01	mg/kg-day	5.87E-06
				Endosulfan I	2.30E-02	mg/kg	2.53E-07	mg/kg-day	--	--	--	2.53E-06	mg/kg-day	6.00E-03	mg/kg-day	4.21E-04
				Endosulfan II	2.34E-02	mg/kg	2.46E-07	mg/kg-day	--	--	--	2.46E-06	mg/kg-day	6.00E-03	mg/kg-day	4.10E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	4.42E-07	mg/kg-day	--	--	--	4.42E-06	mg/kg-day	6.00E-03	mg/kg-day	7.37E-04
				Endrin aldehyde	6.30E-02	mg/kg	2.56E-09	mg/kg-day	--	--	--	2.56E-08	mg/kg-day	3.00E-04	mg/kg-day	8.54E-05
				Endrin Ketone	1.00E-02	mg/kg	4.07E-10	mg/kg-day	--	--	--	4.07E-09	mg/kg-day	3.00E-04	mg/kg-day	1.36E-05
				Fluoranthene	2.23E+01	mg/kg	1.47E-06	mg/kg-day	--	--	--	1.47E-05	mg/kg-day	4.00E-02	mg/kg-day	3.68E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.05E-07	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.16E-07	1.05E-06	mg/kg-day	3.00E-04	mg/kg-day	3.51E-03
				gamma-Chlordane	1.27E-02	mg/kg	1.49E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.93E-09	1.49E-08	mg/kg-day	5.00E-04	mg/kg-day	2.87E-05
				Heptachlor	6.90E-03	mg/kg	6.00E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.46E-09	6.00E-09	mg/kg-day	5.00E-04	mg/kg-day	1.20E-05
				Heptachlor Epoxide	9.86E-03	mg/kg	2.79E-07	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.53E-06	2.79E-06	mg/kg-day	1.30E-05	mg/kg-day	2.15E-01
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.33E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.59E-08	1.33E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	8.96E-04	mg/kg-day	--	--	--	8.96E-03	mg/kg-day	3.00E-01	mg/kg-day	2.89E-02
				isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.39E+03	mg/kg	5.27E-04	mg/kg-day	--	--	--	5.27E-03	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	3.73E-04	mg/kg-day	--	--	--	3.73E-03	mg/kg-day	2.40E-02	mg/kg-day	1.55E-01
				Mercury	2.65E-01	mg/kg	1.30E-06	mg/kg-day	--	--	--	1.30E-05	mg/kg-day	3.00E-04	mg/kg-day	4.34E-02
				Methoxychlor	1.20E-01	mg/kg	2.55E-09	mg/kg-day	--	--	--	2.55E-08	mg/kg-day	5.00E-03	mg/kg-day	5.10E-06
				Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	1.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	6.00E-02	mg/kg-day	--
				Molybdenum	2.18E+00	mg/kg	3.21E-06	mg/kg-day	--	--	--	3.21E-05	mg/kg-day	5.00E-03	mg/kg-day	6.41E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.89E+01	mg/kg	5.73E-05	mg/kg-day	--	--	--	5.73E-04	mg/kg-day	2.00E-02	mg/kg-day	2.86E-02
				Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
				Phenol	5.80E-01	mg/kg	7.01E-05	mg/kg-day	--	--	--	7.01E-04	mg/kg-day	3.00E-01	mg/kg-day	2.34E-03
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	1.74E-07	mg/kg-day	--	--	--	1.74E-06	mg/kg-day	5.00E-03	mg/kg-day	3.48E-04

TABLE H3-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	2.40E-06	mg/kg-day	--	--	--	2.40E-05	mg/kg-day	5.00E-03	mg/kg-day	4.81E-03				
				Technical Chlordane	5.41E-01	mg/kg	6.33E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	8.23E-08	6.33E-07	mg/kg-day	5.00E-04	mg/kg-day	1.27E-03				
				Thallium	4.83E-01	mg/kg	4.73E-09	mg/kg-day	--	--	--	4.73E-08	mg/kg-day	8.00E-05	mg/kg-day	5.92E-04				
				Toluene	4.30E-04	mg/kg	--	--	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--				
				Vanadium	3.37E+01	mg/kg	2.48E-06	mg/kg-day	--	--	--	2.48E-05	mg/kg-day	1.00E-03	mg/kg-day	2.48E-02				
				Zinc	3.32E+02	mg/kg	7.32E-03	mg/kg-day	--	--	--	7.32E-02	mg/kg-day	3.00E-01	mg/kg-day	2.44E-01				
				Exposure Route Total															2.37E+00	
				Exposure Point Total																2.37E+00
				Exposure Medium Total																2.64E+00
					Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	3.30E-12	mg/kg-day	--	--	--	3.30E-11	mg/kg-day	2.00E-02	mg/kg-day	1.65E-09
				2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	1.27E-12	mg/kg-day	--	--	--	1.27E-11	mg/kg-day	--	--	--				
				4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.88E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	4.52E-15	1.88E-13	mg/kg-day	5.00E-04	mg/kg-day	3.77E-10				
				4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	6.59E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.24E-13	6.59E-12	mg/kg-day	5.00E-04	mg/kg-day	1.32E-08				
				4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	4.24E-12	mg/kg-day	--	--	--	4.24E-11	mg/kg-day	5.00E-03	mg/kg-day	8.47E-09				
				4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	9.73E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.04E-13	9.73E-11	mg/kg-day	1.00E-03	mg/kg-day	9.73E-08				
				4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	6.59E-12	mg/kg-day	--	--	--	6.59E-11	mg/kg-day	5.70E-04	mg/kg-day	1.16E-07				
				Aluminum	8.86E-06	mg/m <sup>3</sup>	1.42E-07	mg/kg-day	--	--	--	1.42E-06	mg/kg-day	1.43E-03	mg/kg-day	9.94E-04				
				Antimony	2.06E-09	mg/m <sup>3</sup>	4.27E-11	mg/kg-day	--	--	--	4.27E-10	mg/kg-day	--	--	--				
				Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.88E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.77E-11	1.88E-10	mg/kg-day	2.00E-05	mg/kg-day	9.41E-06				
				Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	6.87E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.37E-11	6.87E-11	mg/kg-day	2.00E-05	mg/kg-day	3.43E-06				
				Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	7.66E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.53E-11	7.66E-11	mg/kg-day	2.00E-05	mg/kg-day	3.83E-06				
				Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	4.27E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	8.53E-13	4.27E-12	mg/kg-day	2.00E-05	mg/kg-day	2.13E-07				
				Arsenic	7.22E-09	mg/m <sup>3</sup>	1.50E-10	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	1.79E-09	1.50E-09	mg/kg-day	8.60E-06	mg/kg-day	1.74E-04				
				Barium	5.26E-08	mg/m <sup>3</sup>	1.09E-09	mg/kg-day	--	--	--	1.09E-08	mg/kg-day	1.40E-04	mg/kg-day	7.78E-05				
				Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	6.61E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	2.58E-11	6.61E-10	mg/kg-day	--	--	--				
				Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	2.21E-11	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	8.60E-11	2.21E-10	mg/kg-day	--	--	--				
				Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	1.02E-11	mg/kg-day	--	--	--	1.02E-10	mg/kg-day	3.00E-02	mg/kg-day	3.39E-09				
				Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	4.43E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.73E-11	4.43E-10	mg/kg-day	--	--	--				
				Beryllium	1.73E-10	mg/m <sup>3</sup>	3.57E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	3.00E-11	3.57E-11	mg/kg-day	5.71E-06	mg/kg-day	6.26E-06				
				Beta-BHC	1.67E-12	mg/m <sup>3</sup>	3.45E-14	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	5.18E-14	3.45E-13	mg/kg-day	2.00E-04	mg/kg-day	1.73E-09				
				bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	8.31E-11	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	6.98E-13	8.31E-10	mg/kg-day	2.00E-02	mg/kg-day	4.15E-08				
				Cadmium	6.55E-09	mg/m <sup>3</sup>	1.38E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	2.04E-09	1.38E-09	mg/kg-day	5.71E-06	mg/kg-day	2.37E-04				
				Chromium	7.57E-08	mg/m <sup>3</sup>	1.57E-09	mg/kg-day	--	--	--	1.57E-08	mg/kg-day	--	--	--				
				Cobalt	5.64E-09	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	1.14E-09	1.17E-09	mg/kg-day	5.71E-06	mg/kg-day	2.05E-04				
				Copper	4.55E-08	mg/m <sup>3</sup>	9.43E-10	mg/kg-day	--	--	--	9.43E-09	mg/kg-day	--	--	--				
				Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	4.32E-12	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.77E-11	4.32E-11	mg/kg-day	--	--	--				
				Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	5.96E-13	mg/kg-day	--	--	--	5.96E-12	mg/kg-day	8.00E-01	mg/kg-day	7.45E-12				
				di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	3.61E-11	mg/kg-day	--	--	--	3.61E-10	mg/kg-day	1.00E-01	mg/kg-day	3.61E-09				
				Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	9.89E-13	mg/kg-day	--	--	--	9.89E-12	mg/kg-day	3.00E-04	mg/kg-day	3.30E-08				
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.57E-13	mg/kg-day	--	--	--	1.57E-12	mg/kg-day	3.00E-04	mg/kg-day	5.23E-09				
				Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	1.55E-13	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	8.51E-13	1.55E-12	mg/kg-day	1.30E-05	mg/kg-day	1.19E-07				
				Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	7.80E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.04E-12	7.80E-11	mg/kg-day	--	--	--				
				Iron	2.79E-05	mg/m <sup>3</sup>	5.77E-07	mg/kg-day	--	--	--	5.77E-06	mg/kg-day	--	--	--				
				Isophorone	1.52E-10	mg/m <sup>3</sup>	3.14E-12	mg/kg-day	--	--	--	3.14E-11	mg/kg-day	--	--	--				
				Lead	1.81E-06	mg/m <sup>3</sup>	3.75E-08	mg/kg-day	--	--	--	3.75E-07	mg/kg-day	--	--	--				
				Manganese	2.31E-07	mg/m <sup>3</sup>	4.78E-09	mg/kg-day	--	--	--	4.78E-08	mg/kg-day	1.43E-05	mg/kg-day	3.34E-03				
				Mercury	2.01E-10	mg/m <sup>3</sup>	4.16E-12	mg/kg-day	--	--	--	4.16E-11	mg/kg-day	8.60E-05	mg/kg-day	4.84E-07				
				Nickel	2.95E-08	mg/m <sup>3</sup>	6.11E-10	mg/kg-day	9.10E-01	(mg/kg-day) <sup>-1</sup>	5.56E-10	6.11E-09	mg/kg-day	1.40E-05	mg/kg-day	4.36E-04				
				Phenol	4.39E-10	mg/m <sup>3</sup>	9.10E-12	mg/kg-day	--	--	--	9.10E-11	mg/kg-day	5.71E-02	mg/kg-day	1.59E-09				
				Selenium	2.15E-10	mg/m <sup>3</sup>	4.45E-12	mg/kg-day	--	--	--	4.45E-11	mg/kg-day	5.70E-03	mg/kg-day	7.81E-09				
				Silver	7.42E-10	mg/m <sup>3</sup>	1.54E-11	mg/kg-day	--	--	--	1.54E-10	mg/kg-day	--	--	--				

TABLE H3-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.66E-10	mg/m <sup>3</sup>	7.57E-12	mg/kg-day	--	--	--	7.57E-11	mg/kg-day	--	--	--	
				Vanadium	2.55E-08	mg/m <sup>3</sup>	5.28E-10	mg/kg-day	--	--	--	5.28E-09	mg/kg-day	--	--	--	
				Zinc	2.51E-07	mg/m <sup>3</sup>	5.21E-09	mg/kg-day	--	--	--	5.21E-08	mg/kg-day	--	--	--	
			Exposure Route Total					5.78E-09					5.49E-03				
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.16E-06	mg/kg-day	--	--	--	2.16E-05	mg/kg-day	1.10E-03	mg/kg-day	1.97E-02	
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	7.35E-06	mg/kg-day	--	--	--	7.35E-05	mg/kg-day	1.10E-03	mg/kg-day	6.68E-02	
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.43E-06	mg/kg-day	--	--	--	2.43E-05	mg/kg-day	1.70E-03	mg/kg-day	1.43E-02	
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.10E-04	mg/kg-day	--	--	--	1.10E-03	mg/kg-day	5.70E-02	mg/kg-day	1.93E-02	
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	5.93E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.13E-09	5.93E-07	mg/kg-day	1.14E-03	mg/kg-day	5.20E-04	
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	7.57E-07	mg/kg-day	--	--	--	7.57E-06	mg/kg-day	1.70E-03	mg/kg-day	4.45E-03	
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	3.37E-06	mg/kg-day	--	--	--	3.37E-05	mg/kg-day	3.00E-02	mg/kg-day	1.12E-03	
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	3.24E-05	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.29E-06	3.24E-04	mg/kg-day	2.30E-01	mg/kg-day	1.41E-03	
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	1.33E-06	mg/kg-day	--	--	--	1.33E-05	mg/kg-day	5.00E-02	mg/kg-day	2.66E-04	
				4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	1.83E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.22E-11	1.83E-09	mg/kg-day	5.00E-04	mg/kg-day	3.66E-06	
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	9.87E-07	mg/kg-day	--	--	--	9.87E-06	mg/kg-day	6.00E-02	mg/kg-day	1.65E-04	
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	2.55E-08	mg/kg-day	--	--	--	2.55E-07	mg/kg-day	6.00E-02	mg/kg-day	4.25E-06	
				Aldrin	5.63E-09	mg/m <sup>3</sup>	1.17E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.98E-09	1.17E-09	mg/kg-day	3.00E-05	mg/kg-day	3.89E-05	
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	7.53E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.03E-10	7.53E-10	mg/kg-day	5.00E-04	mg/kg-day	1.51E-06	
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	1.43E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.72E-10	1.43E-09	mg/kg-day	2.00E-04	mg/kg-day	7.16E-06	
				Anthracene	1.25E-05	mg/m <sup>3</sup>	2.60E-07	mg/kg-day	--	--	--	2.60E-06	mg/kg-day	3.00E-01	mg/kg-day	8.66E-06	
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	3.18E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.24E-08	3.18E-07	mg/kg-day	--	--	--	
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	9.37E-09	mg/kg-day	--	--	--	9.37E-08	mg/kg-day	2.00E-01	mg/kg-day	4.66E-07	
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.07E-06	mg/kg-day	--	--	--	1.07E-05	mg/kg-day	2.86E-01	mg/kg-day	3.75E-05	
				Chrysene	5.27E-06	mg/m <sup>3</sup>	1.09E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	4.26E-09	1.09E-06	mg/kg-day	--	--	--	
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	8.67E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.30E-09	8.67E-09	mg/kg-day	2.00E-04	mg/kg-day	4.33E-05	
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	9.29E-07	mg/kg-day	--	--	--	9.29E-06	mg/kg-day	2.00E-03	mg/kg-day	4.65E-03	
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	1.36E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.18E-08	1.36E-08	mg/kg-day	5.00E-05	mg/kg-day	2.73E-04	
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.67E-09	mg/kg-day	--	--	--	1.67E-08	mg/kg-day	6.00E-03	mg/kg-day	2.78E-06	
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	1.70E-09	mg/kg-day	--	--	--	1.70E-08	mg/kg-day	6.00E-03	mg/kg-day	2.83E-06	
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	3.12E-09	mg/kg-day	--	--	--	3.12E-08	mg/kg-day	6.00E-03	mg/kg-day	5.20E-06	
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	2.98E-07	mg/kg-day	--	--	--	2.98E-06	mg/kg-day	4.00E-02	mg/kg-day	7.45E-05	
				Fluorene	1.48E-05	mg/m <sup>3</sup>	3.06E-07	mg/kg-day	--	--	--	3.06E-06	mg/kg-day	4.00E-02	mg/kg-day	7.66E-05	
				gamma-BHC (Lindane)	1.58E-08	mg/m <sup>3</sup>	3.30E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.63E-10	3.30E-09	mg/kg-day	3.00E-04	mg/kg-day	1.10E-05	
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	2.60E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.12E-10	2.60E-09	mg/kg-day	2.00E-04	mg/kg-day	1.30E-05	
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	7.00E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.87E-08	7.00E-08	mg/kg-day	5.00E-04	mg/kg-day	1.40E-04	
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.79E-09	mg/kg-day	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	3.58E-06	
				Naphthalene	8.98E-04	mg/m <sup>3</sup>	1.45E-05	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.74E-06	1.45E-04	mg/kg-day	8.57E-04	mg/kg-day	1.69E-01	
				Phenanthrene	1.60E-04	mg/m <sup>3</sup>	3.32E-06	mg/kg-day	--	--	--	3.32E-05	mg/kg-day	3.00E-01	mg/kg-day	1.11E-04	
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	3.97E-06	mg/kg-day	--	--	--	3.97E-05	mg/kg-day	1.10E-01	mg/kg-day	3.61E-04	
				Pyrene	1.56E-05	mg/m <sup>3</sup>	3.22E-07	mg/kg-day	--	--	--	3.22E-06	mg/kg-day	3.00E-02	mg/kg-day	1.07E-04	
sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>		5.82E-07	mg/kg-day	--	--	--	5.82E-06	mg/kg-day	4.00E-02	mg/kg-day	1.45E-04				
Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	1.11E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.33E-08	1.11E-07	mg/kg-day	2.00E-04	mg/kg-day	5.54E-04					
Toluene	3.12E-07	mg/m <sup>3</sup>	6.47E-09	mg/kg-day	--	--	--	6.47E-08	mg/kg-day	1.43E+00	mg/kg-day	4.53E-08					
Exposure Route Total					3.12E-06					3.04E-01							
Exposure Point Total					3.13E-06					3.09E-01							
	Indoor Air (Vapor Intrusion)	Inhalation	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	1.82E-04	mg/kg-day	--	--	--	1.82E-03	mg/kg-day	1.10E-03	mg/kg-day	1.66E+00		
			1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	6.20E-04	mg/kg-day	--	--	--	6.20E-03	mg/kg-day	1.10E-03	mg/kg-day	5.64E+00		
			1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	6.08E-05	mg/kg-day	--	--	--	6.08E-04	mg/kg-day	1.70E-03	mg/kg-day	3.58E-01		
			1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	3.16E-03	mg/kg-day	--	--	--	3.16E-02	mg/kg-day	5.70E-02	mg/kg-day	5.55E-01		
			1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	4.38E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.58E-08	4.38E-06	mg/kg-day	1.14E-03	mg/kg-day	3.84E-03		
1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	1.95E-05	mg/kg-day	--	--	--	1.95E-04	mg/kg-day	1.70E-03	mg/kg-day	1.14E-01					

TABLE H3-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	1.34E-04	mg/kg-day	--	--	--	1.34E-03	mg/kg-day	3.00E-02	mg/kg-day	4.46E-02
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	8.27E-04	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.31E-05	8.27E-03	mg/kg-day	2.30E-01	mg/kg-day	3.60E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	1.00E-04	mg/kg-day	--	--	--	1.00E-03	mg/kg-day	5.00E-02	mg/kg-day	2.01E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	1.26E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.27E-11	1.26E-09	mg/kg-day	5.00E-04	mg/kg-day	2.51E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	3.51E-05	mg/kg-day	--	--	--	3.51E-04	mg/kg-day	6.00E-02	mg/kg-day	5.85E-03
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	9.06E-07	mg/kg-day	--	--	--	9.06E-06	mg/kg-day	6.00E-02	mg/kg-day	1.51E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	3.33E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.67E-09	3.33E-09	mg/kg-day	3.00E-05	mg/kg-day	1.11E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	2.23E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	6.02E-09	2.23E-08	mg/kg-day	5.00E-04	mg/kg-day	4.46E-05
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	1.12E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.35E-09	1.12E-08	mg/kg-day	2.00E-04	mg/kg-day	5.62E-05
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	9.23E-06	mg/kg-day	--	--	--	9.23E-05	mg/kg-day	3.00E-01	mg/kg-day	3.08E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	6.53E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.55E-08	6.53E-07	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.92E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	2.00E-01	mg/kg-day	1.46E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	1.34E-05	mg/kg-day	--	--	--	1.34E-04	mg/kg-day	2.86E-01	mg/kg-day	4.68E-04
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	3.69E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.44E-08	3.69E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	3.81E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.71E-08	3.81E-07	mg/kg-day	2.00E-04	mg/kg-day	1.90E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	4.91E-07	mg/kg-day	--	--	--	4.91E-06	mg/kg-day	2.00E-03	mg/kg-day	2.45E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	1.09E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.74E-07	1.09E-07	mg/kg-day	5.00E-05	mg/kg-day	2.17E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	4.47E-08	mg/kg-day	--	--	--	4.47E-07	mg/kg-day	6.00E-03	mg/kg-day	7.45E-05
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	4.55E-08	mg/kg-day	--	--	--	4.55E-07	mg/kg-day	6.00E-03	mg/kg-day	7.58E-05
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	8.35E-08	mg/kg-day	--	--	--	8.35E-07	mg/kg-day	6.00E-03	mg/kg-day	1.39E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	1.02E-07	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	4.00E-02	mg/kg-day	2.54E-05
				Fluorene	2.69E-01	(a) ug/m <sup>3</sup>	5.55E-06	mg/kg-day	--	--	--	5.55E-05	mg/kg-day	4.00E-02	mg/kg-day	1.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	1.18E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.30E-08	1.18E-07	mg/kg-day	3.00E-04	mg/kg-day	3.93E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	2.04E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.45E-11	2.04E-10	mg/kg-day	2.00E-04	mg/kg-day	1.02E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	2.25E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	9.22E-09	2.25E-08	mg/kg-day	5.00E-04	mg/kg-day	4.50E-05
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	6.14E-09	mg/kg-day	--	--	--	6.14E-08	mg/kg-day	5.00E-03	mg/kg-day	1.23E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.92E-07	mg/kg-day	3.50E-03	(mg/kg-day)-1	1.02E-09	2.92E-06	mg/kg-day	1.10E-01	mg/kg-day	2.65E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	1.30E-03	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.56E-04	1.30E-02	mg/kg-day	8.57E-04	mg/kg-day	1.52E-01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	1.16E-04	mg/kg-day	--	--	--	1.16E-03	mg/kg-day	3.00E-01	mg/kg-day	3.84E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	1.34E-05	mg/kg-day	--	--	--	1.34E-04	mg/kg-day	1.10E-01	mg/kg-day	1.22E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	8.24E-07	mg/kg-day	--	--	--	8.24E-06	mg/kg-day	3.00E-02	mg/kg-day	2.75E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	4.74E-06	mg/kg-day	--	--	--	4.74E-05	mg/kg-day	4.00E-02	mg/kg-day	1.19E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	8.71E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.05E-07	8.71E-07	mg/kg-day	2.00E-04	mg/kg-day	4.36E-03
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	5.23E-08	mg/kg-day	--	--	--	5.23E-07	mg/kg-day	1.43E+00	mg/kg-day	3.66E-07				
				Exposure Route Total							1.90E-04			2.37E+01		
				Exposure Point Total							1.90E-04			2.37E+01		
				Exposure Medium Total							1.93E-04			2.40E+01		
				Medium Total							2.41E-04			2.66E+01		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	8.77E-09	mg/kg-day	5.70E-03	(mg/kg-day)-1	5.00E-11	8.77E-08	mg/kg-day	1.40E-01	mg/kg-day	6.26E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.61E-09	mg/kg-day	--	--	--	2.61E-08	mg/kg-day	1.70E-03	mg/kg-day	1.54E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.71E-08	mg/kg-day	--	--	--	1.71E-07	mg/kg-day	5.70E-02	mg/kg-day	3.01E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.23E-08	mg/kg-day	7.20E-02	(mg/kg-day)-1	8.87E-10	1.23E-07	mg/kg-day	1.40E-03	mg/kg-day	8.80E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	4.62E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.66E-10	4.62E-08	mg/kg-day	1.14E-03	mg/kg-day	4.05E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.49E-09	mg/kg-day	--	--	--	1.49E-08	mg/kg-day	1.70E-03	mg/kg-day	8.76E-08
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	5.83E-09	mg/kg-day	4.00E-02	(mg/kg-day)-1	2.33E-10	5.83E-08	mg/kg-day	2.30E-01	mg/kg-day	2.54E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	2.25E-10	mg/kg-day	--	--	--	2.25E-09	mg/kg-day	1.43E+00	mg/kg-day	1.58E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	2.00E-11	mg/kg-day	--	--	--	2.00E-10	mg/kg-day	5.00E-02	mg/kg-day	4.01E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.68E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.11E-12	2.68E-10	mg/kg-day	5.00E-04	mg/kg-day	5.36E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	8.38E-11	mg/kg-day	--	--	--	8.38E-10	mg/kg-day	8.80E-01	mg/kg-day	9.74E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	8.03E-10	mg/kg-day	--	--	--	8.03E-09	mg/kg-day	6.00E-02	mg/kg-day	1.34E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	3.42E-11	mg/kg-day	--	--	--	3.42E-10	mg/kg-day	6.00E-02	mg/kg-day	5.70E-09

TABLE H3-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	4.63E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	7.87E-10	4.63E-10	mg/kg-day	3.00E-05	mg/kg-day	1.54E-05					
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	5.88E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.58E-11	5.88E-11	mg/kg-day	5.00E-04	mg/kg-day	1.17E-07					
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.39E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.67E-11	1.39E-10	mg/kg-day	2.00E-04	mg/kg-day	6.94E-07					
				Anthracene	3.29E-09	mg/m <sup>3</sup>	6.80E-11	mg/kg-day	--	--	--	6.80E-10	mg/kg-day	3.00E-01	mg/kg-day	2.27E-09					
				Benzene	2.61E-07	mg/m <sup>3</sup>	5.40E-09	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	5.40E-10	5.40E-08	mg/kg-day	8.60E-03	mg/kg-day	6.28E-06					
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.01E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.93E-12	1.01E-10	mg/kg-day	--	--	--					
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.52E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	5.95E-13	1.52E-09	mg/kg-day	2.00E-02	mg/kg-day	7.62E-08					
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	9.33E-08	mg/kg-day	--	--	--	9.33E-07	mg/kg-day	2.00E-01	mg/kg-day	4.67E-08					
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.52E-09	mg/kg-day	--	--	--	1.52E-08	mg/kg-day	2.86E-01	mg/kg-day	5.31E-08					
				Chloroform	2.07E-06	mg/m <sup>3</sup>	4.28E-08	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	8.14E-10	4.28E-07	mg/kg-day	8.57E-02	mg/kg-day	5.00E-06					
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.55E-08	mg/kg-day	--	--	--	1.55E-07	mg/kg-day	2.60E-02	mg/kg-day	5.97E-06					
				Chrysene	1.32E-09	mg/m <sup>3</sup>	2.73E-11	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	1.06E-12	2.73E-10	mg/kg-day	--	--	--					
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.10E-07	mg/kg-day	1.00E-02	mg/kg-day	1.10E-05					
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	2.03E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	3.26E-10	2.03E-10	mg/kg-day	5.00E-05	mg/kg-day	4.07E-06					
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	4.64E-12	mg/kg-day	--	--	--	4.64E-11	mg/kg-day	6.00E-03	mg/kg-day	7.73E-09					
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	7.62E-15	mg/kg-day	--	--	--	7.62E-14	mg/kg-day	6.00E-03	mg/kg-day	1.27E-11					
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	4.13E-09	mg/kg-day	--	--	--	4.13E-08	mg/kg-day	2.90E-01	mg/kg-day	1.42E-07					
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.05E-11	mg/kg-day	--	--	--	1.05E-10	mg/kg-day	4.00E-02	mg/kg-day	2.62E-09					
				Fluorene	1.00E-09	mg/m <sup>3</sup>	2.07E-11	mg/kg-day	--	--	--	2.07E-10	mg/kg-day	4.00E-02	mg/kg-day	5.18E-09					
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.57E-14	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.83E-14	2.57E-13	mg/kg-day	3.00E-04	mg/kg-day	8.58E-10					
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	3.60E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.32E-11	3.60E-10	mg/kg-day	2.00E-04	mg/kg-day	1.80E-06					
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	3.70E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.52E-09	3.70E-09	mg/kg-day	5.00E-04	mg/kg-day	7.40E-06					
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	7.10E-07	mg/kg-day	--	--	--	7.10E-06	mg/kg-day	1.10E-01	mg/kg-day	6.45E-05					
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.44E-08	mg/kg-day	--	--	--	1.44E-07	mg/kg-day	2.90E-02	mg/kg-day	4.96E-08					
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	6.77E-11	mg/kg-day	--	--	--	6.77E-10	mg/kg-day	5.00E-03	mg/kg-day	1.35E-07					
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.13E-10	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.35E-11	1.13E-09	mg/kg-day	8.57E-04	mg/kg-day	1.31E-06					
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	5.24E-09	mg/kg-day	--	--	--	5.24E-08	mg/kg-day	8.57E-04	mg/kg-day	6.11E-05					
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	5.83E-09	mg/kg-day	--	--	--	5.83E-08	mg/kg-day	4.00E-02	mg/kg-day	1.46E-06					
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	5.42E-11	mg/kg-day	--	--	--	5.42E-10	mg/kg-day	3.00E-01	mg/kg-day	1.81E-09					
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	7.10E-07	mg/kg-day	--	--	--	7.10E-06	mg/kg-day	1.10E-01	mg/kg-day	6.45E-05					
				Pyrene	4.61E-10	mg/m <sup>3</sup>	9.55E-12	mg/kg-day	--	--	--	9.55E-11	mg/kg-day	3.00E-02	mg/kg-day	3.18E-09					
				sec-Butylbenzene	6.01E-07	mg/m <sup>3</sup>	1.66E-08	mg/kg-day	--	--	--	1.66E-07	mg/kg-day	4.00E-02	mg/kg-day	4.15E-06					
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	--	--	--	1.88E-07	mg/kg-day	4.00E-02	mg/kg-day	4.70E-06					
				Toluene	3.80E-07	mg/m <sup>3</sup>	7.87E-09	mg/kg-day	--	--	--	7.87E-08	mg/kg-day	1.43E+00	mg/kg-day	5.51E-08					
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	--	--	--	1.88E-07	mg/kg-day	2.00E-02	mg/kg-day	9.28E-06					
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.93E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	1.35E-10	1.93E-07	mg/kg-day	1.70E-01	mg/kg-day	1.14E-06					
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	3.99E-08	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	1.08E-08	3.99E-07	mg/kg-day	2.86E-02	mg/kg-day	1.40E-05					
				Exposure Route Total																	
				Exposure Point Total																	
				Indoor Air	Indoor Air	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.54E-06	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	8.79E-09	1.54E-05	mg/kg-day	1.40E-01	mg/kg-day	1.10E-04	
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	6.77E-08	mg/kg-day	--	--	--	6.77E-07	mg/kg-day	1.70E-03	mg/kg-day	3.98E-04	
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	4.56E-07					mg/kg-day	--	--	--	4.56E-06	mg/kg-day	5.70E-02	mg/kg-day	7.99E-05					
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	3.69E-07					mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	2.66E-08	3.69E-06	mg/kg-day	1.40E-03	mg/kg-day	2.64E-03					
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	1.37E-07					mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	4.92E-09	1.37E-06	mg/kg-day	1.14E-03	mg/kg-day	1.20E-03					
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	3.87E-08					mg/kg-day	--	--	--	3.87E-07	mg/kg-day	1.70E-03	mg/kg-day	2.28E-04					
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.56E-07					mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	6.25E-09	1.56E-06	mg/kg-day	2.30E-01	mg/kg-day	6.80E-06					
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	1.16E-08					mg/kg-day	--	--	--	1.16E-07	mg/kg-day	1.43E+00	mg/kg-day	8.12E-08					
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	5.62E-10					mg/kg-day	--	--	--	5.62E-09	mg/kg-day	5.00E-02	mg/kg-day	1.12E-07					
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	2.41E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	8.21E-13	2.41E-11	mg/kg-day	5.00E-04	mg/kg-day	4.83E-08					
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	3.44E-09					mg/kg-day	--	--	--	3.44E-08	mg/kg-day	8.60E-01	mg/kg-day	4.00E-08					
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	3.42E-08					mg/kg-day	--	--	--	3.42E-07	mg/kg-day	6.00E-02	mg/kg-day	5.70E-06					

TABLE H3-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	1.46E-09	mg/kg-day	--	--	--	1.46E-08	mg/kg-day	6.00E-02	mg/kg-day	2.43E-07				
				Aldrin	2.44E-07	ug/m <sup>3</sup>	5.05E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	8.58E-11	5.05E-11	mg/kg-day	3.00E-05	mg/kg-day	1.68E-06				
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	7.52E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.03E-12	7.52E-12	mg/kg-day	5.00E-04	mg/kg-day	1.50E-08				
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	4.56E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.47E-12	4.56E-11	mg/kg-day	2.00E-04	mg/kg-day	2.28E-07				
				Anthracene	1.40E-04	ug/m <sup>3</sup>	2.89E-09	mg/kg-day	--	--	--	2.89E-08	mg/kg-day	3.00E-01	mg/kg-day	9.64E-08				
				Benzene	7.66E-03	ug/m <sup>3</sup>	1.59E-07	mg/kg-day	1.00E-01	(mg/kg-day)-1	1.59E-08	1.59E-06	mg/kg-day	8.80E-03	mg/kg-day	1.85E-04				
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	4.24E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.65E-10	4.24E-09	mg/kg-day	--	--	--				
				Bromoform	3.95E-04	ug/m <sup>3</sup>	8.19E-09	mg/kg-day	3.90E-03	(mg/kg-day)-1	3.19E-11	8.19E-08	mg/kg-day	2.00E-02	mg/kg-day	4.09E-06				
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	2.80E-06	mg/kg-day	--	--	--	2.80E-05	mg/kg-day	2.00E-01	mg/kg-day	1.40E-04				
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	4.25E-08	mg/kg-day	--	--	--	4.25E-07	mg/kg-day	2.86E-01	mg/kg-day	1.49E-06				
				Chloroform	6.13E-02	ug/m <sup>3</sup>	1.27E-08	mg/kg-day	1.90E-02	(mg/kg-day)-1	2.41E-08	1.27E-05	mg/kg-day	8.57E-02	mg/kg-day	1.48E-04				
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	5.03E-07	mg/kg-day	--	--	--	5.03E-06	mg/kg-day	2.60E-02	mg/kg-day	1.93E-04				
				Chrysene	5.75E-05	ug/m <sup>3</sup>	1.19E-09	mg/kg-day	3.90E-02	(mg/kg-day)-1	4.65E-11	1.19E-08	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	7.12E-07	mg/kg-day	--	--	--	7.12E-06	mg/kg-day	1.00E-02	mg/kg-day	7.12E-04				
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	7.80E-13	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.25E-11	7.80E-12	mg/kg-day	5.00E-05	mg/kg-day	1.56E-07				
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	1.01E-11	mg/kg-day	6.00E-03	mg/kg-day	1.68E-09				
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	3.36E-13	mg/kg-day	--	--	--	3.36E-12	mg/kg-day	6.00E-03	mg/kg-day	5.59E-10				
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	1.12E-07	mg/kg-day	--	--	--	1.12E-06	mg/kg-day	2.90E-01	mg/kg-day	3.85E-06				
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	4.24E-10	mg/kg-day	--	--	--	4.24E-09	mg/kg-day	4.00E-02	mg/kg-day	1.06E-07				
				Fluorene	5.21E-05	ug/m <sup>3</sup>	1.08E-09	mg/kg-day	--	--	--	1.08E-08	mg/kg-day	4.00E-02	mg/kg-day	2.70E-07				
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	1.02E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.12E-12	1.02E-11	mg/kg-day	3.00E-04	mg/kg-day	3.39E-08				
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	2.21E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.65E-12	2.21E-11	mg/kg-day	2.00E-04	mg/kg-day	1.10E-07				
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	9.97E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.09E-11	9.97E-11	mg/kg-day	5.00E-04	mg/kg-day	1.99E-07				
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	3.73E-05	mg/kg-day	--	--	--	3.73E-04	mg/kg-day	1.10E-01	mg/kg-day	3.39E-03				
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	8.35E-07	mg/kg-day	--	--	--	8.35E-06	mg/kg-day	2.90E-02	mg/kg-day	2.88E-04				
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	2.93E-12	mg/kg-day	--	--	--	2.93E-11	mg/kg-day	5.00E-03	mg/kg-day	5.87E-09				
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	6.10E-09	mg/kg-day	1.20E-01	(mg/kg-day)-1	7.33E-10	6.10E-08	mg/kg-day	8.57E-04	mg/kg-day	7.12E-05				
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	2.84E-07	mg/kg-day	--	--	--	2.84E-06	mg/kg-day	8.57E-04	mg/kg-day	3.43E-03				
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	3.31E-07	mg/kg-day	--	--	--	3.31E-06	mg/kg-day	4.00E-02	mg/kg-day	8.28E-05				
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	3.01E-09	mg/kg-day	--	--	--	3.01E-08	mg/kg-day	3.00E-01	mg/kg-day	1.00E-07				
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	3.73E-05	mg/kg-day	--	--	--	3.73E-04	mg/kg-day	1.10E-01	mg/kg-day	3.39E-03				
				Pyrene	1.92E-05	ug/m <sup>3</sup>	3.98E-10	mg/kg-day	--	--	--	3.98E-09	mg/kg-day	3.00E-02	mg/kg-day	1.33E-07				
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	1.18E-08	mg/kg-day	--	--	--	1.18E-07	mg/kg-day	4.00E-02	mg/kg-day	2.94E-06				
				Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	1.18E-06	mg/kg-day	--	--	--	1.18E-05	mg/kg-day	4.00E-02	mg/kg-day	2.95E-04				
				Toluene	2.18E-03	ug/m <sup>3</sup>	4.51E-08	mg/kg-day	--	--	--	4.51E-07	mg/kg-day	1.43E+00	mg/kg-day	3.16E-07				
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	1.25E-06	mg/kg-day	--	--	--	1.25E-05	mg/kg-day	2.00E-02	mg/kg-day	6.25E-04				
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	1.18E-06	mg/kg-day	7.00E-03	(mg/kg-day)-1	8.27E-09	1.18E-05	mg/kg-day	1.70E-01	mg/kg-day	6.95E-05				
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	2.69E-06	mg/kg-day	2.70E-01	(mg/kg-day)-1	7.25E-07	2.69E-05	mg/kg-day	2.86E-02	mg/kg-day	9.40E-04				
							Exposure Route Total													1.86E-02
							Exposure Point Total													1.86E-02
			Exposure Medium Total													1.91E-02				
Medium Total																1.91E-02				
							Total of Receptor Risks Across All Media			2.42E-04			Total of Receptor Hazards Across All Media			2.66E+01				

TABLE H3-7.6

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.74E-07	mg/kg-day	--	--	--	9.59E-08	mg/kg-day	1.00E-02	mg/kg-day	9.59E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	9.32E-07	mg/kg-day	--	--	--	3.26E-05	mg/kg-day	1.00E-02	mg/kg-day	3.26E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	9.13E-08	mg/kg-day	--	--	--	3.20E-06	mg/kg-day	5.00E-02	mg/kg-day	6.39E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.75E-06	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	9.00E-02	mg/kg-day	1.85E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	6.58E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.37E-11	2.30E-08	mg/kg-day	1.14E-03	mg/kg-day	2.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.92E-08	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	5.00E-02	mg/kg-day	2.05E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.01E-07	mg/kg-day	--	--	--	7.03E-06	mg/kg-day	3.00E-02	mg/kg-day	2.34E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.24E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	6.71E-09	4.35E-05	mg/kg-day	3.00E-02	mg/kg-day	1.45E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	1.34E-06	mg/kg-day	2.00E-02	mg/kg-day	6.71E-05
				2-Methylphenol	8.10E-02	mg/kg	1.48E-08	mg/kg-day	--	--	--	5.18E-07	mg/kg-day	4.00E-03	mg/kg-day	1.29E-04
				2-Methylnaphthalene	1.67E+00	mg/kg	3.05E-07	mg/kg-day	--	--	--	1.07E-05	mg/kg-day	5.00E-02	mg/kg-day	2.14E-04
				4,4'-DDD	1.20E-03	mg/kg	2.19E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	5.28E-11	7.67E-09	mg/kg-day	5.00E-04	mg/kg-day	1.53E-05
				4,4'-DDE	8.23E-02	mg/kg	1.50E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.11E-09	5.26E-07	mg/kg-day	5.00E-04	mg/kg-day	1.05E-03
				4,4'-DDT	4.45E-02	mg/kg	8.13E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.76E-09	2.84E-07	mg/kg-day	5.00E-04	mg/kg-day	5.69E-04
				4-Methylphenol	2.70E-01	mg/kg	4.93E-08	mg/kg-day	--	--	--	1.73E-06	mg/kg-day	5.00E-03	mg/kg-day	3.45E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.13E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.38E-09	3.96E-06	mg/kg-day	3.00E-03	mg/kg-day	1.32E-03
				4-Nitrophenol	4.20E-01	mg/kg	7.67E-08	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	5.00E-04	mg/kg-day	5.37E-03
				Acenaphthene	4.23E+00	mg/kg	7.73E-07	mg/kg-day	--	--	--	2.71E-05	mg/kg-day	6.00E-02	mg/kg-day	4.51E-04
				Acenaphthylene	1.04E-01	mg/kg	1.90E-08	mg/kg-day	--	--	--	6.66E-07	mg/kg-day	6.00E-02	mg/kg-day	1.11E-05
				Aldrin	1.30E-02	mg/kg	2.37E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.04E-08	8.31E-08	mg/kg-day	3.00E-05	mg/kg-day	2.77E-03
				alpha-BHC	7.30E-04	mg/kg	1.33E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.60E-10	4.67E-09	mg/kg-day	5.00E-04	mg/kg-day	9.33E-06
				alpha-Chlordane	8.14E-03	mg/kg	1.49E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.93E-09	5.20E-08	mg/kg-day	5.00E-04	mg/kg-day	1.04E-04
				Aluminum	8.82E+03	mg/kg	1.61E-03	mg/kg-day	--	--	--	5.64E-02	mg/kg-day	1.00E+00	mg/kg-day	5.64E-02
				Anthracene	1.05E+00	mg/kg	1.93E-07	mg/kg-day	--	--	--	6.74E-06	mg/kg-day	3.00E-01	mg/kg-day	2.25E-05
				Antimony	4.08E+00	mg/kg	7.45E-07	mg/kg-day	--	--	--	2.61E-05	mg/kg-day	4.00E-04	mg/kg-day	6.52E-02
				Aroclor-1248	1.20E+00	mg/kg	2.19E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.38E-07	7.67E-06	mg/kg-day	2.00E-05	mg/kg-day	3.84E-01
				Aroclor-1254	4.44E-01	mg/kg	8.11E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.62E-07	2.84E-06	mg/kg-day	2.00E-05	mg/kg-day	1.42E-01
				Aroclor-1260	5.41E-01	mg/kg	9.89E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.89E-07	3.46E-06	mg/kg-day	2.00E-05	mg/kg-day	1.73E-01
				Aroclor-1268	2.78E-02	mg/kg	5.07E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.01E-08	1.77E-07	mg/kg-day	2.00E-05	mg/kg-day	8.87E-03
				Arsenic	6.17E+00	mg/kg	1.13E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.06E-05	3.94E-05	mg/kg-day	3.00E-04	mg/kg-day	1.31E-01
				Barium	6.78E+01	mg/kg	1.24E-05	mg/kg-day	--	--	--	4.34E-04	mg/kg-day	7.00E-02	mg/kg-day	6.19E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	9.14E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.10E-06	3.20E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	3.04E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	3.65E-06	1.06E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	5.00E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.00E-07	1.75E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.39E-07	mg/kg-day	--	--	--	4.88E-06	mg/kg-day	3.00E-02	mg/kg-day	1.63E-04
				Benzo(k)fluoranthene	3.28E+00	mg/kg	5.95E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.15E-07	2.08E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	4.35E-08	mg/kg-day	--	--	--	1.52E-06	mg/kg-day	2.00E-03	mg/kg-day	7.61E-04
				Beta-BHC	2.20E-03	mg/kg	4.02E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	6.03E-10	1.41E-08	mg/kg-day	2.00E-04	mg/kg-day	7.03E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.43E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	4.29E-09	5.01E-05	mg/kg-day	2.00E-02	mg/kg-day	2.50E-03
				Cadmium	9.47E+00	mg/kg	1.73E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	6.58E-07	6.06E-05	mg/kg-day	5.00E-04	mg/kg-day	1.21E-01
				Carbon disulfide	2.40E-04	mg/kg	4.38E-11	mg/kg-day	--	--	--	1.53E-09	mg/kg-day	1.00E-01	mg/kg-day	1.53E-08
				Chlorobenzene	1.10E-01	mg/kg	2.01E-08	mg/kg-day	--	--	--	7.03E-07	mg/kg-day	2.00E-02	mg/kg-day	3.52E-05
				Chromium	1.11E+02	mg/kg	2.03E-05	mg/kg-day	--	--	--	7.11E-04	mg/kg-day	1.50E+00	mg/kg-day	4.74E-04
				Chrysene	5.68E+00	mg/kg	1.04E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.25E-07	3.63E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.38E-06	mg/kg-day	--	--	--	4.84E-05	mg/kg-day	2.00E-02	mg/kg-day	2.42E-03
				Copper	5.71E+01	mg/kg	1.04E-05	mg/kg-day	--	--	--	3.65E-04	mg/kg-day	4.00E-02	mg/kg-day	9.12E-03
				Delta-BHC	8.40E-03	mg/kg	1.53E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.30E-09	5.37E-08	mg/kg-day	2.00E-04	mg/kg-day	2.68E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	5.80E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.38E-07	2.03E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.37E-06	mg/kg-day	--	--	--	8.31E-05	mg/kg-day	2.00E-03	mg/kg-day	4.16E-02
				Dieldrin	5.51E-02	mg/kg	1.01E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.61E-07	5.53E-07	mg/kg-day	5.00E-05	mg/kg-day	7.05E-03
				Dimethylphthalate	3.80E-02	mg/kg	6.94E-09	mg/kg-day	--	--	--	2.43E-07	mg/kg-day	8.00E-01	mg/kg-day	3.04E-07

TABLE H3-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	4.02E-07	mg/kg-day	--	--	--	--	1.41E-05	mg/kg-day	2.00E-01	mg/kg-day	7.03E-05
				Endosulfan I	2.30E-02	mg/kg	4.20E-09	mg/kg-day	--	--	--	--	1.47E-07	mg/kg-day	6.00E-03	mg/kg-day	2.45E-05
				Endosulfan II	2.38E-02	mg/kg	4.35E-09	mg/kg-day	--	--	--	--	1.52E-07	mg/kg-day	6.00E-03	mg/kg-day	2.54E-05
				Endosulfan Sulfate	4.30E-02	mg/kg	7.85E-09	mg/kg-day	--	--	--	--	2.75E-07	mg/kg-day	6.00E-03	mg/kg-day	4.58E-05
				Endrin aldehyde	4.21E-02	mg/kg	7.69E-09	mg/kg-day	--	--	--	--	2.69E-07	mg/kg-day	3.00E-04	mg/kg-day	8.97E-04
				Endrin Ketone	1.00E-02	mg/kg	1.83E-09	mg/kg-day	--	--	--	--	6.39E-08	mg/kg-day	3.00E-04	mg/kg-day	2.13E-04
				Fluoranthene	2.65E+01	mg/kg	4.84E-06	mg/kg-day	--	--	--	--	1.69E-04	mg/kg-day	4.00E-02	mg/kg-day	4.24E-03
				Fluorene	2.92E+00	mg/kg	5.33E-07	mg/kg-day	--	--	--	--	1.86E-05	mg/kg-day	4.00E-02	mg/kg-day	4.66E-04
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.75E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	5.22E-10	1.66E-08	mg/kg-day	3.00E-04	mg/kg-day	5.54E-05	
				gamma-Chlordane	1.31E-02	mg/kg	2.39E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.11E-09	8.38E-08	mg/kg-day	5.00E-04	mg/kg-day	1.68E-04	
				Heptachlor	6.90E-03	mg/kg	1.26E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.17E-09	4.41E-08	mg/kg-day	5.00E-04	mg/kg-day	8.82E-05	
				Heptachlor Epoxide	1.12E-02	mg/kg	2.04E-09	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.12E-08	7.13E-08	mg/kg-day	1.30E-05	mg/kg-day	5.49E-03	
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.59E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.91E-07	5.58E-06	mg/kg-day	--	--	--	
				Iron	4.07E+04	mg/kg	7.44E-03	mg/kg-day	--	--	--	2.60E-01	mg/kg-day	3.00E-01	mg/kg-day	8.68E-01	
				Isophorone	2.00E-01	mg/kg	3.65E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.47E-11	1.28E-06	mg/kg-day	2.00E-01	mg/kg-day	6.39E-06	
				Lead	2.90E+03	mg/kg	5.30E-04	mg/kg-day	--	--	--	1.86E-02	mg/kg-day	--	--	--	
				Manganese	3.31E+02	mg/kg	6.05E-05	mg/kg-day	--	--	--	2.12E-03	mg/kg-day	2.40E-02	mg/kg-day	8.82E-02	
				Mercury	3.10E-01	mg/kg	5.65E-08	mg/kg-day	--	--	--	1.98E-08	mg/kg-day	3.00E-04	mg/kg-day	6.60E-03	
				Methoxychlor	1.20E-01	mg/kg	2.19E-08	mg/kg-day	--	--	--	7.67E-07	mg/kg-day	5.00E-03	mg/kg-day	1.53E-04	
				Molybdenum	2.50E+00	mg/kg	4.57E-07	mg/kg-day	--	--	--	1.60E-05	mg/kg-day	5.00E-03	mg/kg-day	3.20E-03	
				Naphthalene	1.30E+01	mg/kg	2.37E-06	mg/kg-day	--	--	--	8.31E-05	mg/kg-day	2.00E-02	mg/kg-day	4.16E-03	
				Nickel	3.91E+01	mg/kg	7.15E-06	mg/kg-day	--	--	--	2.50E-04	mg/kg-day	2.00E-02	mg/kg-day	1.25E-02	
				Phenanthrene	1.39E+01	mg/kg	2.54E-06	mg/kg-day	--	--	--	8.90E-05	mg/kg-day	3.00E-01	mg/kg-day	2.97E-04	
				Phenol	5.80E-01	mg/kg	1.06E-07	mg/kg-day	--	--	--	3.71E-06	mg/kg-day	3.00E-01	mg/kg-day	1.24E-05	
				p-Isopropyltoluene	1.10E-01	mg/kg	2.01E-08	mg/kg-day	--	--	--	7.03E-07	mg/kg-day	1.00E-01	mg/kg-day	7.03E-06	
				Pyrene	2.41E+01	mg/kg	4.41E-08	mg/kg-day	--	--	--	1.54E-04	mg/kg-day	3.00E-02	mg/kg-day	5.15E-03	
				sec-Butylbenzene	7.10E-02	mg/kg	1.30E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.13E-05	
				Selenium	2.24E-01	mg/kg	4.10E-08	mg/kg-day	--	--	--	1.43E-06	mg/kg-day	5.00E-03	mg/kg-day	2.87E-04	
				Silver	1.16E+00	mg/kg	2.12E-07	mg/kg-day	--	--	--	7.41E-06	mg/kg-day	5.00E-03	mg/kg-day	1.48E-03	
				Technical Chlordane	5.51E-01	mg/kg	1.01E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.31E-07	3.52E-06	mg/kg-day	5.00E-04	mg/kg-day	7.05E-03	
				Thallium	4.97E-01	mg/kg	9.08E-08	mg/kg-day	--	--	--	3.18E-06	mg/kg-day	8.00E-05	mg/kg-day	3.97E-02	
				Toluene	4.30E-04	mg/kg	7.85E-11	mg/kg-day	--	--	--	2.75E-09	mg/kg-day	8.00E-02	mg/kg-day	3.44E-08	
				Vanadium	3.41E+01	mg/kg	6.24E-06	mg/kg-day	--	--	--	2.18E-04	mg/kg-day	1.00E-03	mg/kg-day	2.18E-01	
Zinc	4.53E+02	mg/kg	8.28E-05	mg/kg-day	--	--	--	2.90E-03	mg/kg-day	3.00E-01	mg/kg-day	9.66E-03					
<b>Exposure Route Total</b>										<b>1.91E-05</b>						<b>2.45E+00</b>	
Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	mg/kg	1.50E+00	mg/kg	3.07E-08	mg/kg-day	--	--	--	--	1.07E-06	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04	
				5.10E+00	mg/kg	1.04E-08	mg/kg-day	--	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05	
				5.00E-01	mg/kg	1.02E-09	mg/kg-day	--	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07	
				2.60E+01	mg/kg	5.32E-08	mg/kg-day	--	--	--	--	1.86E-06	mg/kg-day	5.00E-02	mg/kg-day	2.07E-05	
				3.60E-03	mg/kg	7.38E-12	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.65E-13	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07		
				1.60E-01	mg/kg	3.27E-10	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07		
				1.10E+00	mg/kg	2.25E-09	mg/kg-day	--	--	--	7.88E-08	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06		
				8.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--		
				2.10E-01	mg/kg	4.30E-10	mg/kg-day	--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07		
				8.10E-02	mg/kg	1.66E-09	mg/kg-day	--	--	--	5.80E-08	mg/kg-day	4.00E-03	mg/kg-day	1.45E-05		
				1.67E+00	mg/kg	3.42E-09	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	5.00E-02	mg/kg-day	2.39E-06		
				1.20E-03	mg/kg	2.45E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	5.89E-13	8.59E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07		
				8.23E-02	mg/kg	1.68E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.73E-11	5.89E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05		
				4.45E-02	mg/kg	2.73E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	9.28E-11	9.56E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05		
				4.27E-01	mg/kg	5.52E-09	mg/kg-day	--	--	--	1.93E-07	mg/kg-day	5.00E-03	mg/kg-day	3.87E-05		
				6.20E-01	mg/kg	1.27E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.66E-10	4.44E-07	mg/kg-day	3.00E-03	mg/kg-day	1.48E-04		

TABLE H3-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	8.59E-09	mg/kg-day	--	--	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	4.23E+00	mg/kg	1.13E-07	mg/kg-day	--	--	--	--	3.94E-06	mg/kg-day	6.00E-02	mg/kg-day	6.57E-05
				Acenaphthylene	1.04E-01	mg/kg	2.13E-10	mg/kg-day	--	--	--	--	7.46E-09	mg/kg-day	6.00E-02	mg/kg-day	1.24E-07
				Aldrin	1.30E-02	mg/kg	2.66E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.52E-09	9.31E-09	mg/kg-day	3.00E-05	mg/kg-day	3.10E-04	
				alpha-BHC	7.30E-04	mg/kg	1.49E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.03E-12	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07	
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	5.00E-04	mg/kg-day	--	
				Aluminum	8.82E+03	mg/kg	1.80E-06	mg/kg-day	--	--	--	--	6.32E-05	mg/kg-day	1.00E+00	mg/kg-day	6.32E-05
				Anthracene	1.05E+00	mg/kg	2.81E-08	mg/kg-day	--	--	--	--	9.82E-07	mg/kg-day	3.00E-01	mg/kg-day	3.27E-06
				Antimony	4.08E+00	mg/kg	8.34E-10	mg/kg-day	--	--	--	--	2.92E-08	mg/kg-day	4.00E-04	mg/kg-day	7.30E-05
				Aroclor-1248	1.20E+00	mg/kg	3.44E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.87E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02	
				Aroclor-1254	4.44E-01	mg/kg	1.27E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.54E-08	4.45E-07	mg/kg-day	2.00E-05	mg/kg-day	2.23E-02	
				Aroclor-1260	5.41E-01	mg/kg	1.55E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.10E-08	5.43E-07	mg/kg-day	2.00E-05	mg/kg-day	2.71E-02	
				Aroclor-1268	2.78E-02	mg/kg	7.95E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.59E-09	2.78E-08	mg/kg-day	2.00E-05	mg/kg-day	1.39E-03	
				Arsenic	6.17E+00	mg/kg	3.78E-08	mg/kg-day	9.45E+00	(mg/kg-day)-1	3.58E-07	1.32E-06	mg/kg-day	3.00E-04	mg/kg-day	4.41E-03	
				Barium	6.78E+01	mg/kg	1.39E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	7.00E-02	mg/kg-day	6.94E-06	
				Benzo(a)anthracene	5.00E+00	mg/kg	1.33E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.60E-07	4.66E-06	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.67E+00	mg/kg	4.43E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	5.31E-07	1.55E-06	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.74E+00	mg/kg	7.28E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.74E-08	2.65E-06	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.03E-08	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	3.00E-02	mg/kg-day	2.37E-05	
				Benzo(k)fluoranthene	3.26E+00	mg/kg	8.67E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.04E-07	3.03E-06	mg/kg-day	--	--	--	
				Beryllium	2.38E-01	mg/kg	4.87E-11	mg/kg-day	--	--	--	1.70E-09	mg/kg-day	2.00E-03	mg/kg-day	8.52E-07	
				Beta-BHC	2.20E-03	mg/kg	4.50E-12	mg/kg-day	1.50E+00	(mg/kg-day)-1	6.75E-12	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07	
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.60E-08	mg/kg-day	3.00E-03	(mg/kg-day)-1	4.81E-11	5.61E-07	mg/kg-day	2.00E-02	mg/kg-day	2.80E-05	
				Cadmium	9.47E+00	mg/kg	1.94E-09	mg/kg-day	3.80E-01	(mg/kg-day)-1	7.36E-10	6.78E-08	mg/kg-day	5.00E-04	mg/kg-day	1.36E-04	
				Carbon disulfide	2.40E-04	mg/kg	1.23E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09	
				Chlorobenzene	1.10E-01	mg/kg	2.25E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07	
				Chromium	1.11E+02	mg/kg	2.27E-08	mg/kg-day	--	--	--	7.96E-07	mg/kg-day	1.50E+00	mg/kg-day	5.31E-07	
				Chrysene	5.68E+00	mg/kg	1.51E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.81E-08	5.29E-06	mg/kg-day	--	--	--	
				Cobalt	7.57E+00	mg/kg	1.55E-09	mg/kg-day	--	--	--	5.42E-08	mg/kg-day	2.00E-02	mg/kg-day	2.71E-06	
				Copper	5.71E+01	mg/kg	1.17E-08	mg/kg-day	--	--	--	4.09E-07	mg/kg-day	4.00E-02	mg/kg-day	1.02E-05	
				Delta-BHC	8.40E-03	mg/kg	8.59E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.29E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.50E-05	
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	8.44E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.46E-08	2.96E-07	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	2.66E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04	
				Dieldrin	5.51E-02	mg/kg	1.13E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.80E-09	3.95E-09	mg/kg-day	5.00E-05	mg/kg-day	7.90E-05	
				Dimethylphthalate	3.80E-02	mg/kg	7.77E-11	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	8.00E-01	mg/kg-day	3.40E-09	
				di-n-Butylphthalate	2.20E+00	mg/kg	4.50E-09	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	2.00E-01	mg/kg-day	7.88E-07	
				Endosulfan I	2.30E-02	mg/kg	2.35E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06	
				Endosulfan II	2.38E-02	mg/kg	2.44E-10	mg/kg-day	--	--	--	8.53E-09	mg/kg-day	6.00E-03	mg/kg-day	1.42E-06	
				Endosulfan Sulfate	4.30E-02	mg/kg	4.40E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-06	
				Endrin aldehyde	4.21E-02	mg/kg	4.30E-10	mg/kg-day	--	--	--	1.51E-08	mg/kg-day	3.00E-04	mg/kg-day	5.02E-05	
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	
				Fluoranthene	2.65E+01	mg/kg	7.05E-07	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	4.00E-02	mg/kg-day	6.17E-04	
				Fluorene	2.92E+00	mg/kg	7.76E-08	mg/kg-day	--	--	--	2.71E-06	mg/kg-day	4.00E-02	mg/kg-day	6.79E-05	
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.13E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.34E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06	
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--	
				Heptachlor	6.80E-03	mg/kg	1.41E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.79E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07	
				Heptachlor Epoxide	1.12E-02	mg/kg	2.28E-11	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.25E-10	7.99E-10	mg/kg-day	1.30E-05	mg/kg-day	6.14E-05	
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.32E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.79E-08	8.13E-07	mg/kg-day	--	--	--	
				Iron	4.07E+04	mg/kg	8.33E-06	mg/kg-day	--	--	--	2.92E-04	mg/kg-day	3.00E-01	mg/kg-day	9.72E-04	
				Isophorone	2.00E-01	mg/kg	4.09E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.89E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07	
Lead	2.90E+03	mg/kg	5.94E-07	mg/kg-day	--	--	--	2.08E-05	mg/kg-day	--	--	--					

TABLE H3-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	6.77E-08	mg/kg-day	--	--	--	--	2.37E-06	mg/kg-day	2.40E-02	mg/kg-day	9.88E-05			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	2.45E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06			
				Molybdenum	2.50E+00	mg/kg	5.12E-10	mg/kg-day	--	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	3.59E-06			
				Naphthalene	1.30E+01	mg/kg	3.46E-07	mg/kg-day	--	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04			
				Nickel	3.91E+01	mg/kg	8.00E-09	mg/kg-day	--	--	--	--	2.80E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05			
				Phenanthrene	1.39E+01	mg/kg	2.85E-08	mg/kg-day	--	--	--	--	9.97E-07	mg/kg-day	3.00E-01	mg/kg-day	3.32E-06			
				Phenol	5.80E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06			
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--			
				Pyrene	2.41E+01	mg/kg	6.42E-07	mg/kg-day	--	--	--	--	2.25E-05	mg/kg-day	3.00E-02	mg/kg-day	7.49E-04			
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--			
				Selenium	2.24E-01	mg/kg	4.59E-11	mg/kg-day	--	--	--	--	1.61E-09	mg/kg-day	5.00E-03	mg/kg-day	3.21E-07			
				Silver	1.16E+00	mg/kg	2.37E-10	mg/kg-day	--	--	--	--	8.30E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06			
				Technical Chlordane	5.51E-01	mg/kg	4.51E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.86E-09	1.58E-07	mg/kg-day	5.00E-04	mg/kg-day	3.16E-04				
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--			
				Toluene	4.30E-04	mg/kg	8.80E-13	mg/kg-day	--	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.85E-10			
				Vanadium	3.41E+01	mg/kg	6.99E-09	mg/kg-day	--	--	--	--	2.44E-07	mg/kg-day	1.00E-03	mg/kg-day	2.44E-04			
				Zinc	4.53E+02	mg/kg	9.28E-08	mg/kg-day	--	--	--	--	3.25E-06	mg/kg-day	3.00E-01	mg/kg-day	1.08E-05			
				Exposure Point Total															1.21E-01	
				Exposure Route Total															2.57E+00	
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--					
		1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--					
		1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--					
		1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--					
		1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	3.60E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--					
		1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--					
		1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--					
		1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--					
		2,4-Dimethylphenol	2.10E-01	mg/kg	9.99E-07	mg/kg-day	--	--	--	--	3.50E-05	mg/kg-day	2.00E-02	mg/kg-day	1.75E-03					
		2-Methylphenol	8.10E-02	mg/kg	9.17E-07	mg/kg-day	--	--	--	--	3.21E-05	mg/kg-day	4.00E-03	mg/kg-day	8.02E-03					
		2-Methylnaphthalene	1.67E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--					
		4,4'-DDD	1.20E-03	mg/kg	9.73E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.33E-12	3.40E-10	mg/kg-day	5.00E-04	mg/kg-day	6.81E-07						
		4,4'-DDE	8.23E-02	mg/kg	4.83E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.64E-10	1.69E-08	mg/kg-day	5.00E-04	mg/kg-day	3.38E-05						
		4,4'-DDT	4.45E-02	mg/kg	1.13E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.83E-10	3.94E-08	mg/kg-day	5.00E-04	mg/kg-day	7.88E-05						
		4-Methylphenol	2.70E-01	mg/kg	3.14E-06	mg/kg-day	--	--	--	--	1.10E-04	mg/kg-day	5.00E-03	mg/kg-day	2.20E-02					
		4-Nitroaniline	6.20E-01	mg/kg	4.94E-06	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.04E-07	1.73E-04	mg/kg-day	3.00E-03	mg/kg-day	5.76E-02						
		4-Nitrophenol	4.20E-01	mg/kg	5.02E-06	mg/kg-day	--	--	--	--	1.76E-04	mg/kg-day	5.00E-04	mg/kg-day	3.51E-01					
		Acenaphthene	4.23E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--					
		Acenaphthylene	1.04E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--					
		Aldrin	1.30E-02	mg/kg	1.72E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.93E-09	6.03E-09	mg/kg-day	3.00E-05	mg/kg-day	2.01E-04						
		alpha-BHC	7.30E-04	mg/kg	2.09E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.64E-09	7.31E-08	mg/kg-day	5.00E-04	mg/kg-day	1.46E-04						
		alpha-Chlordane	8.14E-03	mg/kg	2.37E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.08E-10	8.30E-09	mg/kg-day	5.00E-04	mg/kg-day	1.66E-05						
		Aluminum	8.82E+03	mg/kg	3.50E-05	mg/kg-day	--	--	--	--	1.22E-03	mg/kg-day	1.00E+00	mg/kg-day	1.22E-03					
		Anthracene	1.05E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--					
		Antimony	4.08E+00	mg/kg	7.47E-07	mg/kg-day	--	--	--	--	2.61E-05	mg/kg-day	4.00E-04	mg/kg-day	6.53E-02					
		Aroclor-1248	1.20E+00	mg/kg	9.75E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.95E-08	3.41E-07	mg/kg-day	2.00E-05	mg/kg-day	1.71E-02						
		Aroclor-1254	4.44E-01	mg/kg	4.83E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.66E-08	1.69E-06	mg/kg-day	2.00E-05	mg/kg-day	8.45E-02						
		Aroclor-1260	5.41E-01	mg/kg	2.11E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.21E-09	7.37E-08	mg/kg-day	2.00E-05	mg/kg-day	3.68E-03						
		Aroclor-1268	2.78E-02	mg/kg	3.02E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.04E-09	1.06E-07	mg/kg-day	2.00E-05	mg/kg-day	5.28E-03						
		Arsenic	6.17E+00	mg/kg	2.26E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	2.13E-06	7.90E-08	mg/kg-day	3.00E-04	mg/kg-day	2.63E-02						
Barium	6.78E+01	mg/kg	6.21E-06	mg/kg-day	--	--	--	--	2.17E-04	mg/kg-day	7.00E-02	mg/kg-day	3.10E-03							

TABLE H3-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	7.83E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.40E-09	2.74E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.48E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.78E-08	5.18E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.43E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.92E-08	8.52E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	5.18E-09	mg/kg-day	--	--	--	1.81E-07	mg/kg-day	3.00E-02	mg/kg-day	6.04E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	2.90E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.48E-08	1.01E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.18E-09	mg/kg-day	--	--	--	7.63E-08	mg/kg-day	2.00E-03	mg/kg-day	3.81E-05
				Beta-BHC	2.20E-03	mg/kg	6.30E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.45E-09	2.20E-07	mg/kg-day	2.00E-04	mg/kg-day	1.10E-03
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.65E-05	mg/kg-day	3.00E-03	(mg/kg-day)-1	4.96E-08	5.78E-04	mg/kg-day	2.00E-02	mg/kg-day	2.89E-02
				Cadmium	9.47E+00	mg/kg	8.67E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	3.29E-06	3.03E-04	mg/kg-day	5.00E-04	mg/kg-day	6.07E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	3.05E-08	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	1.50E+00	mg/kg-day	7.12E-05
				Chrysene	5.68E+00	mg/kg	6.25E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	7.49E-09	2.19E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	3.23E-07	mg/kg-day	--	--	--	1.13E-05	mg/kg-day	2.00E-02	mg/kg-day	5.66E-04
				Copper	5.71E+01	mg/kg	8.70E-05	mg/kg-day	--	--	--	3.05E-03	mg/kg-day	4.00E-02	mg/kg-day	7.82E-02
				Delta-BHC	8.40E-03	mg/kg	1.96E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.94E-10	6.86E-09	mg/kg-day	2.00E-04	mg/kg-day	3.43E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.74E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.15E-09	6.10E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	1.78E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.85E-06	6.24E-06	mg/kg-day	5.00E-05	mg/kg-day	1.25E-01
				Dimethylphthalate	3.80E-02	mg/kg	3.45E-07	mg/kg-day	--	--	--	1.21E-05	mg/kg-day	8.00E-01	mg/kg-day	1.51E-05
				di-n-Butylphthalate	2.20E+00	mg/kg	2.80E-08	mg/kg-day	--	--	--	9.79E-07	mg/kg-day	2.00E-01	mg/kg-day	4.89E-06
				Endosulfan I	2.30E-02	mg/kg	6.29E-08	mg/kg-day	--	--	--	2.20E-06	mg/kg-day	6.00E-03	mg/kg-day	3.67E-04
				Endosulfan II	2.38E-02	mg/kg	6.24E-08	mg/kg-day	--	--	--	2.18E-06	mg/kg-day	6.00E-03	mg/kg-day	3.64E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.10E-07	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	6.00E-03	mg/kg-day	6.42E-04
				Endrin aldehyde	4.21E-02	mg/kg	4.26E-10	mg/kg-day	--	--	--	1.49E-08	mg/kg-day	3.00E-04	mg/kg-day	4.97E-05
				Endrin Ketone	1.00E-02	mg/kg	1.01E-10	mg/kg-day	--	--	--	3.54E-09	mg/kg-day	3.00E-04	mg/kg-day	1.18E-05
				Fluoranthene	2.65E+01	mg/kg	4.37E-07	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	4.00E-02	mg/kg-day	3.82E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.62E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.88E-08	9.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.06E-03
				gamma-Chlordane	1.31E-02	mg/kg	3.82E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.96E-10	1.34E-08	mg/kg-day	5.00E-04	mg/kg-day	2.67E-05
				Heptachlor	6.90E-03	mg/kg	1.49E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.12E-10	5.23E-09	mg/kg-day	5.00E-04	mg/kg-day	1.05E-05
				Heptachlor Epoxide	1.12E-02	mg/kg	7.85E-08	mg/kg-day	5.50E+00	(mg/kg-day)-1	4.32E-07	2.75E-06	mg/kg-day	1.30E-05	mg/kg-day	2.11E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	5.80E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.97E-09	2.03E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	2.47E-04	mg/kg-day	--	--	--	8.65E-03	mg/kg-day	3.00E-01	mg/kg-day	2.88E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	1.59E-04	mg/kg-day	--	--	--	5.58E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	1.01E-04	mg/kg-day	--	--	--	3.54E-03	mg/kg-day	2.40E-02	mg/kg-day	1.47E-01
				Mercury	3.10E-01	mg/kg	3.78E-07	mg/kg-day	--	--	--	1.32E-05	mg/kg-day	3.00E-04	mg/kg-day	4.41E-02
				Methoxychlor	1.20E-01	mg/kg	6.34E-10	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.00E-03	mg/kg-day	4.44E-06
				Molybdenum	2.50E+00	mg/kg	9.17E-07	mg/kg-day	--	--	--	3.21E-05	mg/kg-day	5.00E-03	mg/kg-day	6.42E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.91E+01	mg/kg	1.43E-05	mg/kg-day	--	--	--	5.01E-04	mg/kg-day	2.00E-02	mg/kg-day	2.51E-02
				Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
				Phenol	5.80E-01	mg/kg	1.75E-05	mg/kg-day	--	--	--	6.11E-04	mg/kg-day	3.00E-01	mg/kg-day	2.04E-03
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.24E-01	mg/kg	3.42E-08	mg/kg-day	--	--	--	1.20E-06	mg/kg-day	5.00E-03	mg/kg-day	2.40E-04
				Silver	1.16E+00	mg/kg	7.07E-07	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	5.00E-03	mg/kg-day	4.95E-03
				Technical Chlordane	5.51E-01	mg/kg	1.60E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.09E-08	5.62E-07	mg/kg-day	5.00E-04	mg/kg-day	1.12E-03
				Thallium	4.97E-01	mg/kg	1.21E-09	mg/kg-day	--	--	--	4.25E-08	mg/kg-day	8.00E-05	mg/kg-day	5.31E-04

TABLE H3-7.7

EA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--
				Vanadium	3.41E+01	mg/kg	6.25E-07	mg/kg-day	--	--	--	--	2.19E-05	mg/kg-day	1.00E-03	mg/kg-day	2.19E-02
				Zinc	4.53E+02	mg/kg	2.49E-03	mg/kg-day	--	--	--	--	8.72E-02	mg/kg-day	3.00E-01	mg/kg-day	2.91E-01
				<b>Exposure Route Total</b>													
		<b>Exposure Point Total</b>															
	<b>Exposure Medium Total</b>																
	Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.30E-12	mg/kg-day	--	--	--	--	8.05E-11	mg/kg-day	2.00E-02	mg/kg-day	4.03E-09
				2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	8.88E-13	mg/kg-day	--	--	--	--	3.11E-11	mg/kg-day	--	--	--
				4,4-DDD	9.09E-13	mg/m <sup>3</sup>	1.32E-14	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.16E-15	4.60E-13	mg/kg-day	5.00E-04	mg/kg-day	9.21E-10	
				4,4-DDT	3.37E-11	mg/m <sup>3</sup>	4.88E-13	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.66E-13	1.71E-11	mg/kg-day	5.00E-04	mg/kg-day	3.41E-08	
				4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	2.96E-12	mg/kg-day	--	--	--	1.04E-10	mg/kg-day	5.00E-03	mg/kg-day	2.07E-08	
				4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	6.79E-12	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.43E-13	2.38E-10	mg/kg-day	1.00E-03	mg/kg-day	2.38E-07	
				4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	4.60E-12	mg/kg-day	--	--	--	1.61E-10	mg/kg-day	5.70E-04	mg/kg-day	2.83E-07	
				Aluminum	6.68E-06	mg/m <sup>3</sup>	9.67E-08	mg/kg-day	--	--	--	3.38E-06	mg/kg-day	1.43E-03	mg/kg-day	2.37E-03	
				Antimony	3.09E-09	mg/m <sup>3</sup>	4.47E-11	mg/kg-day	--	--	--	1.56E-09	mg/kg-day	--	--	--	
				Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.63E-11	4.60E-10	mg/kg-day	2.00E-05	mg/kg-day	2.30E-05	
				Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	4.87E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.73E-12	1.70E-10	mg/kg-day	2.00E-05	mg/kg-day	8.52E-06	
				Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	5.93E-12	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.19E-11	2.08E-10	mg/kg-day	2.00E-05	mg/kg-day	1.04E-05	
				Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.04E-13	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.08E-13	1.06E-11	mg/kg-day	2.00E-05	mg/kg-day	5.32E-07	
				Arsenic	4.67E-09	mg/m <sup>3</sup>	6.76E-11	mg/kg-day	1.20E+01	(mg/kg-day)-1	8.11E-10	2.37E-09	mg/kg-day	8.60E-06	mg/kg-day	2.75E-04	
				Barium	5.14E-08	mg/m <sup>3</sup>	7.43E-10	mg/kg-day	--	--	--	2.60E-08	mg/kg-day	1.40E-04	mg/kg-day	1.86E-04	
				Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	5.48E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.14E-11	1.92E-09	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	1.82E-11	mg/kg-day	3.90E+00	(mg/kg-day)-1	7.12E-11	6.39E-10	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	8.37E-12	mg/kg-day	--	--	--	2.93E-10	mg/kg-day	3.00E-02	mg/kg-day	9.76E-09	
				Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	3.57E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.39E-11	1.25E-09	mg/kg-day	--	--	--	
				Beryllium	1.80E-10	mg/m <sup>3</sup>	2.61E-12	mg/kg-day	8.40E+00	(mg/kg-day)-1	2.19E-11	9.13E-11	mg/kg-day	5.71E-06	mg/kg-day	1.60E-05	
				Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.41E-14	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.62E-14	8.44E-13	mg/kg-day	2.00E-04	mg/kg-day	4.22E-09	
				bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	8.58E-11	mg/kg-day	8.40E-03	(mg/kg-day)-1	7.21E-13	3.00E-09	mg/kg-day	2.00E-02	mg/kg-day	1.50E-07	
				Cadmium	7.18E-09	mg/m <sup>3</sup>	1.04E-10	mg/kg-day	1.50E+01	(mg/kg-day)-1	1.56E-09	3.63E-09	mg/kg-day	5.71E-06	mg/kg-day	6.36E-04	
				Chromium	8.42E-08	mg/m <sup>3</sup>	1.22E-09	mg/kg-day	--	--	--	4.27E-08	mg/kg-day	--	--	--	
				Cobalt	5.74E-09	mg/m <sup>3</sup>	8.30E-11	mg/kg-day	9.80E+00	(mg/kg-day)-1	8.13E-10	2.90E-09	mg/kg-day	5.71E-06	mg/kg-day	5.09E-04	
				Copper	4.32E-08	mg/m <sup>3</sup>	6.25E-10	mg/kg-day	--	--	--	2.19E-08	mg/kg-day	--	--	--	
				Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	3.48E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.43E-11	1.22E-10	mg/kg-day	--	--	--	
				Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.16E-13	mg/kg-day	--	--	--	1.46E-11	mg/kg-day	8.00E-01	mg/kg-day	1.82E-11	
				di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	2.41E-11	mg/kg-day	--	--	--	8.44E-10	mg/kg-day	1.00E-01	mg/kg-day	8.44E-09	
				Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	4.61E-13	mg/kg-day	--	--	--	1.61E-11	mg/kg-day	3.00E-04	mg/kg-day	5.38E-08	
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.10E-13	mg/kg-day	--	--	--	3.84E-12	mg/kg-day	3.00E-04	mg/kg-day	1.28E-08	
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.22E-13	mg/kg-day	5.50E+00	(mg/kg-day)-1	6.72E-13	4.28E-12	mg/kg-day	1.30E-05	mg/kg-day	3.29E-07	
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	9.57E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	3.73E-12	3.35E-10	mg/kg-day	--	--	--	
				Iron	3.09E-05	mg/m <sup>3</sup>	4.46E-07	mg/kg-day	--	--	--	1.56E-05	mg/kg-day	--	--	--	
				Isophorone	1.52E-10	mg/m <sup>3</sup>	2.19E-12	mg/kg-day	--	--	--	7.67E-11	mg/kg-day	--	--	--	
				Lead	2.20E-06	mg/m <sup>3</sup>	3.18E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	--	--	--	
				Manganese	2.51E-07	mg/m <sup>3</sup>	3.63E-09	mg/kg-day	--	--	--	1.27E-07	mg/kg-day	1.43E-05	mg/kg-day	8.89E-03	
				Mercury	2.34E-10	mg/m <sup>3</sup>	3.30E-12	mg/kg-day	--	--	--	1.19E-10	mg/kg-day	8.60E-05	mg/kg-day	1.38E-06	
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	2.74E-11	mg/kg-day	--	--	--	9.61E-10	mg/kg-day	--	--	--	
				Nickel	2.96E-08	mg/m <sup>3</sup>	4.29E-10	mg/kg-day	9.10E-01	(mg/kg-day)-1	3.90E-10	1.50E-08	mg/kg-day	1.40E-05	mg/kg-day	1.07E-03	
				Phenol	4.39E-10	mg/m <sup>3</sup>	6.36E-12	mg/kg-day	--	--	--	2.22E-10	mg/kg-day	5.71E-02	mg/kg-day	3.89E-09	
				Selenium	1.70E-10	mg/m <sup>3</sup>	2.46E-12	mg/kg-day	--	--	--	8.61E-11	mg/kg-day	5.70E-03	mg/kg-day	1.51E-08	
				Silver	8.78E-10	mg/m <sup>3</sup>	1.27E-11	mg/kg-day	--	--	--	4.45E-10	mg/kg-day	--	--	--	



TABLE H3-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	9.34E-05	mg/kg-day	--	--	--	3.27E-03	mg/kg-day	3.00E-02	mg/kg-day	1.09E-01	
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	5.78E-04	mg/kg-day	4.00E-02	(mg/kg-day)-1	2.31E-05	--	2.02E-02	mg/kg-day	2.30E-01	mg/kg-day	8.79E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	7.01E-05	mg/kg-day	--	--	--	--	2.46E-03	mg/kg-day	5.00E-02	mg/kg-day	4.91E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	8.78E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.98E-11	--	3.07E-09	mg/kg-day	5.00E-04	mg/kg-day	6.14E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	2.45E-05	mg/kg-day	--	--	--	--	8.57E-04	mg/kg-day	6.00E-02	mg/kg-day	1.43E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	6.33E-07	mg/kg-day	--	--	--	--	2.21E-05	mg/kg-day	6.00E-02	mg/kg-day	3.69E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	2.33E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.96E-09	--	8.15E-09	mg/kg-day	3.00E-05	mg/kg-day	2.72E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.56E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.20E-09	--	5.45E-08	mg/kg-day	5.00E-04	mg/kg-day	1.09E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	7.85E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.42E-10	--	2.75E-08	mg/kg-day	2.00E-04	mg/kg-day	1.37E-04
				Anthracene	4.48E-01	(a) ug/m <sup>3</sup>	6.45E-06	mg/kg-day	--	--	--	--	2.26E-04	mg/kg-day	3.00E-01	mg/kg-day	7.52E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	4.56E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.78E-08	--	1.60E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.04E-08	mg/kg-day	--	--	--	--	7.14E-07	mg/kg-day	2.00E-01	mg/kg-day	3.57E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	9.34E-06	mg/kg-day	--	--	--	--	3.27E-04	mg/kg-day	2.86E-01	mg/kg-day	1.14E-03
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	2.57E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.00E-08	--	9.00E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	2.66E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.99E-08	--	9.31E-07	mg/kg-day	2.00E-04	mg/kg-day	4.66E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	3.43E-07	mg/kg-day	--	--	--	--	1.20E-05	mg/kg-day	2.00E-03	mg/kg-day	6.00E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	7.59E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.21E-07	--	2.66E-07	mg/kg-day	5.00E-05	mg/kg-day	5.31E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	3.12E-08	mg/kg-day	--	--	--	--	1.09E-06	mg/kg-day	6.00E-03	mg/kg-day	1.82E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	3.17E-08	mg/kg-day	--	--	--	--	1.11E-06	mg/kg-day	6.00E-03	mg/kg-day	1.85E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	5.83E-08	mg/kg-day	--	--	--	--	2.04E-06	mg/kg-day	6.00E-03	mg/kg-day	3.40E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	7.10E-08	mg/kg-day	--	--	--	--	2.48E-06	mg/kg-day	4.00E-02	mg/kg-day	6.21E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	3.87E-06	mg/kg-day	--	--	--	--	1.36E-04	mg/kg-day	4.00E-02	mg/kg-day	3.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	8.23E-09	mg/kg-day	1.10E+00	(mg/kg-day)-1	9.06E-09	--	2.88E-07	mg/kg-day	3.00E-04	mg/kg-day	9.61E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	1.43E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.71E-11	--	5.00E-10	mg/kg-day	2.00E-04	mg/kg-day	2.50E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.57E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.44E-09	--	5.50E-08	mg/kg-day	5.00E-04	mg/kg-day	1.10E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	4.29E-09	mg/kg-day	--	--	--	--	1.50E-07	mg/kg-day	5.00E-03	mg/kg-day	3.00E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.04E-07	mg/kg-day	3.50E-03	(mg/kg-day)-1	7.14E-10	--	7.14E-06	mg/kg-day	1.10E-01	mg/kg-day	6.49E-05
				Naphthalene	6.28E+01	(a) ug/m <sup>3</sup>	9.10E-04	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.09E-04	--	3.18E-02	mg/kg-day	8.57E-04	mg/kg-day	3.72E-01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	8.26E-05	mg/kg-day	--	--	--	--	2.89E-03	mg/kg-day	3.00E-01	mg/kg-day	9.64E-03
				p-isopropyltoluene	6.48E-01	(a) ug/m <sup>3</sup>	9.34E-06	mg/kg-day	--	--	--	--	3.27E-04	mg/kg-day	1.10E-01	mg/kg-day	2.97E-02
Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	5.75E-07	mg/kg-day	--	--	--	--	2.01E-05	mg/kg-day	3.00E-02	mg/kg-day	6.71E-04				
sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	3.31E-06	mg/kg-day	--	--	--	--	1.16E-04	mg/kg-day	4.00E-02	mg/kg-day	2.90E-03				
Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	6.08E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.30E-08	--	2.13E-06	mg/kg-day	2.00E-04	mg/kg-day	1.06E-02				
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	3.65E-08	mg/kg-day	--	--	--	--	1.28E-06	mg/kg-day	1.43E+00	mg/kg-day	8.95E-07				
				Exposure Route Total							1.33E-04					5.78E+01	
				Exposure Point Total							1.33E-04					5.78E+01	
				Exposure Medium Total							1.35E-04					5.86E+01	
Medium Total																	6.34E+01
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.12E-09	mg/kg-day	5.70E-03	(mg/kg-day)-1	3.49E-11	--	2.14E-07	mg/kg-day	1.40E-01	mg/kg-day	1.53E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.83E-09	mg/kg-day	--	--	--	--	6.39E-08	mg/kg-day	1.70E-03	mg/kg-day	3.76E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	--	4.19E-07	mg/kg-day	5.70E-02	mg/kg-day	7.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	8.61E-09	mg/kg-day	7.20E-02	(mg/kg-day)-1	6.20E-10	--	3.01E-07	mg/kg-day	1.40E-03	mg/kg-day	2.15E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.23E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.16E-10	--	1.13E-07	mg/kg-day	1.14E-03	mg/kg-day	9.91E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.04E-09	mg/kg-day	--	--	--	--	3.84E-08	mg/kg-day	1.70E-03	mg/kg-day	2.14E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.07E-09	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.63E-10	--	1.43E-07	mg/kg-day	2.30E-01	mg/kg-day	6.20E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.57E-10	mg/kg-day	--	--	--	--	5.51E-09	mg/kg-day	1.43E+00	mg/kg-day	3.86E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.40E-11	mg/kg-day	--	--	--	--	4.90E-10	mg/kg-day	5.00E-02	mg/kg-day	9.79E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.87E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.36E-12	--	6.55E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	5.85E-11	mg/kg-day	--	--	--	--	2.05E-09	mg/kg-day	8.60E-01	mg/kg-day	2.38E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	5.61E-10	mg/kg-day	--	--	--	--	1.96E-08	mg/kg-day	6.00E-02	mg/kg-day	3.27E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.39E-11	mg/kg-day	--	--	--	--	8.36E-10	mg/kg-day	6.00E-02	mg/kg-day	1.39E-08

TABLE H3-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	3.23E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	5.50E-10	1.13E-09	mg/kg-day	3.00E-05	mg/kg-day	3.77E-05		
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.10E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.11E-11	1.43E-10	mg/kg-day	5.00E-04	mg/kg-day	2.87E-07		
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	9.69E-12	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.16E-11	3.39E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06		
				Anthracene	3.29E-09	mg/m <sup>3</sup>	4.75E-11	mg/kg-day	--	--	--	1.66E-09	mg/kg-day	3.00E-01	mg/kg-day	5.54E-09		
				Benzene	2.61E-07	mg/m <sup>3</sup>	3.77E-09	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	3.77E-10	1.32E-07	mg/kg-day	8.60E-03	mg/kg-day	1.54E-05		
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.04E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	2.74E-12	2.46E-10	mg/kg-day	--	--	--		
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.06E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	4.15E-13	3.73E-09	mg/kg-day	2.00E-02	mg/kg-day	1.86E-07		
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	6.52E-08	mg/kg-day	--	--	--	2.28E-06	mg/kg-day	2.00E-01	mg/kg-day	1.14E-05		
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	3.71E-08	mg/kg-day	2.86E-01	mg/kg-day	1.30E-07		
				Chloroform	2.07E-06	mg/m <sup>3</sup>	2.89E-08	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	5.68E-10	1.05E-06	mg/kg-day	8.57E-02	mg/kg-day	1.22E-05		
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.08E-08	mg/kg-day	--	--	--	3.79E-07	mg/kg-day	2.60E-02	mg/kg-day	1.46E-05		
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.90E-11	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	7.42E-13	6.66E-10	mg/kg-day	--	--	--		
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	7.67E-09	mg/kg-day	--	--	--	2.68E-07	mg/kg-day	1.00E-02	mg/kg-day	2.68E-05		
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.42E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.27E-10	4.97E-10	mg/kg-day	5.00E-05	mg/kg-day	9.95E-06		
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.24E-12	mg/kg-day	--	--	--	1.13E-10	mg/kg-day	6.00E-03	mg/kg-day	1.89E-08		
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.32E-15	mg/kg-day	--	--	--	1.86E-13	mg/kg-day	6.00E-03	mg/kg-day	3.11E-11		
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	2.89E-09	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	2.90E-01	mg/kg-day	3.48E-07		
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	7.31E-12	mg/kg-day	--	--	--	2.56E-10	mg/kg-day	4.00E-02	mg/kg-day	6.40E-09		
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.45E-11	mg/kg-day	--	--	--	5.06E-10	mg/kg-day	4.00E-02	mg/kg-day	1.27E-08		
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.80E-14	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	1.98E-14	6.29E-13	mg/kg-day	3.00E-04	mg/kg-day	2.10E-09		
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.52E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.02E-11	8.81E-10	mg/kg-day	2.00E-04	mg/kg-day	4.40E-06		
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	2.58E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.06E-09	9.04E-09	mg/kg-day	5.00E-04	mg/kg-day	1.81E-05		
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	4.96E-07	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04		
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.00E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	2.90E-02	mg/kg-day	1.21E-05		
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	4.72E-11	mg/kg-day	--	--	--	1.65E-09	mg/kg-day	5.00E-03	mg/kg-day	3.31E-07		
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	7.86E-11	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	9.43E-12	2.75E-09	mg/kg-day	8.57E-04	mg/kg-day	3.21E-06		
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	3.66E-09	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	8.57E-04	mg/kg-day	1.49E-04		
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.07E-09	mg/kg-day	--	--	--	1.43E-07	mg/kg-day	4.00E-02	mg/kg-day	3.57E-06		
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	3.79E-11	mg/kg-day	--	--	--	1.33E-09	mg/kg-day	3.00E-01	mg/kg-day	4.42E-09		
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	4.96E-07	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04		
				Pyrene	4.61E-10	mg/m <sup>3</sup>	6.67E-12	mg/kg-day	--	--	--	2.33E-10	mg/kg-day	3.00E-02	mg/kg-day	7.78E-09		
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.16E-08	mg/kg-day	--	--	--	4.06E-07	mg/kg-day	4.00E-02	mg/kg-day	1.01E-05		
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.31E-08	mg/kg-day	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05		
				Toluene	3.80E-07	mg/m <sup>3</sup>	5.50E-09	mg/kg-day	--	--	--	1.92E-07	mg/kg-day	1.43E+00	mg/kg-day	1.35E-07		
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.30E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	2.00E-02	mg/kg-day	2.27E-05		
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.35E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	9.44E-11	4.72E-07	mg/kg-day	1.70E-01	mg/kg-day	2.78E-06		
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	2.79E-08	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	7.53E-09	9.76E-07	mg/kg-day	2.86E-02	mg/kg-day	3.42E-05		
								Exposure Route Total						1.14E-08				
								Exposure Point Total						1.14E-08				
				Indoor Air	Indoor Air	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.08E-06	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	6.14E-09	3.77E-05	mg/kg-day	1.40E-01
1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	4.72E-08					mg/kg-day	--	--	--	1.65E-06	mg/kg-day	1.70E-03	mg/kg-day	9.73E-04		
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	3.18E-07					mg/kg-day	--	--	--	1.11E-05	mg/kg-day	5.70E-02	mg/kg-day	1.95E-04		
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	2.58E-07					mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	1.86E-08	9.02E-06	mg/kg-day	1.40E-03	mg/kg-day	6.44E-03		
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	9.55E-08					mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	3.44E-09	3.34E-06	mg/kg-day	1.14E-03	mg/kg-day	2.93E-03		
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	2.70E-08					mg/kg-day	--	--	--	9.47E-07	mg/kg-day	1.70E-03	mg/kg-day	5.57E-04		
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.09E-07					mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	4.37E-09	3.82E-06	mg/kg-day	2.30E-01	mg/kg-day	1.66E-05		
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	8.10E-09					mg/kg-day	--	--	--	2.84E-07	mg/kg-day	1.43E+00	mg/kg-day	1.99E-07		
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	3.93E-10					mg/kg-day	--	--	--	1.37E-08	mg/kg-day	5.00E-02	mg/kg-day	2.75E-07		
4,4-DDE	1.17E-07	ug/m <sup>3</sup>	1.69E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	5.73E-13	5.90E-11	mg/kg-day	5.00E-04	mg/kg-day	1.18E-07		
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	2.41E-09					mg/kg-day	--	--	--	8.42E-08	mg/kg-day	8.60E-01	mg/kg-day	9.79E-08		
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	2.39E-08					mg/kg-day	--	--	--	8.36E-07	mg/kg-day	6.00E-02	mg/kg-day	1.39E-05		

TABLE H3-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	1.02E-09	mg/kg-day	--	--	--	3.56E-08	mg/kg-day	6.00E-02	mg/kg-day	5.93E-07			
				Aldnn	2.44E-07	ug/m <sup>3</sup>	3.53E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.00E-11	1.23E-10	mg/kg-day	3.00E-05	mg/kg-day	4.11E-06			
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	5.26E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.42E-12	1.84E-11	mg/kg-day	5.00E-04	mg/kg-day	3.68E-08			
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	3.19E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.82E-12	1.12E-10	mg/kg-day	2.00E-04	mg/kg-day	5.58E-07			
				Anthracene	1.40E-04	ug/m <sup>3</sup>	2.02E-09	mg/kg-day	--	--	--	7.07E-08	mg/kg-day	3.00E-01	mg/kg-day	2.36E-07			
				Benzene	7.66E-03	ug/m <sup>3</sup>	1.11E-07	mg/kg-day	1.00E-01	(mg/kg-day)-1	1.11E-08	3.88E-06	mg/kg-day	8.60E-03	mg/kg-day	4.51E-04			
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	2.96E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.15E-10	1.04E-08	mg/kg-day	--	--	--			
				Bromoform	3.95E-04	ug/m <sup>3</sup>	5.72E-09	mg/kg-day	3.90E-03	(mg/kg-day)-1	2.23E-11	2.00E-07	mg/kg-day	2.00E-02	mg/kg-day	1.00E-05			
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	1.96E-06	mg/kg-day	--	--	--	6.84E-05	mg/kg-day	2.00E-01	mg/kg-day	3.42E-04			
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	2.97E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	2.86E-01	mg/kg-day	3.64E-06			
				Chloroform	6.13E-02	ug/m <sup>3</sup>	8.87E-07	mg/kg-day	1.90E-02	(mg/kg-day)-1	1.68E-08	3.10E-05	mg/kg-day	8.57E-02	mg/kg-day	3.62E-04			
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	3.51E-07	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.60E-02	mg/kg-day	4.73E-04			
				Chrysene	5.75E-05	ug/m <sup>3</sup>	8.33E-10	mg/kg-day	3.90E-02	(mg/kg-day)-1	3.25E-11	2.91E-08	mg/kg-day	--	--	--			
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	4.97E-07	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	1.00E-02	mg/kg-day	1.74E-03			
				Dieldnn	3.76E-08	ug/m <sup>3</sup>	5.44E-13	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.71E-12	1.91E-11	mg/kg-day	5.00E-05	mg/kg-day	3.81E-07			
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	7.02E-13	mg/kg-day	--	--	--	2.46E-11	mg/kg-day	6.00E-03	mg/kg-day	4.10E-09			
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	2.34E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09			
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	7.80E-08	mg/kg-day	--	--	--	2.73E-06	mg/kg-day	2.90E-01	mg/kg-day	9.41E-06			
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	2.96E-10	mg/kg-day	--	--	--	1.04E-08	mg/kg-day	4.00E-02	mg/kg-day	2.59E-07			
				Fluorene	5.21E-05	ug/m <sup>3</sup>	7.54E-10	mg/kg-day	--	--	--	2.64E-08	mg/kg-day	4.00E-02	mg/kg-day	6.59E-07			
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	7.10E-13	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.81E-13	2.48E-11	mg/kg-day	3.00E-04	mg/kg-day	8.28E-08			
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	1.54E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.85E-12	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07			
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	6.96E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.86E-11	2.44E-10	mg/kg-day	5.00E-04	mg/kg-day	4.87E-07			
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	2.60E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03			
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	5.83E-07	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	2.90E-02	mg/kg-day	7.04E-04			
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	2.05E-12	mg/kg-day	--	--	--	7.17E-11	mg/kg-day	5.00E-03	mg/kg-day	1.43E-08			
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	4.26E-09	mg/kg-day	1.20E-01	(mg/kg-day)-1	5.12E-10	1.49E-07	mg/kg-day	8.57E-04	mg/kg-day	1.74E-04			
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	2.05E-07	mg/kg-day	--	--	--	7.18E-06	mg/kg-day	8.57E-04	mg/kg-day	8.38E-03			
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	2.31E-07	mg/kg-day	--	--	--	8.10E-06	mg/kg-day	4.00E-02	mg/kg-day	2.02E-04			
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	2.10E-09	mg/kg-day	--	--	--	7.36E-08	mg/kg-day	3.00E-01	mg/kg-day	2.45E-07			
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	2.60E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03			
				Pyrene	1.92E-05	ug/m <sup>3</sup>	2.78E-10	mg/kg-day	--	--	--	9.73E-09	mg/kg-day	3.00E-02	mg/kg-day	3.24E-07			
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	8.22E-09	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	4.00E-02	mg/kg-day	7.20E-06			
				Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	8.23E-07	mg/kg-day	--	--	--	2.88E-05	mg/kg-day	4.00E-02	mg/kg-day	7.20E-04			
				Toluene	2.18E-03	ug/m <sup>3</sup>	3.15E-08	mg/kg-day	--	--	--	1.10E-06	mg/kg-day	1.43E+00	mg/kg-day	7.72E-07			
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	8.73E-07	mg/kg-day	--	--	--	3.05E-05	mg/kg-day	2.00E-02	mg/kg-day	1.53E-03			
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	8.25E-07	mg/kg-day	7.00E-03	(mg/kg-day)-1	5.78E-09	2.69E-05	mg/kg-day	1.70E-01	mg/kg-day	1.70E-04			
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	1.88E-06	mg/kg-day	2.70E-01	(mg/kg-day)-1	5.07E-07	6.57E-05	mg/kg-day	2.86E-02	mg/kg-day	2.30E-03			
				Exposure Route Total										5.74E-07					4.55E-02
				Exposure Medium Total										5.74E-07					4.55E-02
Medium Total										5.85E-07					4.67E-02				
Total of Receptor Risks Across All Media										1.65E-04	Total of Receptor Hazards Across All Media				6.35E+01				

TABLE H3-7.7

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes:

- Not applicable or not available
- CSF Cancer slope factor
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- EPC Exposure point concentration
- ft bgs Feet below ground surface
- mg/kg Milligram per kilogram
- mg/kg-day Milligram per kilogram per day
- (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
- mg/L Milligram per liter
- mg/m<sup>3</sup> Milligram per cubic meter
- RAGS Risk Assessment Guidelines for Superfund
- RfD Reference dose
- RIC Reference concentration
- RI Remedial Investigation
- ug/m<sup>3</sup> Microgram per cubic meter
- VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.74E-07	mg/kg-day	--	--	--	9.59E-06	mg/kg-day	1.00E-02	mg/kg-day	9.59E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	9.32E-07	mg/kg-day	--	--	--	3.26E-05	mg/kg-day	1.00E-02	mg/kg-day	3.26E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	9.13E-08	mg/kg-day	--	--	--	3.20E-06	mg/kg-day	5.00E-02	mg/kg-day	6.39E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.75E-06	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	9.00E-02	mg/kg-day	1.85E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	6.58E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.37E-11	2.30E-08	mg/kg-day	1.14E-03	mg/kg-day	2.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.92E-08	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	5.00E-02	mg/kg-day	2.05E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.01E-07	mg/kg-day	--	--	--	7.03E-06	mg/kg-day	3.00E-02	mg/kg-day	2.34E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.24E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	6.71E-09	4.35E-05	mg/kg-day	3.00E-02	mg/kg-day	1.45E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	1.34E-06	mg/kg-day	2.00E-02	mg/kg-day	6.71E-05
				2-Methylphenol	8.10E-02	mg/kg	1.48E-08	mg/kg-day	--	--	--	5.18E-07	mg/kg-day	4.00E-03	mg/kg-day	1.29E-04
				2-Methylnaphthalene	1.45E+00	mg/kg	2.65E-07	mg/kg-day	--	--	--	9.27E-06	mg/kg-day	5.00E-02	mg/kg-day	1.85E-04
				4,4'-DDD	1.20E-03	mg/kg	2.19E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	5.26E-11	7.67E-09	mg/kg-day	5.00E-04	mg/kg-day	1.53E-05
				4,4'-DDE	7.50E-02	mg/kg	1.37E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.69E-09	4.79E-07	mg/kg-day	5.00E-04	mg/kg-day	9.59E-04
				4,4'-DDT	4.20E-02	mg/kg	7.67E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.61E-09	2.68E-07	mg/kg-day	5.00E-04	mg/kg-day	5.37E-04
				4-Methylphenol	2.70E-01	mg/kg	4.93E-08	mg/kg-day	--	--	--	1.73E-06	mg/kg-day	5.00E-03	mg/kg-day	3.45E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.13E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.38E-09	3.96E-08	mg/kg-day	3.00E-03	mg/kg-day	1.32E-03
				4-Nitrophenol	4.20E-01	mg/kg	7.67E-08	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	5.00E-04	mg/kg-day	5.37E-03
				Acenaphthene	3.47E+00	mg/kg	6.34E-07	mg/kg-day	--	--	--	2.22E-05	mg/kg-day	6.00E-02	mg/kg-day	3.70E-04
				Acenaphthylene	8.96E-02	mg/kg	1.64E-08	mg/kg-day	--	--	--	5.73E-07	mg/kg-day	6.00E-02	mg/kg-day	9.54E-06
				Aldrin	1.30E-02	mg/kg	2.37E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	4.04E-08	8.31E-08	mg/kg-day	3.00E-05	mg/kg-day	2.77E-03
				alpha-BHC	7.30E-04	mg/kg	1.33E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.60E-10	4.67E-09	mg/kg-day	5.00E-04	mg/kg-day	9.33E-06
				alpha-Chlordane	6.98E-03	mg/kg	1.28E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.66E-09	4.46E-08	mg/kg-day	5.00E-04	mg/kg-day	8.93E-05
				Aluminum	9.05E+03	mg/kg	1.65E-03	mg/kg-day	--	--	--	5.79E-02	mg/kg-day	1.00E+00	mg/kg-day	5.79E-02
				Anthracene	9.13E-01	mg/kg	1.67E-07	mg/kg-day	--	--	--	5.84E-06	mg/kg-day	3.00E-01	mg/kg-day	1.95E-05
				Antimony	2.72E+00	mg/kg	4.97E-07	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	4.00E-04	mg/kg-day	4.35E-02
				Aroclor-1248	1.20E+00	mg/kg	2.19E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.38E-07	7.67E-06	mg/kg-day	2.00E-05	mg/kg-day	3.84E-01
				Aroclor-1254	4.38E-01	mg/kg	7.99E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.60E-07	2.80E-06	mg/kg-day	2.00E-05	mg/kg-day	1.40E-01
				Aroclor-1260	4.88E-01	mg/kg	8.92E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.78E-07	3.12E-06	mg/kg-day	2.00E-05	mg/kg-day	1.56E-01
				Aroclor-1268	2.72E-02	mg/kg	4.96E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.93E-09	1.74E-07	mg/kg-day	2.00E-05	mg/kg-day	8.69E-03
				Arsenic	9.53E+00	mg/kg	1.74E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.65E-05	6.09E-05	mg/kg-day	3.00E-04	mg/kg-day	2.03E-01
				Barium	6.94E+01	mg/kg	1.27E-05	mg/kg-day	--	--	--	4.44E-04	mg/kg-day	7.00E-02	mg/kg-day	6.34E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	7.69E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.23E-07	2.69E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	2.57E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	3.08E-06	8.99E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	4.33E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.20E-07	1.52E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.18E-07	mg/kg-day	--	--	--	4.14E-06	mg/kg-day	3.00E-02	mg/kg-day	1.39E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	5.16E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.19E-07	1.81E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	4.16E-08	mg/kg-day	--	--	--	1.46E-06	mg/kg-day	2.00E-03	mg/kg-day	7.28E-04
				Beta-BHC	2.20E-03	mg/kg	4.02E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	6.03E-10	1.41E-08	mg/kg-day	2.00E-04	mg/kg-day	7.03E-05
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	9.67E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	2.90E-09	3.39E-05	mg/kg-day	2.00E-02	mg/kg-day	1.69E-03
				Cadmium	8.65E+00	mg/kg	1.58E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	6.00E-07	5.53E-05	mg/kg-day	5.00E-04	mg/kg-day	1.11E-01
				Carbon disulfide	2.40E-04	mg/kg	4.38E-11	mg/kg-day	--	--	--	1.53E-09	mg/kg-day	1.00E-01	mg/kg-day	1.53E-08
				Chlorobenzene	1.10E-01	mg/kg	2.01E-08	mg/kg-day	--	--	--	7.03E-07	mg/kg-day	2.00E-02	mg/kg-day	3.52E-05
				Chromium	1.00E+02	mg/kg	1.83E-05	mg/kg-day	--	--	--	6.39E-04	mg/kg-day	1.50E+00	mg/kg-day	4.26E-04
				Chrysene	4.80E+00	mg/kg	8.76E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.05E-07	3.07E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.36E-06	mg/kg-day	--	--	--	4.76E-05	mg/kg-day	2.00E-02	mg/kg-day	2.38E-03
Copper	6.01E+01	mg/kg	1.10E-05	mg/kg-day	--	--	--	3.84E-04	mg/kg-day	4.00E-02	mg/kg-day	9.60E-03				
Delta-BHC	8.40E-03	mg/kg	1.53E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.30E-09	5.37E-08	mg/kg-day	2.00E-04	mg/kg-day	2.68E-04				
Dibenzo(a,h)anthracene	2.76E-01	mg/kg	5.03E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.06E-07	1.76E-06	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	2.37E-06	mg/kg-day	--	--	--	8.31E-05	mg/kg-day	2.00E-03	mg/kg-day	4.16E-02				
Dieldrin	4.89E-02	mg/kg	8.94E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.43E-07	3.13E-07	mg/kg-day	5.00E-05	mg/kg-day	6.26E-03				
Dimethylphthalate	3.80E-02	mg/kg	6.94E-09	mg/kg-day	--	--	--	2.43E-07	mg/kg-day	8.00E-01	mg/kg-day	3.04E-07				

TABLE H3-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.30E+00	mg/kg	4.20E-07	mg/kg-day	--	--	--	--	1.47E-05	mg/kg-day	2.00E-01	mg/kg-day	7.35E-05				
				Endosulfan I	2.30E-02	mg/kg	4.20E-09	mg/kg-day	--	--	--	--	1.47E-07	mg/kg-day	6.00E-03	mg/kg-day	2.45E-05				
				Endosulfan II	2.34E-02	mg/kg	4.27E-09	mg/kg-day	--	--	--	--	1.49E-07	mg/kg-day	6.00E-03	mg/kg-day	2.49E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	7.85E-09	mg/kg-day	--	--	--	--	2.75E-07	mg/kg-day	6.00E-03	mg/kg-day	4.58E-05				
				Endrin aldehyde	6.30E-02	mg/kg	1.15E-08	mg/kg-day	--	--	--	--	4.03E-07	mg/kg-day	3.00E-04	mg/kg-day	1.34E-03				
				Endrin Ketone	1.00E-02	mg/kg	1.83E-09	mg/kg-day	--	--	--	--	6.39E-08	mg/kg-day	3.00E-04	mg/kg-day	2.13E-04				
				Fluoranthene	2.23E+01	mg/kg	4.06E-06	mg/kg-day	--	--	--	--	1.42E-04	mg/kg-day	4.00E-02	mg/kg-day	3.56E-03				
				Fluorene	2.53E+00	mg/kg	4.62E-07	mg/kg-day	--	--	--	--	1.62E-05	mg/kg-day	4.00E-02	mg/kg-day	4.04E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.75E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	5.22E-10	1.66E-08	mg/kg-day	3.00E-04	mg/kg-day	5.54E-05					
				gamma-Chlordane	1.27E-02	mg/kg	2.32E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.02E-09	8.12E-08	mg/kg-day	5.00E-04	mg/kg-day	1.62E-04					
				Heptachlor	6.90E-03	mg/kg	1.26E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	5.17E-09	4.41E-08	mg/kg-day	5.00E-04	mg/kg-day	8.82E-05					
				Heptachlor Epoxide	9.86E-03	mg/kg	1.80E-09	mg/kg-day	5.50E+00	(mg/kg-day)-1	9.90E-09	6.30E-08	mg/kg-day	1.30E-05	mg/kg-day	4.85E-03					
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	9.08E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.09E-07	3.18E-06	mg/kg-day	--	--	--					
				Iron	3.68E+04	mg/kg	8.71E-03	mg/kg-day	--	--	--	--	2.35E-01	mg/kg-day	3.00E-01	mg/kg-day	7.83E-01				
				Isophorone	2.00E-01	mg/kg	3.65E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.47E-11	1.28E-06	mg/kg-day	2.00E-01	mg/kg-day	6.39E-06					
				Lead	2.39E+03	mg/kg	4.36E-04	mg/kg-day	--	--	--	--	1.53E-02	mg/kg-day	--	--	--				
				Manganese	3.04E+02	mg/kg	5.56E-05	mg/kg-day	--	--	--	--	1.95E-03	mg/kg-day	2.40E-02	mg/kg-day	8.11E-02				
				Mercury	2.65E-01	mg/kg	4.85E-08	mg/kg-day	--	--	--	--	1.70E-06	mg/kg-day	3.00E-04	mg/kg-day	5.65E-03				
				Methoxychlor	1.20E-01	mg/kg	2.19E-08	mg/kg-day	--	--	--	--	7.67E-07	mg/kg-day	5.00E-03	mg/kg-day	1.53E-04				
				Methylene chloride	2.40E-03	mg/kg	4.38E-10	mg/kg-day	1.40E-02	(mg/kg-day)-1	6.14E-12	1.53E-08	mg/kg-day	6.00E-02	mg/kg-day	2.56E-07					
				Molybdenum	2.18E+00	mg/kg	3.98E-07	mg/kg-day	--	--	--	--	1.39E-05	mg/kg-day	5.00E-03	mg/kg-day	2.79E-03				
				Naphthalene	1.30E+01	mg/kg	2.37E-08	mg/kg-day	--	--	--	--	8.31E-05	mg/kg-day	2.00E-02	mg/kg-day	4.16E-03				
				Nickel	3.89E+01	mg/kg	7.11E-08	mg/kg-day	--	--	--	--	2.49E-04	mg/kg-day	2.00E-02	mg/kg-day	1.24E-02				
				Phenanthrene	1.17E+01	mg/kg	2.13E-06	mg/kg-day	--	--	--	--	7.47E-05	mg/kg-day	3.00E-01	mg/kg-day	2.49E-04				
				Phenol	5.80E-01	mg/kg	1.06E-07	mg/kg-day	--	--	--	--	3.71E-06	mg/kg-day	3.00E-01	mg/kg-day	1.24E-05				
				p-Isopropyltoluene	1.10E-01	mg/kg	2.01E-08	mg/kg-day	--	--	--	--	7.03E-07	mg/kg-day	1.00E-01	mg/kg-day	7.03E-06				
				Pyrene	2.03E+01	mg/kg	3.72E-06	mg/kg-day	--	--	--	--	1.30E-04	mg/kg-day	3.00E-02	mg/kg-day	4.33E-03				
				sec-Butylbenzene	7.10E-02	mg/kg	1.30E-08	mg/kg-day	--	--	--	--	4.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.13E-05				
				Selenium	2.84E-01	mg/kg	5.18E-08	mg/kg-day	--	--	--	--	1.81E-06	mg/kg-day	5.00E-03	mg/kg-day	3.63E-04				
				Silver	9.80E-01	mg/kg	1.79E-07	mg/kg-day	--	--	--	--	6.26E-06	mg/kg-day	5.00E-03	mg/kg-day	1.25E-03				
				Technical Chlordane	5.41E-01	mg/kg	9.88E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.28E-07	3.46E-06	mg/kg-day	5.00E-04	mg/kg-day	6.91E-03					
				Thallium	4.83E-01	mg/kg	8.81E-08	mg/kg-day	--	--	--	--	3.09E-06	mg/kg-day	8.00E-05	mg/kg-day	3.86E-02				
				Toluene	4.30E-04	mg/kg	7.85E-11	mg/kg-day	--	--	--	--	2.75E-09	mg/kg-day	8.00E-02	mg/kg-day	3.44E-08				
				Vanadium	3.37E+01	mg/kg	6.15E-06	mg/kg-day	--	--	--	--	2.15E-04	mg/kg-day	1.00E-03	mg/kg-day	2.15E-01				
				Zinc	3.32E+02	mg/kg	6.06E-05	mg/kg-day	--	--	--	--	2.12E-03	mg/kg-day	3.00E-01	mg/kg-day	7.07E-03				
				<b>Exposure Route Total</b>															<b>2.38E-05</b>		
				Dermal				1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.07E-08	mg/kg-day	--	--	--	--	1.07E-06	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.04E-08	mg/kg-day	--	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.02E-09	mg/kg-day	--	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07
								1,2-Dichlorobenzene	2.60E+01	mg/kg	5.32E-08	mg/kg-day	--	--	--	--	1.86E-08	mg/kg-day	9.00E-02	mg/kg-day	2.07E-05
1,2-Dichloropropane	3.60E-03	mg/kg	7.36E-12					mg/kg-day	3.60E-02	(mg/kg-day)-1	2.65E-13	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07					
1,3,5-Trimethylbenzene	1.60E-01	mg/kg	3.27E-10					mg/kg-day	--	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07				
1,3-Dichlorobenzene	1.10E+00	mg/kg	2.25E-09					mg/kg-day	--	--	--	--	7.88E-08	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	4.30E-10					mg/kg-day	--	--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07				
2-Methylphenol	8.10E-02	mg/kg	1.66E-09					mg/kg-day	--	--	--	--	5.80E-08	mg/kg-day	4.00E-03	mg/kg-day	1.45E-05				
2-Methylnaphthalene	1.45E+00	mg/kg	2.96E-09					mg/kg-day	--	--	--	--	1.04E-07	mg/kg-day	5.00E-02	mg/kg-day	2.08E-06				
4,4'-DDD	1.20E-03	mg/kg	2.45E-12					mg/kg-day	2.40E-01	(mg/kg-day)-1	5.89E-13	8.59E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07					
4,4'-DDE	7.50E-02	mg/kg	1.53E-10					mg/kg-day	3.40E-01	(mg/kg-day)-1	5.22E-11	5.37E-09	mg/kg-day	5.00E-04	mg/kg-day	1.07E-05					
4,4'-DDT	4.20E-02	mg/kg	2.58E-10					mg/kg-day	3.40E-01	(mg/kg-day)-1	8.76E-11	9.02E-09	mg/kg-day	5.00E-04	mg/kg-day	1.80E-05					
4-Methylphenol	2.70E-01	mg/kg	5.52E-09					mg/kg-day	--	--	--	--	1.83E-07	mg/kg-day	5.00E-03	mg/kg-day	3.87E-05				

TABLE H3-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	1.27E-08	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.66E-10	4.44E-07	mg/kg-day	3.00E-03	mg/kg-day	1.48E-04
				4-Nitrophenol	4.20E-01	mg/kg	8.59E-09	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	3.47E+00	mg/kg	9.23E-08	mg/kg-day	--	--	--	3.23E-06	mg/kg-day	6.00E-02	mg/kg-day	5.39E-05
				Acenaphthylene	8.96E-02	mg/kg	1.83E-10	mg/kg-day	--	--	--	6.41E-09	mg/kg-day	6.00E-02	mg/kg-day	1.07E-07
				Aldrin	1.30E-02	mg/kg	2.66E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	4.52E-09	9.31E-09	mg/kg-day	3.00E-05	mg/kg-day	3.10E-04
				alpha-BHC	7.30E-04	mg/kg	1.49E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	4.03E-12	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	1.85E-08	mg/kg-day	--	--	--	6.48E-05	mg/kg-day	1.00E+00	mg/kg-day	6.48E-05
				Anthracene	9.13E-01	mg/kg	2.43E-08	mg/kg-day	--	--	--	8.50E-07	mg/kg-day	3.00E-01	mg/kg-day	2.83E-06
				Antimony	2.72E+00	mg/kg	5.57E-10	mg/kg-day	--	--	--	1.95E-08	mg/kg-day	4.00E-04	mg/kg-day	4.88E-05
				Aroclor-1248	1.20E+00	mg/kg	3.44E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.87E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02
				Aroclor-1254	4.38E-01	mg/kg	1.25E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.51E-08	4.39E-07	mg/kg-day	2.00E-05	mg/kg-day	2.19E-02
				Aroclor-1260	4.88E-01	mg/kg	1.40E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.80E-08	4.89E-07	mg/kg-day	2.00E-05	mg/kg-day	2.45E-02
				Aroclor-1268	2.72E-02	mg/kg	7.78E-10	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.56E-09	2.72E-08	mg/kg-day	2.00E-05	mg/kg-day	1.36E-03
				Arsenic	9.53E+00	mg/kg	5.85E-08	mg/kg-day	9.45E+00	(mg/kg-day) <sup>-1</sup>	5.53E-07	2.05E-06	mg/kg-day	3.00E-04	mg/kg-day	6.83E-03
				Barium	6.94E+01	mg/kg	1.42E-08	mg/kg-day	--	--	--	4.97E-07	mg/kg-day	7.00E-02	mg/kg-day	7.10E-06
				Benzo(a)anthracene	4.21E+00	mg/kg	1.12E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.34E-07	3.92E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	3.74E-08	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	4.49E-07	1.31E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	6.31E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	7.57E-08	2.21E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.72E-08	mg/kg-day	--	--	--	6.03E-07	mg/kg-day	3.00E-02	mg/kg-day	2.01E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	7.51E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	9.01E-08	2.63E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	4.66E-11	mg/kg-day	--	--	--	1.63E-09	mg/kg-day	2.00E-03	mg/kg-day	8.15E-07
				Beta-BHC	2.20E-03	mg/kg	4.50E-12	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	6.75E-12	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.08E-08	mg/kg-day	3.00E-03	(mg/kg-day) <sup>-1</sup>	3.25E-11	3.79E-07	mg/kg-day	2.00E-02	mg/kg-day	1.90E-05
				Cadmium	8.65E+00	mg/kg	1.77E-09	mg/kg-day	3.80E-01	(mg/kg-day) <sup>-1</sup>	6.72E-10	6.19E-08	mg/kg-day	5.00E-04	mg/kg-day	1.24E-04
				Carbon disulfide	2.40E-04	mg/kg	1.23E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09
				Chlorobenzene	1.10E-01	mg/kg	2.25E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07
				Chromium	1.00E+02	mg/kg	2.04E-08	mg/kg-day	--	--	--	7.16E-07	mg/kg-day	1.50E+00	mg/kg-day	4.77E-07
				Chrysene	4.80E+00	mg/kg	1.28E-07	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.53E-08	4.46E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.52E-09	mg/kg-day	--	--	--	5.33E-08	mg/kg-day	2.00E-02	mg/kg-day	2.66E-06
				Copper	6.01E+01	mg/kg	1.23E-08	mg/kg-day	--	--	--	4.30E-07	mg/kg-day	4.00E-02	mg/kg-day	1.08E-05
				Delta-BHC	8.40E-03	mg/kg	8.59E-11	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.29E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.50E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	7.33E-09	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	3.01E-08	2.57E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	2.66E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04
				Dieldrin	4.89E-02	mg/kg	1.00E-10	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.60E-09	3.50E-09	mg/kg-day	5.00E-05	mg/kg-day	7.01E-05
				Dimethylphthalate	3.80E-02	mg/kg	7.77E-11	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	8.00E-01	mg/kg-day	3.40E-09
				di-n-Butylphthalate	2.30E+00	mg/kg	4.71E-09	mg/kg-day	--	--	--	1.65E-07	mg/kg-day	2.00E-01	mg/kg-day	8.23E-07
				Endosulfan I	2.30E-02	mg/kg	2.35E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06
				Endosulfan II	2.34E-02	mg/kg	2.39E-10	mg/kg-day	--	--	--	8.37E-09	mg/kg-day	6.00E-03	mg/kg-day	1.39E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	4.40E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-06
				Endrin aldehyde	6.30E-02	mg/kg	6.44E-10	mg/kg-day	--	--	--	2.26E-08	mg/kg-day	3.00E-04	mg/kg-day	7.52E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	5.92E-07	mg/kg-day	--	--	--	2.07E-05	mg/kg-day	4.00E-02	mg/kg-day	5.18E-04
				Fluorene	2.53E+00	mg/kg	6.72E-08	mg/kg-day	--	--	--	2.35E-06	mg/kg-day	4.00E-02	mg/kg-day	5.88E-05
gamma-BHC (Lindane)	2.60E-03	mg/kg	2.13E-11	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.34E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06				
gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	mg/kg-day	5.00E-04	mg/kg-day	--				
Heptachlor	6.90E-03	mg/kg	1.41E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	5.79E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07				
Heptachlor Epoxide	9.86E-03	mg/kg	2.02E-11	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	1.11E-10	7.06E-10	mg/kg-day	1.30E-05	mg/kg-day	5.43E-05				
Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.32E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.59E-08	4.63E-07	mg/kg-day	--	--	--				
Iron	3.88E+04	mg/kg	7.52E-06	mg/kg-day	--	--	--	2.63E-04	mg/kg-day	3.00E-01	mg/kg-day	8.77E-04				
Isophorone	2.00E-01	mg/kg	4.09E-09	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	3.89E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07				

TABLE H3-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	4.89E-07	mg/kg-day	--	--	--	--	1.71E-05	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	6.23E-08	mg/kg-day	--	--	--	--	2.18E-06	mg/kg-day	2.40E-02	mg/kg-day	9.08E-05
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	2.45E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06
				Methylene chloride	2.40E-03	mg/kg	4.91E-12	mg/kg-day	1.40E-02	(mg/kg-day)-1	6.87E-14	--	1.72E-10	mg/kg-day	6.00E-02	mg/kg-day	2.86E-09
				Molybdenum	2.18E+00	mg/kg	4.46E-10	mg/kg-day	--	--	--	--	1.56E-08	mg/kg-day	5.00E-03	mg/kg-day	3.12E-06
				Naphthalene	1.30E+01	mg/kg	3.46E-07	mg/kg-day	--	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04
				Nickel	3.89E+01	mg/kg	7.97E-09	mg/kg-day	--	--	--	--	2.79E-07	mg/kg-day	2.00E-02	mg/kg-day	1.39E-05
				Phenanthrene	1.17E+01	mg/kg	2.39E-08	mg/kg-day	--	--	--	--	8.36E-07	mg/kg-day	3.00E-01	mg/kg-day	2.79E-06
				Phenol	5.80E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	5.41E-07	mg/kg-day	--	--	--	--	1.89E-05	mg/kg-day	3.00E-02	mg/kg-day	6.31E-04
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	5.80E-11	mg/kg-day	--	--	--	--	2.03E-09	mg/kg-day	5.00E-03	mg/kg-day	4.06E-07
				Silver	9.80E-01	mg/kg	2.00E-10	mg/kg-day	--	--	--	--	7.02E-09	mg/kg-day	5.00E-03	mg/kg-day	1.40E-08
				Technical Chlordane	5.41E-01	mg/kg	4.43E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.75E-09	--	1.55E-07	mg/kg-day	5.00E-04	mg/kg-day	3.10E-04
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	8.80E-13	mg/kg-day	--	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.85E-10
				Vanadium	3.37E+01	mg/kg	6.89E-09	mg/kg-day	--	--	--	--	2.41E-07	mg/kg-day	1.00E-03	mg/kg-day	2.41E-04
				Zinc	3.32E+02	mg/kg	6.79E-08	mg/kg-day	--	--	--	--	2.38E-06	mg/kg-day	3.00E-01	mg/kg-day	7.92E-06
				Exposure Point Total			Exposure Route Total							1.60E-06			
Exposure Point Total											2.53E-05					2.49E+00	
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--		
			1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--	
			1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--	
			1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--	
			1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	3.60E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--	
			1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--	
			1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--	
			1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--	
			2,4-Dimethylphenol	2.10E-01	mg/kg	9.99E-07	mg/kg-day	--	--	--	--	3.50E-05	mg/kg-day	2.00E-02	mg/kg-day	1.75E-03	
			2-Methylphenol	8.10E-02	mg/kg	9.17E-07	mg/kg-day	--	--	--	--	3.21E-05	mg/kg-day	4.00E-03	mg/kg-day	8.02E-03	
			2-Methylnaphthalene	1.45E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--	
			4,4'-DDD	1.20E-03	mg/kg	9.73E-12	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.33E-12	--	3.40E-10	mg/kg-day	5.00E-04	mg/kg-day	6.81E-07	
			4,4'-DDE	7.50E-02	mg/kg	4.40E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.50E-10	--	1.54E-08	mg/kg-day	5.00E-04	mg/kg-day	3.08E-05	
			4,4'-DDT	4.20E-02	mg/kg	1.06E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.61E-10	--	3.72E-08	mg/kg-day	5.00E-04	mg/kg-day	7.44E-05	
			4-Methylphenol	2.70E-01	mg/kg	3.14E-06	mg/kg-day	--	--	--	--	1.10E-04	mg/kg-day	5.00E-03	mg/kg-day	2.20E-02	
			4-Nitroaniline	6.20E-01	mg/kg	4.94E-06	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.04E-07	--	1.73E-04	mg/kg-day	3.00E-03	mg/kg-day	5.76E-02	
			4-Nitrophenol	4.20E-01	mg/kg	5.02E-06	mg/kg-day	--	--	--	--	1.78E-04	mg/kg-day	5.00E-04	mg/kg-day	3.51E-01	
			Acenaphthene	3.47E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--	
			Acenaphthylene	8.96E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--	
			Aldrin	1.30E-02	mg/kg	1.72E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.93E-09	--	6.03E-09	mg/kg-day	3.00E-05	mg/kg-day	2.01E-04	
			alpha-BHC	7.30E-04	mg/kg	2.09E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.64E-09	--	7.31E-08	mg/kg-day	5.00E-04	mg/kg-day	1.46E-04	
			alpha-Chlordane	6.98E-03	mg/kg	2.03E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.64E-10	--	7.11E-09	mg/kg-day	5.00E-04	mg/kg-day	1.42E-05	
			Aluminum	9.05E+03	mg/kg	3.59E-05	mg/kg-day	--	--	--	--	1.26E-03	mg/kg-day	1.00E+00	mg/kg-day	1.26E-03	
			Anthracene	9.13E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--	
			Antimony	2.72E+00	mg/kg	4.99E-07	mg/kg-day	--	--	--	--	1.75E-05	mg/kg-day	4.00E-04	mg/kg-day	4.36E-02	
			Aroclor-1248	1.20E+00	mg/kg	9.75E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.95E-08	--	3.41E-07	mg/kg-day	2.00E-05	mg/kg-day	1.71E-02	
			Aroclor-1254	4.38E-01	mg/kg	4.76E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.52E-08	--	1.67E-06	mg/kg-day	2.00E-05	mg/kg-day	8.33E-02	
Aroclor-1260	4.88E-01	mg/kg	1.90E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.80E-09	--	6.65E-08	mg/kg-day	2.00E-05	mg/kg-day	3.32E-03				
Aroclor-1268	2.72E-02	mg/kg	2.96E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.91E-09	--	1.03E-07	mg/kg-day	2.00E-05	mg/kg-day	5.17E-03				

TABLE H3-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	3.49E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	3.30E-06	1.22E-05	mg/kg-day	3.00E-04	mg/kg-day	4.07E-02
				Barium	6.94E+01	mg/kg	6.36E-06	mg/kg-day	--	--	--	2.22E-04	mg/kg-day	7.00E-02	mg/kg-day	3.18E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	6.60E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.91E-09	2.31E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	1.25E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.50E-08	4.37E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	2.11E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.53E-08	7.38E-07	mg/kg-day	--	--	--
				Benzo(g,h)perylene	6.48E+01	mg/kg	4.39E-09	mg/kg-day	--	--	--	1.54E-07	mg/kg-day	3.00E-02	mg/kg-day	5.12E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	2.51E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.01E-08	8.78E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	2.08E-09	mg/kg-day	--	--	--	7.30E-08	mg/kg-day	2.00E-03	mg/kg-day	3.65E-05
				Beta-BHC	2.20E-03	mg/kg	6.30E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.45E-09	2.20E-07	mg/kg-day	2.00E-04	mg/kg-day	1.10E-03
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.12E-05	mg/kg-day	3.00E-03	(mg/kg-day)-1	3.35E-08	3.91E-04	mg/kg-day	2.00E-02	mg/kg-day	1.95E-02
				Cadmium	8.65E+00	mg/kg	7.92E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	3.01E-06	2.77E-04	mg/kg-day	5.00E-04	mg/kg-day	5.54E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	2.74E-06	mg/kg-day	--	--	--	9.61E-05	mg/kg-day	1.50E+00	mg/kg-day	6.40E-05
				Chrysene	4.80E+00	mg/kg	5.27E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	6.32E-09	1.84E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	3.18E-07	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	2.00E-02	mg/kg-day	5.56E-04
				Copper	6.01E+01	mg/kg	9.16E-05	mg/kg-day	--	--	--	3.21E-03	mg/kg-day	4.00E-02	mg/kg-day	8.02E-02
				Delta-BHC	8.40E-03	mg/kg	1.96E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.94E-10	6.86E-09	mg/kg-day	2.00E-04	mg/kg-day	3.43E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.51E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.20E-09	5.30E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	1.58E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.53E-06	5.54E-06	mg/kg-day	5.00E-05	mg/kg-day	1.11E-01
				Dimethylphthalate	3.80E-02	mg/kg	3.45E-07	mg/kg-day	--	--	--	1.21E-05	mg/kg-day	8.00E-01	mg/kg-day	1.51E-05
				di-n-Butylphthalate	2.30E+00	mg/kg	2.92E-08	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	2.00E-01	mg/kg-day	5.11E-06
				Endosulfan I	2.30E-02	mg/kg	6.29E-08	mg/kg-day	--	--	--	2.20E-06	mg/kg-day	6.00E-03	mg/kg-day	3.67E-04
				Endosulfan II	2.34E-02	mg/kg	6.12E-08	mg/kg-day	--	--	--	2.14E-06	mg/kg-day	6.00E-03	mg/kg-day	3.57E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	1.10E-07	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	6.00E-03	mg/kg-day	6.42E-04
				Endrin aldehyde	6.30E-02	mg/kg	6.37E-10	mg/kg-day	--	--	--	2.23E-08	mg/kg-day	3.00E-04	mg/kg-day	7.44E-05
				Endrin Ketone	1.00E-02	mg/kg	1.01E-10	mg/kg-day	--	--	--	3.54E-09	mg/kg-day	3.00E-04	mg/kg-day	1.18E-05
				Fluoranthene	2.23E+01	mg/kg	3.67E-07	mg/kg-day	--	--	--	1.28E-05	mg/kg-day	4.00E-02	mg/kg-day	3.21E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.62E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.88E-08	9.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.06E-03
				gamma-Chlordane	1.27E-02	mg/kg	3.70E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.81E-10	1.29E-08	mg/kg-day	5.00E-04	mg/kg-day	2.59E-05
				Heptachlor	6.90E-03	mg/kg	1.49E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.12E-10	5.23E-09	mg/kg-day	5.00E-04	mg/kg-day	1.05E-05
				Heptachlor Epoxide	9.86E-03	mg/kg	6.94E-08	mg/kg-day	5.50E+00	(mg/kg-day)-1	3.82E-07	2.43E-06	mg/kg-day	1.30E-05	mg/kg-day	1.87E-01
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	3.31E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.97E-09	1.16E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	2.23E-04	mg/kg-day	--	--	--	7.81E-03	mg/kg-day	3.00E-01	mg/kg-day	2.60E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.39E+03	mg/kg	1.31E-04	mg/kg-day	--	--	--	4.59E-03	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	9.29E-05	mg/kg-day	--	--	--	3.25E-03	mg/kg-day	2.40E-02	mg/kg-day	1.35E-01
				Mercury	2.65E-01	mg/kg	3.24E-07	mg/kg-day	--	--	--	1.13E-05	mg/kg-day	3.00E-04	mg/kg-day	3.78E-02
				Methoxychlor	1.20E-01	mg/kg	6.34E-10	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.00E-03	mg/kg-day	4.44E-06
				Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	1.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	6.00E-02	mg/kg-day	--
				Molybdenum	2.18E+00	mg/kg	7.98E-07	mg/kg-day	--	--	--	2.79E-05	mg/kg-day	5.00E-03	mg/kg-day	5.59E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.89E+01	mg/kg	1.43E-05	mg/kg-day	--	--	--	4.98E-04	mg/kg-day	2.00E-02	mg/kg-day	2.50E-02
Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	1.75E-05	mg/kg-day	--	--	--	6.11E-04	mg/kg-day	3.00E-01	mg/kg-day	2.04E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.84E-01	mg/kg	4.33E-08	mg/kg-day	--	--	--	1.51E-06	mg/kg-day	5.00E-03	mg/kg-day	3.03E-04				

TABLE H3-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	5.98E-07	mg/kg-day	--	--	--	2.09E-05	mg/kg-day	5.00E-03	mg/kg-day	4.19E-03		
				Technical Chlordane	5.41E-01	mg/kg	1.57E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	2.05E-08	5.51E-07	mg/kg-day	5.00E-04	mg/kg-day	1.10E-03		
				Thallium	4.83E-01	mg/kg	1.18E-09	mg/kg-day	--	--	--	4.12E-08	mg/kg-day	8.00E-05	mg/kg-day	5.15E-04		
				Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--		
				Vanadium	3.37E+01	mg/kg	6.17E-07	mg/kg-day	--	--	--	2.16E-05	mg/kg-day	1.00E-03	mg/kg-day	2.16E-02		
				Zinc	3.32E+02	mg/kg	1.82E-03	mg/kg-day	--	--	--	6.38E-02	mg/kg-day	3.00E-01	mg/kg-day	2.13E-01		
				Exposure Route Total														2.07E+00
				Exposure Point Total														2.07E+00
				Exposure Medium Total														4.56E+00
				Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.30E-12	mg/kg-day	--	--	--	8.05E-11	mg/kg-day	2.00E-02	mg/kg-day
2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	8.88E-13				mg/kg-day	--	--	--	3.11E-11	mg/kg-day	--	--	--			
4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.32E-14				mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	3.16E-15	4.60E-13	mg/kg-day	5.00E-04	mg/kg-day	9.21E-10			
4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	4.60E-13				mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.56E-13	1.61E-11	mg/kg-day	5.00E-04	mg/kg-day	3.22E-08			
4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	2.96E-12				mg/kg-day	--	--	--	1.04E-10	mg/kg-day	5.00E-03	mg/kg-day	2.07E-08			
4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	6.79E-12				mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.43E-13	2.38E-10	mg/kg-day	1.00E-03	mg/kg-day	2.38E-07			
4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	4.60E-12				mg/kg-day	--	--	--	1.61E-10	mg/kg-day	5.70E-04	mg/kg-day	2.83E-07			
Aluminum	8.86E-06	mg/m <sup>3</sup>	9.92E-08				mg/kg-day	--	--	--	3.47E-06	mg/kg-day	1.43E-03	mg/kg-day	2.43E-03			
Antimony	2.06E-09	mg/m <sup>3</sup>	2.98E-11				mg/kg-day	--	--	--	1.04E-09	mg/kg-day	--	--	--			
Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.32E-11				mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.63E-11	4.60E-10	mg/kg-day	2.00E-05	mg/kg-day	2.30E-05			
Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	4.80E-12				mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	9.59E-12	1.68E-10	mg/kg-day	2.00E-05	mg/kg-day	8.39E-06			
Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	5.35E-12				mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.07E-11	1.87E-10	mg/kg-day	2.00E-05	mg/kg-day	9.36E-06			
Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	2.98E-13				mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	5.96E-13	1.04E-11	mg/kg-day	2.00E-05	mg/kg-day	5.21E-07			
Arsenic	7.22E-09	mg/m <sup>3</sup>	1.04E-10				mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	1.25E-09	3.66E-09	mg/kg-day	8.60E-06	mg/kg-day	4.25E-04			
Barium	5.26E-08	mg/m <sup>3</sup>	7.61E-10				mg/kg-day	--	--	--	2.66E-08	mg/kg-day	1.40E-04	mg/kg-day	1.90E-04			
Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	4.62E-11				mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.80E-11	1.62E-09	mg/kg-day	--	--	--			
Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	1.54E-11				mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	6.01E-11	5.39E-10	mg/kg-day	--	--	--			
Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	7.10E-12				mg/kg-day	--	--	--	2.48E-10	mg/kg-day	3.00E-02	mg/kg-day	8.28E-09			
Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	3.10E-11				mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.21E-11	1.08E-09	mg/kg-day	--	--	--			
Beryllium	1.73E-10	mg/m <sup>3</sup>	2.50E-12				mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	2.10E-11	8.74E-11	mg/kg-day	5.71E-06	mg/kg-day	1.53E-05			
Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.41E-14				mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	3.62E-14	8.44E-13	mg/kg-day	2.00E-04	mg/kg-day	4.22E-09			
bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	5.80E-11				mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	4.87E-13	2.03E-09	mg/kg-day	2.00E-02	mg/kg-day	1.02E-07			
Cadmium	6.55E-09	mg/m <sup>3</sup>	9.48E-11				mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.42E-09	3.32E-09	mg/kg-day	5.71E-06	mg/kg-day	5.80E-04			
Chromium	7.57E-08	mg/m <sup>3</sup>	1.10E-09				mg/kg-day	--	--	--	3.83E-08	mg/kg-day	--	--	--			
Cobalt	5.64E-09	mg/m <sup>3</sup>	8.16E-11				mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	7.99E-10	2.86E-09	mg/kg-day	5.71E-06	mg/kg-day	5.00E-04			
Copper	4.55E-08	mg/m <sup>3</sup>	6.58E-10				mg/kg-day	--	--	--	2.30E-08	mg/kg-day	--	--	--			
Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	3.02E-12				mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.24E-11	1.06E-10	mg/kg-day	--	--	--			
Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.16E-13				mg/kg-day	--	--	--	1.46E-11	mg/kg-day	8.00E-01	mg/kg-day	1.82E-11			
di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	2.52E-11				mg/kg-day	--	--	--	8.82E-10	mg/kg-day	1.00E-01	mg/kg-day	8.82E-09			
Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	6.90E-13				mg/kg-day	--	--	--	2.42E-11	mg/kg-day	3.00E-04	mg/kg-day	8.05E-08			
Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.10E-13				mg/kg-day	--	--	--	3.84E-12	mg/kg-day	3.00E-04	mg/kg-day	1.28E-08			
Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	1.08E-13				mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	5.94E-13	3.78E-12	mg/kg-day	1.30E-05	mg/kg-day	2.91E-07			
Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	5.45E-12				mg/kg-day	3.80E-01	(mg/kg-day) <sup>-1</sup>	2.12E-12	1.91E-10	mg/kg-day	--	--	--			
Iron	2.79E-05	mg/m <sup>3</sup>	4.03E-07				mg/kg-day	--	--	--	1.41E-05	mg/kg-day	--	--	--			
Isophorone	1.52E-10	mg/m <sup>3</sup>	2.16E-12				mg/kg-day	--	--	--	7.67E-11	mg/kg-day	--	--	--			
Lead	1.81E-06	mg/m <sup>3</sup>	2.62E-08				mg/kg-day	--	--	--	9.17E-07	mg/kg-day	--	--	--			
Manganese	2.31E-07	mg/m <sup>3</sup>	3.34E-09				mg/kg-day	--	--	--	1.17E-07	mg/kg-day	1.43E-05	mg/kg-day	8.17E-03			
Mercury	2.01E-10	mg/m <sup>3</sup>	2.91E-12				mg/kg-day	--	--	--	1.02E-10	mg/kg-day	8.60E-05	mg/kg-day	1.18E-06			
Nickel	2.95E-08	mg/m <sup>3</sup>	4.27E-10				mg/kg-day	9.10E-01	(mg/kg-day) <sup>-1</sup>	3.88E-10	1.49E-08	mg/kg-day	1.40E-05	mg/kg-day	1.07E-03			
Phenol	4.39E-10	mg/m <sup>3</sup>	6.36E-12				mg/kg-day	--	--	--	2.22E-10	mg/kg-day	5.71E-02	mg/kg-day	3.89E-09			
Selenium	2.15E-10	mg/m <sup>3</sup>	3.11E-12				mg/kg-day	--	--	--	1.09E-10	mg/kg-day	5.70E-03	mg/kg-day	1.91E-08			
Silver	7.42E-10	mg/m <sup>3</sup>	1.07E-11				mg/kg-day	--	--	--	3.76E-10	mg/kg-day	--	--	--			

TABLE H3-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.66E-10	mg/m <sup>3</sup>	5.29E-12	mg/kg-day	--	--	--	1.85E-10	mg/kg-day	--	--	--
				Vanadium	2.55E-08	mg/m <sup>3</sup>	3.69E-10	mg/kg-day	--	--	--	1.29E-08	mg/kg-day	--	--	--
				Zinc	2.51E-07	mg/m <sup>3</sup>	3.64E-09	mg/kg-day	--	--	--	1.27E-07	mg/kg-day	--	--	--
				<b>Exposure Route Total</b>							<b>4.04E-09</b>					<b>1.34E-02</b>
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.51E-06	mg/kg-day	--	--	--	5.29E-05	mg/kg-day	1.10E-03	mg/kg-day	4.81E-02
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	5.14E-06	mg/kg-day	--	--	--	1.80E-04	mg/kg-day	1.10E-03	mg/kg-day	1.63E-01
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.70E-06	mg/kg-day	--	--	--	5.93E-05	mg/kg-day	1.70E-03	mg/kg-day	3.49E-02
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	7.70E-05	mg/kg-day	--	--	--	2.70E-03	mg/kg-day	5.70E-02	mg/kg-day	4.73E-02
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.14E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.49E-09	1.45E-06	mg/kg-day	1.14E-03	mg/kg-day	1.27E-03
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	5.29E-07	mg/kg-day	--	--	--	1.85E-05	mg/kg-day	1.70E-03	mg/kg-day	1.09E-02
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.36E-06	mg/kg-day	--	--	--	8.25E-05	mg/kg-day	3.00E-02	mg/kg-day	2.75E-03
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.26E-05	mg/kg-day	4.00E-02	(mg/kg-day)-1	9.04E-07	7.91E-04	mg/kg-day	2.30E-01	mg/kg-day	3.44E-03
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	9.28E-07	mg/kg-day	--	--	--	3.25E-05	mg/kg-day	5.00E-02	mg/kg-day	6.49E-04
				4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	1.28E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.35E-11	4.47E-09	mg/kg-day	5.00E-04	mg/kg-day	8.95E-06
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	6.89E-07	mg/kg-day	--	--	--	2.41E-05	mg/kg-day	6.00E-02	mg/kg-day	4.02E-04
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	1.78E-08	mg/kg-day	--	--	--	6.23E-07	mg/kg-day	6.00E-02	mg/kg-day	1.04E-05
				Aldrin	5.63E-09	mg/m <sup>3</sup>	8.15E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.39E-09	2.85E-09	mg/kg-day	3.00E-05	mg/kg-day	9.51E-05
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	5.26E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.42E-10	1.84E-09	mg/kg-day	5.00E-04	mg/kg-day	3.68E-06
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	1.00E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.20E-10	3.50E-09	mg/kg-day	2.00E-04	mg/kg-day	1.75E-05
				Anthracene	1.25E-05	mg/m <sup>3</sup>	1.81E-07	mg/kg-day	--	--	--	6.35E-08	mg/kg-day	3.00E-01	mg/kg-day	2.12E-05
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	2.22E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	8.66E-09	7.77E-07	mg/kg-day	--	--	--
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	6.54E-09	mg/kg-day	--	--	--	2.29E-07	mg/kg-day	2.00E-01	mg/kg-day	1.15E-06
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	7.49E-07	mg/kg-day	--	--	--	2.62E-05	mg/kg-day	2.86E-01	mg/kg-day	9.17E-05
				Chrysene	5.27E-06	mg/m <sup>3</sup>	7.63E-08	mg/kg-day	3.90E-02	(mg/kg-day)-1	2.97E-09	2.67E-08	mg/kg-day	--	--	--
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	6.06E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.08E-10	2.12E-08	mg/kg-day	2.00E-04	mg/kg-day	1.06E-04
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	6.49E-07	mg/kg-day	--	--	--	2.27E-05	mg/kg-day	2.00E-03	mg/kg-day	1.14E-02
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	9.52E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.52E-08	3.33E-08	mg/kg-day	5.00E-05	mg/kg-day	6.66E-04
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.17E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	6.00E-03	mg/kg-day	6.80E-06
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	1.18E-09	mg/kg-day	--	--	--	4.14E-08	mg/kg-day	6.00E-03	mg/kg-day	6.81E-06
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.18E-09	mg/kg-day	--	--	--	7.63E-08	mg/kg-day	6.00E-03	mg/kg-day	1.27E-05
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	2.08E-07	mg/kg-day	--	--	--	7.28E-06	mg/kg-day	4.00E-02	mg/kg-day	1.82E-04
				Fluorene	1.48E-05	mg/m <sup>3</sup>	2.14E-07	mg/kg-day	--	--	--	7.49E-06	mg/kg-day	4.00E-02	mg/kg-day	1.87E-04
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.31E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.54E-10	8.07E-09	mg/kg-day	3.00E-04	mg/kg-day	2.69E-05
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	1.82E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.18E-10	6.36E-09	mg/kg-day	2.00E-04	mg/kg-day	3.18E-05
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	4.89E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.00E-08	1.71E-07	mg/kg-day	5.00E-04	mg/kg-day	3.42E-04
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.25E-09	mg/kg-day	--	--	--	4.37E-08	mg/kg-day	5.00E-03	mg/kg-day	8.74E-06
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.01E-05	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.21E-06	3.54E-04	mg/kg-day	8.57E-04	mg/kg-day	4.13E-01
				Phenanthrene	1.60E-04	mg/m <sup>3</sup>	2.32E-06	mg/kg-day	--	--	--	8.12E-05	mg/kg-day	3.00E-01	mg/kg-day	2.71E-04
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	2.77E-06	mg/kg-day	--	--	--	9.70E-05	mg/kg-day	1.10E-01	mg/kg-day	8.82E-04
				Pyrene	1.56E-05	mg/m <sup>3</sup>	2.25E-07	mg/kg-day	--	--	--	7.88E-06	mg/kg-day	3.00E-02	mg/kg-day	2.63E-04
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.06E-07	mg/kg-day	--	--	--	1.42E-05	mg/kg-day	4.00E-02	mg/kg-day	3.55E-04
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	7.74E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.29E-09	2.71E-07	mg/kg-day	2.00E-04	mg/kg-day	1.36E-03
				Toluene	3.12E-07	mg/m <sup>3</sup>	4.52E-09	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	1.43E+00	mg/kg-day	1.11E-07
				<b>Exposure Route Total</b>							<b>2.18E-08</b>					<b>7.42E-01</b>
				<b>Exposure Point Total</b>							<b>2.18E-06</b>					<b>7.56E-01</b>
		Indoor Air (Vapor Intrusion)	Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	1.27E-04	mg/kg-day	--	--	--	4.46E-03	mg/kg-day	1.10E-03	mg/kg-day	4.05E+00
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	4.33E-04	mg/kg-day	--	--	--	1.52E-02	mg/kg-day	1.10E-03	mg/kg-day	1.38E+01
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	4.25E-05	mg/kg-day	--	--	--	1.49E-03	mg/kg-day	1.70E-03	mg/kg-day	8.74E-01
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	2.21E-03	mg/kg-day	--	--	--	7.73E-02	mg/kg-day	5.70E-02	mg/kg-day	1.36E+00
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	3.06E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.10E-08	1.07E-05	mg/kg-day	1.14E-03	mg/kg-day	9.39E-03
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	1.36E-05	mg/kg-day	--	--	--	4.76E-04	mg/kg-day	1.70E-03	mg/kg-day	2.80E-01

TABLE H3-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.46E+00	(a) ug/m <sup>3</sup>	9.34E-05	mg/kg-day	--	--	--	3.27E-03	mg/kg-day	3.00E-02	mg/kg-day	1.09E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	5.78E-04	mg/kg-day	4.00E-02	(mg/kg-day)-1	2.31E-05	2.02E-02	mg/kg-day	2.30E-01	mg/kg-day	8.79E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	7.01E-05	mg/kg-day	--	--	--	2.46E-03	mg/kg-day	5.00E-02	mg/kg-day	4.91E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	8.78E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.98E-11	3.07E-09	mg/kg-day	5.00E-04	mg/kg-day	6.14E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	2.45E-05	mg/kg-day	--	--	--	8.57E-04	mg/kg-day	6.00E-02	mg/kg-day	1.43E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	6.33E-07	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	6.00E-02	mg/kg-day	3.69E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	2.33E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.96E-09	8.15E-09	mg/kg-day	3.00E-05	mg/kg-day	2.72E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	1.56E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.20E-09	5.45E-08	mg/kg-day	5.00E-04	mg/kg-day	1.09E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	7.85E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.42E-10	2.75E-08	mg/kg-day	2.00E-04	mg/kg-day	1.37E-04
				Anthracene	4.46E-01	(a) ug/m <sup>3</sup>	6.45E-06	mg/kg-day	--	--	--	2.26E-04	mg/kg-day	3.00E-01	mg/kg-day	7.52E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	4.56E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.78E-08	1.60E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	2.04E-08	mg/kg-day	--	--	--	7.14E-07	mg/kg-day	2.00E-01	mg/kg-day	3.57E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	9.34E-06	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	2.86E-01	mg/kg-day	1.14E-03
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	2.57E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.00E-08	9.00E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	2.66E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.99E-08	9.31E-07	mg/kg-day	2.00E-04	mg/kg-day	4.66E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	3.43E-07	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	2.00E-03	mg/kg-day	6.00E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	7.59E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.21E-07	2.66E-07	mg/kg-day	5.00E-05	mg/kg-day	5.31E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	3.12E-08	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	6.00E-03	mg/kg-day	1.82E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	3.17E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	6.00E-03	mg/kg-day	1.85E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	5.83E-08	mg/kg-day	--	--	--	2.04E-06	mg/kg-day	6.00E-03	mg/kg-day	3.40E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	7.10E-08	mg/kg-day	--	--	--	2.48E-06	mg/kg-day	4.00E-02	mg/kg-day	6.21E-05
				Fluorene	2.69E-01	(a) ug/m <sup>3</sup>	3.87E-06	mg/kg-day	--	--	--	1.36E-04	mg/kg-day	4.00E-02	mg/kg-day	3.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	8.23E-09	mg/kg-day	1.10E+00	(mg/kg-day)-1	9.06E-09	2.88E-07	mg/kg-day	3.00E-04	mg/kg-day	9.61E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	1.43E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.71E-11	5.00E-10	mg/kg-day	2.00E-04	mg/kg-day	2.50E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	1.57E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.44E-09	5.50E-08	mg/kg-day	5.00E-04	mg/kg-day	1.10E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	4.29E-09	mg/kg-day	--	--	--	1.50E-07	mg/kg-day	5.00E-03	mg/kg-day	3.00E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	2.04E-07	mg/kg-day	3.50E-03	(mg/kg-day)-1	7.14E-10	7.14E-06	mg/kg-day	1.10E-01	mg/kg-day	6.49E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	9.10E-04	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.09E-04	3.18E-02	mg/kg-day	8.57E-04	mg/kg-day	3.72E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	8.26E-05	mg/kg-day	--	--	--	2.89E-03	mg/kg-day	3.00E-01	mg/kg-day	9.64E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	9.34E-06	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.10E-01	mg/kg-day	2.97E-03
				Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	5.75E-07	mg/kg-day	--	--	--	2.01E-05	mg/kg-day	3.00E-02	mg/kg-day	6.71E-04
				sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	3.31E-06	mg/kg-day	--	--	--	1.16E-04	mg/kg-day	4.00E-02	mg/kg-day	2.90E-03
				Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	6.08E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.30E-08	2.13E-06	mg/kg-day	2.00E-04	mg/kg-day	1.06E-02
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	3.65E-08	mg/kg-day	--	--	--	1.28E-06	mg/kg-day	1.43E+00	mg/kg-day	8.95E-07				
				Exposure Route Total							1.33E-04			5.78E+01		
				Exposure Point Total							1.33E-04			5.78E+01		
				Exposure Medium Total							1.35E-04			5.86E+01		
Medium Total											1.70E-04			6.31E+01		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.12E-09	mg/kg-day	5.70E-03	(mg/kg-day)-1	3.49E-11	2.14E-07	mg/kg-day	1.40E-01	mg/kg-day	1.53E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.83E-09	mg/kg-day	--	--	--	6.39E-08	mg/kg-day	1.70E-03	mg/kg-day	3.76E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	4.19E-07	mg/kg-day	5.70E-02	mg/kg-day	7.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	8.61E-09	mg/kg-day	7.20E-02	(mg/kg-day)-1	6.20E-10	3.01E-07	mg/kg-day	1.40E-03	mg/kg-day	2.15E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.23E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.16E-10	1.13E-07	mg/kg-day	1.14E-03	mg/kg-day	9.91E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.04E-09	mg/kg-day	--	--	--	3.64E-08	mg/kg-day	1.70E-03	mg/kg-day	2.14E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.07E-09	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.63E-10	1.43E-07	mg/kg-day	2.30E-01	mg/kg-day	6.20E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.57E-10	mg/kg-day	--	--	--	5.51E-09	mg/kg-day	1.43E+00	mg/kg-day	3.86E-09
				2-Methylnaphthalene	9.87E-10	mg/m <sup>3</sup>	1.40E-11	mg/kg-day	--	--	--	4.90E-10	mg/kg-day	5.00E-02	mg/kg-day	9.79E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.87E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.36E-12	6.55E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	5.85E-11	mg/kg-day	--	--	--	2.05E-09	mg/kg-day	8.00E-01	mg/kg-day	2.38E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	5.61E-10	mg/kg-day	--	--	--	1.96E-08	mg/kg-day	6.00E-02	mg/kg-day	3.27E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.39E-11	mg/kg-day	--	--	--	8.36E-10	mg/kg-day	6.00E-02	mg/kg-day	1.39E-08

TABLE H3-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	3.23E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.50E-10	1.13E-09	mg/kg-day	3.00E-05	mg/kg-day	3.77E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.10E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.11E-11	1.43E-10	mg/kg-day	5.00E-04	mg/kg-day	2.87E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	9.69E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.16E-11	3.39E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	4.75E-11	mg/kg-day	--	--	--	1.66E-09	mg/kg-day	3.00E-01	mg/kg-day	5.54E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	3.77E-09	mg/kg-day	1.00E-01	(mg/kg-day)-1	3.77E-10	1.32E-07	mg/kg-day	8.60E-03	mg/kg-day	1.54E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.04E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.74E-12	2.46E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.06E-10	mg/kg-day	3.90E-03	(mg/kg-day)-1	4.15E-13	3.73E-09	mg/kg-day	2.00E-02	mg/kg-day	1.86E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	6.52E-08	mg/kg-day	--	--	--	2.28E-06	mg/kg-day	2.00E-01	mg/kg-day	1.14E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.06E-09	mg/kg-day	--	--	--	3.71E-08	mg/kg-day	2.86E-01	mg/kg-day	1.30E-07				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	2.99E-08	mg/kg-day	1.90E-02	(mg/kg-day)-1	5.68E-10	1.05E-06	mg/kg-day	8.57E-02	mg/kg-day	1.22E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.08E-08	mg/kg-day	--	--	--	3.79E-07	mg/kg-day	2.60E-02	mg/kg-day	1.46E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.90E-11	mg/kg-day	3.90E-02	(mg/kg-day)-1	7.42E-13	6.66E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	7.67E-09	mg/kg-day	--	--	--	2.68E-07	mg/kg-day	1.00E-02	mg/kg-day	2.68E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.42E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.27E-10	4.97E-10	mg/kg-day	5.00E-05	mg/kg-day	9.95E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.24E-12	mg/kg-day	--	--	--	1.13E-10	mg/kg-day	6.00E-03	mg/kg-day	1.89E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.32E-15	mg/kg-day	--	--	--	1.86E-13	mg/kg-day	6.00E-03	mg/kg-day	3.11E-11				
				Ethylbenzene	1.89E-07	mg/m <sup>3</sup>	2.89E-09	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	2.90E-01	mg/kg-day	3.48E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	7.31E-12	mg/kg-day	--	--	--	2.56E-10	mg/kg-day	4.00E-02	mg/kg-day	6.40E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.45E-11	mg/kg-day	--	--	--	5.06E-10	mg/kg-day	4.00E-02	mg/kg-day	1.27E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.80E-14	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.98E-14	6.29E-13	mg/kg-day	3.00E-04	mg/kg-day	2.10E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.52E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.02E-11	8.81E-10	mg/kg-day	2.00E-04	mg/kg-day	4.40E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	2.58E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.06E-09	9.04E-09	mg/kg-day	5.00E-04	mg/kg-day	1.81E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	4.86E-07	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.00E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	2.90E-02	mg/kg-day	1.21E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	4.72E-11	mg/kg-day	--	--	--	1.65E-09	mg/kg-day	5.00E-03	mg/kg-day	3.31E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	7.86E-11	mg/kg-day	1.20E-01	(mg/kg-day)-1	9.43E-12	2.75E-09	mg/kg-day	8.57E-04	mg/kg-day	3.21E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	3.66E-09	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	8.57E-04	mg/kg-day	1.49E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.07E-09	mg/kg-day	--	--	--	1.43E-07	mg/kg-day	4.00E-02	mg/kg-day	3.57E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	3.79E-11	mg/kg-day	--	--	--	1.33E-09	mg/kg-day	3.00E-01	mg/kg-day	4.42E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	4.86E-07	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	6.67E-12	mg/kg-day	--	--	--	2.33E-10	mg/kg-day	3.00E-02	mg/kg-day	7.78E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.16E-08	mg/kg-day	--	--	--	4.06E-07	mg/kg-day	4.00E-02	mg/kg-day	1.01E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.31E-08	mg/kg-day	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	5.50E-09	mg/kg-day	--	--	--	1.92E-07	mg/kg-day	1.43E+00	mg/kg-day	1.35E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.30E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	2.00E-02	mg/kg-day	2.27E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.35E-08	mg/kg-day	7.00E-03	(mg/kg-day)-1	9.44E-11	4.72E-07	mg/kg-day	1.70E-01	mg/kg-day	2.78E-06				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	2.79E-08	mg/kg-day	2.70E-01	(mg/kg-day)-1	7.53E-09	9.76E-07	mg/kg-day	2.86E-02	mg/kg-day	3.42E-05				
				Exposure Route Total										1.14E-08				1.10E-03		
				Exposure Point Total										1.14E-08				1.10E-03		
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	1.08E-06	mg/kg-day	5.70E-03	(mg/kg-day)-1	6.14E-09	3.77E-05	mg/kg-day	1.40E-01	mg/kg-day	2.69E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	4.72E-08	mg/kg-day	--	--	--	1.65E-06	mg/kg-day	1.70E-03	mg/kg-day	9.73E-04
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	3.18E-07					mg/kg-day	--	--	--	1.11E-05	mg/kg-day	5.70E-02	mg/kg-day	1.95E-04				
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	2.58E-07					mg/kg-day	7.20E-02	(mg/kg-day)-1	1.86E-08	9.02E-06	mg/kg-day	1.40E-03	mg/kg-day	6.44E-03				
1,2-Dichloropropane	8.60E-03	ug/m <sup>3</sup>	9.55E-08					mg/kg-day	3.60E-02	(mg/kg-day)-1	3.44E-09	3.34E-06	mg/kg-day	1.14E-03	mg/kg-day	2.93E-03				
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	2.70E-08					mg/kg-day	--	--	--	9.47E-07	mg/kg-day	1.70E-03	mg/kg-day	5.57E-04				
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	1.09E-07					mg/kg-day	4.00E-02	(mg/kg-day)-1	4.37E-09	3.82E-06	mg/kg-day	2.30E-01	mg/kg-day	1.66E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	8.10E-09					mg/kg-day	--	--	--	2.84E-07	mg/kg-day	1.43E+00	mg/kg-day	1.99E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	3.93E-10					mg/kg-day	--	--	--	1.37E-08	mg/kg-day	5.00E-02	mg/kg-day	2.75E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	1.69E-12					mg/kg-day	3.40E-01	(mg/kg-day)-1	5.73E-13	5.90E-11	mg/kg-day	5.00E-04	mg/kg-day	1.18E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	2.41E-09					mg/kg-day	--	--	--	8.42E-08	mg/kg-day	8.60E-01	mg/kg-day	9.79E-08				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	2.39E-08					mg/kg-day	--	--	--	8.36E-07	mg/kg-day	6.00E-02	mg/kg-day	1.39E-05				

TABLE H3-7.8

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations												
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient							
							Value	Units	Value	Units		Value	Units	Value	Units								
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	1.02E-09	mg/kg-day	--	--	--	3.56E-08	mg/kg-day	6.00E-02	mg/kg-day	5.93E-07							
				Aldrin	2.44E-07	ug/m <sup>3</sup>	3.53E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.00E-11	1.23E-10	mg/kg-day	3.00E-05	mg/kg-day	4.11E-06							
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	5.26E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.42E-12	1.84E-11	mg/kg-day	5.00E-04	mg/kg-day	3.68E-08							
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	3.19E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.82E-12	1.12E-10	mg/kg-day	2.00E-04	mg/kg-day	5.58E-07							
				Anthracene	1.40E-04	ug/m <sup>3</sup>	2.02E-09	mg/kg-day	--	--	--	7.07E-08	mg/kg-day	3.00E-01	mg/kg-day	2.36E-07							
				Benzene	7.66E-03	ug/m <sup>3</sup>	1.11E-07	mg/kg-day	1.00E-01	(mg/kg-day)-1	1.11E-08	3.88E-06	mg/kg-day	8.60E-03	mg/kg-day	4.51E-04							
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	2.96E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.15E-10	1.04E-08	mg/kg-day	--	--	--							
				Bromofom	3.95E-04	ug/m <sup>3</sup>	5.72E-09	mg/kg-day	3.90E-03	(mg/kg-day)-1	2.23E-11	2.00E-07	mg/kg-day	2.00E-02	mg/kg-day	1.00E-05							
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	1.96E-08	mg/kg-day	--	--	--	6.84E-05	mg/kg-day	2.00E-01	mg/kg-day	3.42E-04							
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	2.97E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	2.86E-01	mg/kg-day	3.64E-06							
				Chloroform	6.13E-02	ug/m <sup>3</sup>	8.87E-07	mg/kg-day	1.90E-02	(mg/kg-day)-1	1.68E-08	3.10E-05	mg/kg-day	8.57E-02	mg/kg-day	3.62E-04							
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	3.51E-07	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.60E-02	mg/kg-day	4.73E-04							
				Chrysene	5.75E-05	ug/m <sup>3</sup>	8.33E-10	mg/kg-day	3.90E-02	(mg/kg-day)-1	3.25E-11	2.81E-08	mg/kg-day	--	--	--							
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	4.97E-07	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	1.00E-02	mg/kg-day	1.74E-03							
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	5.44E-13	mg/kg-day	1.60E+01	(mg/kg-day)-1	8.71E-12	1.91E-11	mg/kg-day	5.00E-05	mg/kg-day	3.81E-07							
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	7.02E-13	mg/kg-day	--	--	--	2.46E-11	mg/kg-day	2.00E-03	mg/kg-day	4.10E-09							
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	2.34E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09							
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	7.80E-08	mg/kg-day	--	--	--	2.73E-06	mg/kg-day	2.90E-01	mg/kg-day	9.41E-06							
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	2.96E-10	mg/kg-day	--	--	--	1.04E-08	mg/kg-day	4.00E-02	mg/kg-day	2.59E-07							
				Fluorene	5.21E-05	ug/m <sup>3</sup>	7.54E-10	mg/kg-day	--	--	--	2.64E-08	mg/kg-day	4.00E-02	mg/kg-day	6.59E-07							
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	7.10E-13	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.81E-13	2.48E-11	mg/kg-day	3.00E-04	mg/kg-day	8.28E-08							
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	1.54E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.85E-12	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07							
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	6.96E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.86E-11	2.44E-10	mg/kg-day	5.00E-04	mg/kg-day	4.87E-07							
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	2.60E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03							
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	5.83E-07	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	2.90E-02	mg/kg-day	7.04E-04							
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	2.05E-12	mg/kg-day	--	--	--	7.17E-11	mg/kg-day	5.00E-03	mg/kg-day	1.43E-08							
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	4.26E-09	mg/kg-day	1.20E-01	(mg/kg-day)-1	5.12E-10	1.49E-07	mg/kg-day	8.57E-04	mg/kg-day	1.74E-04							
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	2.05E-07	mg/kg-day	--	--	--	7.18E-06	mg/kg-day	8.57E-04	mg/kg-day	8.38E-03							
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	2.31E-07	mg/kg-day	--	--	--	8.10E-06	mg/kg-day	4.00E-02	mg/kg-day	2.02E-04							
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	2.10E-09	mg/kg-day	--	--	--	7.36E-08	mg/kg-day	3.00E-01	mg/kg-day	2.45E-07							
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	2.60E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03							
				Pyrene	1.92E-05	ug/m <sup>3</sup>	2.78E-10	mg/kg-day	--	--	--	9.73E-09	mg/kg-day	3.00E-02	mg/kg-day	3.24E-07							
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	8.22E-09	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	4.00E-02	mg/kg-day	7.20E-06							
				Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	8.23E-07	mg/kg-day	--	--	--	2.88E-05	mg/kg-day	4.00E-02	mg/kg-day	7.20E-04							
				Toluene	2.18E-03	ug/m <sup>3</sup>	3.15E-08	mg/kg-day	--	--	--	1.10E-06	mg/kg-day	1.43E+00	mg/kg-day	7.72E-07							
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	8.73E-07	mg/kg-day	--	--	--	3.05E-05	mg/kg-day	2.00E-02	mg/kg-day	1.53E-03							
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	8.25E-07	mg/kg-day	7.00E-03	(mg/kg-day)-1	5.78E-09	2.89E-05	mg/kg-day	1.70E-01	mg/kg-day	1.70E-04							
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	1.88E-06	mg/kg-day	2.70E-01	(mg/kg-day)-1	5.07E-07	6.57E-05	mg/kg-day	2.86E-02	mg/kg-day	2.30E-03							
				Exposure Route Total														4.55E-02					
				Exposure Point Total														4.55E-02					
Exposure Medium Total														4.67E-02									
Medium Total														4.67E-02									
Total of Receptor Risks Across All Media										1.70E-04		Total of Receptor Hazards Across All Media										6.32E-01	

**TABLE H3-7.8**

**EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

**Notes:**

- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound
- (a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.77E-07	mg/kg-day	--	--	--	9.59E-06	mg/kg-day	1.00E-02	mg/kg-day	9.69E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.28E-06	mg/kg-day	--	--	--	3.26E-05	mg/kg-day	1.00E-02	mg/kg-day	3.26E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.26E-07	mg/kg-day	--	--	--	3.20E-06	mg/kg-day	5.00E-02	mg/kg-day	6.39E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	6.53E-06	mg/kg-day	--	--	--	1.66E-04	mg/kg-day	9.00E-02	mg/kg-day	1.85E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	9.04E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	3.25E-11	2.30E-08	mg/kg-day	1.14E-03	mg/kg-day	2.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.02E-08	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	5.00E-02	mg/kg-day	2.05E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.76E-07	mg/kg-day	--	--	--	7.03E-06	mg/kg-day	3.00E-02	mg/kg-day	2.34E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.71E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	9.22E-09	4.35E-05	mg/kg-day	3.00E-02	mg/kg-day	1.45E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	5.27E-08	mg/kg-day	--	--	--	1.34E-06	mg/kg-day	2.00E-02	mg/kg-day	6.71E-05
				2-Methylphenol	8.10E-02	mg/kg	2.03E-08	mg/kg-day	--	--	--	5.18E-07	mg/kg-day	4.00E-03	mg/kg-day	1.29E-04
				2-Methylnaphthalene	1.67E+00	mg/kg	4.20E-07	mg/kg-day	--	--	--	1.07E-05	mg/kg-day	5.00E-02	mg/kg-day	2.14E-04
				4,4'-DDD	1.20E-03	mg/kg	3.01E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	7.23E-11	7.67E-09	mg/kg-day	5.00E-04	mg/kg-day	1.53E-05
				4,4'-DDE	8.23E-02	mg/kg	2.07E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.03E-09	5.26E-07	mg/kg-day	5.00E-04	mg/kg-day	1.05E-03
				4,4'-DDT	4.45E-02	mg/kg	1.12E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.80E-09	2.84E-07	mg/kg-day	5.00E-04	mg/kg-day	5.69E-04
				4-Methylphenol	2.70E-01	mg/kg	6.78E-08	mg/kg-day	--	--	--	1.73E-06	mg/kg-day	5.00E-03	mg/kg-day	3.45E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.56E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.27E-09	3.96E-06	mg/kg-day	3.00E-03	mg/kg-day	1.32E-03
				4-Nitrophenol	4.20E-01	mg/kg	1.05E-07	mg/kg-day	--	--	--	2.68E-08	mg/kg-day	5.00E-04	mg/kg-day	5.37E-03
				Acenaphthene	4.23E+00	mg/kg	1.06E-06	mg/kg-day	--	--	--	2.71E-05	mg/kg-day	6.00E-02	mg/kg-day	4.51E-04
				Acenaphthylene	1.04E-01	mg/kg	2.62E-08	mg/kg-day	--	--	--	6.66E-07	mg/kg-day	6.00E-02	mg/kg-day	1.11E-05
				Aldrin	1.30E-02	mg/kg	3.26E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.55E-08	8.31E-08	mg/kg-day	3.00E-05	mg/kg-day	2.77E-03
				alpha-BHC	7.30E-04	mg/kg	1.83E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.95E-10	4.67E-09	mg/kg-day	5.00E-04	mg/kg-day	9.33E-06
				alpha-Chlordane	8.14E-03	mg/kg	2.04E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.66E-09	5.20E-08	mg/kg-day	5.00E-04	mg/kg-day	1.04E-04
				Aluminum	8.82E+03	mg/kg	2.22E-03	mg/kg-day	--	--	--	5.64E-02	mg/kg-day	1.00E+00	mg/kg-day	5.64E-02
				Anthracene	1.05E+00	mg/kg	2.65E-07	mg/kg-day	--	--	--	6.74E-06	mg/kg-day	3.00E-01	mg/kg-day	2.25E-05
				Antimony	4.08E+00	mg/kg	1.02E-06	mg/kg-day	--	--	--	2.61E-05	mg/kg-day	4.00E-04	mg/kg-day	6.52E-02
				Aroclor-1248	1.20E+00	mg/kg	3.01E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.03E-07	7.67E-06	mg/kg-day	2.00E-05	mg/kg-day	3.84E-01
				Aroclor-1254	4.44E-01	mg/kg	1.12E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.23E-07	2.84E-06	mg/kg-day	2.00E-05	mg/kg-day	1.42E-01
				Aroclor-1260	5.41E-01	mg/kg	1.36E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.72E-07	3.46E-06	mg/kg-day	2.00E-05	mg/kg-day	1.73E-01
				Aroclor-1268	2.78E-02	mg/kg	6.97E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.39E-08	1.77E-07	mg/kg-day	2.00E-05	mg/kg-day	8.87E-03
				Arsenic	6.17E+00	mg/kg	1.55E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.46E-05	3.94E-05	mg/kg-day	3.00E-04	mg/kg-day	1.31E-01
				Barium	6.78E+01	mg/kg	1.70E-05	mg/kg-day	--	--	--	4.34E-04	mg/kg-day	7.00E-02	mg/kg-day	6.19E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	1.26E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.51E-06	3.20E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.18E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	5.02E-06	1.06E-05	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	6.88E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.25E-07	1.75E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.92E-07	mg/kg-day	--	--	--	4.88E-06	mg/kg-day	3.00E-02	mg/kg-day	1.63E-04
				Benzo(k)fluoranthene	3.28E+00	mg/kg	8.19E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.83E-07	2.08E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	5.98E-08	mg/kg-day	--	--	--	1.52E-06	mg/kg-day	2.00E-03	mg/kg-day	7.61E-04
				Beta-BHC	2.20E-03	mg/kg	5.53E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	8.29E-10	1.41E-08	mg/kg-day	2.00E-04	mg/kg-day	7.03E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.97E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	5.90E-09	5.01E-05	mg/kg-day	2.00E-02	mg/kg-day	2.50E-03
				Cadmium	9.47E+00	mg/kg	2.38E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	9.04E-07	6.06E-05	mg/kg-day	5.00E-04	mg/kg-day	1.21E-01
				Carbon disulfide	2.40E-04	mg/kg	6.03E-11	mg/kg-day	--	--	--	1.53E-09	mg/kg-day	1.00E-01	mg/kg-day	1.53E-08
				Chlorobenzene	1.10E-01	mg/kg	2.76E-08	mg/kg-day	--	--	--	7.03E-07	mg/kg-day	2.00E-02	mg/kg-day	3.52E-05
				Chromium	1.11E+02	mg/kg	2.79E-05	mg/kg-day	--	--	--	7.11E-04	mg/kg-day	1.50E+00	mg/kg-day	4.74E-04
				Chrysene	5.68E+00	mg/kg	1.43E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.71E-07	3.63E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.90E-06	mg/kg-day	--	--	--	4.84E-05	mg/kg-day	2.00E-02	mg/kg-day	2.42E-03
				Copper	5.71E+01	mg/kg	1.43E-05	mg/kg-day	--	--	--	3.65E-04	mg/kg-day	4.00E-02	mg/kg-day	9.12E-03
				Delta-BHC	8.40E-03	mg/kg	2.11E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.16E-09	5.37E-08	mg/kg-day	2.00E-04	mg/kg-day	2.68E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	7.97E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.27E-07	2.03E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.26E-06	mg/kg-day	--	--	--	8.31E-05	mg/kg-day	2.00E-03	mg/kg-day	4.16E-02
				Dieldrin	5.51E-02	mg/kg	1.38E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.22E-07	5.53E-07	mg/kg-day	5.00E-05	mg/kg-day	7.05E-03
Dimethylphthalate	3.80E-02	mg/kg	9.54E-09	mg/kg-day	--	--	--	2.43E-07	mg/kg-day	8.00E-01	mg/kg-day	3.04E-07				

TABLE H3-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	5.53E-07	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	2.00E-01	mg/kg-day	7.03E-05				
				Endosulfan I	2.30E-02	mg/kg	5.78E-09	mg/kg-day	--	--	--	1.47E-07	mg/kg-day	6.00E-03	mg/kg-day	2.45E-05				
				Endosulfan II	2.38E-02	mg/kg	5.98E-09	mg/kg-day	--	--	--	1.52E-07	mg/kg-day	6.00E-03	mg/kg-day	2.54E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	1.08E-08	mg/kg-day	--	--	--	2.75E-07	mg/kg-day	6.00E-03	mg/kg-day	4.58E-05				
				Endrin aldehyde	4.21E-02	mg/kg	1.06E-08	mg/kg-day	--	--	--	2.69E-07	mg/kg-day	3.00E-04	mg/kg-day	8.97E-04				
				Endrin Ketone	1.00E-02	mg/kg	2.51E-09	mg/kg-day	--	--	--	6.39E-08	mg/kg-day	3.00E-04	mg/kg-day	2.13E-04				
				Fluoranthene	2.65E+01	mg/kg	6.66E-06	mg/kg-day	--	--	--	1.69E-04	mg/kg-day	4.00E-02	mg/kg-day	4.24E-03				
				Fluorene	2.92E+00	mg/kg	7.32E-07	mg/kg-day	--	--	--	1.86E-05	mg/kg-day	4.00E-02	mg/kg-day	4.66E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	6.53E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	7.18E-10	1.68E-08	mg/kg-day	3.00E-04	mg/kg-day	5.54E-05				
				gamma-Chlordane	1.31E-02	mg/kg	3.29E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	4.28E-09	8.38E-08	mg/kg-day	5.00E-04	mg/kg-day	1.68E-04				
				Heptachlor	6.90E-03	mg/kg	1.73E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	7.10E-09	4.41E-08	mg/kg-day	5.00E-04	mg/kg-day	8.82E-05				
				Heptachlor Epoxide	1.12E-02	mg/kg	2.80E-09	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.54E-08	7.13E-08	mg/kg-day	1.30E-05	mg/kg-day	5.49E-03				
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.19E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.63E-07	5.58E-06	mg/kg-day	--	--	--				
				Iron	4.07E+04	mg/kg	1.02E-02	mg/kg-day	--	--	--	2.60E-01	mg/kg-day	3.00E-01	mg/kg-day	8.68E-01				
				Isophorone	2.00E-01	mg/kg	5.02E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	4.77E-11	1.28E-06	mg/kg-day	2.00E-01	mg/kg-day	6.39E-06				
				Lead	2.90E+03	mg/kg	7.29E-04	mg/kg-day	--	--	--	1.86E-02	mg/kg-day	--	--	--				
				Manganese	3.31E+02	mg/kg	8.31E-05	mg/kg-day	--	--	--	2.12E-03	mg/kg-day	2.40E-02	mg/kg-day	8.82E-02				
				Mercury	3.10E-01	mg/kg	7.77E-08	mg/kg-day	--	--	--	1.98E-06	mg/kg-day	3.00E-04	mg/kg-day	6.60E-03				
				Methoxychlor	1.20E-01	mg/kg	3.01E-08	mg/kg-day	--	--	--	7.67E-07	mg/kg-day	5.00E-03	mg/kg-day	1.53E-04				
				Molybdenum	2.50E+00	mg/kg	6.29E-07	mg/kg-day	--	--	--	1.60E-05	mg/kg-day	5.00E-03	mg/kg-day	3.20E-03				
				Naphthalene	1.30E+01	mg/kg	3.26E-06	mg/kg-day	--	--	--	8.31E-05	mg/kg-day	2.00E-02	mg/kg-day	4.16E-03				
				Nickel	3.91E+01	mg/kg	9.83E-06	mg/kg-day	--	--	--	2.50E-04	mg/kg-day	2.00E-02	mg/kg-day	1.25E-02				
				Phenanthrene	1.39E+01	mg/kg	3.50E-06	mg/kg-day	--	--	--	8.90E-05	mg/kg-day	3.00E-01	mg/kg-day	2.97E-04				
				Phenol	5.80E-01	mg/kg	1.46E-07	mg/kg-day	--	--	--	3.71E-06	mg/kg-day	3.00E-01	mg/kg-day	1.24E-05				
				p-Isopropyltoluene	1.10E-01	mg/kg	2.76E-08	mg/kg-day	--	--	--	7.03E-07	mg/kg-day	1.00E-01	mg/kg-day	7.03E-06				
				Pyrene	2.41E+01	mg/kg	6.06E-06	mg/kg-day	--	--	--	1.54E-04	mg/kg-day	3.00E-02	mg/kg-day	5.15E-03				
				sec-Butylbenzene	7.10E-02	mg/kg	1.78E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	4.00E-02	mg/kg-day	1.13E-05				
				Selenium	2.24E-01	mg/kg	5.64E-08	mg/kg-day	--	--	--	1.43E-06	mg/kg-day	5.00E-03	mg/kg-day	2.87E-04				
				Silver	1.16E+00	mg/kg	2.91E-07	mg/kg-day	--	--	--	7.41E-06	mg/kg-day	5.00E-03	mg/kg-day	1.48E-03				
				Technical Chlordane	5.51E-01	mg/kg	1.38E-07	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.80E-07	3.52E-06	mg/kg-day	5.00E-04	mg/kg-day	7.05E-03				
				Thallium	4.97E-01	mg/kg	1.25E-07	mg/kg-day	--	--	--	3.18E-06	mg/kg-day	8.00E-05	mg/kg-day	3.97E-02				
				Toluene	4.30E-04	mg/kg	1.08E-10	mg/kg-day	--	--	--	2.75E-09	mg/kg-day	8.00E-02	mg/kg-day	3.44E-08				
				Vanadium	3.41E+01	mg/kg	8.58E-06	mg/kg-day	--	--	--	2.18E-04	mg/kg-day	1.00E-03	mg/kg-day	2.18E-01				
				Zinc	4.53E+02	mg/kg	1.14E-04	mg/kg-day	--	--	--	2.90E-03	mg/kg-day	3.00E-01	mg/kg-day	9.66E-03				
				Exposure Route Total											2.83E-05				2.45E+00	
				Dermal	Dermal	Dermal	Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	4.24E-08	mg/kg-day	--	--	--	1.07E-06	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.44E-08	mg/kg-day	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.41E-09	mg/kg-day	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07
								1,2-Dichlorobenzene	2.60E+01	mg/kg	7.35E-08	mg/kg-day	--	--	--	1.86E-06	mg/kg-day	9.00E-02	mg/kg-day	2.07E-05
								1,2-Dichloropropane	3.60E-03	mg/kg	1.02E-11	mg/kg-day	3.60E-02	(mg/kg-day)-1	3.66E-13	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07
								1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.52E-10	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07
1,3-Dichlorobenzene	1.10E+00	mg/kg	3.11E-09					mg/kg-day	--	--	--	7.88E-08	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06				
1,4-Dichlorobenzene	6.80E+00	mg/kg	--					mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
2,4-Dimethylphenol	2.10E-01	mg/kg	5.94E-10					mg/kg-day	--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07				
2-Methylphenol	8.10E-02	mg/kg	2.29E-09					mg/kg-day	--	--	--	5.80E-08	mg/kg-day	4.00E-03	mg/kg-day	1.45E-05				
2-Methylnaphthalene	1.67E+00	mg/kg	4.73E-09					mg/kg-day	--	--	--	1.20E-07	mg/kg-day	5.00E-02	mg/kg-day	2.39E-06				
4,4-DDD	1.20E-03	mg/kg	3.39E-12					mg/kg-day	2.40E-01	(mg/kg-day)-1	8.14E-13	8.59E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07				
4,4'-DDE	8.23E-02	mg/kg	2.33E-10					mg/kg-day	3.40E-01	(mg/kg-day)-1	7.91E-11	5.89E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05				
4,4'-DDT	4.45E-02	mg/kg	3.77E-10					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.28E-10	9.56E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05				
4-Methylphenol	2.70E-01	mg/kg	7.63E-09					mg/kg-day	--	--	--	1.93E-07	mg/kg-day	5.00E-03	mg/kg-day	3.87E-05				
4-Nitroaniline	6.20E-01	mg/kg	1.75E-08					mg/kg-day	2.10E-02	(mg/kg-day)-1	3.68E-10	4.44E-07	mg/kg-day	3.00E-03	mg/kg-day	1.48E-04				

TABLE H3-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	4.23E+00	mg/kg	1.56E-07	mg/kg-day	--	--	--	--	3.94E-06	mg/kg-day	6.00E-02	mg/kg-day	6.57E-05
				Acenaphthylene	1.04E-01	mg/kg	2.94E-10	mg/kg-day	--	--	--	--	7.46E-09	mg/kg-day	6.00E-02	mg/kg-day	1.24E-07
				Aldrin	1.30E-02	mg/kg	3.67E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.25E-09	9.31E-09	mg/kg-day	3.00E-05	mg/kg-day	3.10E-04	
				alpha-BHC	7.30E-04	mg/kg	2.06E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.57E-12	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07	
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	--	5.00E-04	mg/kg-day	--	
				Aluminum	8.82E+03	mg/kg	2.49E-06	mg/kg-day	--	--	--	--	6.32E-05	mg/kg-day	1.00E+00	mg/kg-day	6.32E-05
				Anthracene	1.05E+00	mg/kg	3.88E-08	mg/kg-day	--	--	--	--	9.82E-07	mg/kg-day	3.00E-01	mg/kg-day	3.27E-06
				Antimony	4.08E+00	mg/kg	1.15E-09	mg/kg-day	--	--	--	--	2.92E-08	mg/kg-day	4.00E-04	mg/kg-day	7.30E-05
				Aroclor-1248	1.20E+00	mg/kg	4.75E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.50E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02	
				Aroclor-1254	4.44E-01	mg/kg	1.76E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.51E-08	4.45E-07	mg/kg-day	2.00E-05	mg/kg-day	2.23E-02	
				Aroclor-1260	5.41E-01	mg/kg	2.14E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.28E-08	5.43E-07	mg/kg-day	2.00E-05	mg/kg-day	2.71E-02	
				Aroclor-1268	2.78E-02	mg/kg	1.10E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.20E-09	2.78E-08	mg/kg-day	2.00E-05	mg/kg-day	1.39E-03	
				Arsenic	6.17E+00	mg/kg	5.23E-08	mg/kg-day	9.45E+00	(mg/kg-day)-1	4.94E-07	1.32E-08	mg/kg-day	3.00E-04	mg/kg-day	4.41E-03	
				Barium	6.78E+01	mg/kg	1.92E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	7.00E-02	mg/kg-day	6.94E-06	
				Benzo(a)anthracene	5.00E+00	mg/kg	1.84E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.21E-07	4.66E-06	mg/kg-day	--	--	--	
				Benzo(a)pyrene	1.67E+00	mg/kg	6.12E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	7.34E-07	1.55E-06	mg/kg-day	--	--	--	
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.01E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.21E-07	2.55E-06	mg/kg-day	--	--	--	
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.81E-08	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	3.00E-02	mg/kg-day	2.37E-05	
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.20E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.44E-07	3.03E-06	mg/kg-day	--	--	--	
				Beryllium	2.38E-01	mg/kg	6.73E-11	mg/kg-day	--	--	--	1.70E-09	mg/kg-day	2.00E-03	mg/kg-day	8.52E-07	
				Beta-BHC	2.20E-03	mg/kg	6.22E-12	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.33E-12	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07	
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.21E-08	mg/kg-day	3.00E-03	(mg/kg-day)-1	6.64E-11	5.61E-07	mg/kg-day	2.00E-02	mg/kg-day	2.80E-05	
				Cadmium	9.47E+00	mg/kg	2.68E-09	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.02E-09	6.78E-08	mg/kg-day	5.00E-04	mg/kg-day	1.36E-04	
				Carbon disulfide	2.40E-04	mg/kg	1.70E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09	
				Chlorobenzene	1.10E-01	mg/kg	3.11E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07	
				Chromium	1.11E+02	mg/kg	3.14E-08	mg/kg-day	--	--	--	7.96E-07	mg/kg-day	1.50E+00	mg/kg-day	5.31E-07	
				Chrysene	5.68E+00	mg/kg	2.09E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.51E-08	5.29E-06	mg/kg-day	--	--	--	
				Cobalt	7.57E+00	mg/kg	2.14E-09	mg/kg-day	--	--	--	5.42E-08	mg/kg-day	2.00E-02	mg/kg-day	2.71E-06	
				Copper	5.71E+01	mg/kg	1.61E-08	mg/kg-day	--	--	--	4.09E-07	mg/kg-day	4.00E-02	mg/kg-day	1.02E-05	
				Delta-BHC	8.40E-03	mg/kg	1.19E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.78E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.50E-05	
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.17E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.78E-08	2.96E-07	mg/kg-day	--	--	--	
				Dibenzofuran	1.30E+01	mg/kg	3.67E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04	
				Dieldrin	5.51E-02	mg/kg	1.58E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.49E-09	3.95E-09	mg/kg-day	5.00E-05	mg/kg-day	7.90E-05	
				Dimethylphthalate	3.80E-02	mg/kg	1.07E-10	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	8.00E-01	mg/kg-day	3.40E-09	
				di-n-Butylphthalate	2.20E+00	mg/kg	6.22E-09	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	2.00E-01	mg/kg-day	7.88E-07	
				Endosulfan I	2.30E-02	mg/kg	3.25E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06	
				Endosulfan II	2.38E-02	mg/kg	3.37E-10	mg/kg-day	--	--	--	8.53E-09	mg/kg-day	6.00E-03	mg/kg-day	1.42E-06	
				Endosulfan Sulfate	4.30E-02	mg/kg	6.08E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-06	
				Endnn aldehyde	4.21E-02	mg/kg	5.95E-10	mg/kg-day	--	--	--	1.51E-08	mg/kg-day	3.00E-04	mg/kg-day	5.02E-05	
				Endnn Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--	
				Fluoranthene	2.65E+01	mg/kg	9.74E-07	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	4.00E-02	mg/kg-day	6.17E-04	
				Fluorene	2.92E+00	mg/kg	1.07E-07	mg/kg-day	--	--	--	2.71E-06	mg/kg-day	4.00E-02	mg/kg-day	6.79E-05	
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.94E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.23E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06	
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	5.00E-04	mg/kg-day	--	
				Heptachlor	6.90E-03	mg/kg	1.95E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.00E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07	
				Heptachlor Epoxide	1.12E-02	mg/kg	3.15E-11	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.73E-10	7.99E-10	mg/kg-day	1.30E-05	mg/kg-day	6.14E-05	
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	3.21E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.85E-08	8.13E-07	mg/kg-day	--	--	--	
				Iron	4.07E+04	mg/kg	1.15E-05	mg/kg-day	--	--	--	2.92E-04	mg/kg-day	3.00E-01	mg/kg-day	9.72E-04	
				Isophorone	2.00E-01	mg/kg	5.65E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.37E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07	
Lead	2.90E+03	mg/kg	8.20E-07	mg/kg-day	--	--	--	2.08E-05	mg/kg-day	--	--	--					

TABLE H3-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations						Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	9.36E-08	mg/kg-day	--	--	--	--	2.37E-06	mg/kg-day	2.40E-02	mg/kg-day	9.88E-05		
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	3.00E-04	mg/kg-day	--		
				Methoxychlor	1.20E-01	mg/kg	3.39E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06		
				Molybdenum	2.50E+00	mg/kg	7.08E-10	mg/kg-day	--	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	3.59E-08		
				Naphthalene	1.30E+01	mg/kg	4.78E-07	mg/kg-day	--	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04		
				Nickel	3.91E+01	mg/kg	1.11E-08	mg/kg-day	--	--	--	--	2.80E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05		
				Phenanthrene	1.39E+01	mg/kg	3.93E-08	mg/kg-day	--	--	--	--	9.97E-07	mg/kg-day	3.00E-01	mg/kg-day	3.32E-06		
				Phenol	5.80E-01	mg/kg	1.64E-08	mg/kg-day	--	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06		
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--		
				Pyrene	2.41E+01	mg/kg	8.87E-07	mg/kg-day	--	--	--	--	2.25E-05	mg/kg-day	3.00E-02	mg/kg-day	7.49E-04		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--		
				Selenium	2.24E-01	mg/kg	6.34E-11	mg/kg-day	--	--	--	--	1.61E-09	mg/kg-day	5.00E-03	mg/kg-day	3.21E-07		
				Silver	1.18E+00	mg/kg	3.28E-10	mg/kg-day	--	--	--	--	8.30E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06		
				Technical Chlordane	5.51E-01	mg/kg	6.23E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.10E-09	1.58E-07	mg/kg-day	5.00E-04	mg/kg-day	3.16E-04			
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--		
				Toluene	4.30E-04	mg/kg	1.22E-12	mg/kg-day	--	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.85E-10		
				Vanadium	3.41E+01	mg/kg	9.65E-09	mg/kg-day	--	--	--	--	2.44E-07	mg/kg-day	1.00E-03	mg/kg-day	2.44E-04		
				Zinc	4.53E+02	mg/kg	1.28E-07	mg/kg-day	--	--	--	--	3.25E-06	mg/kg-day	3.00E-01	mg/kg-day	1.08E-05		
				Exposure Point Total										2.02E-06					1.21E-01
				Exposure Route Total										2.83E-05					2.57E+00
Homegrown Produce	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--				
		1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--				
		1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--				
		1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--				
		1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	3.60E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--				
		1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--				
		1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
		1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
		2,4-Dimethylphenol	2.10E-01	mg/kg	5.01E-06	mg/kg-day	--	--	--	--	3.50E-05	mg/kg-day	2.00E-02	mg/kg-day	1.75E-03				
		2-Methylphenol	8.10E-02	mg/kg	4.60E-06	mg/kg-day	--	--	--	--	3.21E-05	mg/kg-day	4.00E-03	mg/kg-day	8.02E-03				
		2-Methylnaphthalene	1.67E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--				
		4,4'-DDD	1.20E-03	mg/kg	4.88E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.17E-11	3.40E-10	mg/kg-day	5.00E-04	mg/kg-day	6.81E-07					
		4,4'-DDE	8.23E-02	mg/kg	2.42E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	8.24E-10	1.69E-08	mg/kg-day	5.00E-04	mg/kg-day	3.38E-05					
		4,4'-DDT	4.45E-02	mg/kg	5.85E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.92E-09	3.94E-08	mg/kg-day	5.00E-04	mg/kg-day	7.88E-05					
		4-Methylphenol	2.70E-01	mg/kg	1.58E-05	mg/kg-day	--	--	--	--	1.10E-04	mg/kg-day	5.00E-03	mg/kg-day	2.20E-02				
		4-Nitroaniline	6.20E-01	mg/kg	2.48E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	5.20E-07	1.73E-04	mg/kg-day	3.00E-03	mg/kg-day	5.76E-02					
		4-Nitrophenol	4.20E-01	mg/kg	2.52E-05	mg/kg-day	--	--	--	--	1.76E-04	mg/kg-day	5.00E-04	mg/kg-day	3.51E-01				
		Acenaphthene	4.23E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--				
		Acenaphthylene	1.04E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--				
		Aldrin	1.30E-02	mg/kg	8.65E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.47E-08	6.03E-09	mg/kg-day	3.00E-05	mg/kg-day	2.01E-04					
		alpha-BHC	7.30E-04	mg/kg	1.05E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.83E-08	7.31E-08	mg/kg-day	5.00E-04	mg/kg-day	1.46E-04					
		alpha-Chlordane	8.14E-03	mg/kg	1.19E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.55E-09	8.30E-09	mg/kg-day	5.00E-04	mg/kg-day	1.66E-05					
		Aluminum	8.82E+03	mg/kg	1.76E-04	mg/kg-day	--	--	--	--	1.22E-03	mg/kg-day	1.00E+00	mg/kg-day	1.22E-03				
		Anthracene	1.05E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
		Antimony	4.08E+00	mg/kg	3.75E-06	mg/kg-day	--	--	--	--	2.61E-05	mg/kg-day	4.00E-04	mg/kg-day	6.53E-02				
		Aroclor-1248	1.20E+00	mg/kg	4.89E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.79E-08	3.41E-07	mg/kg-day	2.00E-05	mg/kg-day	1.71E-02					
		Aroclor-1254	4.44E-01	mg/kg	2.42E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.85E-07	1.69E-06	mg/kg-day	2.00E-05	mg/kg-day	8.45E-02					
Aroclor-1260	5.41E-01	mg/kg	1.06E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.11E-08	7.37E-08	mg/kg-day	2.00E-05	mg/kg-day	3.68E-03							
Aroclor-1268	2.78E-02	mg/kg	1.52E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.03E-08	1.06E-07	mg/kg-day	2.00E-05	mg/kg-day	5.28E-03							
Arsenic	6.17E+00	mg/kg	1.13E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.07E-05	7.90E-06	mg/kg-day	3.00E-04	mg/kg-day	2.63E-02							
Barium	6.78E+01	mg/kg	3.11E-05	mg/kg-day	--	--	--	--	2.17E-04	mg/kg-day	7.00E-02	mg/kg-day	3.10E-03						

TABLE H3-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Benzo(a)anthracene	5.00E+00	mg/kg	3.93E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.72E-08	2.74E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.87E+00	mg/kg	7.42E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	8.91E-08	5.18E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.22E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.47E-07	8.52E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.60E-08	mg/kg-day	--	--	--	1.81E-07	mg/kg-day	3.00E-02	mg/kg-day	6.04E-06
				Benzo(k)fluoranthene	3.28E+00	mg/kg	1.45E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.74E-07	1.01E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.09E-08	mg/kg-day	--	--	--	7.63E-08	mg/kg-day	2.00E-03	mg/kg-day	3.81E-05
				Beta-BHC	2.20E-03	mg/kg	3.16E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.74E-08	2.20E-07	mg/kg-day	2.00E-04	mg/kg-day	1.10E-03
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	8.29E-05	mg/kg-day	3.00E-03	(mg/kg-day)-1	2.49E-07	5.78E-04	mg/kg-day	2.00E-02	mg/kg-day	2.89E-02
				Cadmium	9.47E+00	mg/kg	4.35E-05	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.65E-05	3.03E-04	mg/kg-day	5.00E-04	mg/kg-day	6.07E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.11E+02	mg/kg	1.53E-05	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	1.50E+00	mg/kg-day	7.12E-05
				Chrysene	5.68E+00	mg/kg	3.13E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.76E-08	2.19E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	1.62E-06	mg/kg-day	--	--	--	1.13E-05	mg/kg-day	2.00E-02	mg/kg-day	5.66E-04
				Copper	5.71E+01	mg/kg	4.37E-04	mg/kg-day	--	--	--	3.05E-03	mg/kg-day	4.00E-02	mg/kg-day	7.62E-02
				Delta-BHC	8.40E+03	mg/kg	9.83E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.48E-09	6.86E-09	mg/kg-day	2.00E-04	mg/kg-day	3.43E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	8.75E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.59E-08	6.10E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	5.51E-02	mg/kg	8.95E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.43E-05	6.24E-06	mg/kg-day	5.00E-05	mg/kg-day	1.25E-01
				Dimethylphthalate	3.80E-02	mg/kg	1.73E-06	mg/kg-day	--	--	--	1.21E-05	mg/kg-day	8.00E-01	mg/kg-day	1.51E-05
				di-n-Butylphthalate	2.20E+00	mg/kg	1.40E-07	mg/kg-day	--	--	--	9.79E-07	mg/kg-day	2.00E-01	mg/kg-day	4.89E-06
				Endosulfan I	2.30E-02	mg/kg	3.16E-07	mg/kg-day	--	--	--	2.20E-06	mg/kg-day	6.00E-03	mg/kg-day	3.87E-04
				Endosulfan II	2.38E-02	mg/kg	3.13E-07	mg/kg-day	--	--	--	2.18E-06	mg/kg-day	6.00E-03	mg/kg-day	3.64E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	5.52E-07	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	6.00E-03	mg/kg-day	6.42E-04
				Endrin aldehyde	4.21E-02	mg/kg	2.14E-09	mg/kg-day	--	--	--	1.49E-08	mg/kg-day	3.00E-04	mg/kg-day	4.97E-05
				Endrin Ketone	1.00E-02	mg/kg	5.08E-10	mg/kg-day	--	--	--	3.54E-09	mg/kg-day	3.00E-04	mg/kg-day	1.18E-05
				Fluoranthene	2.65E+01	mg/kg	2.19E-06	mg/kg-day	--	--	--	1.53E-05	mg/kg-day	4.00E-02	mg/kg-day	3.82E-04
				Fluorene	2.92E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.31E-07	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.45E-07	9.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.06E-03
				gamma-Chlordane	1.31E-02	mg/kg	1.91E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.49E-09	1.34E-08	mg/kg-day	5.00E-04	mg/kg-day	2.67E-05
				Heptachlor	6.90E-03	mg/kg	7.50E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.07E-09	5.23E-09	mg/kg-day	5.00E-04	mg/kg-day	1.05E-05
				Heptachlor Epoxide	1.12E-02	mg/kg	3.94E-07	mg/kg-day	5.50E+00	(mg/kg-day)-1	2.17E-06	2.75E-06	mg/kg-day	1.30E-05	mg/kg-day	2.11E-01
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.91E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.50E-08	2.03E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	1.24E-03	mg/kg-day	--	--	--	8.65E-03	mg/kg-day	3.00E-01	mg/kg-day	2.88E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.90E+03	mg/kg	8.00E-04	mg/kg-day	--	--	--	5.58E-03	mg/kg-day	--	--	--
				Manganese	3.31E+02	mg/kg	5.07E-04	mg/kg-day	--	--	--	3.54E-03	mg/kg-day	2.40E-02	mg/kg-day	1.47E-01
				Mercury	3.10E-01	mg/kg	1.90E-06	mg/kg-day	--	--	--	1.32E-05	mg/kg-day	3.00E-04	mg/kg-day	4.41E-02
				Methoxychlor	1.20E-01	mg/kg	3.18E-09	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.00E-03	mg/kg-day	4.44E-06
				Molybdenum	2.50E+00	mg/kg	4.60E-06	mg/kg-day	--	--	--	3.21E-05	mg/kg-day	5.00E-03	mg/kg-day	6.42E-03
				Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Nickel	3.91E+01	mg/kg	7.19E-05	mg/kg-day	--	--	--	5.01E-04	mg/kg-day	2.00E-02	mg/kg-day	2.51E-02
				Phenanthrene	1.39E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--
				Phenol	5.80E-01	mg/kg	8.76E-05	mg/kg-day	--	--	--	6.11E-04	mg/kg-day	3.00E-01	mg/kg-day	2.04E-03
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
Pyrene	2.41E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.24E-01	mg/kg	1.72E-07	mg/kg-day	--	--	--	1.20E-06	mg/kg-day	5.00E-03	mg/kg-day	2.40E-04				
Silver	1.16E+00	mg/kg	3.55E-06	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	5.00E-03	mg/kg-day	4.95E-03				
Technical Chlordane	5.51E-01	mg/kg	8.05E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.05E-07	5.62E-07	mg/kg-day	5.00E-04	mg/kg-day	1.12E-03				
Thallium	4.97E-01	mg/kg	6.09E-09	mg/kg-day	--	--	--	4.25E-08	mg/kg-day	8.00E-05	mg/kg-day	5.31E-04				

TABLE H3-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-2 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Toluene	4.30E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--		
				Vanadium	3.41E+01	mg/kg	3.14E-06	mg/kg-day	--	--	--	2.19E-05	mg/kg-day	1.00E-03	mg/kg-day	2.19E-02		
				Zinc	4.53E+02	mg/kg	1.25E-02	mg/kg-day	--	--	--	8.72E-02	mg/kg-day	3.00E-01	mg/kg-day	2.91E-01		
				Exposure Route Total														2.28E+00
				Exposure Point Total														2.28E+00
				Exposure Medium Total														4.85E+00
				Air														
				Outdoor Air														
				Inhalation (Particulates)														
				2,4-Dimethylphenol				1.59E-10	mg/m <sup>3</sup>	5.60E-12	mg/kg-day	--	--	--	8.05E-11	mg/kg-day	2.00E-02	mg/kg-day
2-Methylphenol				6.14E-11	mg/m <sup>3</sup>	2.18E-12	mg/kg-day	--	--	--	3.11E-11	mg/kg-day	--	--	--			
4,4'-DDD				9.09E-13	mg/m <sup>3</sup>	3.20E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	7.68E-15	mg/kg-day	5.00E-04	mg/kg-day	9.21E-10				
4,4'-DDT				3.37E-11	mg/m <sup>3</sup>	1.19E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.03E-13	mg/kg-day	5.00E-04	mg/kg-day	3.41E-08				
4-Methylphenol				2.05E-10	mg/m <sup>3</sup>	7.20E-12	mg/kg-day	--	--	--	1.04E-10	mg/kg-day	5.00E-03	mg/kg-day	2.07E-08			
4-Nitroaniline				4.70E-10	mg/m <sup>3</sup>	1.65E-11	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	3.47E-13	mg/kg-day	1.00E-03	mg/kg-day	2.38E-07				
4-Nitrophenol				3.18E-10	mg/m <sup>3</sup>	1.12E-11	mg/kg-day	--	--	--	1.61E-10	mg/kg-day	5.70E-04	mg/kg-day	2.83E-07			
Aluminum				6.68E-06	mg/m <sup>3</sup>	2.35E-07	mg/kg-day	--	--	--	3.38E-06	mg/kg-day	1.43E-03	mg/kg-day	2.37E-03			
Antimony				3.09E-09	mg/m <sup>3</sup>	1.09E-10	mg/kg-day	--	--	--	1.56E-09	mg/kg-day	--	--	--			
Aroclor-1248				9.09E-10	mg/m <sup>3</sup>	3.20E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.40E-11	mg/kg-day	2.00E-05	mg/kg-day	2.30E-05				
Aroclor-1254				3.36E-10	mg/m <sup>3</sup>	1.18E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.37E-11	mg/kg-day	2.00E-05	mg/kg-day	8.52E-06				
Aroclor-1260				4.10E-10	mg/m <sup>3</sup>	1.44E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.89E-11	mg/kg-day	2.00E-05	mg/kg-day	1.04E-05				
Aroclor-1268				2.10E-11	mg/m <sup>3</sup>	7.40E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.46E-12	mg/kg-day	2.00E-05	mg/kg-day	5.32E-07				
Arsenic				4.67E-09	mg/m <sup>3</sup>	1.64E-10	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	1.97E-09	mg/kg-day	8.60E-06	mg/kg-day	2.75E-04				
Barium				5.14E-08	mg/m <sup>3</sup>	1.81E-09	mg/kg-day	--	--	--	2.60E-08	mg/kg-day	1.40E-04	mg/kg-day	1.86E-04			
Benzo(a)anthracene				3.79E-09	mg/m <sup>3</sup>	1.33E-10	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	5.20E-11	mg/kg-day	--	--	--				
Benzo(a)pyrene				1.26E-09	mg/m <sup>3</sup>	4.44E-11	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	1.73E-10	mg/kg-day	--	--	--				
Benzo(g,h,i)perylene				5.78E-10	mg/m <sup>3</sup>	2.03E-11	mg/kg-day	--	--	--	2.93E-10	mg/kg-day	3.00E-02	mg/kg-day	9.76E-09			
Benzo(k)fluoranthene				2.47E-09	mg/m <sup>3</sup>	8.69E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.39E-11	mg/kg-day	--	--	--				
Beryllium				1.80E-10	mg/m <sup>3</sup>	6.35E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	5.33E-11	mg/kg-day	5.71E-06	mg/kg-day	1.60E-05				
Beta-BHC				1.67E-12	mg/m <sup>3</sup>	5.86E-14	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	8.79E-14	mg/kg-day	2.00E-04	mg/kg-day	4.22E-09				
bis(2-ethylhexyl)phthalate				5.93E-09	mg/m <sup>3</sup>	2.09E-10	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	1.75E-12	mg/kg-day	3.00E-09	mg/kg-day	2.00E-02	mg/kg-day	1.50E-07		
Cadmium				7.18E-09	mg/m <sup>3</sup>	2.52E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	3.79E-09	mg/kg-day	5.71E-06	mg/kg-day	6.36E-04				
Chromium				8.42E-08	mg/m <sup>3</sup>	2.96E-09	mg/kg-day	--	--	--	4.27E-08	mg/kg-day	--	--	--			
Cobalt				5.74E-09	mg/m <sup>3</sup>	2.02E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	1.98E-09	mg/kg-day	5.71E-06	mg/kg-day	5.09E-04				
Copper				4.32E-08	mg/m <sup>3</sup>	1.52E-09	mg/kg-day	--	--	--	2.19E-08	mg/kg-day	--	--	--			
Dibenzo(a,h)anthracene				2.41E-10	mg/m <sup>3</sup>	8.46E-12	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	3.47E-11	mg/kg-day	--	--	--				
Dimethylphthalate				2.88E-11	mg/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	1.46E-11	mg/kg-day	8.00E-01	mg/kg-day	1.82E-11			
di-n-Butylphthalate				1.67E-09	mg/m <sup>3</sup>	5.86E-11	mg/kg-day	--	--	--	8.44E-10	mg/kg-day	1.00E-01	mg/kg-day	8.44E-09			
Endrin aldehyde				3.19E-11	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	--	--	--	1.61E-11	mg/kg-day	3.00E-04	mg/kg-day	5.38E-08			
Endrin Ketone				7.58E-12	mg/m <sup>3</sup>	2.67E-13	mg/kg-day	--	--	--	3.84E-12	mg/kg-day	3.00E-04	mg/kg-day	1.28E-08			
Heptachlor Epoxide				8.45E-12	mg/m <sup>3</sup>	2.97E-13	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	1.63E-12	mg/kg-day	1.30E-05	mg/kg-day	3.29E-07				
Indeno(1,2,3-cd)pyrene				6.61E-10	mg/m <sup>3</sup>	2.33E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	9.07E-12	mg/kg-day	--	--	--				
Iron				3.09E-05	mg/m <sup>3</sup>	1.09E-06	mg/kg-day	--	--	--	1.56E-05	mg/kg-day	--	--	--			
Isophorone				1.52E-10	mg/m <sup>3</sup>	5.33E-12	mg/kg-day	--	--	--	7.67E-11	mg/kg-day	--	--	--			
Lead				2.20E-06	mg/m <sup>3</sup>	7.73E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	--	--	--			
Manganese				2.51E-07	mg/m <sup>3</sup>	8.82E-08	mg/kg-day	--	--	--	1.27E-07	mg/kg-day	1.43E-05	mg/kg-day	8.89E-03			
Mercury				2.34E-10	mg/m <sup>3</sup>	8.25E-12	mg/kg-day	--	--	--	1.19E-10	mg/kg-day	8.60E-05	mg/kg-day	1.38E-06			
Molybdenum				1.90E-09	mg/m <sup>3</sup>	6.67E-11	mg/kg-day	--	--	--	9.61E-10	mg/kg-day	--	--	--			
Nickel				2.96E-08	mg/m <sup>3</sup>	1.04E-09	mg/kg-day	9.10E-01	(mg/kg-day) <sup>-1</sup>	9.49E-10	mg/kg-day	1.50E-08	mg/kg-day	1.40E-05	mg/kg-day	1.07E-03		
Phenol				4.39E-10	mg/m <sup>3</sup>	1.55E-11	mg/kg-day	--	--	--	2.22E-10	mg/kg-day	5.71E-02	mg/kg-day	3.89E-09			
Selenium				1.70E-10	mg/m <sup>3</sup>	5.98E-12	mg/kg-day	--	--	--	8.61E-11	mg/kg-day	5.70E-03	mg/kg-day	1.51E-08			
Silver				8.78E-10	mg/m <sup>3</sup>	3.09E-11	mg/kg-day	--	--	--	4.45E-10	mg/kg-day	--	--	--			





TABLE H3-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RFC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	7.86E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.34E-09	1.13E-09	mg/kg-day	3.00E-05	mg/kg-day	3.77E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	9.96E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	2.69E-11	1.43E-10	mg/kg-day	5.00E-04	mg/kg-day	2.87E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	2.36E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.83E-11	3.39E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.16E-10	mg/kg-day	--	--	--	1.66E-09	mg/kg-day	3.00E-01	mg/kg-day	5.54E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	9.18E-09	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	9.18E-10	1.32E-07	mg/kg-day	8.60E-03	mg/kg-day	1.54E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.71E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	6.67E-12	2.46E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	2.59E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	1.01E-12	3.73E-09	mg/kg-day	2.00E-02	mg/kg-day	1.86E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.59E-07	mg/kg-day	--	--	--	2.28E-06	mg/kg-day	2.00E-01	mg/kg-day	1.14E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	2.58E-09	mg/kg-day	--	--	--	3.71E-08	mg/kg-day	2.86E-01	mg/kg-day	1.30E-07				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	7.27E-08	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	1.38E-09	1.05E-08	mg/kg-day	8.57E-02	mg/kg-day	1.22E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	2.63E-08	mg/kg-day	--	--	--	3.79E-07	mg/kg-day	2.60E-02	mg/kg-day	1.46E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	4.63E-11	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	1.81E-12	6.66E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.86E-08	mg/kg-day	--	--	--	2.68E-07	mg/kg-day	1.00E-02	mg/kg-day	2.68E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	3.48E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	5.53E-10	4.97E-10	mg/kg-day	5.00E-05	mg/kg-day	9.95E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	7.88E-12	mg/kg-day	--	--	--	1.13E-10	mg/kg-day	6.00E-03	mg/kg-day	1.89E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.29E-14	mg/kg-day	--	--	--	1.86E-13	mg/kg-day	6.00E-03	mg/kg-day	3.11E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	7.02E-09	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	2.90E-01	mg/kg-day	3.48E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.78E-11	mg/kg-day	--	--	--	2.56E-10	mg/kg-day	4.00E-02	mg/kg-day	6.40E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	3.52E-11	mg/kg-day	--	--	--	5.06E-10	mg/kg-day	4.00E-02	mg/kg-day	1.27E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	4.37E-14	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	4.81E-14	6.29E-13	mg/kg-day	3.00E-04	mg/kg-day	2.10E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	6.12E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	7.35E-11	8.81E-10	mg/kg-day	2.00E-04	mg/kg-day	4.40E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	6.28E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	2.57E-09	9.04E-09	mg/kg-day	5.00E-04	mg/kg-day	1.81E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	2.44E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	2.90E-02	mg/kg-day	1.21E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.15E-10	mg/kg-day	--	--	--	1.65E-09	mg/kg-day	5.00E-03	mg/kg-day	3.31E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.91E-10	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	2.29E-11	2.75E-09	mg/kg-day	8.57E-04	mg/kg-day	3.21E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	8.90E-09	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	8.57E-04	mg/kg-day	1.49E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	9.91E-09	mg/kg-day	--	--	--	1.43E-07	mg/kg-day	4.00E-02	mg/kg-day	3.57E-06				
				Phenanthrene	2.82E-09	mg/m <sup>3</sup>	9.21E-11	mg/kg-day	--	--	--	1.33E-09	mg/kg-day	3.00E-01	mg/kg-day	4.42E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.62E-11	mg/kg-day	--	--	--	2.33E-10	mg/kg-day	3.00E-02	mg/kg-day	7.78E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	2.82E-08	mg/kg-day	--	--	--	4.06E-07	mg/kg-day	4.00E-02	mg/kg-day	1.01E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	3.19E-08	mg/kg-day	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.34E-08	mg/kg-day	--	--	--	1.92E-07	mg/kg-day	1.43E+00	mg/kg-day	1.35E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	3.15E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	2.00E-02	mg/kg-day	2.27E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	3.28E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	2.30E-10	4.72E-07	mg/kg-day	1.70E-01	mg/kg-day	2.78E-06				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	6.78E-08	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	1.83E-08	9.76E-07	mg/kg-day	2.86E-02	mg/kg-day	3.42E-05				
				Exposure Route Total										2.78E-08					1.10E-03	
				Exposure Point Total										2.78E-08					1.10E-03	
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	2.62E-06	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	1.49E-08	3.77E-05	mg/kg-day	1.40E-01	mg/kg-day	2.69E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	1.15E-07	mg/kg-day	--	--	--	1.65E-06	mg/kg-day	1.70E-03	mg/kg-day	9.73E-04
								1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	7.74E-07	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	5.70E-02	mg/kg-day	1.95E-04
								1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	6.27E-07	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	4.51E-08	9.02E-06	mg/kg-day	1.40E-03	mg/kg-day	6.44E-03
								1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	2.32E-07	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	8.36E-09	3.34E-06	mg/kg-day	1.14E-03	mg/kg-day	2.93E-03
								1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	6.58E-08	mg/kg-day	--	--	--	9.47E-07	mg/kg-day	1.70E-03	mg/kg-day	5.57E-04
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	2.65E-07					mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	1.06E-08	3.82E-06	mg/kg-day	2.30E-01	mg/kg-day	1.66E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	1.97E-08					mg/kg-day	--	--	--	2.84E-07	mg/kg-day	1.43E+00	mg/kg-day	1.99E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	9.55E-10					mg/kg-day	--	--	--	1.37E-08	mg/kg-day	5.00E-02	mg/kg-day	2.75E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	4.10E-12					mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.39E-12	5.90E-11	mg/kg-day	5.00E-04	mg/kg-day	1.18E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	5.85E-09					mg/kg-day	--	--	--	8.42E-08	mg/kg-day	8.60E-01	mg/kg-day	9.79E-08				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	5.81E-08					mg/kg-day	--	--	--	6.36E-07	mg/kg-day	6.00E-02	mg/kg-day	1.39E-05				

TABLE H3-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	2.47E-09	mg/kg-day	--	--	--	--	3.56E-08	mg/kg-day	6.00E-02	mg/kg-day	5.93E-07			
				Aldrin	2.44E-07	ug/m <sup>3</sup>	8.58E-12	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.46E-10	1.23E-10	mg/kg-day	3.00E-05	mg/kg-day	4.11E-06				
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	1.28E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.45E-12	1.84E-11	mg/kg-day	5.00E-04	mg/kg-day	3.68E-08				
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	7.75E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	9.30E-12	1.12E-10	mg/kg-day	2.00E-04	mg/kg-day	5.58E-07				
				Anthracene	1.40E-04	ug/m <sup>3</sup>	4.91E-09	mg/kg-day	--	--	--	7.07E-08	mg/kg-day	3.00E-01	mg/kg-day	2.36E-07				
				Benzene	7.66E-03	ug/m <sup>3</sup>	2.70E-07	mg/kg-day	1.00E-01	(mg/kg-day)-1	2.70E-08	3.88E-06	mg/kg-day	8.60E-03	mg/kg-day	4.51E-04				
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	7.20E-10	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.81E-10	1.04E-08	mg/kg-day	--	--	--				
				Bromoform	3.95E-04	ug/m <sup>3</sup>	1.39E-08	mg/kg-day	3.90E-03	(mg/kg-day)-1	5.42E-11	2.00E-07	mg/kg-day	2.00E-02	mg/kg-day	1.00E-05				
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	4.76E-06	mg/kg-day	--	--	--	6.84E-05	mg/kg-day	2.00E-01	mg/kg-day	3.42E-04				
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	7.22E-08	mg/kg-day	--	--	--	1.04E-06	mg/kg-day	2.86E-01	mg/kg-day	3.64E-06				
				Chloroform	6.13E-02	ug/m <sup>3</sup>	2.16E-06	mg/kg-day	1.90E-02	(mg/kg-day)-1	4.10E-08	3.10E-05	mg/kg-day	8.57E-02	mg/kg-day	3.62E-04				
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	8.54E-07	mg/kg-day	--	--	--	1.23E-05	mg/kg-day	2.60E-02	mg/kg-day	4.73E-04				
				Chrysene	5.75E-05	ug/m <sup>3</sup>	2.02E-09	mg/kg-day	3.90E-02	(mg/kg-day)-1	7.90E-11	2.91E-08	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	1.00E-02	mg/kg-day	1.74E-03				
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	1.32E-12	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.12E-11	1.91E-11	mg/kg-day	5.00E-05	mg/kg-day	3.81E-07				
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	1.71E-12	mg/kg-day	--	--	--	2.46E-11	mg/kg-day	6.00E-03	mg/kg-day	4.10E-09				
				Endosulfan II	1.62E-06	ug/m <sup>3</sup>	5.70E-13	mg/kg-day	--	--	--	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09				
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	1.90E-07	mg/kg-day	--	--	--	2.73E-06	mg/kg-day	2.90E-01	mg/kg-day	9.41E-06				
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	7.20E-10	mg/kg-day	--	--	--	1.04E-08	mg/kg-day	4.00E-02	mg/kg-day	2.56E-07				
				Fluorene	5.21E-05	ug/m <sup>3</sup>	1.83E-09	mg/kg-day	--	--	--	2.64E-08	mg/kg-day	4.00E-02	mg/kg-day	6.59E-07				
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	1.73E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.90E-12	2.48E-11	mg/kg-day	3.00E-04	mg/kg-day	8.28E-08				
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	3.75E-12	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.50E-12	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07				
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	1.69E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.94E-11	2.44E-10	mg/kg-day	5.00E-04	mg/kg-day	4.87E-07				
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	6.33E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03				
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	1.42E-06	mg/kg-day	--	--	--	2.04E-05	mg/kg-day	2.90E-02	mg/kg-day	7.04E-04				
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	4.98E-12	mg/kg-day	--	--	--	7.17E-11	mg/kg-day	5.00E-03	mg/kg-day	1.43E-08				
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	1.04E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.24E-09	1.49E-07	mg/kg-day	8.57E-04	mg/kg-day	1.74E-04				
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	4.99E-07	mg/kg-day	--	--	--	7.18E-06	mg/kg-day	8.57E-04	mg/kg-day	8.39E-03				
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	5.63E-07	mg/kg-day	--	--	--	8.10E-06	mg/kg-day	4.00E-02	mg/kg-day	2.02E-04				
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	5.11E-09	mg/kg-day	--	--	--	7.36E-08	mg/kg-day	3.00E-01	mg/kg-day	2.45E-07				
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	6.33E-05	mg/kg-day	--	--	--	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03				
				Pyrene	1.92E-05	ug/m <sup>3</sup>	6.76E-10	mg/kg-day	--	--	--	9.73E-09	mg/kg-day	3.00E-02	mg/kg-day	3.24E-07				
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	2.00E-08	mg/kg-day	--	--	--	2.88E-07	mg/kg-day	4.00E-02	mg/kg-day	7.20E-06				
				Tert-Butylbenzene	5.69E-02	ug/m <sup>3</sup>	2.00E-06	mg/kg-day	--	--	--	2.88E-05	mg/kg-day	4.00E-02	mg/kg-day	7.20E-04				
				Toluene	2.18E-03	ug/m <sup>3</sup>	7.66E-08	mg/kg-day	--	--	--	1.10E-06	mg/kg-day	1.43E+00	mg/kg-day	7.72E-07				
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	2.12E-06	mg/kg-day	--	--	--	3.05E-05	mg/kg-day	2.00E-02	mg/kg-day	1.53E-03				
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	2.01E-06	mg/kg-day	7.00E-03	(mg/kg-day)-1	1.40E-08	2.89E-05	mg/kg-day	1.70E-01	mg/kg-day	1.70E-04				
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	4.56E-06	mg/kg-day	2.70E-01	(mg/kg-day)-1	1.23E-06	6.57E-05	mg/kg-day	2.86E-02	mg/kg-day	2.30E-03				
				Exposure Route Total										1.39E-06						4.55E-02
				Exposure Medium Total										1.39E-06						
Medium Total										1.42E-06							4.67E-02			
Total of Receptor Risks Across All Media										1.42E-06	Total of Receptor Hazards Across All Media					6.35E+01				

TABLE H3-7.9

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes:

- Not applicable or not available
- CSF Cancer slope factor
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- EPC Exposure point concentration
- ft bgs Feet below ground surface
- mg/kg Milligram per kilogram
- mg/kg-day Milligram per kilogram per day
- (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
- mg/L Milligram per liter
- mg/m<sup>3</sup> Milligram per cubic meter
- RAGS Risk Assessment Guidelines for Superfund
- RfD Reference dose
- RfC Reference concentration
- RI Remedial Investigation
- ug/m<sup>3</sup> Microgram per cubic meter
- VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.77E-07	mg/kg-day	--	--	--	9.59E-06	mg/kg-day	1.00E-02	mg/kg-day	9.59E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.28E-06	mg/kg-day	--	--	--	3.26E-05	mg/kg-day	1.00E-02	mg/kg-day	3.26E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.26E-07	mg/kg-day	--	--	--	3.20E-06	mg/kg-day	5.00E-02	mg/kg-day	6.39E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	6.53E-06	mg/kg-day	--	--	--	1.68E-04	mg/kg-day	9.00E-02	mg/kg-day	1.85E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	9.04E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	3.25E-11	2.30E-08	mg/kg-day	1.14E-03	mg/kg-day	2.02E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	4.02E-08	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	5.00E-02	mg/kg-day	2.05E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	2.76E-07	mg/kg-day	--	--	--	7.03E-06	mg/kg-day	3.00E-02	mg/kg-day	2.34E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.71E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	9.22E-09	4.35E-05	mg/kg-day	3.00E-02	mg/kg-day	1.45E-03
				2,4-Dimethylphenol	2.10E-01	mg/kg	5.27E-08	mg/kg-day	--	--	--	1.34E-06	mg/kg-day	2.00E-02	mg/kg-day	6.71E-05
				2-Methylphenol	8.10E-02	mg/kg	2.03E-08	mg/kg-day	--	--	--	5.18E-07	mg/kg-day	4.00E-03	mg/kg-day	1.29E-04
				2-Methylnaphthalene	1.45E+00	mg/kg	3.64E-07	mg/kg-day	--	--	--	9.27E-06	mg/kg-day	5.00E-02	mg/kg-day	1.85E-04
				4,4'-DDD	1.20E-03	mg/kg	3.01E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	7.23E-11	7.67E-09	mg/kg-day	5.00E-04	mg/kg-day	1.53E-05
				4,4'-DDE	7.50E-02	mg/kg	1.88E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	6.40E-09	4.79E-07	mg/kg-day	5.00E-04	mg/kg-day	9.59E-04
				4,4'-DDT	4.20E-02	mg/kg	1.05E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.59E-09	2.68E-07	mg/kg-day	5.00E-04	mg/kg-day	5.37E-04
				4-Methylphenol	2.70E-01	mg/kg	6.78E-08	mg/kg-day	--	--	--	1.73E-06	mg/kg-day	5.00E-03	mg/kg-day	3.45E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.56E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.27E-09	3.96E-06	mg/kg-day	3.00E-03	mg/kg-day	1.32E-03
				4-Nitrophenol	4.20E-01	mg/kg	1.05E-07	mg/kg-day	--	--	--	2.68E-06	mg/kg-day	5.00E-04	mg/kg-day	5.37E-03
				Acenaphthene	3.47E+00	mg/kg	8.72E-07	mg/kg-day	--	--	--	2.22E-05	mg/kg-day	6.00E-02	mg/kg-day	3.70E-04
				Acenaphthylene	8.96E-02	mg/kg	2.25E-08	mg/kg-day	--	--	--	5.73E-07	mg/kg-day	6.00E-02	mg/kg-day	9.54E-06
				Aldrin	1.30E-02	mg/kg	3.26E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	5.55E-08	8.31E-08	mg/kg-day	3.00E-05	mg/kg-day	2.77E-03
				alpha-BHC	7.30E-04	mg/kg	1.83E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	4.95E-10	4.67E-09	mg/kg-day	5.00E-04	mg/kg-day	9.33E-06
				alpha-Chlordane	6.98E-03	mg/kg	1.75E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.28E-09	4.46E-08	mg/kg-day	5.00E-04	mg/kg-day	8.93E-05
				Aluminum	9.05E+03	mg/kg	2.27E-03	mg/kg-day	--	--	--	5.79E-02	mg/kg-day	1.00E+00	mg/kg-day	5.79E-02
				Anthracene	9.13E-01	mg/kg	2.29E-07	mg/kg-day	--	--	--	5.84E-06	mg/kg-day	3.00E-01	mg/kg-day	1.95E-05
				Antimony	2.72E+00	mg/kg	6.84E-07	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	4.00E-04	mg/kg-day	4.35E-02
				Aroclor-1248	1.20E+00	mg/kg	3.01E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.03E-07	7.67E-06	mg/kg-day	2.00E-05	mg/kg-day	3.84E-01
				Aroclor-1254	4.38E-01	mg/kg	1.10E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.20E-07	2.80E-06	mg/kg-day	2.00E-05	mg/kg-day	1.40E-01
				Aroclor-1260	4.88E-01	mg/kg	1.23E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.45E-07	3.12E-06	mg/kg-day	2.00E-05	mg/kg-day	1.56E-01
				Aroclor-1268	2.72E-02	mg/kg	6.83E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.37E-08	1.74E-07	mg/kg-day	2.00E-05	mg/kg-day	8.69E-03
				Arsenic	9.53E+00	mg/kg	2.39E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	2.26E-05	6.09E-05	mg/kg-day	3.00E-04	mg/kg-day	2.03E-01
				Barium	6.94E+01	mg/kg	1.74E-05	mg/kg-day	--	--	--	4.44E-04	mg/kg-day	7.00E-02	mg/kg-day	6.34E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	1.06E-06	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.27E-06	2.69E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	3.53E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	4.24E-06	8.99E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	5.96E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.15E-07	1.52E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	1.63E-07	mg/kg-day	--	--	--	4.14E-06	mg/kg-day	3.00E-02	mg/kg-day	1.38E-04
				Benzo(k)fluoranthene	2.82E+00	mg/kg	7.09E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	8.51E-07	1.81E-05	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	5.72E-08	mg/kg-day	--	--	--	1.46E-06	mg/kg-day	2.00E-03	mg/kg-day	7.28E-04
				Beta-BHC	2.20E-03	mg/kg	5.53E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	8.29E-10	1.41E-08	mg/kg-day	2.00E-04	mg/kg-day	7.03E-05
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.33E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	3.99E-09	3.39E-05	mg/kg-day	2.00E-02	mg/kg-day	1.69E-03
				Cadmium	8.65E+00	mg/kg	2.17E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	8.25E-07	5.53E-05	mg/kg-day	5.00E-04	mg/kg-day	1.11E-01
				Carbon disulfide	2.40E-04	mg/kg	6.03E-11	mg/kg-day	--	--	--	1.53E-09	mg/kg-day	1.00E-01	mg/kg-day	1.53E-08
				Chlorobenzene	1.10E-01	mg/kg	2.76E-08	mg/kg-day	--	--	--	7.03E-07	mg/kg-day	2.00E-02	mg/kg-day	3.52E-05
				Chromium	1.00E+02	mg/kg	2.51E-05	mg/kg-day	--	--	--	6.39E-04	mg/kg-day	1.50E+00	mg/kg-day	4.26E-04
				Chrysene	4.80E+00	mg/kg	1.20E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.45E-07	3.07E-05	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.87E-06	mg/kg-day	--	--	--	4.76E-05	mg/kg-day	2.00E-02	mg/kg-day	2.38E-03
				Copper	6.01E+01	mg/kg	1.51E-05	mg/kg-day	--	--	--	3.84E-04	mg/kg-day	4.00E-02	mg/kg-day	9.60E-03
				Delta-BHC	8.40E-03	mg/kg	2.11E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.16E-09	5.37E-08	mg/kg-day	2.00E-04	mg/kg-day	2.68E-04
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	6.92E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.84E-07	1.76E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.26E-06	mg/kg-day	--	--	--	8.31E-05	mg/kg-day	2.00E-03	mg/kg-day	4.16E-02
				Dieldrin	4.89E-02	mg/kg	1.23E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.97E-07	3.13E-07	mg/kg-day	5.00E-05	mg/kg-day	6.26E-03
Dimethylphthalate	3.80E-02	mg/kg	9.54E-09	mg/kg-day	--	--	--	2.43E-07	mg/kg-day	8.00E-01	mg/kg-day	3.04E-07				



TABLE H3-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitroaniline	6.20E-01	mg/kg	1.75E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	3.68E-10	4.44E-07	mg/kg-day	3.00E-03	mg/kg-day	1.48E-04
				4-Nitrophenol	4.20E-01	mg/kg	1.19E-08	mg/kg-day	2.10E-02	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	3.47E+00	mg/kg	1.28E-07	mg/kg-day	--	--	--	3.23E-06	mg/kg-day	6.00E-02	mg/kg-day	5.39E-05
				Acenaphthylene	8.98E-02	mg/kg	2.53E-10	mg/kg-day	--	--	--	6.41E-09	mg/kg-day	6.00E-02	mg/kg-day	1.07E-07
				Aldrin	1.30E-02	mg/kg	3.67E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.25E-09	9.31E-09	mg/kg-day	3.00E-05	mg/kg-day	3.10E-04
				alpha-BHC	7.30E-04	mg/kg	2.06E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.57E-12	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07
				alpha-Chlordane	6.98E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	9.05E+03	mg/kg	2.56E-06	mg/kg-day	--	--	--	6.48E-05	mg/kg-day	1.00E+00	mg/kg-day	6.48E-05
				Anthracene	9.13E-01	mg/kg	3.36E-08	mg/kg-day	--	--	--	8.50E-07	mg/kg-day	3.00E-01	mg/kg-day	2.83E-06
				Antimony	2.72E+00	mg/kg	7.70E-10	mg/kg-day	--	--	--	1.95E-08	mg/kg-day	4.00E-04	mg/kg-day	4.88E-05
				Aroclor-1248	1.20E+00	mg/kg	4.75E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.50E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02
				Aroclor-1254	4.38E-01	mg/kg	1.73E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.46E-08	4.39E-07	mg/kg-day	2.00E-05	mg/kg-day	2.19E-02
				Aroclor-1260	4.88E-01	mg/kg	1.93E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.86E-08	4.89E-07	mg/kg-day	2.00E-05	mg/kg-day	2.45E-02
				Aroclor-1268	2.72E-02	mg/kg	1.08E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.15E-09	2.72E-08	mg/kg-day	2.00E-05	mg/kg-day	1.36E-03
				Arsenic	9.53E+00	mg/kg	8.08E-08	mg/kg-day	9.45E+00	(mg/kg-day)-1	7.64E-07	2.05E-06	mg/kg-day	3.00E-04	mg/kg-day	6.83E-03
				Barium	6.94E+01	mg/kg	1.96E-08	mg/kg-day	--	--	--	4.97E-07	mg/kg-day	7.00E-02	mg/kg-day	7.10E-06
				Benzo(a)anthracene	4.21E+00	mg/kg	1.55E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.86E-07	3.92E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	5.17E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	6.20E-07	1.31E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	8.72E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.05E-07	2.21E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	2.38E-08	mg/kg-day	--	--	--	6.03E-07	mg/kg-day	3.00E-02	mg/kg-day	2.01E-05
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.04E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.25E-07	2.63E-06	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	6.44E-11	mg/kg-day	--	--	--	1.63E-09	mg/kg-day	2.00E-03	mg/kg-day	8.15E-07
				Beta-BHC	2.20E-03	mg/kg	6.22E-12	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.33E-12	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	1.50E-08	mg/kg-day	3.00E-03	(mg/kg-day)-1	4.49E-11	3.79E-07	mg/kg-day	2.00E-02	mg/kg-day	1.90E-05
				Cadmium	8.65E+00	mg/kg	2.44E-09	mg/kg-day	3.80E-01	(mg/kg-day)-1	9.29E-10	6.19E-08	mg/kg-day	5.00E-04	mg/kg-day	1.24E-04
				Carbon disulfide	2.40E-04	mg/kg	1.70E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09
				Chlorobenzene	1.10E-01	mg/kg	3.11E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07
				Chromium	1.00E+02	mg/kg	2.83E-08	mg/kg-day	--	--	--	7.16E-07	mg/kg-day	1.50E+00	mg/kg-day	4.77E-07
				Chrysene	4.80E+00	mg/kg	1.76E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.11E-08	4.46E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	2.10E-09	mg/kg-day	--	--	--	5.33E-08	mg/kg-day	2.00E-02	mg/kg-day	2.66E-06
				Copper	6.01E+01	mg/kg	1.70E-08	mg/kg-day	--	--	--	4.30E-07	mg/kg-day	4.00E-02	mg/kg-day	1.08E-05
				Delta-BHC	8.40E-03	mg/kg	1.19E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.78E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.50E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	1.01E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.15E-08	2.57E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.67E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04
				Dieldrin	4.89E-02	mg/kg	1.38E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.21E-09	3.50E-09	mg/kg-day	5.00E-05	mg/kg-day	7.01E-05
				Dimethylphthalate	3.80E-02	mg/kg	1.07E-10	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	8.00E-01	mg/kg-day	3.40E-09
				di-n-Butylphthalate	2.30E+00	mg/kg	6.50E-09	mg/kg-day	--	--	--	1.65E-07	mg/kg-day	2.00E-01	mg/kg-day	8.23E-07
				Endosulfan I	2.30E-02	mg/kg	3.25E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06
				Endosulfan II	2.34E-02	mg/kg	3.30E-10	mg/kg-day	--	--	--	8.37E-09	mg/kg-day	6.00E-03	mg/kg-day	1.39E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.08E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-06
				Endrin aldehyde	8.30E-02	mg/kg	8.90E-10	mg/kg-day	--	--	--	2.26E-08	mg/kg-day	3.00E-04	mg/kg-day	7.52E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.23E+01	mg/kg	8.18E-07	mg/kg-day	--	--	--	2.07E-05	mg/kg-day	4.00E-02	mg/kg-day	5.18E-04
				Fluorene	2.53E+00	mg/kg	9.29E-08	mg/kg-day	--	--	--	2.35E-06	mg/kg-day	4.00E-02	mg/kg-day	5.88E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.94E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.23E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06
				gamma-Chlordane	1.27E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.95E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.00E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07
				Heptachlor Epoxide	9.86E-03	mg/kg	2.79E-11	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.53E-10	7.06E-10	mg/kg-day	1.30E+00	mg/kg-day	5.43E-05
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.83E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.19E-08	4.63E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	1.04E-05	mg/kg-day	--	--	--	2.63E-04	mg/kg-day	3.00E-01	mg/kg-day	8.77E-04
				Isophorone	2.00E-01	mg/kg	5.65E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.37E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07

TABLE H3-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Lead	2.39E+03	mg/kg	6.75E-07	mg/kg-day	--	--	--	--	1.71E-05	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	8.60E-08	mg/kg-day	--	--	--	--	2.18E-06	mg/kg-day	2.40E-02	mg/kg-day	9.08E-05
				Mercury	2.65E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Methoxychlor	1.20E-01	mg/kg	3.39E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06
				Methylene chloride	2.40E-03	mg/kg	6.78E-12	mg/kg-day	1.40E-02	(mg/kg-day)-1	9.50E-14	--	1.72E-10	mg/kg-day	6.00E-02	mg/kg-day	2.86E-09
				Molybdenum	2.18E+00	mg/kg	6.18E-10	mg/kg-day	--	--	--	--	1.56E-08	mg/kg-day	5.00E-03	mg/kg-day	3.12E-06
				Naphthalene	1.30E+01	mg/kg	4.78E-07	mg/kg-day	--	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04
				Nickel	3.89E+01	mg/kg	1.10E-08	mg/kg-day	--	--	--	--	2.79E-07	mg/kg-day	2.00E-02	mg/kg-day	1.39E-05
				Phenanthrene	1.17E+01	mg/kg	3.30E-08	mg/kg-day	--	--	--	--	8.36E-07	mg/kg-day	3.00E-01	mg/kg-day	2.79E-06
				Phenol	5.80E-01	mg/kg	1.64E-08	mg/kg-day	--	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Pyrene	2.03E+01	mg/kg	7.47E-07	mg/kg-day	--	--	--	--	1.89E-05	mg/kg-day	3.00E-02	mg/kg-day	6.31E-04
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				Selenium	2.84E-01	mg/kg	8.02E-11	mg/kg-day	--	--	--	--	2.03E-09	mg/kg-day	5.00E-03	mg/kg-day	4.06E-07
				Silver	9.80E-01	mg/kg	2.77E-10	mg/kg-day	--	--	--	--	7.02E-09	mg/kg-day	5.00E-03	mg/kg-day	1.40E-06
				Technical Chlordane	5.41E-01	mg/kg	6.11E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	7.95E-09	--	1.55E-07	mg/kg-day	5.00E-04	mg/kg-day	3.10E-04
				Thallium	4.83E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--
				Toluene	4.30E-04	mg/kg	1.22E-12	mg/kg-day	--	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.85E-10
				Vanadium	3.37E+01	mg/kg	9.52E-09	mg/kg-day	--	--	--	--	2.41E-07	mg/kg-day	1.00E-03	mg/kg-day	2.41E-04
				Zinc	3.32E+02	mg/kg	9.38E-08	mg/kg-day	--	--	--	--	2.38E-06	mg/kg-day	3.00E-01	mg/kg-day	7.92E-06
Exposure Point Total										2.07E-06					1.20E-01		
Exposure Route Total										3.47E-05					2.49E+00		
Homegrown Produce	Ingestion			1,2,3-Trichlorobenzene	1.50E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-02	mg/kg-day	--
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--
				1,2-Dichlorobenzene	2.60E+01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	9.00E-02	mg/kg-day	--
				1,2-Dichloropropane	3.60E-03	mg/kg	--	mg/kg-day	3.60E-02	(mg/kg-day)-1	--	--	--	mg/kg-day	1.14E-03	mg/kg-day	--
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--
				1,3-Dichlorobenzene	1.10E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--
				2,4-Dimethylphenol	2.10E-01	mg/kg	5.01E-06	mg/kg-day	--	--	--	--	3.50E-05	mg/kg-day	2.00E-02	mg/kg-day	1.75E-03
				2-Methylphenol	8.10E-02	mg/kg	4.60E-06	mg/kg-day	--	--	--	--	3.21E-05	mg/kg-day	4.00E-03	mg/kg-day	8.02E-03
				2-Methylnaphthalene	1.45E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	5.00E-02	mg/kg-day	--
				4,4'-DDD	1.20E-03	mg/kg	4.88E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.17E-11	3.40E-10	mg/kg-day	5.00E-04	mg/kg-day	6.81E-07	
				4,4'-DDE	7.50E-02	mg/kg	2.21E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.51E-10	1.54E-08	mg/kg-day	5.00E-04	mg/kg-day	3.08E-05	
				4,4'-DDT	4.20E-02	mg/kg	5.33E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.81E-09	3.72E-08	mg/kg-day	5.00E-04	mg/kg-day	7.44E-05	
				4-Methylphenol	2.70E-01	mg/kg	1.58E-05	mg/kg-day	--	--	--	1.10E-04	mg/kg-day	5.00E-03	mg/kg-day	2.20E-02	
				4-Nitroaniline	6.20E-01	mg/kg	2.48E-05	mg/kg-day	2.10E-02	(mg/kg-day)-1	5.20E-07	1.73E-04	mg/kg-day	3.00E-03	mg/kg-day	5.76E-02	
				4-Nitrophenol	4.20E-01	mg/kg	2.52E-05	mg/kg-day	--	--	--	1.76E-04	mg/kg-day	5.00E-04	mg/kg-day	3.51E-01	
				Acenaphthene	3.47E+00	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--
				Acenaphthylene	8.96E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	6.00E-02	mg/kg-day	--
				Aldrin	1.30E-02	mg/kg	6.65E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.47E-08	6.03E-09	mg/kg-day	3.00E-05	mg/kg-day	2.01E-04	
alpha-BHC	7.30E-04	mg/kg	1.05E-08	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.83E-08	7.31E-08	mg/kg-day	5.00E-04	mg/kg-day	1.46E-04					
alpha-Chlordane	6.98E-03	mg/kg	1.02E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.33E-09	7.11E-09	mg/kg-day	5.00E-04	mg/kg-day	1.42E-05					
Aluminum	9.05E+03	mg/kg	1.80E-04	mg/kg-day	--	--	--	1.26E-03	mg/kg-day	1.00E+00	mg/kg-day	1.26E-03					
Anthracene	9.13E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Antimony	2.72E+00	mg/kg	2.50E-06	mg/kg-day	--	--	--	1.75E-05	mg/kg-day	4.00E-04	mg/kg-day	4.36E-02					
Aroclor-1248	1.20E+00	mg/kg	4.89E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.79E-08	3.41E-07	mg/kg-day	2.00E-05	mg/kg-day	1.71E-02					
Aroclor-1254	4.38E-01	mg/kg	2.39E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.78E-07	1.67E-06	mg/kg-day	2.00E-05	mg/kg-day	8.33E-02					
Aroclor-1260	4.88E-01	mg/kg	9.53E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.91E-08	6.65E-08	mg/kg-day	2.00E-05	mg/kg-day	3.32E-03					
Aroclor-1268	2.72E-02	mg/kg	1.48E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.97E-08	1.03E-07	mg/kg-day	2.00E-05	mg/kg-day	5.17E-03					

TABLE H3-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Arsenic	9.53E+00	mg/kg	1.75E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.65E-05	1.22E-05	mg/kg-day	3.00E-04	mg/kg-day	4.07E-02
				Barium	6.94E+01	mg/kg	3.19E-05	mg/kg-day	--	--	--	2.22E-04	mg/kg-day	7.00E-02	mg/kg-day	3.18E-03
				Benzo(a)anthracene	4.21E+00	mg/kg	3.31E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.97E-08	2.31E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.41E+00	mg/kg	6.27E-09	mg/kg-day	1.20E+01	(mg/kg-day)-1	7.52E-08	4.37E-08	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.37E+00	mg/kg	1.06E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.27E-07	7.38E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	6.48E-01	mg/kg	2.20E-08	mg/kg-day	--	--	--	1.54E-07	mg/kg-day	3.00E-02	mg/kg-day	5.12E-06
				Benzo(k)fluoranthene	2.82E+00	mg/kg	1.26E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.51E-07	8.78E-07	mg/kg-day	--	--	--
				Beryllium	2.28E-01	mg/kg	1.05E-08	mg/kg-day	--	--	--	7.30E-08	mg/kg-day	2.00E-03	mg/kg-day	3.65E-05
				Beta-BHC	2.20E-03	mg/kg	3.16E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.74E-08	2.20E-07	mg/kg-day	2.00E-04	mg/kg-day	1.10E-03
				bis(2-ethylhexyl)phthalate	5.30E+00	mg/kg	5.61E-05	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.68E-07	3.91E-04	mg/kg-day	2.00E-02	mg/kg-day	1.95E-02
				Cadmium	8.65E+00	mg/kg	3.97E-05	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.51E-05	2.77E-04	mg/kg-day	5.00E-04	mg/kg-day	5.54E-01
				Carbon disulfide	2.40E-04	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--
				Chlorobenzene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--
				Chromium	1.00E+02	mg/kg	1.38E-05	mg/kg-day	--	--	--	9.61E-05	mg/kg-day	1.50E+00	mg/kg-day	6.40E-05
				Chrysene	4.80E+00	mg/kg	2.64E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.17E-08	1.84E-06	mg/kg-day	--	--	--
				Cobalt	7.44E+00	mg/kg	1.60E-06	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	2.00E-02	mg/kg-day	5.56E-04
				Copper	6.01E+01	mg/kg	4.60E-04	mg/kg-day	--	--	--	3.21E-03	mg/kg-day	4.00E-02	mg/kg-day	8.02E-02
				Delta-BHC	8.40E-03	mg/kg	9.83E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.48E-09	6.86E-09	mg/kg-day	2.00E-04	mg/kg-day	3.43E-05
				Dibenzo(a,h)anthracene	2.76E-01	mg/kg	7.59E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.11E-08	5.30E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-03	mg/kg-day	--
				Dieldrin	4.89E-02	mg/kg	7.94E-07	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.27E-05	5.54E-06	mg/kg-day	5.00E-05	mg/kg-day	1.11E-01
				Dimethylphthalate	3.80E-02	mg/kg	1.73E-06	mg/kg-day	--	--	--	1.21E-05	mg/kg-day	8.00E-01	mg/kg-day	1.51E-05
				di-n-Butylphthalate	2.30E+00	mg/kg	1.47E-07	mg/kg-day	--	--	--	1.02E-06	mg/kg-day	2.00E-01	mg/kg-day	5.11E-06
				Endosulfan I	2.30E-02	mg/kg	3.16E-07	mg/kg-day	--	--	--	2.20E-06	mg/kg-day	6.00E-03	mg/kg-day	3.67E-04
				Endosulfan II	2.34E-02	mg/kg	3.07E-07	mg/kg-day	--	--	--	2.14E-06	mg/kg-day	6.00E-03	mg/kg-day	3.57E-04
				Endosulfan Sulfate	4.30E-02	mg/kg	5.52E-07	mg/kg-day	--	--	--	3.85E-06	mg/kg-day	6.00E-03	mg/kg-day	6.42E-04
				Endrin aldehyde	6.30E-02	mg/kg	3.20E-09	mg/kg-day	--	--	--	2.23E-08	mg/kg-day	3.00E-04	mg/kg-day	7.44E-05
				Endrin Ketone	1.00E-02	mg/kg	5.08E-10	mg/kg-day	--	--	--	3.54E-09	mg/kg-day	3.00E-04	mg/kg-day	1.18E-05
				Fluoranthene	2.23E+01	mg/kg	1.84E-06	mg/kg-day	--	--	--	1.28E-05	mg/kg-day	4.00E-02	mg/kg-day	3.21E-04
				Fluorene	2.53E+00	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.31E-07	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.45E-07	9.17E-07	mg/kg-day	3.00E-04	mg/kg-day	3.06E-03
				gamma-Chlordane	1.27E-02	mg/kg	1.86E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.41E-09	1.29E-08	mg/kg-day	5.00E-04	mg/kg-day	2.59E-05
				Heptachlor	6.80E-03	mg/kg	7.50E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.07E-09	5.23E-09	mg/kg-day	5.00E-04	mg/kg-day	1.05E-05
				Heptachlor Epoxide	9.86E-03	mg/kg	3.48E-07	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.82E-06	2.43E-06	mg/kg-day	1.30E-05	mg/kg-day	1.87E-01
				Indeno(1,2,3-cd)pyrene	4.97E-01	mg/kg	1.66E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.99E-08	1.16E-07	mg/kg-day	--	--	--
				Iron	3.68E+04	mg/kg	1.12E-03	mg/kg-day	--	--	--	7.81E-03	mg/kg-day	3.00E-01	mg/kg-day	2.60E-02
				Isophorone	2.00E-01	mg/kg	--	mg/kg-day	9.50E-04	(mg/kg-day)-1	--	--	mg/kg-day	2.00E-01	mg/kg-day	--
				Lead	2.39E+03	mg/kg	6.59E-04	mg/kg-day	--	--	--	4.59E-03	mg/kg-day	--	--	--
				Manganese	3.04E+02	mg/kg	4.66E-04	mg/kg-day	--	--	--	3.25E-03	mg/kg-day	2.40E-02	mg/kg-day	1.35E-01
				Mercury	2.65E-01	mg/kg	1.62E-06	mg/kg-day	--	--	--	1.13E-05	mg/kg-day	3.00E-04	mg/kg-day	3.78E-02
				Methoxychlor	1.20E-01	mg/kg	3.18E-09	mg/kg-day	--	--	--	2.22E-08	mg/kg-day	5.00E-03	mg/kg-day	4.44E-06
				Methylene chloride	2.40E-03	mg/kg	--	mg/kg-day	1.40E-02	(mg/kg-day)-1	--	--	mg/kg-day	6.00E-02	mg/kg-day	--
Molybdenum	2.18E+00	mg/kg	4.00E-06	mg/kg-day	--	--	--	2.79E-05	mg/kg-day	5.00E-03	mg/kg-day	5.59E-03				
Naphthalene	1.30E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	2.00E-02	mg/kg-day	--				
Nickel	3.89E+01	mg/kg	7.15E-05	mg/kg-day	--	--	--	4.99E-04	mg/kg-day	2.00E-02	mg/kg-day	2.50E-02				
Phenanthrene	1.17E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-01	mg/kg-day	--				
Phenol	5.80E-01	mg/kg	8.76E-05	mg/kg-day	--	--	--	6.11E-04	mg/kg-day	3.00E-01	mg/kg-day	2.04E-03				
p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--				
Pyrene	2.03E+01	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--				
Selenium	2.84E-01	mg/kg	2.17E-07	mg/kg-day	--	--	--	1.51E-06	mg/kg-day	5.00E-03	mg/kg-day	3.03E-04				

TABLE H3-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Homegrown Produce (continued)	Ingestion (continued)	Silver	9.80E-01	mg/kg	3.00E-06	mg/kg-day	--	--	--	2.09E-05	mg/kg-day	5.00E-03	mg/kg-day	4.19E-03
				Technical Chlordane	5.41E-01	mg/kg	7.90E-08	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	1.03E-07	5.51E-07	mg/kg-day	5.00E-04	mg/kg-day	1.10E-03
				Thallium	4.83E-01	mg/kg	5.91E-09	mg/kg-day	--	--	--	4.12E-08	mg/kg-day	8.00E-05	mg/kg-day	5.15E-04
				Toluene	4.30E-04	mg/kg	--	--	--	--	--	--	mg/kg-day	8.00E-02	mg/kg-day	--
				Vanadium	3.37E+01	mg/kg	3.09E-06	mg/kg-day	--	--	--	2.16E-05	mg/kg-day	1.00E-03	mg/kg-day	2.16E-02
				Zinc	3.32E+02	mg/kg	9.14E-03	mg/kg-day	--	--	--	6.38E-02	mg/kg-day	3.00E-01	mg/kg-day	2.13E-01
				Exposure Route Total							4.84E-05				2.07E+00	
				Exposure Point Total							4.84E-05				2.07E+00	
				Exposure Medium Total							8.31E-05				4.56E+00	
	Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	5.60E-12	mg/kg-day	--	--	--	8.05E-11	mg/kg-day	2.00E-02	mg/kg-day	4.03E-09
				2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	2.16E-12	mg/kg-day	--	--	--	3.11E-11	mg/kg-day	--	--	--
				4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	3.20E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	7.68E-15	4.60E-13	mg/kg-day	5.00E-04	mg/kg-day	9.21E-10
				4,4'-DDT	3.18E-11	mg/m <sup>3</sup>	1.12E-12	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	3.81E-13	1.61E-11	mg/kg-day	5.00E-04	mg/kg-day	3.22E-08
				4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	7.20E-12	mg/kg-day	--	--	--	1.04E-10	mg/kg-day	5.00E-03	mg/kg-day	2.07E-08
				4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	1.65E-11	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	3.47E-13	2.38E-10	mg/kg-day	1.00E-03	mg/kg-day	2.38E-07
				4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	1.12E-11	mg/kg-day	--	--	--	1.61E-10	mg/kg-day	5.70E-04	mg/kg-day	2.83E-07
				Aluminum	6.86E-06	mg/m <sup>3</sup>	2.41E-07	mg/kg-day	--	--	--	3.47E-06	mg/kg-day	1.43E-03	mg/kg-day	2.43E-03
				Antimony	2.06E-09	mg/m <sup>3</sup>	7.26E-11	mg/kg-day	--	--	--	1.04E-09	mg/kg-day	--	--	--
				Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	3.20E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.40E-11	4.60E-10	mg/kg-day	2.00E-05	mg/kg-day	2.30E-05
				Aroclor-1254	3.32E-10	mg/m <sup>3</sup>	1.17E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.33E-11	1.68E-10	mg/kg-day	2.00E-05	mg/kg-day	8.39E-06
				Aroclor-1260	3.70E-10	mg/m <sup>3</sup>	1.30E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.60E-11	1.87E-10	mg/kg-day	2.00E-05	mg/kg-day	9.36E-06
				Aroclor-1268	2.06E-11	mg/m <sup>3</sup>	7.24E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.45E-12	1.04E-11	mg/kg-day	2.00E-05	mg/kg-day	5.21E-07
				Arsenic	7.22E-09	mg/m <sup>3</sup>	2.54E-10	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	3.05E-09	3.66E-09	mg/kg-day	8.60E-06	mg/kg-day	4.25E-04
				Barium	5.26E-08	mg/m <sup>3</sup>	1.85E-09	mg/kg-day	--	--	--	2.66E-08	mg/kg-day	1.40E-04	mg/kg-day	1.90E-04
				Benzo(a)anthracene	3.19E-09	mg/m <sup>3</sup>	1.12E-10	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	4.38E-11	1.62E-09	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.07E-09	mg/m <sup>3</sup>	3.75E-11	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	1.46E-10	5.39E-10	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	4.91E-10	mg/m <sup>3</sup>	1.73E-11	mg/kg-day	--	--	--	2.48E-10	mg/kg-day	3.00E-02	mg/kg-day	8.28E-09
				Benzo(k)fluoranthene	2.14E-09	mg/m <sup>3</sup>	7.53E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	2.94E-11	1.08E-09	mg/kg-day	--	--	--
				Beryllium	1.73E-10	mg/m <sup>3</sup>	6.07E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	5.10E-11	8.74E-11	mg/kg-day	5.71E-06	mg/kg-day	1.53E-05
				Beta-BHC	1.67E-12	mg/m <sup>3</sup>	5.86E-14	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	8.79E-14	8.44E-13	mg/kg-day	2.00E-04	mg/kg-day	4.22E-09
				bis(2-ethylhexyl)phthalate	4.01E-09	mg/m <sup>3</sup>	1.41E-10	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	1.19E-12	2.03E-09	mg/kg-day	2.00E-02	mg/kg-day	1.02E-07
				Cadmium	6.55E-09	mg/m <sup>3</sup>	2.30E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	3.46E-09	3.32E-09	mg/kg-day	5.71E-06	mg/kg-day	5.80E-04
				Chromium	7.57E-08	mg/m <sup>3</sup>	2.66E-09	mg/kg-day	--	--	--	3.83E-08	mg/kg-day	--	--	--
				Cobalt	5.64E-09	mg/m <sup>3</sup>	1.98E-10	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	1.94E-09	2.86E-09	mg/kg-day	5.71E-06	mg/kg-day	5.00E-04
				Copper	4.55E-08	mg/m <sup>3</sup>	1.60E-09	mg/kg-day	--	--	--	2.30E-08	mg/kg-day	--	--	--
				Dibenzo(a,h)anthracene	2.09E-10	mg/m <sup>3</sup>	7.35E-12	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	3.01E-11	1.06E-10	mg/kg-day	--	--	--
				Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	1.45E-11	mg/kg-day	8.00E-01	mg/kg-day	1.82E-11
				di-n-Butylphthalate	1.74E-09	mg/m <sup>3</sup>	6.13E-11	mg/kg-day	--	--	--	8.82E-10	mg/kg-day	1.00E-01	mg/kg-day	8.82E-09
				Endrin aldehyde	4.77E-11	mg/m <sup>3</sup>	1.68E-12	mg/kg-day	--	--	--	2.42E-11	mg/kg-day	3.00E-04	mg/kg-day	8.05E-08
				Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	2.67E-13	mg/kg-day	--	--	--	3.84E-12	mg/kg-day	3.00E-04	mg/kg-day	1.28E-08
				Heptachlor Epoxide	7.47E-12	mg/m <sup>3</sup>	2.63E-13	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	1.44E-12	3.78E-12	mg/kg-day	1.30E-05	mg/kg-day	2.91E-07
				Indeno(1,2,3-cd)pyrene	3.77E-10	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	5.17E-12	1.91E-10	mg/kg-day	--	--	--
				Iron	2.79E-05	mg/m <sup>3</sup>	9.80E-07	mg/kg-day	--	--	--	1.41E-05	mg/kg-day	--	--	--
				Isophorone	1.52E-10	mg/m <sup>3</sup>	5.33E-12	mg/kg-day	--	--	--	7.67E-11	mg/kg-day	--	--	--
				Lead	1.81E-06	mg/m <sup>3</sup>	6.37E-08	mg/kg-day	--	--	--	9.17E-07	mg/kg-day	--	--	--
				Manganese	2.31E-07	mg/m <sup>3</sup>	8.11E-09	mg/kg-day	--	--	--	1.17E-07	mg/kg-day	1.43E-05	mg/kg-day	8.17E-03
				Mercury	2.01E-10	mg/m <sup>3</sup>	7.07E-12	mg/kg-day	--	--	--	1.02E-10	mg/kg-day	8.60E-05	mg/kg-day	1.18E-06
				Nickel	2.95E-08	mg/m <sup>3</sup>	1.04E-09	mg/kg-day	9.10E-01	(mg/kg-day) <sup>-1</sup>	9.44E-10	1.49E-08	mg/kg-day	1.49E-05	mg/kg-day	1.07E-03
				Phenol	4.39E-10	mg/m <sup>3</sup>	1.55E-11	mg/kg-day	--	--	--	2.22E-10	mg/kg-day	5.71E-02	mg/kg-day	3.89E-09
				Selenium	2.15E-10	mg/m <sup>3</sup>	7.56E-12	mg/kg-day	--	--	--	1.09E-10	mg/kg-day	1.09E-03	mg/kg-day	1.91E-08
				Silver	7.42E-10	mg/m <sup>3</sup>	2.61E-11	mg/kg-day	--	--	--	3.76E-10	mg/kg-day	--	--	--

TABLE H3-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient		
							Value	Units	Value	Units		Value	Units	Value	Units			
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Thallium	3.66E-10	mg/m <sup>3</sup>	1.29E-11	mg/kg-day	--	--	--	1.85E-10	mg/kg-day	--	--	--		
			Vanadium	2.55E-08	mg/m <sup>3</sup>	8.98E-10	mg/kg-day	--	--	--	1.29E-08	mg/kg-day	--	--	--	--		
			Zinc	2.51E-07	mg/m <sup>3</sup>	8.84E-09	mg/kg-day	--	--	--	1.27E-07	mg/kg-day	--	--	--			
			<b>Exposure Route Total</b>															
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	3.67E-06	mg/kg-day	--	--	--	5.29E-05	mg/kg-day	1.10E-03	mg/kg-day	4.81E-02		
				1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	1.25E-05	mg/kg-day	--	--	--	1.80E-04	mg/kg-day	1.10E-03	mg/kg-day	1.63E-01		
				1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	4.12E-06	mg/kg-day	--	--	--	5.93E-05	mg/kg-day	1.70E-03	mg/kg-day	3.49E-02		
				1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.87E-04	mg/kg-day	--	--	--	2.70E-03	mg/kg-day	5.70E-02	mg/kg-day	4.73E-02		
				1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	1.01E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	3.62E-09	1.45E-06	mg/kg-day	1.14E-03	mg/kg-day	1.27E-03		
				1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	1.29E-06	mg/kg-day	--	--	--	1.85E-05	mg/kg-day	1.70E-03	mg/kg-day	1.09E-02		
				1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	5.73E-06	mg/kg-day	--	--	--	8.25E-05	mg/kg-day	3.00E-02	mg/kg-day	2.75E-03		
				1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	5.50E-05	mg/kg-day	4.00E-02	(mg/kg-day)-1	2.20E-06	7.91E-04	mg/kg-day	2.30E-01	mg/kg-day	3.44E-03		
				2-Methylnaphthalene	6.41E-05	mg/m <sup>3</sup>	2.26E-06	mg/kg-day	--	--	--	3.25E-05	mg/kg-day	5.00E-02	mg/kg-day	6.49E-04		
				4,4'-DDE	8.84E-09	mg/m <sup>3</sup>	3.11E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.06E-10	4.47E-09	mg/kg-day	5.00E-04	mg/kg-day	8.95E-06		
				Acenaphthene	4.77E-05	mg/m <sup>3</sup>	1.68E-06	mg/kg-day	--	--	--	2.41E-05	mg/kg-day	6.00E-02	mg/kg-day	4.02E-04		
				Acenaphthylene	1.23E-06	mg/m <sup>3</sup>	4.33E-08	mg/kg-day	--	--	--	6.23E-07	mg/kg-day	6.00E-02	mg/kg-day	1.04E-05		
				Aldrin	5.63E-09	mg/m <sup>3</sup>	1.98E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.37E-09	2.85E-09	mg/kg-day	3.00E-05	mg/kg-day	9.51E-05		
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	1.28E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.46E-10	1.84E-09	mg/kg-day	5.00E-04	mg/kg-day	3.68E-06		
				alpha-Chlordane	6.91E-09	mg/m <sup>3</sup>	2.43E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.92E-10	3.50E-09	mg/kg-day	2.00E-04	mg/kg-day	1.75E-05		
				Anthracene	1.25E-05	mg/m <sup>3</sup>	4.41E-07	mg/kg-day	--	--	--	6.35E-06	mg/kg-day	3.00E-01	mg/kg-day	2.12E-05		
				Benzo(b)fluoranthene	1.53E-06	mg/m <sup>3</sup>	5.40E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	2.10E-08	7.77E-07	mg/kg-day	--	--	--		
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.59E-08	mg/kg-day	--	--	--	2.29E-07	mg/kg-day	2.00E-01	mg/kg-day	1.15E-06		
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.82E-06	mg/kg-day	--	--	--	2.62E-05	mg/kg-day	2.86E-01	mg/kg-day	9.17E-05		
				Chrysene	5.27E-06	mg/m <sup>3</sup>	1.85E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	7.23E-09	2.67E-06	mg/kg-day	--	--	--		
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	1.47E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.21E-09	2.12E-08	mg/kg-day	2.00E-04	mg/kg-day	1.06E-04		
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.58E-06	mg/kg-day	--	--	--	2.27E-05	mg/kg-day	2.00E-03	mg/kg-day	1.14E-02		
				Dieldrin	6.58E-08	mg/m <sup>3</sup>	2.32E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	3.70E-08	3.33E-08	mg/kg-day	5.00E-05	mg/kg-day	6.66E-04		
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	2.83E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	6.00E-03	mg/kg-day	6.80E-06		
				Endosulfan II	8.19E-08	mg/m <sup>3</sup>	2.88E-09	mg/kg-day	--	--	--	4.14E-08	mg/kg-day	6.00E-03	mg/kg-day	6.91E-06		
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	5.30E-09	mg/kg-day	--	--	--	7.63E-08	mg/kg-day	6.00E-03	mg/kg-day	1.27E-05		
				Fluoranthene	1.44E-05	mg/m <sup>3</sup>	5.06E-07	mg/kg-day	--	--	--	7.28E-06	mg/kg-day	4.00E-02	mg/kg-day	1.82E-04		
				Fluorene	1.48E-05	mg/m <sup>3</sup>	5.20E-07	mg/kg-day	--	--	--	7.49E-06	mg/kg-day	4.00E-02	mg/kg-day	1.87E-04		
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	5.61E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	6.17E-10	8.07E-09	mg/kg-day	3.00E-04	mg/kg-day	2.69E-05		
				gamma-Chlordane	1.26E-08	mg/m <sup>3</sup>	4.42E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.31E-10	6.36E-09	mg/kg-day	2.00E-04	mg/kg-day	3.18E-05		
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	1.19E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.87E-08	1.71E-07	mg/kg-day	5.00E-04	mg/kg-day	3.42E-04		
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	3.04E-09	mg/kg-day	--	--	--	4.37E-08	mg/kg-day	5.00E-03	mg/kg-day	8.74E-06		
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	2.46E-05	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.95E-06	3.54E-04	mg/kg-day	8.57E-04	mg/kg-day	4.13E-01		
				Phenanthrene	1.60E-04	mg/m <sup>3</sup>	5.64E-06	mg/kg-day	--	--	--	8.12E-05	mg/kg-day	3.00E-01	mg/kg-day	2.71E-04		
				p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	6.74E-06	mg/kg-day	--	--	--	9.70E-05	mg/kg-day	1.10E-01	mg/kg-day	8.82E-04		
				Pyrene	1.56E-05	mg/m <sup>3</sup>	5.47E-07	mg/kg-day	--	--	--	7.88E-06	mg/kg-day	3.00E-02	mg/kg-day	2.63E-04		
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	9.88E-07	mg/kg-day	--	--	--	1.42E-05	mg/kg-day	4.00E-02	mg/kg-day	3.55E-04		
				Technical Chlordane	5.35E-07	mg/m <sup>3</sup>	1.88E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.26E-08	2.71E-07	mg/kg-day	2.00E-04	mg/kg-day	1.36E-03		
				Toluene	3.12E-07	mg/m <sup>3</sup>	1.10E-08	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	1.43E+00	mg/kg-day	1.11E-07		
			<b>Exposure Route Total</b>															
			<b>Exposure Point Total</b>															
			Inhalation (Volatiles)	1,2,3-Trichlorobenzene	8.81E+00	(a) ug/m <sup>3</sup>	3.10E-04	mg/kg-day	--	--	--	4.46E-03	mg/kg-day	1.10E-03	mg/kg-day	4.05E+00		
				1,2,4-Trichlorobenzene	2.99E+01	(a) ug/m <sup>3</sup>	1.05E-03	mg/kg-day	--	--	--	1.52E-02	mg/kg-day	1.10E-03	mg/kg-day	1.38E+01		
				1,2,4-Trimethylbenzene	2.94E+00	(a) ug/m <sup>3</sup>	1.03E-04	mg/kg-day	--	--	--	1.49E-03	mg/kg-day	1.70E-03	mg/kg-day	8.74E-01		
				1,2-Dichlorobenzene	1.53E+02	(a) ug/m <sup>3</sup>	5.37E-03	mg/kg-day	--	--	--	7.73E-02	mg/kg-day	5.70E-02	mg/kg-day	1.36E+00		
				1,2-Dichloropropane	2.11E-02	(a) ug/m <sup>3</sup>	7.44E-07	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.68E-08	1.07E-05	mg/kg-day	1.14E-03	mg/kg-day	9.39E-03		
				1,3,5-Trimethylbenzene	9.40E-01	(a) ug/m <sup>3</sup>	3.31E-05	mg/kg-day	--	--	--	4.76E-04	mg/kg-day	1.70E-03	mg/kg-day	2.80E-01		

TABLE H3-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Inhalation (Volatiles) (continued)	1,3-Dichlorobenzene	6.48E+00	(a) ug/m <sup>3</sup>	2.27E-04	mg/kg-day	--	--	--	3.27E-03	mg/kg-day	3.00E-02	mg/kg-day	1.09E-01
				1,4-Dichlorobenzene	3.99E+01	(a) ug/m <sup>3</sup>	1.40E-03	mg/kg-day	4.00E-02	(mg/kg-day)-1	5.62E-05	2.02E-02	mg/kg-day	2.30E-01	mg/kg-day	8.79E-02
				2-Methylnaphthalene	4.85E+00	(a) ug/m <sup>3</sup>	1.71E-04	mg/kg-day	--	--	--	2.46E-03	mg/kg-day	5.00E-02	mg/kg-day	4.91E-02
				4,4'-DDE	6.07E-06	(a) ug/m <sup>3</sup>	2.13E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.26E-11	3.07E-09	mg/kg-day	5.00E-04	mg/kg-day	6.14E-06
				Acenaphthene	1.69E+00	(a) ug/m <sup>3</sup>	5.96E-05	mg/kg-day	--	--	--	8.57E-04	mg/kg-day	6.00E-02	mg/kg-day	1.43E-02
				Acenaphthylene	4.37E-02	(a) ug/m <sup>3</sup>	1.54E-06	mg/kg-day	--	--	--	2.21E-05	mg/kg-day	6.00E-02	mg/kg-day	3.69E-04
				Aldrin	1.61E-05	(a) ug/m <sup>3</sup>	5.66E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	9.63E-09	8.15E-09	mg/kg-day	3.00E-05	mg/kg-day	2.72E-04
				alpha-BHC	1.08E-04	(a) ug/m <sup>3</sup>	3.79E-09	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.02E-08	5.45E-08	mg/kg-day	5.00E-04	mg/kg-day	1.09E-04
				alpha-Chlordane	5.43E-05	(a) ug/m <sup>3</sup>	1.91E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.29E-09	2.75E-08	mg/kg-day	2.00E-04	mg/kg-day	1.37E-04
				Anthracene	4.48E-01	(a) ug/m <sup>3</sup>	1.57E-05	mg/kg-day	--	--	--	2.26E-04	mg/kg-day	3.00E-01	mg/kg-day	7.52E-04
				Benzo(b)fluoranthene	3.15E-03	(a) ug/m <sup>3</sup>	1.11E-07	mg/kg-day	3.90E-01	(mg/kg-day)-1	4.32E-08	1.60E-06	mg/kg-day	--	--	--
				Carbon Disulfide	1.41E-03	(a) ug/m <sup>3</sup>	4.96E-08	mg/kg-day	--	--	--	7.14E-07	mg/kg-day	2.00E-01	mg/kg-day	3.57E-06
				Chlorobenzene	6.46E-01	(a) ug/m <sup>3</sup>	2.27E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	2.86E-01	mg/kg-day	1.14E-03
				Chrysene	1.78E-02	(a) ug/m <sup>3</sup>	6.25E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	2.44E-08	9.00E-06	mg/kg-day	--	--	--
				Delta-BHC	1.84E-03	(a) ug/m <sup>3</sup>	6.47E-08	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.70E-08	9.31E-07	mg/kg-day	2.00E-04	mg/kg-day	4.66E-03
				Dibenzofuran	2.37E-02	(a) ug/m <sup>3</sup>	8.33E-07	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	2.00E-03	mg/kg-day	6.00E-03
				Dieldrin	5.25E-04	(a) ug/m <sup>3</sup>	1.85E-08	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.95E-07	2.66E-07	mg/kg-day	5.00E-05	mg/kg-day	5.31E-03
				Endosulfan I	2.16E-03	(a) ug/m <sup>3</sup>	7.59E-08	mg/kg-day	--	--	--	1.09E-06	mg/kg-day	6.00E-03	mg/kg-day	1.82E-04
				Endosulfan II	2.19E-03	(a) ug/m <sup>3</sup>	7.72E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	6.00E-03	mg/kg-day	1.85E-04
				Endosulfan Sulfate	4.03E-03	(a) ug/m <sup>3</sup>	1.42E-07	mg/kg-day	--	--	--	2.04E-06	mg/kg-day	6.00E-03	mg/kg-day	3.40E-04
				fluoranthene	4.91E-03	(a) ug/m <sup>3</sup>	1.73E-07	mg/kg-day	--	--	--	2.46E-06	mg/kg-day	4.00E-02	mg/kg-day	6.21E-05
				Fluorene	2.68E-01	(a) ug/m <sup>3</sup>	9.42E-06	mg/kg-day	--	--	--	1.36E-04	mg/kg-day	4.00E-02	mg/kg-day	3.39E-03
				gamma-BHC (Lindane)	5.69E-04	(a) ug/m <sup>3</sup>	2.00E-08	mg/kg-day	1.10E+00	(mg/kg-day)-1	2.20E-08	2.88E-07	mg/kg-day	3.00E-04	mg/kg-day	9.61E-04
				gamma-Chlordane	9.87E-07	(a) ug/m <sup>3</sup>	3.47E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.17E-11	5.00E-10	mg/kg-day	2.00E-04	mg/kg-day	2.50E-06
				Heptachlor	1.09E-04	(a) ug/m <sup>3</sup>	3.82E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.57E-08	5.50E-08	mg/kg-day	5.00E-04	mg/kg-day	1.10E-04
				Methoxychlor	2.97E-04	(a) ug/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	1.50E-07	mg/kg-day	5.00E-03	mg/kg-day	3.00E-05
				Methylene Chloride	1.41E-02	(a) ug/m <sup>3</sup>	4.96E-07	mg/kg-day	3.50E-03	(mg/kg-day)-1	1.74E-09	7.14E-06	mg/kg-day	1.10E-01	mg/kg-day	6.49E-05
				Naphthalene	6.29E+01	(a) ug/m <sup>3</sup>	2.21E-03	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.66E-04	3.18E-02	mg/kg-day	8.57E-04	mg/kg-day	3.72E+01
				Phenanthrene	5.71E+00	(a) ug/m <sup>3</sup>	2.01E-04	mg/kg-day	--	--	--	2.89E-03	mg/kg-day	3.00E-01	mg/kg-day	9.64E-03
				p-isopropyltoluene	6.46E-01	(a) ug/m <sup>3</sup>	2.27E-05	mg/kg-day	--	--	--	3.27E-04	mg/kg-day	1.10E-01	mg/kg-day	2.97E-03
Pyrene	3.98E-02	(a) ug/m <sup>3</sup>	1.40E-06	mg/kg-day	--	--	--	2.01E-05	mg/kg-day	3.00E-02	mg/kg-day	6.71E-04				
sec-Butylbenzene	2.29E-01	(a) ug/m <sup>3</sup>	8.05E-06	mg/kg-day	--	--	--	1.16E-04	mg/kg-day	4.00E-02	mg/kg-day	2.90E-03				
Technical Chlordane	4.21E-03	(a) ug/m <sup>3</sup>	1.48E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.78E-07	2.13E-06	mg/kg-day	2.00E-04	mg/kg-day	1.06E-02				
Toluene	2.53E-03	(a) ug/m <sup>3</sup>	8.88E-08	mg/kg-day	--	--	--	1.28E-06	mg/kg-day	1.43E+00	mg/kg-day	8.95E-07				
				Exposure Route Total							3.22E-04			5.78E+01		
				Exposure Point Total							3.22E-04			5.78E+01		
				Exposure Medium Total							3.28E-04			5.86E+01		
Medium Total											4.11E-04			6.31E+01		
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	1.49E-08	mg/kg-day	5.70E-03	(mg/kg-day)-1	8.49E-11	2.14E-07	mg/kg-day	1.40E-01	mg/kg-day	1.53E-06
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	4.44E-09	mg/kg-day	--	--	--	6.39E-08	mg/kg-day	1.70E-03	mg/kg-day	3.76E-05
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	2.91E-08	mg/kg-day	--	--	--	4.19E-07	mg/kg-day	5.70E-02	mg/kg-day	7.35E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	2.09E-08	mg/kg-day	7.20E-02	(mg/kg-day)-1	1.51E-09	3.01E-07	mg/kg-day	1.40E-03	mg/kg-day	2.15E-04
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	7.85E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.82E-10	1.13E-07	mg/kg-day	1.14E-03	mg/kg-day	9.91E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	2.53E-09	mg/kg-day	--	--	--	3.64E-08	mg/kg-day	1.70E-03	mg/kg-day	2.14E-05
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	9.91E-09	mg/kg-day	4.00E-02	(mg/kg-day)-1	3.96E-10	1.43E-07	mg/kg-day	2.30E-01	mg/kg-day	6.20E-07
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	3.83E-10	mg/kg-day	--	--	--	5.51E-09	mg/kg-day	1.43E+00	mg/kg-day	3.86E-09
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	3.40E-11	mg/kg-day	--	--	--	4.90E-10	mg/kg-day	5.00E-02	mg/kg-day	9.79E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	4.55E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.55E-11	6.55E-10	mg/kg-day	5.00E-04	mg/kg-day	1.31E-06
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	1.42E-10	mg/kg-day	--	--	--	2.05E-09	mg/kg-day	8.60E-01	mg/kg-day	2.38E-09
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	1.36E-09	mg/kg-day	--	--	--	1.96E-08	mg/kg-day	6.00E-02	mg/kg-day	3.27E-07
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	5.81E-11	mg/kg-day	--	--	--	8.36E-10	mg/kg-day	6.00E-02	mg/kg-day	1.39E-08

TABLE H3-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Resident  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Aldrin	2.24E-09	mg/m <sup>3</sup>	7.86E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.34E-09	1.13E-09	mg/kg-day	3.00E-05	mg/kg-day	3.77E-05				
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	9.96E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.69E-11	1.43E-10	mg/kg-day	5.00E-04	mg/kg-day	2.87E-07				
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	2.36E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.83E-11	3.39E-10	mg/kg-day	2.00E-04	mg/kg-day	1.70E-06				
				Anthracene	3.29E-09	mg/m <sup>3</sup>	1.16E-10	mg/kg-day	--	--	--	1.66E-09	mg/kg-day	3.00E-01	mg/kg-day	5.54E-09				
				Benzene	2.61E-07	mg/m <sup>3</sup>	9.18E-09	mg/kg-day	1.00E-01	(mg/kg-day)-1	9.18E-10	1.32E-07	mg/kg-day	8.60E-03	mg/kg-day	1.54E-05				
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	1.71E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	6.67E-12	2.46E-10	mg/kg-day	--	--	--				
				Bromoform	7.36E-09	mg/m <sup>3</sup>	2.59E-10	mg/kg-day	3.90E-03	(mg/kg-day)-1	1.01E-12	3.73E-09	mg/kg-day	2.00E-02	mg/kg-day	1.86E-07				
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	1.59E-07	mg/kg-day	--	--	--	2.28E-08	mg/kg-day	2.00E-01	mg/kg-day	1.14E-05				
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	2.58E-09	mg/kg-day	--	--	--	3.71E-08	mg/kg-day	2.86E-01	mg/kg-day	1.30E-07				
				Chloroform	2.07E-06	mg/m <sup>3</sup>	7.27E-08	mg/kg-day	1.90E-02	(mg/kg-day)-1	1.38E-09	1.05E-06	mg/kg-day	8.57E-02	mg/kg-day	1.22E-05				
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	2.63E-08	mg/kg-day	--	--	--	3.79E-07	mg/kg-day	2.80E-02	mg/kg-day	1.46E-05				
				Chrysene	1.32E-09	mg/m <sup>3</sup>	4.63E-11	mg/kg-day	3.90E-02	(mg/kg-day)-1	1.81E-12	6.66E-10	mg/kg-day	--	--	--				
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	1.86E-08	mg/kg-day	--	--	--	2.68E-07	mg/kg-day	1.00E-02	mg/kg-day	2.68E-05				
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	3.46E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	5.53E-10	4.97E-10	mg/kg-day	5.00E-05	mg/kg-day	9.95E-06				
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	7.88E-12	mg/kg-day	--	--	--	1.13E-10	mg/kg-day	6.00E-03	mg/kg-day	1.89E-08				
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	1.29E-14	mg/kg-day	--	--	--	1.86E-13	mg/kg-day	6.00E-03	mg/kg-day	3.11E-11				
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	7.02E-09	mg/kg-day	--	--	--	1.01E-07	mg/kg-day	2.90E-01	mg/kg-day	3.48E-07				
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	1.78E-11	mg/kg-day	--	--	--	2.56E-10	mg/kg-day	4.00E-02	mg/kg-day	6.40E-09				
				Fluorene	1.00E-09	mg/m <sup>3</sup>	3.52E-11	mg/kg-day	--	--	--	5.06E-10	mg/kg-day	4.00E-02	mg/kg-day	1.27E-08				
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	4.37E-14	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.81E-14	6.29E-13	mg/kg-day	3.00E-04	mg/kg-day	2.10E-09				
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	6.12E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.35E-11	8.81E-10	mg/kg-day	2.00E-04	mg/kg-day	4.40E-06				
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	6.28E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.57E-09	9.04E-09	mg/kg-day	5.00E-04	mg/kg-day	1.81E-05				
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	2.44E-08	mg/kg-day	--	--	--	3.51E-07	mg/kg-day	2.90E-02	mg/kg-day	1.21E-05				
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	1.15E-10	mg/kg-day	--	--	--	1.65E-09	mg/kg-day	5.00E-03	mg/kg-day	3.31E-07				
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	1.91E-10	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.29E-11	2.75E-09	mg/kg-day	8.57E-04	mg/kg-day	3.21E-06				
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	8.90E-09	mg/kg-day	--	--	--	1.28E-07	mg/kg-day	8.57E-04	mg/kg-day	1.49E-04				
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	9.91E-09	mg/kg-day	--	--	--	1.43E-07	mg/kg-day	4.00E-02	mg/kg-day	3.57E-06				
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	9.21E-11	mg/kg-day	--	--	--	1.33E-09	mg/kg-day	3.00E-01	mg/kg-day	4.42E-09				
				p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	1.21E-06	mg/kg-day	--	--	--	1.73E-05	mg/kg-day	1.10E-01	mg/kg-day	1.58E-04				
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.62E-11	mg/kg-day	--	--	--	2.33E-10	mg/kg-day	3.00E-02	mg/kg-day	7.78E-09				
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	2.82E-08	mg/kg-day	--	--	--	4.06E-07	mg/kg-day	4.00E-02	mg/kg-day	1.01E-05				
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	3.19E-08	mg/kg-day	--	--	--	4.60E-07	mg/kg-day	4.00E-02	mg/kg-day	1.15E-05				
				Toluene	3.80E-07	mg/m <sup>3</sup>	1.34E-08	mg/kg-day	--	--	--	1.92E-07	mg/kg-day	1.43E+00	mg/kg-day	1.35E-07				
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	3.15E-08	mg/kg-day	--	--	--	4.54E-07	mg/kg-day	2.00E-02	mg/kg-day	2.27E-05				
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	3.28E-08	mg/kg-day	7.00E-03	(mg/kg-day)-1	2.30E-10	4.72E-07	mg/kg-day	1.70E-01	mg/kg-day	2.78E-06				
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	6.78E-08	mg/kg-day	2.70E-01	(mg/kg-day)-1	1.83E-08	9.76E-07	mg/kg-day	2.86E-02	mg/kg-day	3.42E-05				
				Exposure Route Total										2.78E-08					1.10E-03	
				Exposure Point Total										2.78E-08						1.10E-03
				Groundwater (continued)	Groundwater (continued)	Indoor Air	Inhalation (Vapor Intrusion)	1,1-Dichloroethane	7.45E-02	ug/m <sup>3</sup>	2.62E-06	mg/kg-day	5.70E-03	(mg/kg-day)-1	1.49E-08	3.77E-05	mg/kg-day	1.40E-01	mg/kg-day	2.69E-04
								1,2,4-Trimethylbenzene	3.27E-03	ug/m <sup>3</sup>	1.15E-07	mg/kg-day	--	--	--	1.65E-06	mg/kg-day	1.70E-03	mg/kg-day	9.73E-04
1,2-Dichlorobenzene	2.20E-02	ug/m <sup>3</sup>	7.74E-07					mg/kg-day	--	--	--	1.11E-05	mg/kg-day	5.70E-02	mg/kg-day	1.95E-04				
1,2-Dichloroethane	1.78E-02	ug/m <sup>3</sup>	6.27E-07					mg/kg-day	7.20E-02	(mg/kg-day)-1	4.51E-08	9.02E-06	mg/kg-day	1.40E-03	mg/kg-day	6.44E-03				
1,2-Dichloropropane	6.60E-03	ug/m <sup>3</sup>	2.32E-07					mg/kg-day	3.60E-02	(mg/kg-day)-1	8.36E-09	3.34E-06	mg/kg-day	1.14E-03	mg/kg-day	2.93E-03				
1,3,5-Trimethylbenzene	1.87E-03	ug/m <sup>3</sup>	6.58E-08					mg/kg-day	--	--	--	9.47E-07	mg/kg-day	1.70E-03	mg/kg-day	5.57E-04				
1,4-Dichlorobenzene	7.55E-03	ug/m <sup>3</sup>	2.65E-07					mg/kg-day	4.00E-02	(mg/kg-day)-1	1.06E-08	3.82E-08	mg/kg-day	2.30E-01	mg/kg-day	1.66E-05				
2-Hexanone	5.60E-04	ug/m <sup>3</sup>	1.97E-08					mg/kg-day	--	--	--	2.84E-07	mg/kg-day	1.43E+00	mg/kg-day	1.99E-07				
2-Methylnaphthalene	2.71E-05	ug/m <sup>3</sup>	9.55E-10					mg/kg-day	--	--	--	1.37E-08	mg/kg-day	5.00E-02	mg/kg-day	2.75E-07				
4,4'-DDE	1.17E-07	ug/m <sup>3</sup>	4.10E-12					mg/kg-day	3.40E-01	(mg/kg-day)-1	1.39E-12	5.90E-11	mg/kg-day	5.00E-04	mg/kg-day	1.18E-07				
4-Methyl-2-pentanone	1.66E-04	ug/m <sup>3</sup>	5.85E-09					mg/kg-day	--	--	--	8.42E-08	mg/kg-day	8.60E-01	mg/kg-day	9.79E-08				
Acenaphthene	1.65E-03	ug/m <sup>3</sup>	5.81E-08					mg/kg-day	--	--	--	8.36E-07	mg/kg-day	6.00E-02	mg/kg-day	1.39E-05				

TABLE H3-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations											
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient							
							Value	Units	Value	Units		Value	Units	Value	Units								
Groundwater (continued)	Groundwater (continued)	Indoor Air (continued)	Inhalation (Vapor Intrusion) (continued)	Acenaphthylene	7.03E-05	ug/m <sup>3</sup>	2.47E-09	mg/kg-day	-	-	-	3.56E-08	mg/kg-day	6.00E-02	mg/kg-day	5.93E-07							
				Aldrin	2.44E-07	ug/m <sup>3</sup>	8.58E-12	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.46E-10	1.23E-10	mg/kg-day	3.00E-05	mg/kg-day	4.11E-06							
				alpha-BHC	3.63E-08	ug/m <sup>3</sup>	1.28E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	3.45E-12	1.84E-11	mg/kg-day	5.00E-04	mg/kg-day	3.68E-08							
				alpha-Chlordane	2.20E-07	ug/m <sup>3</sup>	7.75E-12	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	9.30E-12	1.12E-10	mg/kg-day	2.00E-04	mg/kg-day	5.58E-07							
				Anthracene	1.40E-04	ug/m <sup>3</sup>	4.91E-09	mg/kg-day	-	-	-	7.07E-08	mg/kg-day	3.00E-01	mg/kg-day	2.36E-07							
				Benzene	7.66E-03	ug/m <sup>3</sup>	2.70E-07	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	2.70E-08	3.88E-06	mg/kg-day	8.60E-03	mg/kg-day	4.51E-04							
				Benzo(b)fluoranthene	2.05E-05	ug/m <sup>3</sup>	7.20E-10	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	2.81E-10	1.04E-08	mg/kg-day	-	-	-							
				Bromoform	3.95E-04	ug/m <sup>3</sup>	1.39E-08	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	5.42E-11	2.00E-07	mg/kg-day	2.00E-02	mg/kg-day	1.00E-05							
				Carbon disulfide	1.35E-01	ug/m <sup>3</sup>	4.76E-06	mg/kg-day	-	-	-	6.84E-05	mg/kg-day	2.00E-01	mg/kg-day	3.42E-04							
				Chlorobenzene	2.05E-03	ug/m <sup>3</sup>	7.22E-08	mg/kg-day	-	-	-	1.04E-06	mg/kg-day	2.86E-01	mg/kg-day	3.64E-06							
				Chloroform	6.13E-02	ug/m <sup>3</sup>	2.16E-06	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	4.10E-08	3.10E-05	mg/kg-day	8.57E-02	mg/kg-day	3.62E-04							
				Chloromethane	2.43E-02	ug/m <sup>3</sup>	8.54E-07	mg/kg-day	-	-	-	1.23E-05	mg/kg-day	2.60E-02	mg/kg-day	4.73E-04							
				Chrysene	5.75E-05	ug/m <sup>3</sup>	2.02E-09	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	7.90E-11	2.91E-08	mg/kg-day	-	-	-							
				cis-1,2-Dichloroethene	3.44E-02	ug/m <sup>3</sup>	1.21E-06	mg/kg-day	-	-	-	1.74E-05	mg/kg-day	1.00E-02	mg/kg-day	1.74E-03							
				Dieldrin	3.76E-08	ug/m <sup>3</sup>	1.32E-12	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.12E-11	1.91E-11	mg/kg-day	5.00E-05	mg/kg-day	3.81E-07							
				Endosulfan I	4.85E-08	ug/m <sup>3</sup>	1.71E-12	mg/kg-day	-	-	-	2.46E-11	mg/kg-day	6.00E-03	mg/kg-day	4.10E-09							
				Endosulfan II	1.62E-08	ug/m <sup>3</sup>	5.70E-13	mg/kg-day	-	-	-	8.20E-12	mg/kg-day	6.00E-03	mg/kg-day	1.37E-09							
				Ethylbenzene	5.39E-03	ug/m <sup>3</sup>	1.90E-07	mg/kg-day	-	-	-	2.73E-06	mg/kg-day	2.90E-01	mg/kg-day	9.41E-06							
				Fluoranthene	2.05E-05	ug/m <sup>3</sup>	7.20E-10	mg/kg-day	-	-	-	1.04E-08	mg/kg-day	4.00E-02	mg/kg-day	2.59E-07							
				Fluorene	5.21E-05	ug/m <sup>3</sup>	1.83E-09	mg/kg-day	-	-	-	2.64E-08	mg/kg-day	4.00E-02	mg/kg-day	6.59E-07							
				gamma-BHC (Lindane)	4.91E-08	ug/m <sup>3</sup>	1.73E-12	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	1.90E-12	2.48E-11	mg/kg-day	3.00E-04	mg/kg-day	8.28E-08							
				gamma-Chlordane	1.07E-07	ug/m <sup>3</sup>	3.75E-12	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	4.50E-12	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07							
				Heptachlor	4.81E-07	ug/m <sup>3</sup>	1.69E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	6.94E-11	2.44E-10	mg/kg-day	5.00E-04	mg/kg-day	4.87E-07							
				Isopropylbenzene	1.80E+00	ug/m <sup>3</sup>	6.33E-05	mg/kg-day	-	-	-	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03							
				m,p-Xylene	4.03E-02	ug/m <sup>3</sup>	1.42E-06	mg/kg-day	-	-	-	2.04E-05	mg/kg-day	2.90E-02	mg/kg-day	7.04E-04							
				Methoxychlor	1.42E-07	ug/m <sup>3</sup>	4.98E-12	mg/kg-day	-	-	-	7.17E-11	mg/kg-day	5.00E-03	mg/kg-day	1.43E-08							
				Naphthalene	2.95E-04	ug/m <sup>3</sup>	1.04E-08	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.24E-09	1.49E-07	mg/kg-day	8.57E-04	mg/kg-day	1.74E-04							
				n-Butylbenzene	1.42E-02	ug/m <sup>3</sup>	4.99E-07	mg/kg-day	-	-	-	7.18E-06	mg/kg-day	8.57E-04	mg/kg-day	8.38E-03							
				n-Propylbenzene	1.60E-02	ug/m <sup>3</sup>	5.63E-07	mg/kg-day	-	-	-	8.10E-06	mg/kg-day	4.00E-02	mg/kg-day	2.02E-04							
				Phenanthrene	1.45E-04	ug/m <sup>3</sup>	5.11E-09	mg/kg-day	-	-	-	7.36E-08	mg/kg-day	3.00E-01	mg/kg-day	2.45E-07							
				p-Isopropyltoluene	1.80E+00	ug/m <sup>3</sup>	6.33E-05	mg/kg-day	-	-	-	9.11E-04	mg/kg-day	1.10E-01	mg/kg-day	8.28E-03							
				Pyrene	1.92E-05	ug/m <sup>3</sup>	6.76E-10	mg/kg-day	-	-	-	9.73E-09	mg/kg-day	3.00E-02	mg/kg-day	3.24E-07							
				sec-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	2.00E-08	mg/kg-day	-	-	-	2.88E-07	mg/kg-day	4.00E-02	mg/kg-day	7.20E-06							
				Tert-Butylbenzene	5.69E-04	ug/m <sup>3</sup>	2.00E-08	mg/kg-day	-	-	-	2.88E-05	mg/kg-day	4.00E-02	mg/kg-day	7.20E-04							
				Toluene	2.18E-03	ug/m <sup>3</sup>	7.66E-08	mg/kg-day	-	-	-	1.10E-06	mg/kg-day	1.43E+00	mg/kg-day	7.72E-07							
				trans-1,2-Dichloroethene	6.03E-02	ug/m <sup>3</sup>	2.12E-08	mg/kg-day	-	-	-	3.05E-05	mg/kg-day	2.00E-02	mg/kg-day	1.53E-03							
				Trichloroethene	5.71E-02	ug/m <sup>3</sup>	2.01E-06	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	1.40E-08	2.89E-05	mg/kg-day	1.70E-01	mg/kg-day	1.70E-04							
				Vinyl chloride	1.30E-01	ug/m <sup>3</sup>	4.56E-06	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	1.23E-06	6.57E-05	mg/kg-day	2.86E-02	mg/kg-day	2.30E-03							
				Exposure Route Total																			
				Exposure Point Total																			
Exposure Medium Total																							
Medium Total																							
Total of Receptor Risks Across All Media										4.12E-04		Total of Receptor Hazards Across All Media							6.32E+01				

TABLE H3-7.10

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RID Reference dose
  - RIC Reference concentration
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	7.55E-08	mg/kg-day	--	--	--	7.55E-07	mg/kg-day	1.00E-02	mg/kg-day	7.55E-05
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	2.57E-07	mg/kg-day	--	--	--	2.57E-06	mg/kg-day	1.00E-02	mg/kg-day	2.57E-04
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	2.52E-08	mg/kg-day	--	--	--	2.52E-07	mg/kg-day	5.00E-02	mg/kg-day	5.03E-06
				1,2-Dichlorobenzene	2.60E+01	mg/kg	1.31E-06	mg/kg-day	--	--	--	1.31E-05	mg/kg-day	9.00E-02	mg/kg-day	1.45E-04
				1,2-Dichloropropane	3.60E-03	mg/kg	1.81E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	6.52E-12	1.81E-09	mg/kg-day	1.14E-03	mg/kg-day	1.59E-06
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	8.05E-09	mg/kg-day	--	--	--	8.05E-08	mg/kg-day	5.00E-02	mg/kg-day	1.61E-06
				1,3-Dichlorobenzene	1.10E+00	mg/kg	5.54E-08	mg/kg-day	--	--	--	5.54E-07	mg/kg-day	3.00E-02	mg/kg-day	1.85E-05
				1,4-Dichlorobenzene	6.80E+00	mg/kg	3.42E-07	mg/kg-day	5.40E-03	(mg/kg-day)-1	1.85E-09	3.42E-06	mg/kg-day	3.00E-02	mg/kg-day	1.14E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.06E-08	mg/kg-day	--	--	--	1.06E-07	mg/kg-day	2.00E-02	mg/kg-day	5.28E-06
				2-Methylphenol	8.10E-02	mg/kg	4.08E-09	mg/kg-day	--	--	--	4.08E-08	mg/kg-day	4.00E-03	mg/kg-day	1.02E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	8.41E-08	mg/kg-day	--	--	--	8.41E-07	mg/kg-day	5.00E-02	mg/kg-day	1.68E-05
				4,4'-DDD	1.20E-03	mg/kg	6.04E-11	mg/kg-day	2.40E-01	(mg/kg-day)-1	1.45E-11	6.04E-10	mg/kg-day	5.00E-04	mg/kg-day	1.21E-06
				4,4'-DDE	8.23E-02	mg/kg	4.14E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.41E-09	4.14E-08	mg/kg-day	5.00E-04	mg/kg-day	8.28E-05
				4,4'-DDT	4.45E-02	mg/kg	2.24E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.61E-10	2.24E-08	mg/kg-day	5.00E-04	mg/kg-day	4.48E-05
				4-Methylphenol	2.70E-01	mg/kg	1.36E-08	mg/kg-day	--	--	--	1.36E-07	mg/kg-day	5.00E-03	mg/kg-day	2.72E-05
				4-Nitroaniline	6.20E-01	mg/kg	3.12E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	6.55E-10	3.12E-07	mg/kg-day	3.00E-03	mg/kg-day	1.04E-04
				4-Nitrophenol	4.20E-01	mg/kg	2.11E-08	mg/kg-day	--	--	--	2.11E-07	mg/kg-day	5.00E-04	mg/kg-day	4.23E-04
				Acenaphthene	4.23E+00	mg/kg	2.13E-07	mg/kg-day	--	--	--	2.13E-06	mg/kg-day	6.00E-02	mg/kg-day	3.55E-05
				Acenaphthylene	1.04E-01	mg/kg	5.24E-09	mg/kg-day	--	--	--	5.24E-08	mg/kg-day	6.00E-02	mg/kg-day	8.74E-07
				Aldrin	1.30E-02	mg/kg	6.54E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.11E-08	6.54E-09	mg/kg-day	3.00E-05	mg/kg-day	2.18E-04
				alpha-BHC	7.30E-04	mg/kg	3.67E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	9.92E-11	3.67E-10	mg/kg-day	5.00E-04	mg/kg-day	7.35E-07
				alpha-Chlordane	8.14E-03	mg/kg	4.10E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	5.33E-10	4.10E-09	mg/kg-day	5.00E-04	mg/kg-day	8.19E-06
				Aluminum	8.82E+03	mg/kg	4.44E-04	mg/kg-day	--	--	--	4.44E-03	mg/kg-day	1.00E+00	mg/kg-day	4.44E-03
				Anthracene	1.05E+00	mg/kg	5.31E-08	mg/kg-day	--	--	--	5.31E-07	mg/kg-day	3.00E-01	mg/kg-day	1.77E-06
				Antimony	4.08E+00	mg/kg	2.05E-07	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	4.00E-04	mg/kg-day	5.13E-03
				Aroclor-1248	1.20E+00	mg/kg	6.04E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.21E-07	6.04E-07	mg/kg-day	2.00E-05	mg/kg-day	3.02E-02
				Aroclor-1254	4.44E-01	mg/kg	2.23E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.47E-08	2.23E-07	mg/kg-day	2.00E-05	mg/kg-day	1.12E-02
				Aroclor-1260	5.41E-01	mg/kg	2.72E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	5.45E-08	2.72E-07	mg/kg-day	2.00E-05	mg/kg-day	1.36E-02
				Aroclor-1268	2.78E-02	mg/kg	1.40E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.79E-09	1.40E-08	mg/kg-day	2.00E-05	mg/kg-day	6.98E-04
				Arsenic	6.17E+00	mg/kg	3.10E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	2.93E-06	3.10E-06	mg/kg-day	3.00E-04	mg/kg-day	1.03E-02
				Barium	6.78E+01	mg/kg	3.41E-06	mg/kg-day	--	--	--	3.41E-05	mg/kg-day	7.00E-02	mg/kg-day	4.88E-04
				Benzo(a)anthracene	5.00E+00	mg/kg	2.52E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.02E-07	2.52E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	8.38E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	1.01E-06	8.38E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.38E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.65E-07	1.38E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	3.84E-08	mg/kg-day	--	--	--	3.84E-07	mg/kg-day	3.00E-02	mg/kg-day	1.28E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.64E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.97E-07	1.64E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.20E-08	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	2.00E-03	mg/kg-day	5.99E-05
				Beta-BHC	2.20E-03	mg/kg	1.11E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.66E-10	1.11E-09	mg/kg-day	2.00E-04	mg/kg-day	5.54E-06
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	3.94E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	1.18E-09	3.94E-06	mg/kg-day	2.00E-02	mg/kg-day	1.97E-04
				Cadmium	9.47E+00	mg/kg	4.77E-07	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.81E-07	4.77E-06	mg/kg-day	5.00E-04	mg/kg-day	9.53E-03
				Carbon disulfide	2.40E-04	mg/kg	1.21E-11	mg/kg-day	--	--	--	1.21E-10	mg/kg-day	1.00E-01	mg/kg-day	1.21E-09
				Chlorobenzene	1.10E-01	mg/kg	5.54E-09	mg/kg-day	--	--	--	5.54E-08	mg/kg-day	2.00E-02	mg/kg-day	2.77E-06
Chromium	1.11E+02	mg/kg	5.60E-06	mg/kg-day	--	--	--	5.60E-05	mg/kg-day	1.50E+00	mg/kg-day	3.73E-05				
Chrysene	5.68E+00	mg/kg	2.86E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	3.43E-08	2.86E-06	mg/kg-day	--	--	--				
Cobalt	7.57E+00	mg/kg	3.81E-07	mg/kg-day	--	--	--	3.81E-06	mg/kg-day	2.00E-02	mg/kg-day	1.91E-04				
Copper	5.71E+01	mg/kg	2.87E-06	mg/kg-day	--	--	--	2.87E-05	mg/kg-day	4.00E-02	mg/kg-day	7.18E-04				
Delta-BHC	8.40E-03	mg/kg	4.23E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	6.34E-10	4.23E-09	mg/kg-day	2.00E-04	mg/kg-day	2.11E-05				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.60E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	6.55E-08	1.60E-07	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	6.54E-07	mg/kg-day	--	--	--	6.54E-06	mg/kg-day	2.00E-03	mg/kg-day	3.27E-03				
Dieldrin	5.51E-02	mg/kg	2.77E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	4.44E-08	2.77E-08	mg/kg-day	5.00E-05	mg/kg-day	5.55E-04				
Dimethylphthalate	3.80E-02	mg/kg	1.91E-09	mg/kg-day	--	--	--	1.91E-08	mg/kg-day	8.00E-01	mg/kg-day	2.39E-08				

TABLE H3-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	1.11E-07	mg/kg-day	--	--	--	--	1.11E-08	mg/kg-day	2.00E-01	mg/kg-day	5.54E-06				
				Endosulfan I	2.30E-02	mg/kg	1.16E-09	mg/kg-day	--	--	--	--	1.16E-08	mg/kg-day	6.00E-03	mg/kg-day	1.93E-06				
				Endosulfan II	2.39E-02	mg/kg	1.20E-09	mg/kg-day	--	--	--	--	1.20E-08	mg/kg-day	6.00E-03	mg/kg-day	2.00E-06				
				Endosulfan Sulfate	4.30E-02	mg/kg	2.16E-09	mg/kg-day	--	--	--	--	2.16E-08	mg/kg-day	6.00E-03	mg/kg-day	3.61E-06				
				Endrin aldehyde	4.21E-02	mg/kg	2.12E-09	mg/kg-day	--	--	--	--	2.12E-08	mg/kg-day	3.00E-04	mg/kg-day	7.06E-05				
				Endrin Ketone	1.00E-02	mg/kg	5.03E-10	mg/kg-day	--	--	--	--	5.03E-09	mg/kg-day	3.00E-04	mg/kg-day	1.68E-05				
				Fluoranthene	2.65E+01	mg/kg	1.33E-06	mg/kg-day	--	--	--	--	1.33E-05	mg/kg-day	4.00E-02	mg/kg-day	3.33E-04				
				Fluorene	2.92E+00	mg/kg	1.47E-07	mg/kg-day	--	--	--	--	1.47E-06	mg/kg-day	4.00E-02	mg/kg-day	3.67E-05				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	1.31E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	1.44E-10	1.31E-09	mg/kg-day	3.00E-04	mg/kg-day	4.36E-06					
				gamma-Chlordane	1.31E-02	mg/kg	6.59E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.57E-10	6.59E-09	mg/kg-day	5.00E-04	mg/kg-day	1.32E-05					
				Heptachlor	6.90E-03	mg/kg	3.47E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.42E-09	3.47E-09	mg/kg-day	5.00E-04	mg/kg-day	6.94E-06					
				Heptachlor Epoxide	1.12E-02	mg/kg	5.61E-10	mg/kg-day	5.50E+00	(mg/kg-day)-1	3.09E-09	5.61E-09	mg/kg-day	1.30E-05	mg/kg-day	4.32E-04					
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	4.39E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.27E-08	4.39E-07	mg/kg-day	--	--	--					
				Iron	4.07E+04	mg/kg	2.05E-03	mg/kg-day	--	--	--	2.05E-02	mg/kg-day	3.00E-01	mg/kg-day	6.83E-02					
				Isophorone	2.00E-01	mg/kg	1.01E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	9.56E-12	1.01E-07	mg/kg-day	2.00E-01	mg/kg-day	5.03E-07					
				Lead	2.90E+03	mg/kg	1.46E-04	mg/kg-day	--	--	--	1.46E-03	mg/kg-day	--	--	--					
				Manganese	3.31E+02	mg/kg	1.67E-05	mg/kg-day	--	--	--	1.67E-04	mg/kg-day	2.40E-02	mg/kg-day	6.94E-03					
				Mercury	3.10E-01	mg/kg	1.56E-08	mg/kg-day	--	--	--	1.56E-07	mg/kg-day	3.00E-04	mg/kg-day	5.19E-04					
				Methoxychlor	1.20E-01	mg/kg	6.04E-09	mg/kg-day	--	--	--	6.04E-08	mg/kg-day	5.00E-03	mg/kg-day	1.21E-05					
				Molybdenum	2.50E+00	mg/kg	1.26E-07	mg/kg-day	--	--	--	1.26E-06	mg/kg-day	5.00E-03	mg/kg-day	2.52E-04					
				Naphthalene	1.30E+01	mg/kg	6.54E-07	mg/kg-day	--	--	--	6.54E-06	mg/kg-day	2.00E-02	mg/kg-day	3.27E-04					
				Nickel	3.91E+01	mg/kg	1.97E-06	mg/kg-day	--	--	--	1.97E-05	mg/kg-day	2.00E-02	mg/kg-day	9.84E-04					
				Phenanthrene	1.39E+01	mg/kg	7.00E-07	mg/kg-day	--	--	--	7.00E-06	mg/kg-day	3.00E-01	mg/kg-day	2.33E-05					
				Phenol	5.80E-01	mg/kg	2.92E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	3.00E-01	mg/kg-day	9.73E-07					
				p-Isopropyltoluene	1.10E-01	mg/kg	5.54E-09	mg/kg-day	--	--	--	5.54E-08	mg/kg-day	1.00E-01	mg/kg-day	5.54E-07					
				Pyrene	2.41E+01	mg/kg	1.22E-06	mg/kg-day	--	--	--	1.22E-05	mg/kg-day	3.00E-02	mg/kg-day	4.05E-04					
				sec-Butylbenzene	7.10E-02	mg/kg	3.57E-09	mg/kg-day	--	--	--	3.57E-08	mg/kg-day	4.00E-02	mg/kg-day	8.93E-07					
				Selenium	2.24E-01	mg/kg	1.13E-08	mg/kg-day	--	--	--	1.13E-07	mg/kg-day	5.00E-03	mg/kg-day	2.26E-05					
				Silver	1.16E+00	mg/kg	5.83E-08	mg/kg-day	--	--	--	5.83E-07	mg/kg-day	5.00E-03	mg/kg-day	1.17E-04					
				Technical Chlordane	5.51E-01	mg/kg	2.77E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	3.61E-08	2.77E-07	mg/kg-day	5.00E-04	mg/kg-day	5.55E-04					
				Thallium	4.97E-01	mg/kg	2.50E-08	mg/kg-day	--	--	--	2.50E-07	mg/kg-day	8.00E-05	mg/kg-day	3.13E-03					
				Toluene	4.30E-04	mg/kg	2.16E-11	mg/kg-day	--	--	--	2.16E-10	mg/kg-day	8.00E-02	mg/kg-day	2.70E-09					
				Vanadium	3.41E+01	mg/kg	1.72E-06	mg/kg-day	--	--	--	1.72E-05	mg/kg-day	1.00E-03	mg/kg-day	1.72E-02					
				Zinc	4.53E+02	mg/kg	2.28E-05	mg/kg-day	--	--	--	2.28E-04	mg/kg-day	3.00E-01	mg/kg-day	7.61E-04					
				<b>Exposure Route Total</b>																	
							Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.17E-08	mg/kg-day	--	--	--	--	1.17E-07	mg/kg-day	1.00E-02	mg/kg-day	1.17E-05
								1,2,4-Trichlorobenzene	5.10E+00	mg/kg	3.98E-09	mg/kg-day	--	--	--	--	3.98E-08	mg/kg-day	1.00E-02	mg/kg-day	3.98E-06
								1,2,4-Trimethylbenzene	5.00E-01	mg/kg	3.90E-10	mg/kg-day	--	--	--	--	3.90E-09	mg/kg-day	5.00E-02	mg/kg-day	7.81E-08
								1,2-Dichlorobenzene	2.60E+01	mg/kg	2.03E-08	mg/kg-day	--	--	--	--	2.03E-07	mg/kg-day	9.00E-02	mg/kg-day	2.26E-06
								1,2-Dichloropropane	3.60E-03	mg/kg	2.81E-12	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.01E-13	2.81E-11	mg/kg-day	1.14E-03	mg/kg-day	2.47E-08	
								1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.25E-10	mg/kg-day	--	--	--	--	1.25E-09	mg/kg-day	5.00E-02	mg/kg-day	2.50E-08
								1,3-Dichlorobenzene	1.10E+00	mg/kg	8.59E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	3.00E-02	mg/kg-day	2.86E-07
				1,4-Dichlorobenzene	8.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	--	mg/kg-day	3.00E-02	mg/kg-day	--				
				2,4-Dimethylphenol	2.10E-01	mg/kg	1.64E-10	mg/kg-day	--	--	--	--	1.64E-09	mg/kg-day	2.00E-02	mg/kg-day	8.20E-08				
				2-Methylphenol	8.10E-02	mg/kg	6.32E-10	mg/kg-day	--	--	--	--	6.32E-09	mg/kg-day	4.00E-03	mg/kg-day	1.58E-06				
				2-Methylnaphthalene	1.67E+00	mg/kg	1.31E-09	mg/kg-day	--	--	--	--	1.31E-08	mg/kg-day	5.00E-02	mg/kg-day	2.61E-07				
				4,4'-DDD	1.20E-03	mg/kg	9.37E-13	mg/kg-day	2.40E-01	(mg/kg-day)-1	2.25E-13	9.37E-12	mg/kg-day	5.00E-04	mg/kg-day	1.87E-08					
				4,4'-DDE	8.23E-02	mg/kg	6.43E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.19E-11	6.43E-10	mg/kg-day	5.00E-04	mg/kg-day	1.29E-06					
				4,4'-DDT	4.45E-02	mg/kg	1.04E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.54E-11	1.04E-09	mg/kg-day	5.00E-04	mg/kg-day	2.08E-06					
				4-Methylphenol	2.70E-01	mg/kg	2.11E-09	mg/kg-day	--	--	--	--	2.11E-08	mg/kg-day	5.00E-03	mg/kg-day	4.22E-06				
				4-Nitroaniline	6.20E-01	mg/kg	4.84E-09	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.02E-10	4.84E-08	mg/kg-day	3.00E-03	mg/kg-day	1.61E-05					

TABLE H3-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	3.28E-09	mg/kg-day	--	--	--	3.28E-08	mg/kg-day	5.00E-04	mg/kg-day	6.56E-05
				Acenaphthene	4.23E+00	mg/kg	4.30E-08	mg/kg-day	--	--	--	4.30E-07	mg/kg-day	6.00E-02	mg/kg-day	7.16E-06
				Acenaphthylene	1.04E-01	mg/kg	8.13E-11	mg/kg-day	--	--	--	8.13E-10	mg/kg-day	6.00E-02	mg/kg-day	1.36E-08
				Aldrin	1.30E-02	mg/kg	1.02E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.73E-09	1.02E-09	mg/kg-day	3.00E-05	mg/kg-day	3.38E-05
				alpha-BHC	7.30E-04	mg/kg	5.70E-13	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.54E-12	5.70E-12	mg/kg-day	5.00E-04	mg/kg-day	1.14E-08
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	6.89E-07	mg/kg-day	--	--	--	6.89E-06	mg/kg-day	1.00E+00	mg/kg-day	6.89E-06
				Anthracene	1.05E+00	mg/kg	1.07E-08	mg/kg-day	--	--	--	1.07E-07	mg/kg-day	3.00E-01	mg/kg-day	3.57E-07
				Antimony	4.08E+00	mg/kg	3.18E-10	mg/kg-day	--	--	--	3.18E-09	mg/kg-day	4.00E-04	mg/kg-day	7.96E-06
				Aroclor-1248	1.20E+00	mg/kg	1.31E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.62E-08	1.31E-07	mg/kg-day	2.00E-05	mg/kg-day	6.56E-03
				Aroclor-1254	4.44E-01	mg/kg	4.85E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.71E-09	4.85E-08	mg/kg-day	2.00E-05	mg/kg-day	2.43E-03
				Aroclor-1260	5.41E-01	mg/kg	5.92E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.18E-08	5.92E-08	mg/kg-day	2.00E-05	mg/kg-day	2.96E-03
				Aroclor-1268	2.78E-02	mg/kg	3.03E-10	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.07E-10	3.03E-09	mg/kg-day	2.00E-05	mg/kg-day	1.52E-04
				Arsenic	6.17E+00	mg/kg	1.44E-08	mg/kg-day	9.45E+00	(mg/kg-day)-1	1.36E-07	1.44E-07	mg/kg-day	3.00E-04	mg/kg-day	4.81E-04
				Barium	6.78E+01	mg/kg	5.30E-09	mg/kg-day	--	--	--	5.30E-08	mg/kg-day	7.00E-02	mg/kg-day	7.57E-07
				Benzo(a)anthracene	5.00E+00	mg/kg	5.08E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.10E-08	5.08E-07	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.69E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	2.03E-07	1.69E-07	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	2.78E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.34E-08	2.78E-07	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	7.75E-09	mg/kg-day	--	--	--	7.75E-08	mg/kg-day	3.00E-02	mg/kg-day	2.58E-06
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.31E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.97E-08	3.31E-07	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	1.86E-11	mg/kg-day	--	--	--	1.86E-10	mg/kg-day	2.00E-03	mg/kg-day	9.30E-08
				Beta-BHC	2.20E-03	mg/kg	1.72E-12	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.58E-12	1.72E-11	mg/kg-day	2.00E-04	mg/kg-day	8.59E-08
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	6.12E-09	mg/kg-day	3.00E+03	(mg/kg-day)-1	1.83E-11	6.12E-08	mg/kg-day	2.00E-02	mg/kg-day	3.06E-06
				Cadmium	9.47E+00	mg/kg	7.40E-10	mg/kg-day	3.80E-01	(mg/kg-day)-1	2.81E-10	7.40E-09	mg/kg-day	5.00E-04	mg/kg-day	1.48E-05
				Carbon disulfide	2.40E-04	mg/kg	4.68E-12	mg/kg-day	--	--	--	4.68E-11	mg/kg-day	1.00E-01	mg/kg-day	4.68E-10
				Chlorobenzene	1.10E-01	mg/kg	8.59E-11	mg/kg-day	--	--	--	8.59E-10	mg/kg-day	2.00E-02	mg/kg-day	4.29E-08
				Chromium	1.11E+02	mg/kg	8.68E-09	mg/kg-day	--	--	--	8.68E-08	mg/kg-day	1.50E+00	mg/kg-day	5.79E-08
				Chrysene	5.68E+00	mg/kg	5.77E-08	mg/kg-day	1.20E-01	(mg/kg-day)-1	6.92E-09	5.77E-07	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	5.91E-10	mg/kg-day	--	--	--	5.91E-09	mg/kg-day	2.00E-02	mg/kg-day	2.96E-07
				Copper	5.71E+01	mg/kg	4.46E-09	mg/kg-day	--	--	--	4.46E-08	mg/kg-day	4.00E-02	mg/kg-day	1.11E-06
				Delta-BHC	8.40E-03	mg/kg	3.28E-11	mg/kg-day	1.50E+00	(mg/kg-day)-1	4.92E-11	3.28E-10	mg/kg-day	2.00E-04	mg/kg-day	1.64E-06
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	3.22E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.32E-08	3.22E-08	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	1.02E-08	mg/kg-day	--	--	--	1.02E-07	mg/kg-day	2.00E-03	mg/kg-day	5.08E-05
				Dieldrin	5.51E-02	mg/kg	4.31E-11	mg/kg-day	1.60E+01	(mg/kg-day)-1	6.89E-10	4.31E-10	mg/kg-day	5.00E-05	mg/kg-day	8.61E-06
				Dimethylphthalate	3.80E-02	mg/kg	2.97E-11	mg/kg-day	--	--	--	2.97E-10	mg/kg-day	8.00E-01	mg/kg-day	3.71E-10
				di-n-Butylphthalate	2.20E+00	mg/kg	1.72E-09	mg/kg-day	--	--	--	1.72E-08	mg/kg-day	2.00E-01	mg/kg-day	8.59E-08
				Endosulfan I	2.30E-02	mg/kg	8.98E-11	mg/kg-day	--	--	--	8.98E-10	mg/kg-day	8.00E-03	mg/kg-day	1.50E-07
				Endosulfan II	2.38E-02	mg/kg	9.30E-11	mg/kg-day	--	--	--	9.30E-10	mg/kg-day	6.00E-03	mg/kg-day	1.55E-07
				Endosulfan Sulfate	4.30E-02	mg/kg	1.68E-10	mg/kg-day	--	--	--	1.68E-09	mg/kg-day	6.00E-03	mg/kg-day	2.80E-07
				Endrin aldehyde	4.21E-02	mg/kg	1.64E-10	mg/kg-day	--	--	--	1.64E-09	mg/kg-day	3.00E-04	mg/kg-day	5.48E-06
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	2.69E-07	mg/kg-day	--	--	--	2.69E-06	mg/kg-day	4.00E-02	mg/kg-day	6.73E-05
				Fluorene	2.92E+00	mg/kg	2.96E-08	mg/kg-day	--	--	--	2.96E-07	mg/kg-day	4.00E-02	mg/kg-day	7.40E-06
				gamma-BHC (Lindane)	2.60E-03	mg/kg	8.12E-12	mg/kg-day	1.10E+00	(mg/kg-day)-1	8.93E-12	8.12E-11	mg/kg-day	3.00E-04	mg/kg-day	2.71E-07
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	5.39E-12	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.21E-11	5.39E-11	mg/kg-day	5.00E-04	mg/kg-day	1.08E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	8.71E-12	mg/kg-day	5.50E+00	(mg/kg-day)-1	4.79E-11	8.71E-11	mg/kg-day	1.30E-05	mg/kg-day	6.70E-06
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	8.86E-09	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.06E-08	8.86E-08	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	3.18E-06	mg/kg-day	--	--	--	3.18E-05	mg/kg-day	3.00E-01	mg/kg-day	1.06E-04
				Isothorone	2.00E-04	mg/kg	1.56E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	1.48E-12	1.56E-08	mg/kg-day	2.00E-01	mg/kg-day	7.81E-08
				Lead	2.90E+03	mg/kg	2.27E-07	mg/kg-day	--	--	--	2.27E-06	mg/kg-day	--	--	--

TABLE H3-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	2.58E-08	mg/kg-day	--	--	--	2.58E-07	mg/kg-day	2.40E-02	mg/kg-day	1.08E-05			
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	3.00E-04	mg/kg-day	--	--		
				Methoxychlor	1.20E-01	mg/kg	9.37E-11	mg/kg-day	--	--	--	--	9.37E-10	mg/kg-day	5.00E-03	mg/kg-day	1.87E-07		
				Molybdenum	2.50E+00	mg/kg	1.96E-10	mg/kg-day	--	--	--	--	1.96E-09	mg/kg-day	5.00E-03	mg/kg-day	3.91E-07		
				Naphthalene	1.30E+01	mg/kg	1.32E-07	mg/kg-day	--	--	--	--	1.32E-06	mg/kg-day	2.00E-02	mg/kg-day	6.60E-05		
				Nickel	3.91E+01	mg/kg	3.05E-09	mg/kg-day	--	--	--	--	3.05E-08	mg/kg-day	2.00E-02	mg/kg-day	1.53E-06		
				Phenanthrene	1.39E+01	mg/kg	1.09E-08	mg/kg-day	--	--	--	--	1.09E-07	mg/kg-day	3.00E-01	mg/kg-day	3.62E-07		
				Phenol	5.80E-01	mg/kg	4.53E-09	mg/kg-day	--	--	--	--	4.53E-08	mg/kg-day	3.00E-01	mg/kg-day	1.51E-07		
				p-isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--		
				Pyrene	2.41E+01	mg/kg	2.45E-07	mg/kg-day	--	--	--	--	2.45E-06	mg/kg-day	3.00E-02	mg/kg-day	8.17E-05		
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--		
				Selenium	2.24E-01	mg/kg	1.75E-11	mg/kg-day	--	--	--	--	1.75E-10	mg/kg-day	5.00E-03	mg/kg-day	3.51E-08		
				Silver	1.16E+00	mg/kg	9.05E-11	mg/kg-day	--	--	--	--	9.05E-10	mg/kg-day	5.00E-03	mg/kg-day	1.81E-07		
				Technical Chlordane	5.51E-01	mg/kg	1.72E-09	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	2.24E-09		1.72E-08	mg/kg-day	5.00E-04	mg/kg-day	3.44E-05		
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--		
				Toluene	4.30E-04	mg/kg	3.36E-13	mg/kg-day	--	--	--	--	3.36E-12	mg/kg-day	8.00E-02	mg/kg-day	4.20E-11		
				Vanadium	3.41E+01	mg/kg	2.67E-09	mg/kg-day	--	--	--	--	2.67E-08	mg/kg-day	1.00E-03	mg/kg-day	2.67E-05		
				Zinc	4.53E+02	mg/kg	3.54E-08	mg/kg-day	--	--	--	--	3.54E-07	mg/kg-day	3.00E-01	mg/kg-day	1.18E-06		
				Exposure Point Total										5.58E-07					1.32E-02
				Exposure Medium Total										5.82E-06					
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.39E-12	mg/kg-day	--	--	--	2.39E-11	mg/kg-day	2.00E-02	mg/kg-day	1.19E-09				
			2-Methylphenol	8.14E-11	mg/m <sup>3</sup>	9.21E-13	mg/kg-day	--	--	--	9.21E-12	mg/kg-day	--	--	--	--			
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.36E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	3.27E-15	1.36E-13	mg/kg-day	5.00E-04	mg/kg-day	2.73E-10				
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	5.08E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.72E-13	5.06E-12	mg/kg-day	5.00E-04	mg/kg-day	1.01E-08				
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.07E-12	mg/kg-day	--	--	--	3.07E-11	mg/kg-day	5.00E-03	mg/kg-day	6.14E-09				
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	7.05E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.48E-13	7.05E-11	mg/kg-day	1.00E-03	mg/kg-day	7.05E-08				
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	4.78E-12	mg/kg-day	--	--	--	4.78E-11	mg/kg-day	5.70E-04	mg/kg-day	8.38E-08				
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.00E-07	mg/kg-day	--	--	--	1.00E-06	mg/kg-day	1.43E-03	mg/kg-day	7.02E-04				
			Antimony	3.09E-09	mg/m <sup>3</sup>	4.64E-11	mg/kg-day	--	--	--	4.64E-10	mg/kg-day	--	--	--				
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.36E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.73E-11	1.36E-10	mg/kg-day	2.00E-05	mg/kg-day	6.82E-06				
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	5.05E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.01E-11	5.05E-11	mg/kg-day	2.00E-05	mg/kg-day	2.52E-06				
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	6.16E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.23E-11	6.16E-11	mg/kg-day	2.00E-05	mg/kg-day	3.08E-06				
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.16E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.31E-13	3.16E-12	mg/kg-day	2.00E-05	mg/kg-day	1.58E-07				
			Arsenic	4.67E-09	mg/m <sup>3</sup>	7.01E-11	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	8.41E-10	7.01E-10	mg/kg-day	8.60E-06	mg/kg-day	8.15E-05				
			Barium	5.14E-08	mg/m <sup>3</sup>	7.71E-10	mg/kg-day	--	--	--	7.71E-09	mg/kg-day	1.40E-04	mg/kg-day	5.51E-05				
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	5.69E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	2.22E-11	5.69E-10	mg/kg-day	--	--	--				
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	1.89E-11	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	7.38E-11	1.89E-10	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	8.68E-12	mg/kg-day	--	--	--	8.68E-11	mg/kg-day	3.00E-02	mg/kg-day	2.89E-09				
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	3.71E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.45E-11	3.71E-10	mg/kg-day	--	--	--				
			Beryllium	1.80E-10	mg/m <sup>3</sup>	2.71E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	2.27E-11	2.71E-11	mg/kg-day	5.71E-06	mg/kg-day	4.74E-06				
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.50E-14	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	3.75E-14	2.50E-13	mg/kg-day	2.00E-04	mg/kg-day	1.25E-09				
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	8.91E-11	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	7.48E-13	8.91E-10	mg/kg-day	2.00E-02	mg/kg-day	4.45E-08				
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.08E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.62E-09	1.08E-09	mg/kg-day	5.71E-06	mg/kg-day	1.88E-04				
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.26E-09	mg/kg-day	--	--	--	1.26E-08	mg/kg-day	--	--	--				
			Cobalt	5.74E-09	mg/m <sup>3</sup>	8.61E-11	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	8.44E-10	8.61E-10	mg/kg-day	5.71E-06	mg/kg-day	1.51E-04				
			Copper	4.32E-08	mg/m <sup>3</sup>	6.49E-10	mg/kg-day	--	--	--	6.49E-09	mg/kg-day	--	--	--				
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	3.61E-12	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.48E-11	3.61E-11	mg/kg-day	--	--	--				
Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	4.32E-13	mg/kg-day	--	--	--	4.32E-12	mg/kg-day	8.00E-01	mg/kg-day	5.40E-12							
di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	2.50E-11	mg/kg-day	--	--	--	2.50E-10	mg/kg-day	1.00E-01	mg/kg-day	2.50E-09							
Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	4.78E-13	mg/kg-day	--	--	--	4.78E-12	mg/kg-day	3.00E-04	mg/kg-day	1.59E-08							

TABLE H3-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.14E-13	mg/kg-day	--	--	--	1.14E-12	mg/kg-day	3.00E-04	mg/kg-day	3.79E-09				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.27E-13	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	6.98E-13	1.27E-12	mg/kg-day	1.30E-05	mg/kg-day	9.76E-08				
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	9.93E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.87E-12	9.93E-11	mg/kg-day	--	--	--				
				Iron	3.09E-05	mg/m <sup>3</sup>	4.63E-07	mg/kg-day	--	--	--	4.63E-06	mg/kg-day	--	--	--				
				Isophorone	1.52E-10	mg/m <sup>3</sup>	2.27E-12	mg/kg-day	--	--	--	2.27E-11	mg/kg-day	--	--	--				
				Lead	2.20E-06	mg/m <sup>3</sup>	3.30E-08	mg/kg-day	--	--	--	3.30E-07	mg/kg-day	--	--	--				
				Manganese	2.51E-07	mg/m <sup>3</sup>	3.76E-09	mg/kg-day	--	--	--	3.76E-08	mg/kg-day	1.43E-05	mg/kg-day	2.63E-03				
				Mercury	2.34E-10	mg/m <sup>3</sup>	3.52E-12	mg/kg-day	--	--	--	3.52E-11	mg/kg-day	8.60E-05	mg/kg-day	4.09E-07				
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	2.85E-11	mg/kg-day	--	--	--	2.85E-10	mg/kg-day	--	--	--				
				Nickel	2.96E-08	mg/m <sup>3</sup>	4.45E-10	mg/kg-day	9.10E-01	(mg/kg-day) <sup>-1</sup>	4.05E-10	4.45E-09	mg/kg-day	1.40E-05	mg/kg-day	3.18E-04				
				Phenol	4.39E-10	mg/m <sup>3</sup>	6.59E-12	mg/kg-day	--	--	--	6.59E-11	mg/kg-day	5.71E-02	mg/kg-day	1.15E-09				
				Selenium	1.70E-10	mg/m <sup>3</sup>	2.55E-12	mg/kg-day	--	--	--	2.55E-11	mg/kg-day	5.70E-03	mg/kg-day	4.48E-09				
				Silver	8.78E-10	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	--	--	--	1.32E-10	mg/kg-day	--	--	--				
				Thallium	3.77E-10	mg/m <sup>3</sup>	5.65E-12	mg/kg-day	--	--	--	5.65E-11	mg/kg-day	--	--	--				
				Vanadium	2.59E-08	mg/m <sup>3</sup>	3.88E-10	mg/kg-day	--	--	--	3.88E-09	mg/kg-day	--	--	--				
				Zinc	3.44E-07	mg/m <sup>3</sup>	5.16E-09	mg/kg-day	--	--	--	5.16E-08	mg/kg-day	--	--	--				
				<b>Exposure Route Total</b>																
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.57E-06	mg/kg-day	--	--	--	1.57E-05	mg/kg-day	1.10E-03	mg/kg-day	1.42E-02
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	5.33E-06	mg/kg-day	--	--	--	5.33E-05	mg/kg-day	1.10E-03	mg/kg-day	4.84E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	1.76E-06	mg/kg-day	--	--	--	1.76E-05	mg/kg-day	1.70E-03	mg/kg-day	1.03E-02
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	7.99E-05	mg/kg-day	--	--	--	7.99E-04	mg/kg-day	5.70E-02	mg/kg-day	1.40E-02
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.29E-08	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.55E-09	4.29E-07	mg/kg-day	1.14E-03	mg/kg-day	3.77E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	5.48E-07	mg/kg-day	--	--	--	5.48E-06	mg/kg-day	1.70E-03	mg/kg-day	3.23E-03
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.44E-06	mg/kg-day	--	--	--	2.44E-05	mg/kg-day	3.00E-02	mg/kg-day	8.15E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.35E-05	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	9.38E-07	2.35E-04	mg/kg-day	2.30E-01	mg/kg-day	1.02E-03
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.11E-06	mg/kg-day	--	--	--	1.11E-05	mg/kg-day	5.00E-02	mg/kg-day	2.22E-04
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	1.46E-10	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	4.95E-11	1.46E-09	mg/kg-day	5.00E-04	mg/kg-day	2.91E-06
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	8.72E-07	mg/kg-day	--	--	--	8.72E-06	mg/kg-day	6.00E-02	mg/kg-day	1.45E-04				
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.15E-08	mg/kg-day	--	--	--	2.15E-07	mg/kg-day	6.00E-02	mg/kg-day	3.58E-06				
				Aldrin	5.63E-09	mg/m <sup>3</sup>	8.45E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	1.44E-09	8.45E-10	mg/kg-day	3.00E-05	mg/kg-day	2.82E-05				
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	5.46E-11	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.47E-10	5.46E-10	mg/kg-day	5.00E-04	mg/kg-day	1.09E-06				
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.21E-10	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.45E-10	1.21E-09	mg/kg-day	2.00E-04	mg/kg-day	6.05E-06				
				Anthracene	1.45E-05	mg/m <sup>3</sup>	2.17E-07	mg/kg-day	--	--	--	2.17E-06	mg/kg-day	3.00E-01	mg/kg-day	7.25E-06				
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	2.66E-08	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.04E-08	2.66E-07	mg/kg-day	--	--	--				
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	6.79E-09	mg/kg-day	--	--	--	6.79E-08	mg/kg-day	2.00E-01	mg/kg-day	3.39E-07				
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	7.77E-07	mg/kg-day	--	--	--	7.77E-06	mg/kg-day	2.86E-01	mg/kg-day	2.72E-05				
				Chrysene	6.25E-08	mg/m <sup>3</sup>	9.38E-08	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	3.66E-09	9.38E-07	mg/kg-day	--	--	--				
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	6.28E-10	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	9.42E-10	6.28E-09	mg/kg-day	2.00E-04	mg/kg-day	3.14E-05				
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	6.73E-07	mg/kg-day	--	--	--	6.73E-06	mg/kg-day	2.00E-03	mg/kg-day	3.37E-03				
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.11E-09	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.78E-08	1.11E-08	mg/kg-day	5.00E-05	mg/kg-day	2.23E-04				
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.21E-09	mg/kg-day	--	--	--	1.21E-08	mg/kg-day	6.00E-03	mg/kg-day	2.02E-06				
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.25E-09	mg/kg-day	--	--	--	1.25E-08	mg/kg-day	6.00E-03	mg/kg-day	2.09E-06				
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.26E-09	mg/kg-day	--	--	--	2.26E-08	mg/kg-day	6.00E-03	mg/kg-day	3.77E-06				
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	2.57E-07	mg/kg-day	--	--	--	2.57E-06	mg/kg-day	4.00E-02	mg/kg-day	6.43E-05				
				Fluorene	1.71E-05	mg/m <sup>3</sup>	2.56E-07	mg/kg-day	--	--	--	2.56E-06	mg/kg-day	4.00E-02	mg/kg-day	6.40E-05				
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.39E-10	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.63E-10	2.39E-09	mg/kg-day	3.00E-04	mg/kg-day	7.98E-08				
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	1.95E-10	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.34E-10	1.95E-09	mg/kg-day	2.00E-04	mg/kg-day	9.73E-06				
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	5.07E-09	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	2.08E-08	5.07E-08	mg/kg-day	5.00E-04	mg/kg-day	1.01E-04				
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.30E-09	mg/kg-day	--	--	--	1.30E-08	mg/kg-day	5.00E-03	mg/kg-day	2.59E-06				
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.05E-05	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.26E-06	1.05E-04	mg/kg-day	8.57E-04	mg/kg-day	1.22E-01				
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	2.87E-06	mg/kg-day	--	--	--	2.87E-05	mg/kg-day	3.00E-01	mg/kg-day	9.56E-05				

TABLE H3-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	2.88E-06	mg/kg-day	--	--	--	2.88E-05	mg/kg-day	1.10E-01	mg/kg-day	2.61E-04	
				Pyrene	1.85E-05	mg/m <sup>3</sup>	2.77E-07	mg/kg-day	--	--	--	2.77E-06	mg/kg-day	3.00E-02	mg/kg-day	9.24E-05	
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.21E-07	mg/kg-day	--	--	--	4.21E-06	mg/kg-day	4.00E-02	mg/kg-day	1.05E-04	
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	8.19E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	9.82E-09	8.19E-08	mg/kg-day	2.00E-04	mg/kg-day	4.09E-04	
				Toluene	3.12E-07	mg/m <sup>3</sup>	4.69E-09	mg/kg-day	--	--	--	4.69E-08	mg/kg-day	1.43E+00	mg/kg-day	3.28E-08	
Exposure Route Total																	
Exposure Point Total																	
Exposure Medium Total																	
Medium Total																	
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	6.35E-09	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	3.62E-11	6.35E-08	mg/kg-day	1.40E-01	mg/kg-day	4.54E-07	
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	1.89E-09	mg/kg-day	--	--	--	1.89E-08	mg/kg-day	1.70E-03	mg/kg-day	1.11E-05	
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.24E-08	mg/kg-day	--	--	--	1.24E-07	mg/kg-day	5.70E-02	mg/kg-day	2.18E-06	
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	8.93E-09	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	6.43E-10	8.93E-08	mg/kg-day	1.40E-03	mg/kg-day	6.38E-05	
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.35E-09	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.21E-10	3.35E-08	mg/kg-day	1.14E-03	mg/kg-day	2.94E-05	
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.08E-09	mg/kg-day	--	--	--	1.08E-08	mg/kg-day	1.70E-03	mg/kg-day	6.35E-06	
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.23E-09	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	1.69E-10	4.23E-08	mg/kg-day	2.30E-01	mg/kg-day	1.84E-07	
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.63E-10	mg/kg-day	--	--	--	1.63E-09	mg/kg-day	1.43E+00	mg/kg-day	1.14E-09	
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.45E-11	mg/kg-day	--	--	--	1.45E-11	mg/kg-day	5.00E-02	mg/kg-day	2.90E-09	
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	1.94E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	6.60E-12	1.94E-10	mg/kg-day	5.00E-04	mg/kg-day	3.88E-07	
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	6.07E-11	mg/kg-day	--	--	--	6.07E-10	mg/kg-day	8.60E-01	mg/kg-day	7.06E-10	
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	5.82E-10	mg/kg-day	--	--	--	5.82E-09	mg/kg-day	6.00E-02	mg/kg-day	9.69E-08	
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.48E-11	mg/kg-day	--	--	--	2.48E-10	mg/kg-day	6.00E-02	mg/kg-day	4.13E-09	
				Aldrin	2.24E-09	mg/m <sup>3</sup>	3.35E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	5.70E-10	3.35E-10	mg/kg-day	3.00E-05	mg/kg-day	1.12E-05	
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.25E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.15E-11	4.25E-11	mg/kg-day	5.00E-04	mg/kg-day	8.50E-08	
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.01E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.21E-11	1.01E-11	mg/kg-day	2.00E-04	mg/kg-day	5.03E-07	
				Anthracene	3.29E-09	mg/m <sup>3</sup>	4.93E-11	mg/kg-day	--	--	--	4.93E-10	mg/kg-day	3.00E-01	mg/kg-day	1.64E-09	
				Benzene	2.61E-07	mg/m <sup>3</sup>	3.92E-09	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	3.92E-10	3.92E-08	mg/kg-day	8.60E-03	mg/kg-day	4.55E-06	
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	7.30E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	2.85E-12	7.30E-11	mg/kg-day	--	--	--	
				Bromoforn	7.36E-09	mg/m <sup>3</sup>	1.10E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	4.31E-13	1.10E-09	mg/kg-day	2.00E-02	mg/kg-day	5.52E-08	
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	6.76E-08	mg/kg-day	--	--	--	6.76E-07	mg/kg-day	2.00E-01	mg/kg-day	3.38E-06	
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.10E-09	mg/kg-day	--	--	--	1.10E-08	mg/kg-day	2.86E-01	mg/kg-day	3.85E-08	
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.10E-08	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	5.89E-10	3.10E-07	mg/kg-day	8.57E-02	mg/kg-day	3.62E-06	
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.12E-08	mg/kg-day	--	--	--	1.12E-07	mg/kg-day	2.60E-02	mg/kg-day	4.32E-06	
				Chrysene	1.32E-09	mg/m <sup>3</sup>	1.98E-11	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	7.70E-13	1.98E-10	mg/kg-day	--	--	--	
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	7.95E-09	mg/kg-day	--	--	--	7.95E-08	mg/kg-day	1.00E-02	mg/kg-day	7.95E-06	
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.47E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.36E-10	1.47E-10	mg/kg-day	5.00E-05	mg/kg-day	2.95E-06	
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.36E-12	mg/kg-day	--	--	--	3.36E-11	mg/kg-day	6.00E-03	mg/kg-day	5.60E-09	
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	5.52E-15	mg/kg-day	--	--	--	5.52E-14	mg/kg-day	6.00E-03	mg/kg-day	9.21E-12	
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	2.99E-09	mg/kg-day	--	--	--	2.99E-08	mg/kg-day	2.90E-01	mg/kg-day	1.03E-07	
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	7.59E-12	mg/kg-day	--	--	--	7.59E-11	mg/kg-day	4.00E-02	mg/kg-day	1.90E-09	
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.50E-11	mg/kg-day	--	--	--	1.50E-10	mg/kg-day	4.00E-02	mg/kg-day	3.75E-09	
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	1.86E-14	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.05E-14	1.86E-13	mg/kg-day	3.00E-04	mg/kg-day	6.22E-10	
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	2.61E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.13E-11	2.61E-10	mg/kg-day	3.00E-04	mg/kg-day	1.31E-06	
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	2.68E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.10E-09	2.68E-09	mg/kg-day	5.00E-04	mg/kg-day	5.36E-06	
				isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	5.14E-07	mg/kg-day	--	--	--	5.14E-06	mg/kg-day	1.10E-01	mg/kg-day	4.67E-05	
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.04E-08	mg/kg-day	--	--	--	1.04E-07	mg/kg-day	2.90E-02	mg/kg-day	3.59E-06	
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	4.90E-11	mg/kg-day	--	--	--	4.90E-10	mg/kg-day	5.00E-03	mg/kg-day	9.80E-08	
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	8.15E-11	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	9.78E-12	8.15E-10	mg/kg-day	8.57E-04	mg/kg-day	9.51E-07	
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	3.80E-09	mg/kg-day	--	--	--	3.80E-08	mg/kg-day	8.57E-04	mg/kg-day	4.43E-05	
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.23E-09	mg/kg-day	--	--	--	4.23E-08	mg/kg-day	4.00E-02	mg/kg-day	1.06E-06	
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	3.93E-11	mg/kg-day	--	--	--	3.93E-10	mg/kg-day	3.00E-01	mg/kg-day	1.31E-09	

TABLE H3-7.11

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations						
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	5.14E-07	mg/kg-day	--	--	--	5.14E-06	mg/kg-day	1.10E-01	mg/kg-day	4.67E-05	
				Pyrene	4.61E-10	mg/m <sup>3</sup>	6.92E-12	mg/kg-day	--	--	--	6.92E-11	mg/kg-day	3.00E-02	mg/kg-day	2.31E-09	
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	1.20E-07	mg/kg-day	4.00E-02	mg/kg-day	3.01E-06	
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	1.36E-08	mg/kg-day	--	--	--	1.36E-07	mg/kg-day	4.00E-02	mg/kg-day	3.41E-06	
				Toluene	3.80E-07	mg/m <sup>3</sup>	5.70E-09	mg/kg-day	--	--	--	5.70E-08	mg/kg-day	1.43E+00	mg/kg-day	3.99E-08	
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	1.35E-08	mg/kg-day	--	--	--	1.35E-07	mg/kg-day	2.00E-02	mg/kg-day	6.73E-06	
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	1.40E-08	mg/kg-day	7.00E-03	(mg/kg-day) <sup>-1</sup>	9.79E-11	1.40E-07	mg/kg-day	1.70E-01	mg/kg-day	8.23E-07	
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	2.89E-08	mg/kg-day	2.70E-01	(mg/kg-day) <sup>-1</sup>	7.81E-09	2.89E-07	mg/kg-day	2.88E-02	mg/kg-day	1.01E-05	
Exposure Route Total																	
Exposure Point Total																	
Exposure Medium Total																	
Medium Total																	
							Total of Receptor Risks Across All Media					Total of Receptor Hazards Across All Media					

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)<sup>-1</sup> 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RfD Reference dose
  - RfC Reference concentration
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	1.76E-07	mg/kg-day	--	--	--	6.16E-06	mg/kg-day	1.00E-02	mg/kg-day	6.16E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	5.99E-07	mg/kg-day	--	--	--	2.10E-05	mg/kg-day	1.00E-02	mg/kg-day	2.10E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	5.87E-08	mg/kg-day	--	--	--	2.05E-06	mg/kg-day	5.00E-02	mg/kg-day	4.11E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	3.05E-06	mg/kg-day	--	--	--	1.07E-04	mg/kg-day	9.00E-02	mg/kg-day	1.19E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	4.23E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.52E-11	1.48E-08	mg/kg-day	1.14E-03	mg/kg-day	1.30E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	1.88E-08	mg/kg-day	--	--	--	6.58E-07	mg/kg-day	5.00E-02	mg/kg-day	1.32E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.29E-07	mg/kg-day	--	--	--	4.52E-06	mg/kg-day	3.00E-02	mg/kg-day	1.51E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	7.98E-07	mg/kg-day	5.40E-03	(mg/kg-day)-1	4.31E-09	2.70E-05	mg/kg-day	3.00E-02	mg/kg-day	9.32E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	2.47E-08	mg/kg-day	--	--	--	8.63E-07	mg/kg-day	2.00E-02	mg/kg-day	4.32E-05
				2-Methylphenol	8.10E-02	mg/kg	9.51E-09	mg/kg-day	--	--	--	3.33E-07	mg/kg-day	4.00E-03	mg/kg-day	8.32E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	1.90E-07	mg/kg-day	--	--	--	6.87E-06	mg/kg-day	5.00E-02	mg/kg-day	1.37E-04
				4,4-DDD	1.20E-03	mg/kg	1.41E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	3.38E-11	4.93E-09	mg/kg-day	5.00E-04	mg/kg-day	9.86E-06
				4,4-DDE	8.23E-02	mg/kg	9.66E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	3.29E-09	3.38E-07	mg/kg-day	5.00E-04	mg/kg-day	6.77E-04
				4,4-DDT	4.45E-02	mg/kg	5.22E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	1.78E-09	1.83E-07	mg/kg-day	5.00E-04	mg/kg-day	3.66E-04
				4-Methylphenol	2.70E-01	mg/kg	3.17E-08	mg/kg-day	--	--	--	1.11E-06	mg/kg-day	5.00E-03	mg/kg-day	2.22E-04
				4-Nitroaniline	6.20E-01	mg/kg	7.28E-08	mg/kg-day	2.10E-02	(mg/kg-day)-1	1.53E-09	2.55E-06	mg/kg-day	3.00E-03	mg/kg-day	8.49E-04
				4-Nitrophenol	4.20E-01	mg/kg	4.93E-08	mg/kg-day	--	--	--	1.73E-06	mg/kg-day	5.00E-04	mg/kg-day	3.45E-03
				Acenaphthene	4.23E+00	mg/kg	4.97E-07	mg/kg-day	--	--	--	1.74E-05	mg/kg-day	6.00E-02	mg/kg-day	2.90E-04
				Acenaphthylene	1.04E-01	mg/kg	1.22E-08	mg/kg-day	--	--	--	4.28E-07	mg/kg-day	6.00E-02	mg/kg-day	7.14E-06
				Aldrin	1.30E-02	mg/kg	1.53E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	2.59E-08	5.34E-08	mg/kg-day	3.00E-05	mg/kg-day	1.78E-03
				alpha-BHC	7.30E-04	mg/kg	8.57E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	2.31E-10	3.00E-09	mg/kg-day	5.00E-04	mg/kg-day	6.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	9.56E-10	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.24E-09	3.35E-08	mg/kg-day	5.00E-04	mg/kg-day	6.69E-05
				Aluminum	8.82E+03	mg/kg	1.04E-03	mg/kg-day	--	--	--	3.63E-02	mg/kg-day	1.00E+00	mg/kg-day	3.63E-02
				Anthracene	1.05E+00	mg/kg	1.24E-07	mg/kg-day	--	--	--	4.34E-06	mg/kg-day	3.00E-01	mg/kg-day	1.45E-05
				Antimony	4.08E+00	mg/kg	4.79E-07	mg/kg-day	--	--	--	1.68E-05	mg/kg-day	4.00E-04	mg/kg-day	4.19E-02
				Aroclor-1248	1.20E+00	mg/kg	1.41E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.82E-07	4.93E-06	mg/kg-day	2.00E-05	mg/kg-day	2.47E-01
				Aroclor-1254	4.44E-01	mg/kg	5.21E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.04E-07	1.83E-06	mg/kg-day	2.00E-05	mg/kg-day	9.13E-02
				Aroclor-1260	5.41E-01	mg/kg	6.36E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.27E-07	2.22E-06	mg/kg-day	2.00E-05	mg/kg-day	1.11E-01
				Aroclor-1268	2.78E-02	mg/kg	3.26E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	6.52E-09	1.14E-07	mg/kg-day	2.00E-05	mg/kg-day	5.70E-03
				Arsenic	6.17E+00	mg/kg	7.24E-07	mg/kg-day	9.45E+00	(mg/kg-day)-1	6.84E-06	2.53E-05	mg/kg-day	3.00E-04	mg/kg-day	8.45E-02
				Barium	6.78E+01	mg/kg	7.96E-06	mg/kg-day	--	--	--	2.79E-04	mg/kg-day	7.00E-02	mg/kg-day	3.98E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	5.88E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	7.05E-07	2.06E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	1.96E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	2.35E-06	6.84E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	3.22E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.86E-07	1.13E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	8.97E-08	mg/kg-day	--	--	--	3.14E-06	mg/kg-day	3.00E-02	mg/kg-day	1.05E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	3.83E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	4.59E-07	1.34E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	2.80E-08	mg/kg-day	--	--	--	9.79E-07	mg/kg-day	2.00E-03	mg/kg-day	4.89E-04
				Beta-BHC	2.20E-03	mg/kg	2.58E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	3.87E-10	9.04E-09	mg/kg-day	2.00E-04	mg/kg-day	4.52E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	9.20E-07	mg/kg-day	3.00E-03	(mg/kg-day)-1	2.76E-09	3.22E-05	mg/kg-day	2.00E-02	mg/kg-day	1.61E-03
				Cadmium	9.47E+00	mg/kg	1.11E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	4.23E-07	3.89E-05	mg/kg-day	5.00E-04	mg/kg-day	7.79E-02
				Carbon disulfide	2.40E-04	mg/kg	2.82E-11	mg/kg-day	--	--	--	9.86E-10	mg/kg-day	1.00E-01	mg/kg-day	9.86E-09
				Chlorobenzene	1.10E-01	mg/kg	1.29E-08	mg/kg-day	--	--	--	4.52E-07	mg/kg-day	2.00E-02	mg/kg-day	2.26E-05
				Chromium	1.11E+02	mg/kg	1.31E-05	mg/kg-day	--	--	--	4.57E-04	mg/kg-day	1.50E+00	mg/kg-day	3.05E-04
				Chrysenes	5.68E+00	mg/kg	6.67E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	8.01E-08	2.34E-05	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	8.89E-07	mg/kg-day	--	--	--	3.11E-05	mg/kg-day	2.00E-02	mg/kg-day	1.56E-03
				Copper	5.71E+01	mg/kg	6.70E-06	mg/kg-day	--	--	--	2.34E-04	mg/kg-day	4.00E-02	mg/kg-day	5.86E-03
				Delta-BHC	6.40E-03	mg/kg	9.86E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.48E-09	3.45E-08	mg/kg-day	2.00E-04	mg/kg-day	1.73E-04
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	3.73E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	1.53E-07	1.30E-06	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	1.53E-06	mg/kg-day	--	--	--	5.34E-05	mg/kg-day	2.00E-03	mg/kg-day	2.67E-02
				Dieldrin	5.51E-02	mg/kg	6.47E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.04E-07	2.27E-07	mg/kg-day	5.00E-05	mg/kg-day	4.53E-03
				Dimethylphthalate	3.80E-02	mg/kg	4.48E-09	mg/kg-day	--	--	--	1.56E-07	mg/kg-day	8.00E-01	mg/kg-day	1.95E-07

TABLE H3-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	2.58E-07	mg/kg-day	--	--	--	9.04E-06	mg/kg-day	2.00E-01	mg/kg-day	4.52E-05				
				Endosulfan I	2.30E-02	mg/kg	2.70E-09	mg/kg-day	--	--	--	9.45E-08	mg/kg-day	6.00E-03	mg/kg-day	1.58E-05				
				Endosulfan II	2.38E-02	mg/kg	2.80E-09	mg/kg-day	--	--	--	9.79E-08	mg/kg-day	6.00E-03	mg/kg-day	1.63E-05				
				Endosulfan Sulfate	4.30E-02	mg/kg	5.05E-09	mg/kg-day	--	--	--	1.77E-07	mg/kg-day	6.00E-03	mg/kg-day	2.95E-05				
				Endrin aldehyde	4.21E-02	mg/kg	4.94E-09	mg/kg-day	--	--	--	1.73E-07	mg/kg-day	3.00E-04	mg/kg-day	5.76E-04				
				Endrin Ketone	1.00E-02	mg/kg	1.17E-09	mg/kg-day	--	--	--	4.11E-08	mg/kg-day	3.00E-04	mg/kg-day	1.37E-04				
				Fluoranthene	2.65E+01	mg/kg	3.11E-06	mg/kg-day	--	--	--	1.09E-04	mg/kg-day	4.00E-02	mg/kg-day	2.72E-03				
				Fluorene	2.92E+00	mg/kg	3.42E-07	mg/kg-day	--	--	--	1.20E-05	mg/kg-day	4.00E-02	mg/kg-day	3.00E-04				
				gamma-BHC (Lindane)	2.60E-03	mg/kg	3.05E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.36E-10	1.07E-08	mg/kg-day	3.00E-04	mg/kg-day	3.56E-05				
				gamma-Chlordane	1.31E-02	mg/kg	1.54E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.00E-09	5.38E-08	mg/kg-day	5.00E-04	mg/kg-day	1.08E-04				
				Heptachlor	6.90E-03	mg/kg	8.10E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.32E-09	2.84E-08	mg/kg-day	5.00E-04	mg/kg-day	5.67E-05				
				Heptachlor Epoxide	1.12E-02	mg/kg	1.31E-09	mg/kg-day	5.50E+00	(mg/kg-day)-1	7.20E-09	4.58E-08	mg/kg-day	1.30E-05	mg/kg-day	3.53E-03				
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.02E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.23E-07	3.59E-06	mg/kg-day	--	--	--				
				Iron	4.07E+04	mg/kg	4.78E-03	mg/kg-day	--	--	--	1.67E-01	mg/kg-day	3.00E-01	mg/kg-day	5.58E-01				
				Isophorone	2.00E-01	mg/kg	2.35E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	2.23E-11	8.22E-07	mg/kg-day	2.00E-01	mg/kg-day	4.11E-06				
				Lead	2.90E+03	mg/kg	3.41E-04	mg/kg-day	--	--	--	1.19E-02	mg/kg-day	--	--	--				
				Manganese	3.31E+02	mg/kg	3.89E-05	mg/kg-day	--	--	--	1.36E-03	mg/kg-day	2.40E-02	mg/kg-day	5.67E-02				
				Mercury	3.10E-01	mg/kg	3.63E-08	mg/kg-day	--	--	--	1.27E-06	mg/kg-day	3.00E-04	mg/kg-day	4.24E-03				
				Methoxychlor	1.20E-01	mg/kg	1.41E-08	mg/kg-day	--	--	--	4.63E-07	mg/kg-day	5.00E-03	mg/kg-day	9.86E-05				
				Molybdenum	2.50E+00	mg/kg	2.94E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	5.00E-03	mg/kg-day	2.06E-03				
				Naphthalene	1.30E+01	mg/kg	1.53E-06	mg/kg-day	--	--	--	5.34E-05	mg/kg-day	2.00E-02	mg/kg-day	2.67E-03				
				Nickel	3.91E+01	mg/kg	4.59E-06	mg/kg-day	--	--	--	1.61E-04	mg/kg-day	2.00E-02	mg/kg-day	8.04E-03				
				Phenanthrene	1.39E+01	mg/kg	1.63E-06	mg/kg-day	--	--	--	5.72E-05	mg/kg-day	3.00E-01	mg/kg-day	1.91E-04				
				Phenol	5.80E-01	mg/kg	6.81E-08	mg/kg-day	--	--	--	2.38E-06	mg/kg-day	3.00E-01	mg/kg-day	7.95E-06				
				p-Isopropyltoluene	1.10E-01	mg/kg	1.29E-08	mg/kg-day	--	--	--	4.52E-07	mg/kg-day	1.00E-01	mg/kg-day	4.52E-06				
				Pyrene	2.41E+01	mg/kg	2.84E-06	mg/kg-day	--	--	--	9.92E-05	mg/kg-day	3.00E-02	mg/kg-day	3.31E-03				
				sec-Butylbenzene	7.10E-02	mg/kg	8.34E-09	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	4.00E-02	mg/kg-day	7.29E-06				
				Selenium	2.24E-01	mg/kg	2.64E-08	mg/kg-day	--	--	--	9.22E-07	mg/kg-day	5.00E-03	mg/kg-day	1.84E-04				
				Silver	1.16E+00	mg/kg	1.36E-07	mg/kg-day	--	--	--	4.76E-06	mg/kg-day	5.00E-03	mg/kg-day	9.53E-04				
				Technical Chlordane	5.51E-01	mg/kg	6.47E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	8.41E-08	2.26E-06	mg/kg-day	5.00E-04	mg/kg-day	4.53E-03				
				Thallium	4.97E-01	mg/kg	5.84E-08	mg/kg-day	--	--	--	2.04E-06	mg/kg-day	8.00E-05	mg/kg-day	2.55E-02				
				Toluene	4.30E-04	mg/kg	5.05E-11	mg/kg-day	--	--	--	1.77E-09	mg/kg-day	8.00E-02	mg/kg-day	2.21E-08				
				Vanadium	3.41E+01	mg/kg	4.01E-06	mg/kg-day	--	--	--	1.40E-04	mg/kg-day	1.00E-03	mg/kg-day	1.40E-01				
				Zinc	4.53E+02	mg/kg	5.32E-05	mg/kg-day	--	--	--	1.86E-03	mg/kg-day	3.00E-01	mg/kg-day	6.21E-03				
				Exposure Route Total							1.23E-05					1.57E+00				
				Dermal	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	3.07E-08	mg/kg-day	--	--	--	1.07E-06	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04			
					1,2,4-Trichlorobenzene	5.10E+00	mg/kg	1.04E-08	mg/kg-day	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05			
					1,2,4-Trimethylbenzene	5.00E-01	mg/kg	1.02E-09	mg/kg-day	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07			
					1,2-Dichlorobenzene	2.60E+01	mg/kg	5.32E-08	mg/kg-day	--	--	--	1.86E-06	mg/kg-day	5.00E-02	mg/kg-day	2.07E-05			
					1,2-Dichloropropane	3.60E-03	mg/kg	7.36E-12	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.65E-13	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07			
					1,3,5-Trimethylbenzene	1.60E-01	mg/kg	3.27E-10	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07			
					1,3-Dichlorobenzene	1.10E+00	mg/kg	2.25E-09	mg/kg-day	--	--	--	7.88E-08	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06			
					1,4-Dichlorobenzene	6.80E+00	mg/kg	--	mg/kg-day	5.40E-03	(mg/kg-day)-1	--	--	mg/kg-day	3.00E-02	mg/kg-day	--			
					2,4-Dimethylphenol	2.10E-01	mg/kg	4.30E-10	mg/kg-day	--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07			
					2-Methylphenol	8.10E-02	mg/kg	1.66E-09	mg/kg-day	--	--	--	5.80E-08	mg/kg-day	4.00E-03	mg/kg-day	1.45E-05			
2-Methylnaphthalene	1.67E+00	mg/kg	3.42E-09		mg/kg-day	--	--	--	1.20E-07	mg/kg-day	5.00E-02	mg/kg-day	2.39E-06							
4,4'-DDD	1.20E-03	mg/kg	2.45E-12		mg/kg-day	2.40E-01	(mg/kg-day)-1	5.89E-13	8.59E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07							
4,4'-DDE	8.23E-02	mg/kg	1.68E-10		mg/kg-day	3.40E-01	(mg/kg-day)-1	5.73E-11	5.89E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05							
4,4'-DDT	4.45E-02	mg/kg	2.73E-10		mg/kg-day	3.40E-01	(mg/kg-day)-1	9.28E-11	9.56E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05							
4-Methylphenol	2.70E-01	mg/kg	5.52E-09		mg/kg-day	--	--	--	1.93E-07	mg/kg-day	5.00E-03	mg/kg-day	3.87E-05							
4-Nitroaniline	6.20E-01	mg/kg	1.27E-08		mg/kg-day	2.10E-02	(mg/kg-day)-1	2.66E-10	4.44E-07	mg/kg-day	3.00E-03	mg/kg-day	1.48E-04							

TABLE H3-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units	Value	Units		
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	8.59E-09	mg/kg-day	--	--	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	4.23E+00	mg/kg	1.13E-07	mg/kg-day	--	--	--	--	3.94E-06	mg/kg-day	6.00E-02	mg/kg-day	6.57E-05
				Acenaphthylene	1.04E-01	mg/kg	2.13E-10	mg/kg-day	--	--	--	--	7.46E-09	mg/kg-day	6.00E-02	mg/kg-day	1.24E-07
				Aldrin	1.30E-02	mg/kg	2.66E-10	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	4.52E-09	9.31E-09	3.00E-05	mg/kg-day	3.10E-04	mg/kg-day	3.10E-04
				alpha-BHC	7.30E-04	mg/kg	1.49E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	4.03E-12	5.23E-11	5.00E-04	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	5.00E-04	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	1.80E-06	mg/kg-day	--	--	--	--	6.32E-05	mg/kg-day	1.00E+00	mg/kg-day	6.32E-05
				Anthracene	1.05E+00	mg/kg	2.81E-08	mg/kg-day	--	--	--	--	9.82E-07	mg/kg-day	3.00E-01	mg/kg-day	3.27E-06
				Antimony	4.08E+00	mg/kg	8.34E-10	mg/kg-day	--	--	--	--	2.92E-08	mg/kg-day	4.00E-04	mg/kg-day	7.30E-05
				Aroclor-1248	1.20E+00	mg/kg	3.44E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	6.87E-08	1.20E-06	2.00E-05	mg/kg-day	6.01E-02	mg/kg-day	6.01E-02
				Aroclor-1254	4.44E-01	mg/kg	1.27E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	2.54E-08	4.45E-07	2.00E-05	mg/kg-day	2.23E-02	mg/kg-day	2.23E-02
				Aroclor-1260	5.41E-01	mg/kg	1.55E-08	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.10E-08	5.43E-07	2.00E-05	mg/kg-day	2.71E-02	mg/kg-day	2.71E-02
				Aroclor-1268	2.78E-02	mg/kg	7.95E-10	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.59E-09	2.78E-08	2.00E-05	mg/kg-day	1.39E-03	mg/kg-day	1.39E-03
				Arsenic	6.17E+00	mg/kg	3.78E-08	mg/kg-day	9.45E+00	(mg/kg-day) <sup>-1</sup>	3.58E-07	1.32E-06	3.00E-04	mg/kg-day	4.41E-03	mg/kg-day	4.41E-03
				Barium	6.78E+01	mg/kg	1.39E-08	mg/kg-day	--	--	--	4.86E-07	7.00E-02	mg/kg-day	6.94E-06	mg/kg-day	6.94E-06
				Benzo(a)anthracene	5.00E+00	mg/kg	1.33E-07	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.60E-07	4.69E-06	5.00E-04	mg/kg-day	--	mg/kg-day	--
				Benzo(a)pyrene	1.67E+00	mg/kg	4.43E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	5.31E-07	1.55E-06	5.00E-04	mg/kg-day	--	mg/kg-day	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	7.28E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	8.74E-08	2.65E-06	5.00E-04	mg/kg-day	--	mg/kg-day	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.03E-08	mg/kg-day	--	--	--	7.11E-07	3.00E-02	mg/kg-day	2.37E-05	mg/kg-day	2.37E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	8.67E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.04E-07	3.03E-06	5.00E-04	mg/kg-day	--	mg/kg-day	--
				Beryllium	2.38E-01	mg/kg	4.87E-11	mg/kg-day	--	--	--	1.70E-09	2.00E-03	mg/kg-day	8.52E-07	mg/kg-day	8.52E-07
				Beta-BHC	2.20E-03	mg/kg	4.50E-12	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	6.75E-12	1.58E-10	2.00E-04	mg/kg-day	7.88E-07	mg/kg-day	7.88E-07
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.60E-08	mg/kg-day	3.00E-03	(mg/kg-day) <sup>-1</sup>	4.81E-11	5.61E-07	2.00E-02	mg/kg-day	2.80E-05	mg/kg-day	2.80E-05
				Cadmium	9.47E+00	mg/kg	1.94E-09	mg/kg-day	3.80E-01	(mg/kg-day) <sup>-1</sup>	7.36E-10	6.78E-08	5.00E-04	mg/kg-day	1.36E-04	mg/kg-day	1.36E-04
				Carbon disulfide	2.40E-04	mg/kg	1.23E-11	mg/kg-day	--	--	--	4.30E-10	1.00E-01	mg/kg-day	4.30E-09	mg/kg-day	4.30E-09
				Chlorobenzene	1.10E-01	mg/kg	2.25E-10	mg/kg-day	--	--	--	7.88E-09	2.00E-02	mg/kg-day	3.94E-07	mg/kg-day	3.94E-07
				Chromium	1.11E+02	mg/kg	2.27E-08	mg/kg-day	--	--	--	7.96E-07	1.50E+00	mg/kg-day	5.31E-07	mg/kg-day	5.31E-07
				Chrysene	5.68E+00	mg/kg	1.51E-07	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.81E-08	5.29E-06	5.00E-04	mg/kg-day	--	mg/kg-day	--
				Cobalt	7.57E+00	mg/kg	1.55E-09	mg/kg-day	--	--	--	5.42E-08	2.00E-02	mg/kg-day	2.71E-06	mg/kg-day	2.71E-06
				Copper	5.71E+01	mg/kg	1.17E-08	mg/kg-day	--	--	--	4.09E-07	4.00E-02	mg/kg-day	1.02E-05	mg/kg-day	1.02E-05
				Delta-BHC	8.40E-03	mg/kg	8.59E-11	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	1.29E-10	3.01E-09	2.00E-04	mg/kg-day	1.50E-05	mg/kg-day	1.50E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	8.44E-09	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	3.46E-08	2.96E-07	5.00E-04	mg/kg-day	--	mg/kg-day	--
				Dibenzofuran	1.30E+01	mg/kg	2.66E-08	mg/kg-day	--	--	--	9.31E-07	2.00E-03	mg/kg-day	4.65E-04	mg/kg-day	4.65E-04
				Dieldrin	5.51E-02	mg/kg	1.13E-10	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	1.80E-09	3.95E-09	5.00E-05	mg/kg-day	7.90E-05	mg/kg-day	7.90E-05
				Dimethylphthalate	3.80E-02	mg/kg	7.77E-11	mg/kg-day	--	--	--	2.72E-09	8.00E-01	mg/kg-day	3.40E-09	mg/kg-day	3.40E-09
				di-n-Butylphthalate	2.20E+00	mg/kg	4.50E-09	mg/kg-day	--	--	--	1.69E-07	2.00E-01	mg/kg-day	7.86E-07	mg/kg-day	7.86E-07
				Endosulfan I	2.30E-02	mg/kg	2.35E-10	mg/kg-day	--	--	--	8.23E-09	6.00E-03	mg/kg-day	1.37E-06	mg/kg-day	1.37E-06
				Endosulfan II	2.38E-02	mg/kg	2.44E-10	mg/kg-day	--	--	--	8.53E-09	6.00E-03	mg/kg-day	1.42E-06	mg/kg-day	1.42E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	4.40E-10	mg/kg-day	--	--	--	1.54E-08	6.00E-03	mg/kg-day	2.57E-06	mg/kg-day	2.57E-06
				Endrin aldehyde	4.21E-02	mg/kg	4.30E-10	mg/kg-day	--	--	--	1.51E-08	3.00E-04	mg/kg-day	5.02E-05	mg/kg-day	5.02E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	3.00E-04	mg/kg-day	--	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	7.05E-07	mg/kg-day	--	--	--	2.47E-05	4.00E-02	mg/kg-day	6.17E-04	mg/kg-day	6.17E-04
				Fluorene	2.92E+00	mg/kg	7.76E-08	mg/kg-day	--	--	--	2.71E-06	4.00E-02	mg/kg-day	6.79E-05	mg/kg-day	6.79E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.13E-11	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.34E-11	7.45E-10	3.00E-04	mg/kg-day	2.48E-06	mg/kg-day	2.48E-06
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	--	--	5.00E-04	mg/kg-day	--	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.41E-11	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	5.79E-11	4.94E-10	5.00E-04	mg/kg-day	9.88E-07	mg/kg-day	9.88E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	2.28E-11	mg/kg-day	5.50E+00	(mg/kg-day) <sup>-1</sup>	1.25E-10	7.99E-10	1.30E-05	mg/kg-day	6.14E-05	mg/kg-day	6.14E-05
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	2.32E-08	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	2.79E-08	8.13E-07	--	mg/kg-day	--	mg/kg-day	--
				Iron	4.07E+04	mg/kg	8.33E-06	mg/kg-day	--	--	--	2.92E-04	3.00E-01	mg/kg-day	9.72E-04	mg/kg-day	9.72E-04
				Isophorone	2.00E-01	mg/kg	4.09E-09	mg/kg-day	9.50E-04	(mg/kg-day) <sup>-1</sup>	3.89E-12	1.43E-07	2.00E-01	mg/kg-day	7.16E-07	mg/kg-day	7.16E-07
Lead	2.90E+03	mg/kg	5.94E-07	mg/kg-day	--	--	--	2.08E-05	--	mg/kg-day	--	mg/kg-day	--				

TABLE H3-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations									
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient					
							Value	Units	Value	Units		Value	Units	Value	Units						
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	6.77E-08	mg/kg-day	--	--	--	--	2.37E-06	mg/kg-day	2.40E-02	mg/kg-day	9.88E-05				
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	3.00E-04	mg/kg-day	--	--			
				Methoxychlor	1.20E-01	mg/kg	2.45E-10	mg/kg-day	--	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06	--			
				Molybdenum	2.50E+00	mg/kg	5.12E-10	mg/kg-day	--	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	3.59E-06	--			
				Naphthalene	1.30E+01	mg/kg	3.46E-07	mg/kg-day	--	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04	--			
				Nickel	3.91E+01	mg/kg	8.00E-09	mg/kg-day	--	--	--	--	2.80E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05	--			
				Phenanthrene	1.39E+01	mg/kg	2.85E-08	mg/kg-day	--	--	--	--	9.97E-07	mg/kg-day	3.00E-01	mg/kg-day	3.32E-06	--			
				Phenol	5.80E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06	--			
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	1.00E-01	mg/kg-day	--	--			
				Pyrene	2.41E+01	mg/kg	6.42E-07	mg/kg-day	--	--	--	--	2.25E-05	mg/kg-day	3.00E-02	mg/kg-day	7.49E-04	--			
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	4.00E-02	mg/kg-day	--	--			
				Selenium	2.24E-01	mg/kg	4.59E-11	mg/kg-day	--	--	--	--	1.61E-09	mg/kg-day	5.00E-03	mg/kg-day	3.21E-07	--			
				Silver	1.16E+00	mg/kg	2.37E-10	mg/kg-day	--	--	--	--	8.30E-09	mg/kg-day	5.00E-03	mg/kg-day	1.69E-06	--			
				Technical Chlordane	5.51E-01	mg/kg	4.51E-09	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	5.86E-09	--	1.58E-07	mg/kg-day	5.00E-04	mg/kg-day	3.16E-04	--			
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	mg/kg-day	8.00E-05	mg/kg-day	--	--			
				Toluene	4.30E-04	mg/kg	8.80E-13	mg/kg-day	--	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.85E-10	--			
				Vanadium	3.41E+01	mg/kg	6.99E-09	mg/kg-day	--	--	--	--	2.44E-07	mg/kg-day	1.00E-03	mg/kg-day	2.44E-04	--			
				Zinc	4.53E+02	mg/kg	9.28E-08	mg/kg-day	--	--	--	--	3.25E-06	mg/kg-day	3.00E-01	mg/kg-day	1.08E-05	--			
				Exposure Route Total																	1.21E-01
				Exposure Point Total																	
Exposure Medium Total																		1.70E+00			
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	3.66E-13	mg/kg-day	--	--	--	--	1.28E-11	mg/kg-day	2.00E-02	mg/kg-day	6.41E-10					
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	1.41E-13	mg/kg-day	--	--	--	--	4.94E-12	mg/kg-day	--	--	--					
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	2.09E-15	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	5.02E-16	--	7.32E-14	mg/kg-day	5.00E-04	mg/kg-day	1.46E-10					
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	7.76E-14	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	2.64E-14	--	2.71E-12	mg/kg-day	5.00E-04	mg/kg-day	5.43E-09					
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	4.71E-13	mg/kg-day	--	--	--	--	1.65E-11	mg/kg-day	5.00E-03	mg/kg-day	3.30E-09					
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	1.08E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	2.27E-14	--	3.78E-11	mg/kg-day	1.00E-03	mg/kg-day	3.78E-08					
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	7.32E-13	mg/kg-day	--	--	--	--	2.56E-11	mg/kg-day	5.70E-04	mg/kg-day	4.50E-08					
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.54E-08	mg/kg-day	--	--	--	--	5.38E-07	mg/kg-day	1.43E-03	mg/kg-day	3.77E-04					
			Antimony	3.09E-09	mg/m <sup>3</sup>	7.11E-12	mg/kg-day	--	--	--	--	2.49E-10	mg/kg-day	--	--	--					
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	2.09E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	4.18E-12	--	7.32E-11	mg/kg-day	2.00E-05	mg/kg-day	3.66E-06					
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	7.74E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.55E-12	--	2.71E-11	mg/kg-day	2.00E-05	mg/kg-day	1.35E-06					
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	9.44E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.89E-12	--	3.30E-11	mg/kg-day	2.00E-05	mg/kg-day	1.65E-06					
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	4.84E-14	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	9.68E-14	--	1.69E-12	mg/kg-day	2.00E-05	mg/kg-day	8.47E-08					
			Arsenic	4.67E-09	mg/m <sup>3</sup>	1.08E-11	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	1.29E-10	--	3.76E-10	mg/kg-day	8.60E-06	mg/kg-day	4.38E-05					
			Barium	5.14E-08	mg/m <sup>3</sup>	1.18E-10	mg/kg-day	--	--	--	--	4.14E-09	mg/kg-day	1.40E-04	mg/kg-day	2.96E-05					
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	8.73E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.40E-12	--	3.05E-10	mg/kg-day	--	--	--					
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	2.90E-12	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	1.13E-11	--	1.02E-10	mg/kg-day	--	--	--					
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	1.33E-12	mg/kg-day	--	--	--	--	4.66E-11	mg/kg-day	3.00E-02	mg/kg-day	1.55E-09					
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	5.68E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	2.22E-12	--	1.99E-10	mg/kg-day	--	--	--					
			Beryllium	1.80E-10	mg/m <sup>3</sup>	4.15E-13	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	3.49E-12	--	1.45E-11	mg/kg-day	5.71E-06	mg/kg-day	2.54E-06					
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	3.84E-15	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	5.75E-15	--	1.34E-13	mg/kg-day	2.00E-04	mg/kg-day	6.71E-10					
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	1.37E-11	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	1.15E-13	--	4.78E-10	mg/kg-day	2.00E-02	mg/kg-day	2.39E-08					
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.65E-11	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	2.48E-10	--	5.78E-10	mg/kg-day	5.71E-06	mg/kg-day	1.01E-04					
			Chromium	8.42E-08	mg/m <sup>3</sup>	1.94E-10	mg/kg-day	--	--	--	--	6.79E-09	mg/kg-day	--	--	--					
			Cobalt	5.74E-09	mg/m <sup>3</sup>	1.32E-11	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	1.29E-10	--	4.62E-10	mg/kg-day	5.71E-06	mg/kg-day	8.09E-05					
			Copper	4.32E-08	mg/m <sup>3</sup>	9.95E-11	mg/kg-day	--	--	--	--	3.48E-09	mg/kg-day	--	--	--					
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	5.54E-13	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	2.27E-12	--	1.94E-11	mg/kg-day	--	--	--					
			Dimethylphthalate	2.88E-11	mg/m <sup>3</sup>	6.63E-14	mg/kg-day	--	--	--	--	2.32E-12	mg/kg-day	8.00E-01	mg/kg-day	2.90E-12					
			di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	3.84E-12	mg/kg-day	--	--	--	--	1.34E-10	mg/kg-day	1.00E-01	mg/kg-day	1.34E-09					
			Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	7.34E-14	mg/kg-day	--	--	--	--	2.57E-12	mg/kg-day	3.00E-04	mg/kg-day	8.58E-09					

TABLE H3-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations								
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient				
							Value	Units	Value	Units		Value	Units	Value	Units					
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.59E-12	mg/m <sup>3</sup>	1.74E-14	mg/kg-day	--	--	--	6.10E-13	mg/kg-day	3.00E-04	mg/kg-day	2.03E-09				
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.94E-14	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.07E-13	6.81E-13	mg/kg-day	1.30E-05	mg/kg-day	5.24E-08				
				Indeno(1,2,3-cd)pyrene	8.61E-10	mg/m <sup>3</sup>	1.52E-12	mg/kg-day	3.90E-01	(mg/kg-day)-1	5.94E-13	5.33E-11	mg/kg-day	--	--	--				
				Iron	3.09E-05	mg/m <sup>3</sup>	7.10E-08	mg/kg-day	--	--	--	2.49E-06	mg/kg-day	--	--	--				
				Isophorone	1.52E-10	mg/m <sup>3</sup>	3.49E-13	mg/kg-day	--	--	--	1.22E-11	mg/kg-day	--	--	--				
				Lead	2.20E-06	mg/m <sup>3</sup>	5.06E-09	mg/kg-day	--	--	--	1.77E-07	mg/kg-day	--	--	--				
				Manganese	2.51E-07	mg/m <sup>3</sup>	5.77E-10	mg/kg-day	--	--	--	2.02E-08	mg/kg-day	1.43E-05	mg/kg-day	1.41E-03				
				Mercury	2.34E-10	mg/m <sup>3</sup>	5.40E-13	mg/kg-day	--	--	--	1.89E-11	mg/kg-day	8.60E-05	mg/kg-day	2.20E-07				
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	4.37E-12	mg/kg-day	--	--	--	1.53E-10	mg/kg-day	--	--	--				
				Nickel	2.96E-08	mg/m <sup>3</sup>	6.82E-11	mg/kg-day	9.10E-01	(mg/kg-day)-1	6.21E-11	2.39E-09	mg/kg-day	1.40E-05	mg/kg-day	1.71E-04				
				Phenol	4.39E-10	mg/m <sup>3</sup>	1.01E-12	mg/kg-day	--	--	--	3.54E-11	mg/kg-day	5.71E-02	mg/kg-day	6.19E-10				
				Selenium	1.70E-10	mg/m <sup>3</sup>	3.91E-13	mg/kg-day	--	--	--	1.37E-11	mg/kg-day	5.70E-03	mg/kg-day	2.40E-09				
				Silver	8.78E-10	mg/m <sup>3</sup>	2.02E-12	mg/kg-day	--	--	--	7.07E-11	mg/kg-day	--	--	--				
				Thallium	3.77E-10	mg/m <sup>3</sup>	8.67E-13	mg/kg-day	--	--	--	3.03E-11	mg/kg-day	--	--	--				
				Vanadium	2.59E-08	mg/m <sup>3</sup>	5.95E-11	mg/kg-day	--	--	--	2.08E-09	mg/kg-day	--	--	--				
				Zinc	3.44E-07	mg/m <sup>3</sup>	7.91E-10	mg/kg-day	--	--	--	2.77E-08	mg/kg-day	--	--	--				
				<b>Exposure Route Total</b>															<b>2.23E-03</b>	
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	2.40E-07	mg/kg-day	--	--	--	8.41E-06	mg/kg-day	1.10E-03	mg/kg-day	7.65E-03
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	8.17E-07	mg/kg-day	--	--	--	2.86E-05	mg/kg-day	1.10E-03	mg/kg-day	2.60E-02
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.70E-07	mg/kg-day	--	--	--	9.44E-06	mg/kg-day	1.70E-03	mg/kg-day	5.55E-03
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	1.23E-05	mg/kg-day	--	--	--	4.29E-04	mg/kg-day	5.70E-02	mg/kg-day	7.52E-03
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	6.59E-09	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.37E-10	2.30E-07	mg/kg-day	1.14E-03	mg/kg-day	2.02E-04
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	8.41E-08	mg/kg-day	--	--	--	2.94E-06	mg/kg-day	1.70E-03	mg/kg-day	1.73E-03
								1,4-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	3.75E-07	mg/kg-day	--	--	--	1.31E-05	mg/kg-day	3.00E-02	mg/kg-day	4.37E-04
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	3.60E-06	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.44E-07	1.26E-04	mg/kg-day	2.30E-01	mg/kg-day	5.47E-04
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.70E-07	mg/kg-day	--	--	--	5.98E-06	mg/kg-day	5.00E-02	mg/kg-day	1.19E-04
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	2.23E-11	mg/kg-day	3.40E-01	(mg/kg-day)-1	7.59E-12	7.81E-10	mg/kg-day	5.00E-04	mg/kg-day	1.56E-06
Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.34E-07					mg/kg-day	--	--	--	4.68E-06	mg/kg-day	6.00E-02	mg/kg-day	7.80E-05				
Acenaphthylene	1.43E-08	mg/m <sup>3</sup>	3.29E-09					mg/kg-day	--	--	--	1.15E-07	mg/kg-day	6.00E-02	mg/kg-day	1.92E-06				
Aldrin	5.63E-09	mg/m <sup>3</sup>	1.30E-11					mg/kg-day	1.70E+01	(mg/kg-day)-1	2.20E-10	4.54E-10	mg/kg-day	3.00E-05	mg/kg-day	1.51E-05				
alpha-BHC	3.64E-09	mg/m <sup>3</sup>	8.37E-12					mg/kg-day	2.70E+00	(mg/kg-day)-1	2.26E-11	2.93E-10	mg/kg-day	5.00E-04	mg/kg-day	5.86E-07				
alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.85E-11					mg/kg-day	1.20E+00	(mg/kg-day)-1	2.23E-11	6.49E-10	mg/kg-day	2.00E-04	mg/kg-day	3.25E-06				
Anthracene	1.45E-05	mg/m <sup>3</sup>	3.33E-08					mg/kg-day	--	--	--	1.17E-06	mg/kg-day	3.00E-01	mg/kg-day	3.89E-06				
Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	4.07E-09					mg/kg-day	3.90E-01	(mg/kg-day)-1	1.59E-09	1.43E-07	mg/kg-day	--	--	--				
Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	1.04E-09					mg/kg-day	--	--	--	3.64E-08	mg/kg-day	2.00E-01	mg/kg-day	1.82E-07				
Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	1.19E-07					mg/kg-day	--	--	--	4.17E-06	mg/kg-day	2.85E-01	mg/kg-day	1.46E-05				
Chrysene	6.25E-06	mg/m <sup>3</sup>	1.44E-08					mg/kg-day	3.90E-02	(mg/kg-day)-1	5.61E-10	5.03E-07	mg/kg-day	--	--	--				
Delta-BHC	4.19E-08	mg/m <sup>3</sup>	9.63E-11					mg/kg-day	1.50E+00	(mg/kg-day)-1	1.44E-10	3.37E-09	mg/kg-day	2.00E-04	mg/kg-day	1.69E-05				
Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	1.03E-07					mg/kg-day	--	--	--	3.61E-06	mg/kg-day	2.00E-03	mg/kg-day	1.81E-03				
Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.71E-10					mg/kg-day	1.60E+01	(mg/kg-day)-1	2.73E-09	5.97E-09	mg/kg-day	5.00E-05	mg/kg-day	1.19E-04				
Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.85E-10					mg/kg-day	--	--	--	6.49E-09	mg/kg-day	6.00E-03	mg/kg-day	1.08E-06				
Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.92E-10					mg/kg-day	--	--	--	6.72E-09	mg/kg-day	6.00E-03	mg/kg-day	1.12E-06				
Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	3.47E-10					mg/kg-day	--	--	--	1.21E-08	mg/kg-day	6.00E-03	mg/kg-day	2.02E-06				
Fluoranthene	1.71E-05	mg/m <sup>3</sup>	3.94E-08					mg/kg-day	--	--	--	1.38E-06	mg/kg-day	4.00E-02	mg/kg-day	3.45E-05				
Fluorene	1.71E-05	mg/m <sup>3</sup>	3.93E-08	mg/kg-day	--	--	--	1.37E-06	mg/kg-day	4.00E-02	mg/kg-day	3.44E-05								
gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	3.67E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.04E-11	1.28E-09	mg/kg-day	3.00E-04	mg/kg-day	4.28E-06								
gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.98E-11	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.58E-11	1.04E-09	mg/kg-day	2.00E-04	mg/kg-day	5.22E-06								
Heptachlor	3.38E-07	mg/m <sup>3</sup>	7.78E-10	mg/kg-day	4.10E+00	(mg/kg-day)-1	3.19E-09	2.72E-08	mg/kg-day	5.00E-04	mg/kg-day	5.45E-05								
Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.99E-10	mg/kg-day	--	--	--	6.95E-09	mg/kg-day	5.00E-03	mg/kg-day	1.39E-06								
Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.61E-06	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.93E-07	5.63E-05	mg/kg-day	8.57E-04	mg/kg-day	6.57E-02								
Phenanthrene	1.91E-04	mg/m <sup>3</sup>	4.40E-07	mg/kg-day	--	--	--	1.54E-05	mg/kg-day	3.00E-01	mg/kg-day	5.13E-05								



TABLE H3-7.12

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Groundwater (continued)	Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-isopropyltoluene	3.43E-05	mg/m <sup>3</sup>	7.88E-08	mg/kg-day	--	--	--	2.78E-06	mg/kg-day	1.10E-01	mg/kg-day	2.51E-05			
				Pyrene	4.61E-10	mg/m <sup>3</sup>	1.06E-12	mg/kg-day	--	--	--	3.71E-11	mg/kg-day	3.00E-02	mg/kg-day	1.24E-09			
				sec-Butylbenzene	8.01E-07	mg/m <sup>3</sup>	1.84E-09	mg/kg-day	--	--	--	6.45E-08	mg/kg-day	4.00E-02	mg/kg-day	1.61E-06			
				Tert-Butylbenzene	9.08E-07	mg/m <sup>3</sup>	2.09E-09	mg/kg-day	--	--	--	7.31E-08	mg/kg-day	4.00E-02	mg/kg-day	1.83E-06			
				Toluene	3.80E-07	mg/m <sup>3</sup>	8.74E-10	mg/kg-day	--	--	--	3.06E-08	mg/kg-day	1.43E+00	mg/kg-day	2.14E-08			
				trans-1,2-Dichloroethene	8.96E-07	mg/m <sup>3</sup>	2.06E-09	mg/kg-day	--	--	--	7.22E-08	mg/kg-day	2.00E-02	mg/kg-day	3.61E-06			
				Trichloroethene	9.32E-07	mg/m <sup>3</sup>	2.14E-09	mg/kg-day	7.00E-03	(mg/kg-day)-1	1.50E-11	7.51E-08	mg/kg-day	1.70E-01	mg/kg-day	4.42E-07			
				Vinyl chloride	1.93E-06	mg/m <sup>3</sup>	4.44E-09	mg/kg-day	2.70E-01	(mg/kg-day)-1	1.20E-09	1.55E-07	mg/kg-day	2.86E-02	mg/kg-day	5.44E-06			
Exposure Route Total																1.82E-09	1.76E-04		
Exposure Point Total																	1.82E-09	1.76E-04	
Exposure Medium Total																	1.82E-09	1.76E-04	
Medium Total																	1.82E-09	1.76E-04	
Total of Receptor Risks Across All Media										1.41E-05	Total of Receptor Hazards Across All Media								1.82E+00

- Notes:
- Not applicable or not available
  - CSF Cancer slope factor
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - EPC Exposure point concentration
  - ft bgs Feet below ground surface
  - mg/kg Milligram per kilogram
  - mg/kg-day Milligram per kilogram per day
  - (mg/kg-day)-1 1/(Milligram per kilogram per day)
  - mg/L Milligram per liter
  - mg/m<sup>3</sup> Milligram per cubic meter
  - RAGS Risk Assessment Guidelines for Superfund
  - RID Reference dose
  - RIC Reference concentration
  - RI Remedial Investigation
  - ug/m<sup>3</sup> Microgram per cubic meter
  - VOC Volatile organic compound

(a) See the Vapor Intrusion to Indoor Air Evaluation for determination of the modeled indoor air concentration.

TABLE H3-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient	
							Value	Units	Value	Units		Value	Units				
Soil (0-2 ft bgs)	Soil	Site Soil	Ingestion	1,2,3-Trichlorobenzene	1.50E+00	mg/kg	2.52E-07	mg/kg-day	--	--	--	--	6.16E-06	mg/kg-day	1.00E-02	mg/kg-day	6.16E-04
				1,2,4-Trichlorobenzene	5.10E+00	mg/kg	8.55E-07	mg/kg-day	--	--	--	--	2.10E-05	mg/kg-day	1.00E-02	mg/kg-day	2.10E-03
				1,2,4-Trimethylbenzene	5.00E-01	mg/kg	8.39E-08	mg/kg-day	--	--	--	--	2.05E-08	mg/kg-day	5.00E-02	mg/kg-day	4.11E-05
				1,2-Dichlorobenzene	2.60E+01	mg/kg	4.36E-06	mg/kg-day	--	--	--	--	1.07E-04	mg/kg-day	9.00E-02	mg/kg-day	1.19E-03
				1,2-Dichloropropane	3.60E-03	mg/kg	6.04E-10	mg/kg-day	3.60E-02	(mg/kg-day)-1	2.17E-11	--	1.48E-08	mg/kg-day	1.14E-03	mg/kg-day	1.30E-05
				1,3,5-Trimethylbenzene	1.60E-01	mg/kg	2.68E-08	mg/kg-day	--	--	--	--	6.58E-07	mg/kg-day	5.00E-02	mg/kg-day	1.32E-05
				1,3-Dichlorobenzene	1.10E+00	mg/kg	1.85E-07	mg/kg-day	--	--	--	--	4.52E-06	mg/kg-day	3.00E-02	mg/kg-day	1.51E-04
				1,4-Dichlorobenzene	6.80E+00	mg/kg	1.14E-06	mg/kg-day	5.40E-03	(mg/kg-day)-1	6.16E-09	--	2.76E-05	mg/kg-day	3.00E-02	mg/kg-day	9.32E-04
				2,4-Dimethylphenol	2.10E-01	mg/kg	3.52E-08	mg/kg-day	--	--	--	--	8.63E-07	mg/kg-day	2.00E-02	mg/kg-day	4.32E-05
				2-Methylphenol	8.10E-02	mg/kg	1.36E-08	mg/kg-day	--	--	--	--	3.33E-07	mg/kg-day	4.00E-03	mg/kg-day	8.32E-05
				2-Methylnaphthalene	1.67E+00	mg/kg	2.80E-07	mg/kg-day	--	--	--	--	6.87E-06	mg/kg-day	5.00E-02	mg/kg-day	1.37E-04
				4,4'-DDD	1.20E-03	mg/kg	2.01E-10	mg/kg-day	2.40E-01	(mg/kg-day)-1	4.83E-11	--	4.93E-09	mg/kg-day	5.00E-04	mg/kg-day	9.86E-06
				4,4'-DDE	8.23E-02	mg/kg	1.38E-08	mg/kg-day	3.40E-01	(mg/kg-day)-1	4.69E-09	--	3.38E-07	mg/kg-day	5.00E-04	mg/kg-day	6.77E-04
				4,4'-DDT	4.45E-02	mg/kg	7.46E-09	mg/kg-day	3.40E-01	(mg/kg-day)-1	2.54E-09	--	1.83E-07	mg/kg-day	5.00E-04	mg/kg-day	3.66E-04
				4-Methylphenol	2.70E-01	mg/kg	4.53E-08	mg/kg-day	--	--	--	--	1.11E-06	mg/kg-day	5.00E-03	mg/kg-day	2.22E-04
				4-Nitroaniline	6.20E-01	mg/kg	1.04E-07	mg/kg-day	2.10E-02	(mg/kg-day)-1	2.18E-09	--	2.55E-06	mg/kg-day	3.00E-03	mg/kg-day	8.49E-04
				4-Nitrophenol	4.20E-01	mg/kg	7.05E-08	mg/kg-day	--	--	--	--	1.73E-06	mg/kg-day	5.00E-04	mg/kg-day	3.45E-03
				Acenaphthene	4.23E+00	mg/kg	7.10E-07	mg/kg-day	--	--	--	--	1.74E-05	mg/kg-day	6.00E-02	mg/kg-day	2.90E-04
				Acenaphthylene	1.04E-01	mg/kg	1.75E-08	mg/kg-day	--	--	--	--	4.28E-07	mg/kg-day	6.00E-02	mg/kg-day	7.14E-06
				Aldrin	1.30E-02	mg/kg	2.18E-09	mg/kg-day	1.70E+01	(mg/kg-day)-1	3.71E-08	--	5.34E-08	mg/kg-day	3.00E-05	mg/kg-day	1.78E-03
				alpha-BHC	7.30E-04	mg/kg	1.22E-10	mg/kg-day	2.70E+00	(mg/kg-day)-1	3.31E-10	--	3.00E-09	mg/kg-day	5.00E-04	mg/kg-day	6.00E-06
				alpha-Chlordane	8.14E-03	mg/kg	1.37E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.78E-09	--	3.35E-08	mg/kg-day	5.00E-04	mg/kg-day	6.69E-05
				Aluminum	8.82E+03	mg/kg	1.48E-03	mg/kg-day	--	--	--	--	3.63E-02	mg/kg-day	1.00E+00	mg/kg-day	3.63E-02
				Anthracene	1.05E+00	mg/kg	1.77E-07	mg/kg-day	--	--	--	--	4.34E-08	mg/kg-day	3.00E-01	mg/kg-day	1.45E-05
				Antimony	4.08E+00	mg/kg	6.84E-07	mg/kg-day	--	--	--	--	1.68E-05	mg/kg-day	4.00E-04	mg/kg-day	4.19E-02
				Aroclor-1248	1.20E+00	mg/kg	2.01E-07	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.03E-07	--	4.93E-06	mg/kg-day	2.00E-05	mg/kg-day	2.47E-01
				Aroclor-1254	4.44E-01	mg/kg	7.45E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.49E-07	--	1.83E-06	mg/kg-day	2.00E-05	mg/kg-day	9.13E-02
				Aroclor-1260	5.41E-01	mg/kg	9.08E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	1.82E-07	--	2.22E-06	mg/kg-day	2.00E-05	mg/kg-day	1.11E-01
				Aroclor-1268	2.78E-02	mg/kg	4.66E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.31E-09	--	1.14E-07	mg/kg-day	2.00E-05	mg/kg-day	5.70E-03
				Arsenic	6.17E+00	mg/kg	1.03E-06	mg/kg-day	9.45E+00	(mg/kg-day)-1	9.77E-06	--	2.53E-05	mg/kg-day	3.00E-04	mg/kg-day	8.45E-02
				Barium	6.78E+01	mg/kg	1.14E-05	mg/kg-day	--	--	--	--	2.79E-04	mg/kg-day	7.00E-02	mg/kg-day	3.88E-03
				Benzo(a)anthracene	5.00E+00	mg/kg	8.39E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.01E-06	--	2.06E-05	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	2.79E-07	mg/kg-day	1.20E+01	(mg/kg-day)-1	3.35E-06	--	6.84E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	4.59E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	5.51E-07	--	1.13E-05	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	1.28E-07	mg/kg-day	--	--	--	--	3.14E-06	mg/kg-day	3.00E-02	mg/kg-day	1.05E-04
				Benzo(k)fluoranthene	3.26E+00	mg/kg	5.47E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	6.56E-07	--	1.34E-05	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	3.99E-08	mg/kg-day	--	--	--	--	9.79E-07	mg/kg-day	2.00E-03	mg/kg-day	4.89E-04
				Beta-BHC	2.20E-03	mg/kg	3.69E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	5.54E-10	--	9.04E-09	mg/kg-day	2.00E-04	mg/kg-day	4.52E-05
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	1.31E-06	mg/kg-day	3.00E-03	(mg/kg-day)-1	3.94E-09	--	3.22E-05	mg/kg-day	2.00E-02	mg/kg-day	1.61E-03
				Cadmium	9.47E+00	mg/kg	1.59E-06	mg/kg-day	3.80E-01	(mg/kg-day)-1	6.04E-07	--	3.89E-05	mg/kg-day	5.00E-04	mg/kg-day	7.79E-02
				Carbon disulfide	2.40E-04	mg/kg	4.03E-11	mg/kg-day	--	--	--	--	9.86E-10	mg/kg-day	1.00E-01	mg/kg-day	9.86E-09
				Chlorobenzene	1.10E-01	mg/kg	1.85E-08	mg/kg-day	--	--	--	--	4.52E-07	mg/kg-day	2.00E-02	mg/kg-day	2.26E-05
Chromium	1.11E+02	mg/kg	1.87E-05	mg/kg-day	--	--	--	--	4.57E-04	mg/kg-day	1.50E+00	mg/kg-day	3.05E-04				
Chrysene	5.68E+00	mg/kg	9.53E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.14E-07	--	2.34E-05	mg/kg-day	--	--	--				
Cobalt	7.57E+00	mg/kg	1.27E-06	mg/kg-day	--	--	--	--	3.11E-05	mg/kg-day	2.00E-02	mg/kg-day	1.56E-03				
Copper	5.71E+01	mg/kg	9.57E-06	mg/kg-day	--	--	--	--	2.34E-04	mg/kg-day	4.00E-02	mg/kg-day	5.86E-03				
Delta-BHC	8.40E-03	mg/kg	1.41E-09	mg/kg-day	1.50E+00	(mg/kg-day)-1	2.11E-09	--	3.45E-08	mg/kg-day	2.00E-04	mg/kg-day	1.73E-04				
Dibenzo(a,h)anthracene	3.17E-01	mg/kg	5.33E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.18E-07	--	1.30E-06	mg/kg-day	--	--	--				
Dibenzofuran	1.30E+01	mg/kg	2.18E-06	mg/kg-day	--	--	--	--	5.34E-05	mg/kg-day	2.00E-03	mg/kg-day	2.67E-02				
Dieldrin	5.51E-02	mg/kg	9.25E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	1.48E-07	--	2.27E-07	mg/kg-day	5.00E-05	mg/kg-day	4.53E-03				
Dimethylphthalate	3.80E-02	mg/kg	6.37E-09	mg/kg-day	--	--	--	--	1.56E-07	mg/kg-day	8.00E-01	mg/kg-day	1.95E-07				

TABLE H3-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations																			
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient															
							Value	Units	Value	Units		Value	Units	Value	Units																
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Ingestion (continued)	di-n-Butylphthalate	2.20E+00	mg/kg	3.69E-07	mg/kg-day	--	--	--	--	9.04E-06	mg/kg-day	2.00E-01	mg/kg-day	4.52E-05														
				Endosulfan I	2.30E-02	mg/kg	3.86E-09	mg/kg-day	--	--	--	--	9.45E-08	mg/kg-day	6.00E-03	mg/kg-day	1.58E-05														
				Endosulfan II	2.38E-02	mg/kg	4.00E-09	mg/kg-day	--	--	--	--	9.79E-08	mg/kg-day	6.00E-03	mg/kg-day	1.63E-05														
				Endosulfan Sulfate	4.30E-02	mg/kg	7.21E-09	mg/kg-day	--	--	--	--	1.77E-07	mg/kg-day	6.00E-03	mg/kg-day	2.95E-05														
				Endrin aldehyde	4.21E-02	mg/kg	7.06E-09	mg/kg-day	--	--	--	--	1.73E-07	mg/kg-day	3.00E-04	mg/kg-day	5.76E-04														
				Endrin Ketone	1.00E-02	mg/kg	1.68E-09	mg/kg-day	--	--	--	--	4.11E-08	mg/kg-day	3.00E-04	mg/kg-day	1.37E-04														
				Fluoranthene	2.65E+01	mg/kg	4.45E-08	mg/kg-day	--	--	--	--	1.09E-04	mg/kg-day	4.00E-02	mg/kg-day	2.72E-03														
				Fluorene	2.92E+00	mg/kg	4.89E-07	mg/kg-day	--	--	--	--	1.20E-05	mg/kg-day	4.00E-02	mg/kg-day	3.00E-04														
				gamma-BHC (Lindane)	2.60E-03	mg/kg	4.36E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	4.80E-10	1.07E-08	mg/kg-day	3.00E-04	mg/kg-day	3.56E-05															
				gamma-Chlordane	1.31E-02	mg/kg	2.20E-09	mg/kg-day	1.30E+00	(mg/kg-day)-1	2.86E-09	5.38E-08	mg/kg-day	5.00E-04	mg/kg-day	1.08E-04															
				Heptachlor	6.90E-03	mg/kg	1.16E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.75E-09	2.84E-08	mg/kg-day	5.00E-04	mg/kg-day	5.67E-05															
				Heptachlor Epoxide	1.12E-02	mg/kg	1.87E-09	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.03E-08	4.58E-08	mg/kg-day	1.30E-05	mg/kg-day	3.53E-03															
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	1.46E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.76E-07	3.59E-06	mg/kg-day	--	--	--															
				Iron	4.07E+04	mg/kg	6.83E-03	mg/kg-day	--	--	--	1.67E-01	mg/kg-day	3.00E-01	mg/kg-day	5.58E-01															
				Isophorone	2.00E-01	mg/kg	3.35E-08	mg/kg-day	9.50E-04	(mg/kg-day)-1	3.19E-11	8.22E-07	mg/kg-day	2.00E-01	mg/kg-day	4.11E-06															
				Lead	2.90E+03	mg/kg	4.87E-04	mg/kg-day	--	--	--	1.19E-02	mg/kg-day	--	--	--															
				Manganese	3.31E+02	mg/kg	5.55E-05	mg/kg-day	--	--	--	1.36E-03	mg/kg-day	2.40E-02	mg/kg-day	5.67E-02															
				Mercury	3.10E-01	mg/kg	5.19E-08	mg/kg-day	--	--	--	1.27E-06	mg/kg-day	3.00E-04	mg/kg-day	4.24E-03															
				Methoxychlor	1.20E-01	mg/kg	2.01E-08	mg/kg-day	--	--	--	4.93E-07	mg/kg-day	5.00E-03	mg/kg-day	9.66E-05															
				Molybdenum	2.50E+00	mg/kg	4.20E-07	mg/kg-day	--	--	--	1.03E-05	mg/kg-day	5.00E-03	mg/kg-day	2.06E-03															
				Naphthalene	1.30E+01	mg/kg	2.18E-06	mg/kg-day	--	--	--	5.34E-05	mg/kg-day	2.00E-02	mg/kg-day	2.67E-03															
				Nickel	3.91E+01	mg/kg	6.56E-06	mg/kg-day	--	--	--	1.61E-04	mg/kg-day	2.00E-02	mg/kg-day	8.04E-03															
				Phenanthrene	1.39E+01	mg/kg	2.33E-06	mg/kg-day	--	--	--	5.72E-05	mg/kg-day	3.00E-01	mg/kg-day	1.91E-04															
				Phenol	5.80E-01	mg/kg	9.73E-08	mg/kg-day	--	--	--	2.38E-06	mg/kg-day	3.00E-01	mg/kg-day	7.95E-06															
				p-Isopropyltoluene	1.10E-01	mg/kg	1.85E-08	mg/kg-day	--	--	--	4.52E-07	mg/kg-day	1.00E-01	mg/kg-day	4.52E-06															
				Pyrene	2.41E+01	mg/kg	4.05E-06	mg/kg-day	--	--	--	9.92E-05	mg/kg-day	3.00E-02	mg/kg-day	3.31E-03															
				sec-Butylbenzene	7.10E-02	mg/kg	1.19E-08	mg/kg-day	--	--	--	2.92E-07	mg/kg-day	4.00E-02	mg/kg-day	7.29E-06															
				Selenium	2.24E-01	mg/kg	3.76E-08	mg/kg-day	--	--	--	9.22E-07	mg/kg-day	5.00E-03	mg/kg-day	1.84E-04															
				Silver	1.18E+00	mg/kg	1.94E-07	mg/kg-day	--	--	--	4.76E-06	mg/kg-day	5.00E-03	mg/kg-day	9.53E-04															
				Technical Chlordane	5.51E-01	mg/kg	9.24E-08	mg/kg-day	1.30E+00	(mg/kg-day)-1	1.20E-07	2.26E-06	mg/kg-day	5.00E-04	mg/kg-day	4.53E-03															
				Thallium	4.97E-01	mg/kg	8.34E-08	mg/kg-day	--	--	--	2.04E-06	mg/kg-day	8.00E-05	mg/kg-day	2.55E-02															
				Toluene	4.30E-04	mg/kg	7.21E-11	mg/kg-day	--	--	--	1.77E-09	mg/kg-day	8.00E-02	mg/kg-day	2.21E-08															
				Vanadium	3.41E+01	mg/kg	5.73E-06	mg/kg-day	--	--	--	1.40E-04	mg/kg-day	1.00E-03	mg/kg-day	1.40E-01															
				Zinc	4.53E+02	mg/kg	7.61E-05	mg/kg-day	--	--	--	1.86E-03	mg/kg-day	3.00E-01	mg/kg-day	6.21E-03															
				Exposure Route Total							1.75E-05					1.57E+00															
				Dermal	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dimethylphenol	2-Methylphenol	2-Methylnaphthalene	4,4'-DDD	4,4'-DDE	4,4'-DDT	4-Methylphenol	4-Nitroaniline	1.50E+00	mg/kg	4.24E-08	mg/kg-day	--	--	--	--	1.07E-06	mg/kg-day	1.00E-02	mg/kg-day	1.07E-04
																			5.10E+00	mg/kg	1.44E-08	mg/kg-day	--	--	--	--	3.65E-07	mg/kg-day	1.00E-02	mg/kg-day	3.65E-05
																			5.00E-01	mg/kg	1.41E-09	mg/kg-day	--	--	--	--	3.58E-08	mg/kg-day	5.00E-02	mg/kg-day	7.16E-07
																			2.60E+01	mg/kg	7.35E-08	mg/kg-day	--	--	--	--	1.86E-06	mg/kg-day	9.00E-02	mg/kg-day	2.07E-05
																			3.60E-03	mg/kg	1.02E-11	mg/kg-day	3.60E-02	(mg/kg-day)-1	3.66E-13	2.58E-10	mg/kg-day	1.14E-03	mg/kg-day	2.26E-07	
																			1.60E-01	mg/kg	4.52E-10	mg/kg-day	--	--	--	1.15E-08	mg/kg-day	5.00E-02	mg/kg-day	2.29E-07	
																			1.10E+00	mg/kg	3.11E-09	mg/kg-day	--	--	--	7.88E-08	mg/kg-day	3.00E-02	mg/kg-day	2.63E-06	
6.80E+00	mg/kg	--	mg/kg-day																5.40E-03	(mg/kg-day)-1	--	--	--	3.00E-02	mg/kg-day	--					
2.10E-01	mg/kg	5.94E-10	mg/kg-day																--	--	--	1.50E-08	mg/kg-day	2.00E-02	mg/kg-day	7.52E-07					
8.10E-02	mg/kg	2.29E-09	mg/kg-day																--	--	--	5.60E-08	mg/kg-day	4.00E-03	mg/kg-day	1.45E-05					
1.67E+00	mg/kg	4.73E-09	mg/kg-day																--	--	--	1.20E-07	mg/kg-day	5.00E-02	mg/kg-day	2.39E-06					
1.20E-03	mg/kg	3.39E-12	mg/kg-day																2.40E-01	(mg/kg-day)-1	8.14E-13	8.59E-11	mg/kg-day	5.00E-04	mg/kg-day	1.72E-07					
8.23E-02	mg/kg	2.33E-10	mg/kg-day																3.40E-01	(mg/kg-day)-1	7.91E-11	5.89E-09	mg/kg-day	5.00E-04	mg/kg-day	1.18E-05					
4.45E-02	mg/kg	3.77E-10	mg/kg-day																3.40E-01	(mg/kg-day)-1	1.28E-10	9.56E-09	mg/kg-day	5.00E-04	mg/kg-day	1.91E-05					
2.70E-01	mg/kg	7.63E-09	mg/kg-day																--	--	--	1.93E-07	mg/kg-day	5.00E-03	mg/kg-day	3.87E-05					
6.20E-01	mg/kg	1.75E-08	mg/kg-day																2.10E-02	(mg/kg-day)-1	3.68E-10	4.44E-07	mg/kg-day	3.00E-03	mg/kg-day	1.48E-04					

TABLE H3-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	4-Nitrophenol	4.20E-01	mg/kg	1.19E-08	mg/kg-day	--	--	--	3.01E-07	mg/kg-day	5.00E-04	mg/kg-day	6.01E-04
				Acenaphthene	4.23E+00	mg/kg	1.56E-07	mg/kg-day	--	--	--	3.94E-06	mg/kg-day	6.00E-02	mg/kg-day	6.57E-05
				Acenaphthylene	1.04E-01	mg/kg	2.94E-10	mg/kg-day	--	--	--	7.46E-09	mg/kg-day	6.00E-02	mg/kg-day	1.24E-07
				Aldrin	1.30E-02	mg/kg	3.67E-10	mg/kg-day	1.70E+01	(mg/kg-day)-1	6.25E-09	9.31E-09	mg/kg-day	3.00E-05	mg/kg-day	3.10E-04
				alpha-BHC	7.30E-04	mg/kg	2.06E-12	mg/kg-day	2.70E+00	(mg/kg-day)-1	5.57E-12	5.23E-11	mg/kg-day	5.00E-04	mg/kg-day	1.05E-07
				alpha-Chlordane	8.14E-03	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Aluminum	8.82E+03	mg/kg	2.49E-06	mg/kg-day	--	--	--	6.32E-05	mg/kg-day	1.00E+00	mg/kg-day	6.32E-05
				Anthracene	1.05E+00	mg/kg	3.88E-08	mg/kg-day	--	--	--	9.82E-07	mg/kg-day	3.00E-01	mg/kg-day	3.27E-06
				Antimony	4.08E+00	mg/kg	1.15E-09	mg/kg-day	--	--	--	2.92E-08	mg/kg-day	4.00E-04	mg/kg-day	7.30E-05
				Aroclor-1248	1.20E+00	mg/kg	4.75E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	9.50E-08	1.20E-06	mg/kg-day	2.00E-05	mg/kg-day	6.01E-02
				Aroclor-1254	4.44E-01	mg/kg	1.76E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	3.51E-08	4.45E-07	mg/kg-day	2.00E-05	mg/kg-day	2.23E-02
				Aroclor-1260	5.41E-01	mg/kg	2.14E-08	mg/kg-day	2.00E+00	(mg/kg-day)-1	4.28E-08	5.43E-07	mg/kg-day	2.00E-05	mg/kg-day	2.71E-02
				Aroclor-1268	2.78E-02	mg/kg	1.10E-09	mg/kg-day	2.00E+00	(mg/kg-day)-1	2.20E-09	2.78E-08	mg/kg-day	2.00E-05	mg/kg-day	1.39E-03
				Arsenic	6.17E+00	mg/kg	5.23E-08	mg/kg-day	9.45E+00	(mg/kg-day)-1	4.94E-07	1.32E-06	mg/kg-day	3.00E-04	mg/kg-day	4.41E-03
				Barium	6.78E+01	mg/kg	1.92E-08	mg/kg-day	--	--	--	4.86E-07	mg/kg-day	7.00E-02	mg/kg-day	6.94E-06
				Benzo(a)anthracene	5.00E+00	mg/kg	1.84E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.21E-07	4.66E-06	mg/kg-day	--	--	--
				Benzo(a)pyrene	1.67E+00	mg/kg	6.12E-08	mg/kg-day	1.20E+01	(mg/kg-day)-1	7.34E-07	1.55E-06	mg/kg-day	--	--	--
				Benzo(b)fluoranthene	2.74E+00	mg/kg	1.01E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.21E-07	2.55E-06	mg/kg-day	--	--	--
				Benzo(g,h,i)perylene	7.64E-01	mg/kg	2.81E-08	mg/kg-day	--	--	--	7.11E-07	mg/kg-day	3.00E-02	mg/kg-day	2.37E-05
				Benzo(k)fluoranthene	3.26E+00	mg/kg	1.20E-07	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.44E-07	3.03E-06	mg/kg-day	--	--	--
				Beryllium	2.38E-01	mg/kg	6.73E-11	mg/kg-day	--	--	--	1.70E-09	mg/kg-day	2.00E-03	mg/kg-day	8.52E-07
				Beta-BHC	2.20E-03	mg/kg	6.22E-12	mg/kg-day	1.50E+00	(mg/kg-day)-1	9.33E-12	1.58E-10	mg/kg-day	2.00E-04	mg/kg-day	7.88E-07
				bis(2-ethylhexyl)phthalate	7.83E+00	mg/kg	2.21E-08	mg/kg-day	3.00E-03	(mg/kg-day)-1	6.64E-11	5.61E-07	mg/kg-day	2.00E-02	mg/kg-day	2.80E-05
				Cadmium	9.47E+00	mg/kg	2.68E-09	mg/kg-day	3.80E-01	(mg/kg-day)-1	1.02E-09	6.78E-08	mg/kg-day	5.00E-04	mg/kg-day	1.36E-04
				Carbon disulfide	2.40E-04	mg/kg	1.70E-11	mg/kg-day	--	--	--	4.30E-10	mg/kg-day	1.00E-01	mg/kg-day	4.30E-09
				Chlorobenzene	1.10E-01	mg/kg	3.11E-10	mg/kg-day	--	--	--	7.88E-09	mg/kg-day	2.00E-02	mg/kg-day	3.94E-07
				Chromium	1.11E+02	mg/kg	3.14E-08	mg/kg-day	--	--	--	7.96E-07	mg/kg-day	1.50E+00	mg/kg-day	5.31E-07
				Chrysene	5.68E+00	mg/kg	2.09E-07	mg/kg-day	1.20E-01	(mg/kg-day)-1	2.51E-08	5.29E-06	mg/kg-day	--	--	--
				Cobalt	7.57E+00	mg/kg	2.14E-09	mg/kg-day	--	--	--	5.42E-08	mg/kg-day	2.00E-02	mg/kg-day	2.71E-06
				Copper	5.71E+01	mg/kg	1.61E-08	mg/kg-day	--	--	--	4.09E-07	mg/kg-day	4.00E-02	mg/kg-day	1.02E-05
				Delta-BHC	8.40E-03	mg/kg	1.19E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.78E-10	3.01E-09	mg/kg-day	2.00E-04	mg/kg-day	1.50E-05
				Dibenzo(a,h)anthracene	3.17E-01	mg/kg	1.17E-08	mg/kg-day	4.10E+00	(mg/kg-day)-1	4.78E-08	2.96E-07	mg/kg-day	--	--	--
				Dibenzofuran	1.30E+01	mg/kg	3.67E-08	mg/kg-day	--	--	--	9.31E-07	mg/kg-day	2.00E-03	mg/kg-day	4.65E-04
				Dieldrin	5.51E-02	mg/kg	1.56E-10	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.49E-09	3.95E-09	mg/kg-day	5.00E-05	mg/kg-day	7.90E-05
				Dimethylphthalate	3.80E-02	mg/kg	1.07E-10	mg/kg-day	--	--	--	2.72E-09	mg/kg-day	8.00E-01	mg/kg-day	3.40E-09
				di-n-Butylphthalate	2.20E+00	mg/kg	6.22E-09	mg/kg-day	--	--	--	1.58E-07	mg/kg-day	2.00E-01	mg/kg-day	7.88E-07
				Endosulfan I	2.30E-02	mg/kg	3.25E-10	mg/kg-day	--	--	--	8.23E-09	mg/kg-day	6.00E-03	mg/kg-day	1.37E-06
				Endosulfan II	2.38E-02	mg/kg	3.37E-10	mg/kg-day	--	--	--	8.53E-09	mg/kg-day	6.00E-03	mg/kg-day	1.42E-06
				Endosulfan Sulfate	4.30E-02	mg/kg	6.08E-10	mg/kg-day	--	--	--	1.54E-08	mg/kg-day	6.00E-03	mg/kg-day	2.57E-06
				Endrin aldehyde	4.21E-02	mg/kg	5.95E-10	mg/kg-day	--	--	--	1.51E-08	mg/kg-day	3.00E-04	mg/kg-day	5.02E-05
				Endrin Ketone	1.00E-02	mg/kg	--	mg/kg-day	--	--	--	--	mg/kg-day	3.00E-04	mg/kg-day	--
				Fluoranthene	2.65E+01	mg/kg	9.74E-07	mg/kg-day	--	--	--	2.47E-05	mg/kg-day	4.00E-02	mg/kg-day	6.17E-04
				Fluorene	2.92E+00	mg/kg	1.07E-07	mg/kg-day	--	--	--	2.71E-06	mg/kg-day	4.00E-02	mg/kg-day	6.79E-05
				gamma-BHC (Lindane)	2.60E-03	mg/kg	2.94E-11	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.23E-11	7.45E-10	mg/kg-day	3.00E-04	mg/kg-day	2.48E-06
				gamma-Chlordane	1.31E-02	mg/kg	--	mg/kg-day	1.30E+00	(mg/kg-day)-1	--	--	mg/kg-day	5.00E-04	mg/kg-day	--
				Heptachlor	6.90E-03	mg/kg	1.95E-11	mg/kg-day	4.10E+00	(mg/kg-day)-1	8.00E-11	4.94E-10	mg/kg-day	5.00E-04	mg/kg-day	9.88E-07
				Heptachlor Epoxide	1.12E-02	mg/kg	3.15E-11	mg/kg-day	5.50E+00	(mg/kg-day)-1	1.73E-10	7.99E-10	mg/kg-day	1.30E-05	mg/kg-day	6.14E-05
				Indeno(1,2,3-cd)pyrene	8.73E-01	mg/kg	3.21E-08	mg/kg-day	1.20E+00	(mg/kg-day)-1	3.85E-08	8.13E-07	mg/kg-day	--	--	--
				Iron	4.07E+04	mg/kg	1.15E-05	mg/kg-day	--	--	--	2.92E-04	mg/kg-day	3.00E-01	mg/kg-day	9.72E-04
				Isophorone	2.00E+01	mg/kg	5.65E-09	mg/kg-day	9.50E-04	(mg/kg-day)-1	5.37E-12	1.43E-07	mg/kg-day	2.00E-01	mg/kg-day	7.16E-07
				Lead	2.90E+03	mg/kg	8.20E-07	mg/kg-day	--	--	--	2.08E-05	mg/kg-day	--	--	--

TABLE H3-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations							
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RID/RIC		Hazard Quotient			
							Value	Units	Value	Units		Value	Units	Value	Units				
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Dermal (continued)	Manganese	3.31E+02	mg/kg	9.36E-08	mg/kg-day	--	--	--	--	2.37E-06	mg/kg-day	2.40E-02	mg/kg-day	9.88E-05		
				Mercury	3.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	3.00E-04	mg/kg-day	--	--	
				Methoxychlor	1.20E-01	mg/kg	3.39E-10	mg/kg-day	--	--	--	--	--	8.59E-09	mg/kg-day	5.00E-03	mg/kg-day	1.72E-06	
				Molybdenum	2.50E+00	mg/kg	7.08E-10	mg/kg-day	--	--	--	--	--	1.79E-08	mg/kg-day	5.00E-03	mg/kg-day	3.59E-06	
				Naphthalene	1.30E+01	mg/kg	4.78E-07	mg/kg-day	--	--	--	--	--	1.21E-05	mg/kg-day	2.00E-02	mg/kg-day	6.05E-04	
				Nickel	3.91E+01	mg/kg	1.11E-08	mg/kg-day	--	--	--	--	--	2.80E-07	mg/kg-day	2.00E-02	mg/kg-day	1.40E-05	
				Phenanthrene	1.39E+01	mg/kg	3.93E-08	mg/kg-day	--	--	--	--	--	9.97E-07	mg/kg-day	3.00E-01	mg/kg-day	3.32E-06	
				Phenol	5.80E-01	mg/kg	1.64E-08	mg/kg-day	--	--	--	--	--	4.15E-07	mg/kg-day	3.00E-01	mg/kg-day	1.38E-06	
				p-Isopropyltoluene	1.10E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	1.00E-01	mg/kg-day	--	--	
				Pyrene	2.41E+01	mg/kg	8.87E-07	mg/kg-day	--	--	--	--	--	2.25E-05	mg/kg-day	3.00E-02	mg/kg-day	7.49E-04	
				sec-Butylbenzene	7.10E-02	mg/kg	--	mg/kg-day	--	--	--	--	--	--	4.00E-02	mg/kg-day	--	--	
				Selenium	2.24E-01	mg/kg	6.34E-11	mg/kg-day	--	--	--	--	--	1.61E-09	mg/kg-day	5.00E-03	mg/kg-day	3.21E-07	
				Silver	1.16E+00	mg/kg	3.28E-10	mg/kg-day	--	--	--	--	--	8.30E-09	mg/kg-day	5.00E-03	mg/kg-day	1.66E-06	
				Technical Chlordane	5.51E-01	mg/kg	6.23E-09	mg/kg-day	1.30E+00	(mg/kg-day) <sup>-1</sup>	8.10E-09	1.58E-07	mg/kg-day	5.00E-04	mg/kg-day	3.16E-04			
				Thallium	4.97E-01	mg/kg	--	mg/kg-day	--	--	--	--	--	--	8.00E-05	mg/kg-day	--	--	
				Toluene	4.30E-04	mg/kg	1.22E-12	mg/kg-day	--	--	--	--	--	3.08E-11	mg/kg-day	8.00E-02	mg/kg-day	3.85E-10	
				Vanadium	3.41E+01	mg/kg	9.65E-09	mg/kg-day	--	--	--	--	--	2.44E-07	mg/kg-day	1.00E-03	mg/kg-day	2.44E-04	
				Zinc	4.63E+02	mg/kg	1.28E-07	mg/kg-day	--	--	--	--	--	3.25E-06	mg/kg-day	3.00E-01	mg/kg-day	1.08E-05	
				Exposure Point Total			Exposure Route Total							2.02E-06					1.21E-01
				Exposure Medium Total											1.96E-05				
Exposure Medium Total											1.96E-05					1.70E+00			
Air	Outdoor Air	Inhalation (Particulates)	2,4-Dimethylphenol	1.59E-10	mg/m <sup>3</sup>	2.75E-12	mg/kg-day	--	--	--	--	1.28E-11	mg/kg-day	2.00E-02	mg/kg-day	6.41E-10			
			2-Methylphenol	6.14E-11	mg/m <sup>3</sup>	1.06E-12	mg/kg-day	--	--	--	--	4.94E-12	mg/kg-day	--	--	--			
			4,4'-DDD	9.09E-13	mg/m <sup>3</sup>	1.57E-14	mg/kg-day	2.40E-01	(mg/kg-day) <sup>-1</sup>	3.78E-15	7.32E-14	mg/kg-day	5.00E-04	mg/kg-day	1.46E-10				
			4,4'-DDT	3.37E-11	mg/m <sup>3</sup>	5.83E-13	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	1.98E-13	2.71E-12	mg/kg-day	5.00E-04	mg/kg-day	5.43E-09				
			4-Methylphenol	2.05E-10	mg/m <sup>3</sup>	3.54E-12	mg/kg-day	--	--	--	1.65E-11	mg/kg-day	5.00E-03	mg/kg-day	3.30E-09				
			4-Nitroaniline	4.70E-10	mg/m <sup>3</sup>	8.13E-12	mg/kg-day	2.10E-02	(mg/kg-day) <sup>-1</sup>	1.71E-13	3.78E-11	mg/kg-day	1.00E-03	mg/kg-day	3.78E-08				
			4-Nitrophenol	3.18E-10	mg/m <sup>3</sup>	5.51E-12	mg/kg-day	--	--	--	2.56E-11	mg/kg-day	5.70E-04	mg/kg-day	4.50E-08				
			Aluminum	6.68E-06	mg/m <sup>3</sup>	1.16E-07	mg/kg-day	--	--	--	5.38E-07	mg/kg-day	1.43E-03	mg/kg-day	3.77E-04				
			Antimony	3.09E-09	mg/m <sup>3</sup>	5.35E-11	mg/kg-day	--	--	--	2.49E-10	mg/kg-day	--	--	--				
			Aroclor-1248	9.09E-10	mg/m <sup>3</sup>	1.57E-11	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	3.15E-11	7.32E-11	mg/kg-day	2.00E-05	mg/kg-day	3.66E-06				
			Aroclor-1254	3.36E-10	mg/m <sup>3</sup>	5.82E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.16E-11	2.71E-11	mg/kg-day	2.00E-05	mg/kg-day	1.35E-06				
			Aroclor-1260	4.10E-10	mg/m <sup>3</sup>	7.10E-12	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	1.42E-11	3.30E-11	mg/kg-day	2.00E-05	mg/kg-day	1.65E-06				
			Aroclor-1268	2.10E-11	mg/m <sup>3</sup>	3.64E-13	mg/kg-day	2.00E+00	(mg/kg-day) <sup>-1</sup>	7.28E-13	1.69E-12	mg/kg-day	2.00E-05	mg/kg-day	8.47E-08				
			Arsenic	4.67E-09	mg/m <sup>3</sup>	8.09E-11	mg/kg-day	1.20E+01	(mg/kg-day) <sup>-1</sup>	9.70E-10	3.76E-10	mg/kg-day	8.60E-06	mg/kg-day	4.38E-05				
			Barium	5.14E-08	mg/m <sup>3</sup>	8.89E-10	mg/kg-day	--	--	--	4.14E-09	mg/kg-day	1.40E-04	mg/kg-day	2.96E-05				
			Benzo(a)anthracene	3.79E-09	mg/m <sup>3</sup>	6.56E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	2.56E-11	3.05E-10	mg/kg-day	--	--	--				
			Benzo(a)pyrene	1.26E-09	mg/m <sup>3</sup>	2.18E-11	mg/kg-day	3.90E+00	(mg/kg-day) <sup>-1</sup>	8.52E-11	1.02E-10	mg/kg-day	--	--	--				
			Benzo(g,h,i)perylene	5.78E-10	mg/m <sup>3</sup>	1.00E-11	mg/kg-day	--	--	--	4.66E-11	mg/kg-day	3.00E-02	mg/kg-day	1.55E-09				
			Benzo(k)fluoranthene	2.47E-09	mg/m <sup>3</sup>	4.28E-11	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	1.67E-11	1.99E-10	mg/kg-day	--	--	--				
			Beryllium	1.80E-10	mg/m <sup>3</sup>	3.12E-12	mg/kg-day	8.40E+00	(mg/kg-day) <sup>-1</sup>	2.62E-11	1.45E-11	mg/kg-day	5.71E-06	mg/kg-day	2.54E-06				
			Beta-BHC	1.67E-12	mg/m <sup>3</sup>	2.89E-14	mg/kg-day	1.50E+00	(mg/kg-day) <sup>-1</sup>	4.33E-14	1.34E-13	mg/kg-day	2.00E-04	mg/kg-day	6.71E-10				
			bis(2-ethylhexyl)phthalate	5.93E-09	mg/m <sup>3</sup>	1.03E-10	mg/kg-day	8.40E-03	(mg/kg-day) <sup>-1</sup>	8.63E-13	4.78E-10	mg/kg-day	2.00E-02	mg/kg-day	2.39E-08				
			Cadmium	7.18E-09	mg/m <sup>3</sup>	1.24E-10	mg/kg-day	1.50E+01	(mg/kg-day) <sup>-1</sup>	1.86E-09	5.78E-10	mg/kg-day	5.71E-06	mg/kg-day	1.01E-04				
			Chromium	6.42E-08	mg/m <sup>3</sup>	1.46E-09	mg/kg-day	--	--	--	6.79E-09	mg/kg-day	--	--	--				
			Cobalt	5.74E-09	mg/m <sup>3</sup>	9.93E-11	mg/kg-day	9.80E+00	(mg/kg-day) <sup>-1</sup>	9.73E-10	4.62E-10	mg/kg-day	5.71E-06	mg/kg-day	8.09E-05				
			Copper	4.32E-08	mg/m <sup>3</sup>	7.48E-10	mg/kg-day	--	--	--	3.48E-09	mg/kg-day	--	--	--				
			Dibenzo(a,h)anthracene	2.41E-10	mg/m <sup>3</sup>	4.16E-12	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.71E-11	1.94E-11	mg/kg-day	--	--	--				
Dimethylphthalate	2.68E-11	mg/m <sup>3</sup>	4.98E-13	mg/kg-day	--	--	--	2.32E-12	mg/kg-day	8.00E-01	mg/kg-day	2.90E-12							
di-n-Butylphthalate	1.67E-09	mg/m <sup>3</sup>	2.88E-11	mg/kg-day	--	--	--	1.34E-10	mg/kg-day	1.00E-01	mg/kg-day	1.34E-09							
Endrin aldehyde	3.19E-11	mg/m <sup>3</sup>	5.52E-13	mg/kg-day	--	--	--	2.57E-12	mg/kg-day	3.00E-04	mg/kg-day	8.56E-09							

TABLE H3-7.13

EPA HRS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe: Future  
 Receptor Population: Recreational User  
 Receptor Age: Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations										
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient						
							Value	Units	Value	Units		Value	Units	Value	Units							
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Particulates) (continued)	Endrin Ketone	7.58E-12	mg/m <sup>3</sup>	1.31E-13	mg/kg-day	--	--	--	--	6.10E-13	mg/kg-day	3.00E-04	mg/kg-day	2.03E-09					
				Heptachlor Epoxide	8.45E-12	mg/m <sup>3</sup>	1.46E-13	mg/kg-day	5.50E+00	(mg/kg-day)-1	8.04E-13	6.81E-13	mg/kg-day	1.30E-05	mg/kg-day	5.24E-08						
				Indeno(1,2,3-cd)pyrene	6.61E-10	mg/m <sup>3</sup>	1.14E-11	mg/kg-day	3.90E-01	(mg/kg-day)-1	4.46E-12	5.33E-11	mg/kg-day	--	--	--						
				Iron	3.09E-05	mg/m <sup>3</sup>	5.34E-07	mg/kg-day	--	--	--	2.49E-06	mg/kg-day	--	--	--						
				Isophorone	1.52E-10	mg/m <sup>3</sup>	2.62E-12	mg/kg-day	--	--	--	1.22E-11	mg/kg-day	--	--	--						
				Lead	2.20E-06	mg/m <sup>3</sup>	3.81E-08	mg/kg-day	--	--	--	1.77E-07	mg/kg-day	--	--	--						
				Manganese	2.51E-07	mg/m <sup>3</sup>	4.34E-09	mg/kg-day	--	--	--	2.02E-08	mg/kg-day	1.43E-05	mg/kg-day	1.41E-03						
				Mercury	2.34E-10	mg/m <sup>3</sup>	4.06E-12	mg/kg-day	--	--	--	1.89E-11	mg/kg-day	8.60E-05	mg/kg-day	2.20E-07						
				Molybdenum	1.90E-09	mg/m <sup>3</sup>	3.28E-11	mg/kg-day	--	--	--	1.53E-10	mg/kg-day	--	--	--						
				Nickel	2.96E-08	mg/m <sup>3</sup>	5.13E-10	mg/kg-day	9.10E-01	(mg/kg-day)-1	4.67E-10	2.39E-09	mg/kg-day	1.40E-05	mg/kg-day	1.71E-04						
				Phenol	4.39E-10	mg/m <sup>3</sup>	7.61E-12	mg/kg-day	--	--	--	3.54E-11	mg/kg-day	5.71E-02	mg/kg-day	6.19E-10						
				Selenium	1.70E-10	mg/m <sup>3</sup>	2.94E-12	mg/kg-day	--	--	--	1.37E-11	mg/kg-day	5.70E-03	mg/kg-day	2.40E-09						
				Silver	8.78E-10	mg/m <sup>3</sup>	1.52E-11	mg/kg-day	--	--	--	7.07E-11	mg/kg-day	--	--	--						
				Thallium	3.77E-10	mg/m <sup>3</sup>	6.52E-12	mg/kg-day	--	--	--	3.03E-11	mg/kg-day	--	--	--						
				Vanadium	2.59E-08	mg/m <sup>3</sup>	4.48E-10	mg/kg-day	--	--	--	2.08E-09	mg/kg-day	--	--	--						
				Zinc	3.44E-07	mg/m <sup>3</sup>	5.95E-09	mg/kg-day	--	--	--	2.77E-08	mg/kg-day	--	--	--						
				Exposure Route Total																		
							Inhalation (Volatiles)	1,2,3-Trichlorobenzene	1.04E-04	mg/m <sup>3</sup>	1.81E-06	mg/kg-day	--	--	--	--	8.41E-06	mg/kg-day	1.10E-03	mg/kg-day	7.65E-03	
								1,2,4-Trichlorobenzene	3.55E-04	mg/m <sup>3</sup>	6.15E-06	mg/kg-day	--	--	--	--	2.86E-05	mg/kg-day	1.10E-03	mg/kg-day	2.60E-02	
								1,2,4-Trimethylbenzene	1.17E-04	mg/m <sup>3</sup>	2.03E-06	mg/kg-day	--	--	--	--	9.44E-06	mg/kg-day	1.70E-03	mg/kg-day	5.55E-03	
								1,2-Dichlorobenzene	5.32E-03	mg/m <sup>3</sup>	9.22E-05	mg/kg-day	--	--	--	--	4.29E-04	mg/kg-day	5.70E-02	mg/kg-day	7.52E-03	
								1,2-Dichloropropane	2.86E-06	mg/m <sup>3</sup>	4.95E-08	mg/kg-day	3.60E-02	(mg/kg-day)-1	1.78E-09	--	2.30E-07	mg/kg-day	1.14E-03	mg/kg-day	2.02E-04	
								1,3,5-Trimethylbenzene	3.65E-05	mg/m <sup>3</sup>	6.33E-07	mg/kg-day	--	--	--	--	2.94E-06	mg/kg-day	1.70E-03	mg/kg-day	1.73E-03	
								1,3-Dichlorobenzene	1.63E-04	mg/m <sup>3</sup>	2.82E-06	mg/kg-day	--	--	--	--	1.31E-05	mg/kg-day	3.00E-02	mg/kg-day	4.37E-04	
								1,4-Dichlorobenzene	1.56E-03	mg/m <sup>3</sup>	2.70E-05	mg/kg-day	4.00E-02	(mg/kg-day)-1	1.08E-06	--	1.26E-04	mg/kg-day	2.30E-01	mg/kg-day	5.47E-04	
								2-Methylnaphthalene	7.40E-05	mg/m <sup>3</sup>	1.28E-06	mg/kg-day	--	--	--	--	5.96E-06	mg/kg-day	5.00E-02	mg/kg-day	1.19E-04	
								4,4'-DDE	9.70E-09	mg/m <sup>3</sup>	1.68E-10	mg/kg-day	3.40E-01	(mg/kg-day)-1	5.71E-11	--	7.81E-10	mg/kg-day	5.00E-04	mg/kg-day	1.56E-06	
				Acenaphthene	5.81E-05	mg/m <sup>3</sup>	1.01E-06	mg/kg-day	--	--	--	--	4.68E-06	mg/kg-day	6.00E-02	mg/kg-day	7.80E-05					
				Acenaphthylene	1.43E-06	mg/m <sup>3</sup>	2.48E-08	mg/kg-day	--	--	--	--	1.15E-07	mg/kg-day	6.00E-02	mg/kg-day	1.92E-06					
				Aldrin	5.63E-09	mg/m <sup>3</sup>	9.75E-11	mg/kg-day	1.70E+01	(mg/kg-day)-1	1.66E-09	--	4.54E-10	mg/kg-day	3.00E-05	mg/kg-day	1.51E-05					
				alpha-BHC	3.64E-09	mg/m <sup>3</sup>	6.30E-11	mg/kg-day	2.70E+00	(mg/kg-day)-1	1.70E-10	--	2.93E-10	mg/kg-day	5.00E-04	mg/kg-day	5.66E-07					
				alpha-Chlordane	8.06E-09	mg/m <sup>3</sup>	1.40E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	1.67E-10	--	6.49E-10	mg/kg-day	2.00E-04	mg/kg-day	3.25E-06					
				Anthracene	1.45E-05	mg/m <sup>3</sup>	2.51E-07	mg/kg-day	--	--	--	--	1.17E-06	mg/kg-day	3.00E-01	mg/kg-day	3.89E-06					
				Benzo(b)fluoranthene	1.77E-06	mg/m <sup>3</sup>	3.06E-08	mg/kg-day	3.90E-01	(mg/kg-day)-1	1.20E-08	--	1.43E-07	mg/kg-day	--	--	--					
				Carbon disulfide	4.52E-07	mg/m <sup>3</sup>	7.83E-09	mg/kg-day	--	--	--	--	3.64E-08	mg/kg-day	2.00E-01	mg/kg-day	1.62E-07					
				Chlorobenzene	5.18E-05	mg/m <sup>3</sup>	8.96E-07	mg/kg-day	--	--	--	--	4.17E-05	mg/kg-day	2.86E-01	mg/kg-day	1.46E-05					
				Chrysene	6.25E-06	mg/m <sup>3</sup>	1.08E-07	mg/kg-day	3.90E-02	(mg/kg-day)-1	4.22E-09	--	5.03E-07	mg/kg-day	--	--	--					
				Delta-BHC	4.19E-08	mg/m <sup>3</sup>	7.25E-10	mg/kg-day	1.50E+00	(mg/kg-day)-1	1.09E-09	--	3.37E-09	mg/kg-day	2.00E-04	mg/kg-day	1.69E-05					
				Dibenzofuran	4.49E-05	mg/m <sup>3</sup>	7.76E-07	mg/kg-day	--	--	--	--	3.61E-06	mg/kg-day	2.00E-03	mg/kg-day	1.81E-03					
				Dieldrin	7.42E-08	mg/m <sup>3</sup>	1.28E-09	mg/kg-day	1.60E+01	(mg/kg-day)-1	2.05E-08	--	5.97E-09	mg/kg-day	5.00E-05	mg/kg-day	1.19E-04					
				Endosulfan I	8.06E-08	mg/m <sup>3</sup>	1.39E-09	mg/kg-day	--	--	--	--	6.49E-09	mg/kg-day	6.00E-03	mg/kg-day	1.08E-06					
				Endosulfan II	8.34E-08	mg/m <sup>3</sup>	1.44E-09	mg/kg-day	--	--	--	--	6.72E-09	mg/kg-day	6.00E-03	mg/kg-day	1.12E-06					
				Endosulfan Sulfate	1.51E-07	mg/m <sup>3</sup>	2.61E-09	mg/kg-day	--	--	--	--	1.21E-08	mg/kg-day	6.00E-03	mg/kg-day	2.02E-06					
				Fluoranthene	1.71E-05	mg/m <sup>3</sup>	2.97E-07	mg/kg-day	--	--	--	--	1.38E-06	mg/kg-day	4.00E-02	mg/kg-day	3.45E-05					
				Fluorene	1.71E-05	mg/m <sup>3</sup>	2.95E-07	mg/kg-day	--	--	--	--	1.37E-06	mg/kg-day	4.00E-02	mg/kg-day	3.44E-05					
				gamma-BHC (Lindane)	1.59E-08	mg/m <sup>3</sup>	2.76E-10	mg/kg-day	1.10E+00	(mg/kg-day)-1	3.04E-10	--	1.28E-09	mg/kg-day	3.00E-04	mg/kg-day	4.28E-06					
				gamma-Chlordane	1.30E-08	mg/m <sup>3</sup>	2.24E-10	mg/kg-day	1.20E+00	(mg/kg-day)-1	2.69E-10	--	1.04E-09	mg/kg-day	2.00E-04	mg/kg-day	5.22E-06					
				Heptachlor	3.38E-07	mg/m <sup>3</sup>	5.85E-09	mg/kg-day	4.10E+00	(mg/kg-day)-1	2.40E-08	--	2.72E-08	mg/kg-day	5.00E-04	mg/kg-day	5.45E-05					
				Methoxychlor	8.63E-08	mg/m <sup>3</sup>	1.49E-09	mg/kg-day	--	--	--	--	8.95E-09	mg/kg-day	5.00E-03	mg/kg-day	1.39E-06					
				Naphthalene	6.99E-04	mg/m <sup>3</sup>	1.21E-05	mg/kg-day	1.20E-01	(mg/kg-day)-1	1.45E-06	--	5.63E-05	mg/kg-day	8.57E-04	mg/kg-day	6.57E-02					
				Phenanthrene	1.91E-04	mg/m <sup>3</sup>	3.31E-06	mg/kg-day	--	--	--	--	1.54E-05	mg/kg-day	3.00E-01	mg/kg-day	5.13E-05					

TABLE H3-7.13

EPA RAGS PART D TABLE 7a-b, CALCULATION OF CTE CHEMICAL CANCER RISKS AND NONCANCER HAZARDS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations				Non-Cancer Hazard Calculations					
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	p-Isopropyltoluene	1.92E-04	mg/m <sup>3</sup>	3.32E-06	mg/kg-day	--	--	--	1.54E-05	mg/kg-day	1.10E-01	mg/kg-day	1.40E-04
				Pyrene	1.85E-05	mg/m <sup>3</sup>	3.20E-07	mg/kg-day	--	--	--	1.49E-06	mg/kg-day	3.00E-02	mg/kg-day	4.96E-05
				sec-Butylbenzene	2.81E-05	mg/m <sup>3</sup>	4.86E-07	mg/kg-day	--	--	--	2.26E-06	mg/kg-day	4.00E-02	mg/kg-day	5.65E-05
				Technical Chlordane	5.45E-07	mg/m <sup>3</sup>	9.44E-09	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.13E-08	4.39E-08	mg/kg-day	2.00E-04	mg/kg-day	2.20E-04
				Toluene	3.12E-07	mg/m <sup>3</sup>	5.41E-09	mg/kg-day	--	--	--	2.52E-08	mg/kg-day	1.43E+00	mg/kg-day	1.76E-08
				Exposure Point Total	Exposure Route Total											
										2.81E-06					1.18E-01	
										2.62E-06						1.20E-01
										2.62E-06						1.20E-01
										2.22E-05						1.82E+00
Medium Total																
Groundwater	Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	4.23E-07	mg/m <sup>3</sup>	7.33E-09	mg/kg-day	5.70E-03	(mg/kg-day) <sup>-1</sup>	4.18E-11	3.41E-08	mg/kg-day	1.40E-01	mg/kg-day	2.44E-07
				1,2,4-Trimethylbenzene	1.26E-07	mg/m <sup>3</sup>	2.18E-09	mg/kg-day	--	--	--	1.02E-08	mg/kg-day	1.70E-03	mg/kg-day	5.98E-06
				1,2-Dichlorobenzene	8.27E-07	mg/m <sup>3</sup>	1.43E-08	mg/kg-day	--	--	--	6.66E-08	mg/kg-day	5.70E-02	mg/kg-day	1.17E-06
				1,2-Dichloroethane	5.95E-07	mg/m <sup>3</sup>	1.03E-08	mg/kg-day	7.20E-02	(mg/kg-day) <sup>-1</sup>	7.42E-10	4.79E-08	mg/kg-day	1.54E-03	mg/kg-day	3.42E-05
				1,2-Dichloropropane	2.23E-07	mg/m <sup>3</sup>	3.86E-09	mg/kg-day	3.60E-02	(mg/kg-day) <sup>-1</sup>	1.39E-10	1.80E-08	mg/kg-day	1.14E-03	mg/kg-day	1.58E-05
				1,3,5-Trimethylbenzene	7.19E-08	mg/m <sup>3</sup>	1.24E-09	mg/kg-day	--	--	--	5.79E-09	mg/kg-day	1.70E-03	mg/kg-day	3.41E-06
				1,4-Dichlorobenzene	2.82E-07	mg/m <sup>3</sup>	4.87E-09	mg/kg-day	4.00E-02	(mg/kg-day) <sup>-1</sup>	1.95E-10	2.27E-08	mg/kg-day	2.30E-01	mg/kg-day	9.86E-08
				2-Hexanone	1.09E-08	mg/m <sup>3</sup>	1.88E-10	mg/kg-day	--	--	--	8.77E-10	mg/kg-day	1.43E+00	mg/kg-day	6.14E-10
				2-Methylnaphthalene	9.67E-10	mg/m <sup>3</sup>	1.67E-11	mg/kg-day	--	--	--	7.79E-11	mg/kg-day	5.00E-02	mg/kg-day	1.56E-09
				4,4'-DDE	1.29E-09	mg/m <sup>3</sup>	2.24E-11	mg/kg-day	3.40E-01	(mg/kg-day) <sup>-1</sup>	7.61E-12	1.04E-10	mg/kg-day	5.00E-04	mg/kg-day	2.08E-07
				4-Methyl-2-pentanone	4.05E-09	mg/m <sup>3</sup>	7.00E-11	mg/kg-day	--	--	--	3.26E-10	mg/kg-day	8.60E-01	mg/kg-day	3.79E-10
				Acenaphthene	3.87E-08	mg/m <sup>3</sup>	6.71E-10	mg/kg-day	--	--	--	3.12E-09	mg/kg-day	6.00E-02	mg/kg-day	5.20E-08
				Acenaphthylene	1.65E-09	mg/m <sup>3</sup>	2.86E-11	mg/kg-day	--	--	--	1.33E-10	mg/kg-day	6.00E-02	mg/kg-day	2.22E-09
				Aldrin	2.24E-09	mg/m <sup>3</sup>	3.87E-11	mg/kg-day	1.70E+01	(mg/kg-day) <sup>-1</sup>	6.58E-10	1.80E-10	mg/kg-day	3.00E-05	mg/kg-day	6.00E-06
				alpha-BHC	2.83E-10	mg/m <sup>3</sup>	4.90E-12	mg/kg-day	2.70E+00	(mg/kg-day) <sup>-1</sup>	1.32E-11	2.28E-11	mg/kg-day	5.00E-04	mg/kg-day	4.56E-08
				alpha-Chlordane	6.70E-10	mg/m <sup>3</sup>	1.16E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	1.39E-11	5.40E-11	mg/kg-day	2.00E-04	mg/kg-day	2.70E-07
				Anthracene	3.29E-09	mg/m <sup>3</sup>	5.69E-11	mg/kg-day	--	--	--	2.65E-10	mg/kg-day	3.00E-01	mg/kg-day	8.82E-10
				Benzene	2.61E-07	mg/m <sup>3</sup>	4.52E-09	mg/kg-day	1.00E-01	(mg/kg-day) <sup>-1</sup>	4.52E-10	2.10E-08	mg/kg-day	8.60E-03	mg/kg-day	2.44E-06
				Benzo(b)fluoranthene	4.86E-10	mg/m <sup>3</sup>	8.42E-12	mg/kg-day	3.90E-01	(mg/kg-day) <sup>-1</sup>	3.28E-12	3.92E-11	mg/kg-day	--	--	--
				Bromoform	7.36E-09	mg/m <sup>3</sup>	1.27E-10	mg/kg-day	3.90E-03	(mg/kg-day) <sup>-1</sup>	4.97E-13	5.93E-10	mg/kg-day	2.00E-02	mg/kg-day	2.96E-08
				Carbon disulfide	4.51E-06	mg/m <sup>3</sup>	7.80E-08	mg/kg-day	--	--	--	3.63E-07	mg/kg-day	2.00E-01	mg/kg-day	1.81E-06
				Chlorobenzene	7.32E-08	mg/m <sup>3</sup>	1.27E-09	mg/kg-day	--	--	--	5.90E-09	mg/kg-day	2.89E-01	mg/kg-day	2.06E-08
				Chloroform	2.07E-06	mg/m <sup>3</sup>	3.58E-08	mg/kg-day	1.90E-02	(mg/kg-day) <sup>-1</sup>	6.80E-10	1.67E-07	mg/kg-day	8.57E-02	mg/kg-day	1.94E-06
				Chloromethane	7.49E-07	mg/m <sup>3</sup>	1.30E-08	mg/kg-day	--	--	--	6.03E-08	mg/kg-day	2.60E-02	mg/kg-day	2.32E-06
				Chrysene	1.32E-09	mg/m <sup>3</sup>	2.28E-11	mg/kg-day	3.90E-02	(mg/kg-day) <sup>-1</sup>	8.88E-13	1.06E-10	mg/kg-day	--	--	--
				cis-1,2-Dichloroethene	5.30E-07	mg/m <sup>3</sup>	9.17E-09	mg/kg-day	--	--	--	4.27E-08	mg/kg-day	1.00E-02	mg/kg-day	4.27E-06
				Dieldrin	9.82E-10	mg/m <sup>3</sup>	1.70E-11	mg/kg-day	1.60E+01	(mg/kg-day) <sup>-1</sup>	2.72E-10	7.91E-11	mg/kg-day	5.00E-05	mg/kg-day	1.58E-06
				Endosulfan I	2.24E-10	mg/m <sup>3</sup>	3.88E-12	mg/kg-day	--	--	--	1.80E-11	mg/kg-day	6.00E-03	mg/kg-day	3.01E-09
				Endosulfan II	3.68E-13	mg/m <sup>3</sup>	6.37E-15	mg/kg-day	--	--	--	2.96E-14	mg/kg-day	6.00E-03	mg/kg-day	4.94E-12
				Ethylbenzene	1.99E-07	mg/m <sup>3</sup>	3.45E-09	mg/kg-day	--	--	--	1.61E-08	mg/kg-day	2.90E-01	mg/kg-day	5.54E-08
				Fluoranthene	5.06E-10	mg/m <sup>3</sup>	8.75E-12	mg/kg-day	--	--	--	4.07E-11	mg/kg-day	4.00E-02	mg/kg-day	1.02E-09
				Fluorene	1.00E-09	mg/m <sup>3</sup>	1.73E-11	mg/kg-day	--	--	--	8.05E-11	mg/kg-day	4.00E-02	mg/kg-day	2.01E-09
				gamma-BHC (Lindane)	1.24E-12	mg/m <sup>3</sup>	2.15E-14	mg/kg-day	1.10E+00	(mg/kg-day) <sup>-1</sup>	2.37E-14	1.00E-13	mg/kg-day	3.00E-04	mg/kg-day	3.34E-10
				gamma-Chlordane	1.74E-09	mg/m <sup>3</sup>	3.01E-11	mg/kg-day	1.20E+00	(mg/kg-day) <sup>-1</sup>	3.61E-11	1.40E-10	mg/kg-day	2.00E-04	mg/kg-day	7.01E-07
				Heptachlor	1.79E-08	mg/m <sup>3</sup>	3.09E-10	mg/kg-day	4.10E+00	(mg/kg-day) <sup>-1</sup>	1.27E-09	1.44E-09	mg/kg-day	5.00E-04	mg/kg-day	2.88E-06
				Isopropylbenzene	3.43E-05	mg/m <sup>3</sup>	5.93E-07	mg/kg-day	--	--	--	2.76E-06	mg/kg-day	1.10E-01	mg/kg-day	2.51E-05
				m,p-Xylene	6.94E-07	mg/m <sup>3</sup>	1.20E-08	mg/kg-day	--	--	--	5.59E-08	mg/kg-day	2.90E-02	mg/kg-day	1.93E-06
				Methoxychlor	3.27E-09	mg/m <sup>3</sup>	5.65E-11	mg/kg-day	--	--	--	2.63E-10	mg/kg-day	5.00E-03	mg/kg-day	5.26E-08
				Naphthalene	5.43E-09	mg/m <sup>3</sup>	9.40E-11	mg/kg-day	1.20E-01	(mg/kg-day) <sup>-1</sup>	1.13E-11	4.38E-10	mg/kg-day	8.57E-04	mg/kg-day	5.10E-07
				n-Butylbenzene	2.53E-07	mg/m <sup>3</sup>	4.38E-09	mg/kg-day	--	--	--	2.04E-08	mg/kg-day	8.57E-04	mg/kg-day	2.38E-05
				n-Propylbenzene	2.82E-07	mg/m <sup>3</sup>	4.88E-09	mg/kg-day	--	--	--	2.27E-08	mg/kg-day	4.00E-02	mg/kg-day	5.67E-07
				Phenanthrene	2.62E-09	mg/m <sup>3</sup>	4.53E-11	mg/kg-day	--	--	--	2.11E-10	mg/kg-day	3.00E-01	mg/kg-day	7.03E-10



TABLE H3-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	6.43E-05	8.48E-06	--	--	7.27E-05
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	2.19E-04	2.88E-06	--	--	2.21E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.28E-06	5.66E-08	--	--	4.34E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.24E-04	1.63E-06	--	--	1.25E-04
			1,2-Dichloropropane	3.57E-12	4.71E-14	--	--	3.62E-12	Nasal	1.35E-06	1.79E-08	--	--	1.37E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.37E-06	1.81E-08	--	--	1.39E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.57E-05	2.07E-07	--	--	1.59E-05
			1,4-Dichlorobenzene	1.01E-09	--	--	--	1.01E-09	Organ weight	9.71E-05	--	--	--	9.71E-05
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	4.50E-06	5.94E-08	--	--	4.56E-06
			2-Methylphenol	--	--	--	--	--	Respiratory System	8.68E-06	1.15E-06	--	--	9.82E-06
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	1.43E-05	1.89E-07	--	--	1.45E-05
			4,4'-DDD	7.93E-12	1.05E-13	--	--	8.04E-12	Liver	1.03E-06	1.36E-08	--	--	1.04E-06
			4,4'-DDE	7.71E-10	1.02E-11	--	--	7.81E-10	Liver	7.05E-05	9.31E-07	--	--	7.15E-05
			4,4'-DDT	4.17E-10	1.65E-11	--	--	4.33E-10	Liver	3.81E-05	1.51E-06	--	--	3.96E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	2.31E-05	3.05E-06	--	--	2.62E-05
			4-Nitroaniline	3.59E-10	4.74E-11	--	--	4.06E-10	--	8.85E-05	1.17E-05	--	--	1.00E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	3.60E-04	4.75E-05	--	--	4.07E-04
			Acenaphthene	--	--	--	--	--	Liver	3.02E-05	5.19E-06	--	--	3.54E-05
			Acenaphthylene	--	--	--	--	--	Liver	7.44E-07	9.82E-09	--	--	7.54E-07
			Aldrin	6.09E-09	8.04E-10	--	--	6.89E-09	Liver	1.86E-04	2.45E-05	--	--	2.10E-04
			alpha-BHC	5.43E-11	7.17E-13	--	--	5.50E-11	Liver/Kidney	6.26E-07	8.26E-09	--	--	6.34E-07
			alpha-Chlordane	2.92E-10	--	--	--	2.92E-10	Liver	6.98E-06	--	--	--	6.98E-06
			Aluminum	--	--	--	--	--	CNS	3.78E-03	4.99E-06	--	--	3.79E-03
			Anthracene	--	--	--	--	--	No Observed Effect	1.51E-06	2.59E-07	--	--	1.77E-06
			Antimony	--	--	--	--	--	Whole Body/Blood	4.37E-03	5.77E-06	--	--	4.37E-03
			Aroclor-1248	6.61E-08	1.22E-08	--	--	7.83E-08	Immune System/ Eye/Finger and Toe Nails	2.57E-02	4.75E-03	--	--	3.05E-02
			Aroclor-1254	2.45E-08	4.52E-09	--	--	2.90E-08	Immune System/ Eye/Finger and Toe Nails	9.51E-03	1.76E-03	--	--	1.13E-02
			Aroclor-1260	2.98E-08	5.51E-09	--	--	3.53E-08	Immune System/ Eye/Finger and Toe Nails	1.16E-02	2.14E-03	--	--	1.37E-02
			Aroclor-1268	1.53E-09	2.83E-10	--	--	1.81E-09	Immune System/ Eye/Finger and Toe Nails	5.95E-04	1.10E-04	--	--	7.05E-04
			Arsenic	1.61E-06	6.36E-08	--	--	1.67E-06	Skin	8.81E-03	3.49E-04	--	--	9.15E-03
			Barium	--	--	--	--	--	Kidney	4.15E-04	5.48E-07	--	--	4.16E-04
			Benzo(a)anthracene	1.65E-07	2.84E-08	--	--	1.94E-07	--	--	--	--	--	--
			Benzo(a)pyrene	5.51E-07	9.45E-08	--	--	6.45E-07	--	--	--	--	--	--
			Benzo(b)fluoranthene	9.05E-08	1.55E-08	--	--	1.06E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.09E-05	1.87E-06	--	--	1.28E-05
			Benzo(k)fluoranthene	1.08E-07	1.85E-08	--	--	1.26E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	5.10E-05	6.73E-08	--	--	5.11E-05
			Beta-BHC	9.09E-11	1.20E-12	--	--	9.21E-11	Liver/Kidney	4.71E-06	6.22E-08	--	--	4.78E-06
			bis(2-ethylhexyl)phthalate	6.47E-10	8.55E-12	--	--	6.56E-10	Liver	1.68E-04	2.21E-06	--	--	1.70E-04
			Cadmium	9.92E-08	1.31E-10	--	--	9.93E-08	Kidney	8.12E-03	1.07E-05	--	--	8.13E-03
			Carbon disulfide	--	--	--	--	--	Developmental	1.03E-09	3.39E-10	--	--	1.37E-09
			Chlorobenzene	--	--	--	--	--	Liver	2.36E-06	3.11E-08	--	--	2.39E-06

TABLE H3-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	3.18E-05	4.19E-08	--	--	3.18E-05	
			Chrysene	1.88E-08	3.22E-09	--	--	2.20E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	1.62E-04	2.14E-07	--	--	1.62E-04	
			Copper	--	--	--	--	--	GI Tract/Kidney	6.11E-04	8.07E-07	--	--	6.12E-04	
			Delta-BHC	3.47E-10	2.29E-11	--	--	3.70E-10	Liver/Kidney	1.80E-05	1.19E-06	--	--	1.92E-05	
			Dibenzo(a,h)anthracene	3.59E-08	6.15E-09	--	--	4.20E-08	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	2.78E-03	3.68E-05	--	--	2.82E-03	
			Dieldrin	2.43E-08	3.21E-10	--	--	2.46E-08	Liver	4.73E-04	6.24E-06	--	--	4.79E-04	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	2.04E-08	2.69E-10	--	--	2.06E-08	
			di-n-Butylphthalate	--	--	--	--	--	Liver	4.71E-06	6.22E-08	--	--	4.78E-06	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	1.64E-06	1.08E-07	--	--	1.75E-06	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	1.70E-06	1.12E-07	--	--	1.81E-06	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	3.07E-06	2.03E-07	--	--	3.27E-06	
			Endrin aldehyde	--	--	--	--	--	Liver	6.01E-05	3.97E-06	--	--	6.41E-05	
			Endrin Ketone	--	--	--	--	--	Liver	1.43E-05	--	--	--	1.43E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	2.84E-04	4.87E-05	--	--	3.33E-04	
			Fluorene	--	--	--	--	--	Blood	3.12E-05	5.36E-06	--	--	3.66E-05	
			gamma-BHC (Lindane)	7.88E-11	4.16E-12	--	--	8.30E-11	Liver/Kidney	3.71E-06	1.96E-07	--	--	3.91E-06	
			gamma-Chlordane	4.69E-10	--	--	--	4.69E-10	Liver	1.12E-05	--	--	--	1.12E-05	
			Heptachlor	7.79E-10	1.03E-11	--	--	7.90E-10	Liver	5.91E-06	7.80E-08	--	--	5.99E-06	
			Heptachlor Epoxide	1.69E-09	2.23E-11	--	--	1.71E-09	Liver	3.68E-04	4.85E-06	--	--	3.72E-04	
			Indeno(1,2,3-cd)pyrene	2.89E-08	4.95E-09	--	--	3.38E-08	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	5.82E-02	7.68E-05	--	--	5.82E-02	
			Isophorone	5.23E-12	6.91E-13	--	--	5.93E-12	No Observed Effect	4.28E-07	5.66E-08	--	--	4.85E-07	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	5.91E-03	7.80E-06	--	--	5.92E-03	
			Mercury	--	--	--	--	--	Immune System	4.42E-04	--	--	--	4.42E-04	
			Methoxychlor	--	--	--	--	--	Developmental	1.03E-05	1.36E-07	--	--	1.04E-05	
			Molybdenum	--	--	--	--	--	Blood	2.15E-04	2.83E-07	--	--	2.15E-04	
			Naphthalene	--	--	--	--	--	Whole Body	2.78E-04	4.78E-05	--	--	3.26E-04	
			Nickel	--	--	--	--	--	Whole Body	8.38E-04	1.11E-06	--	--	8.39E-04	
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.99E-05	2.62E-07	--	--	2.01E-05	
			Phenol	--	--	--	--	--	Whole Body	8.28E-07	1.09E-07	--	--	9.38E-07	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	4.71E-07	--	--	--	4.71E-07	
			Pyrene	--	--	--	--	--	Kidney	3.45E-04	5.92E-05	--	--	4.04E-04	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	7.60E-07	--	--	--	7.60E-07	
			Selenium	--	--	--	--	--	Whole Body	1.92E-05	2.54E-08	--	--	1.93E-05	
			Silver	--	--	--	--	--	Skin	9.93E-05	1.31E-07	--	--	9.94E-05	
			Technical Chlordane	1.97E-08	1.04E-09	--	--	2.08E-08	Liver	4.72E-04	2.49E-05	--	--	4.97E-04	
			Thallium	--	--	--	--	--	Blood	2.66E-03	--	--	--	2.66E-03	
			Toluene	--	--	--	--	--	Liver/Kidney	2.30E-09	3.04E-11	--	--	2.33E-09	
Vanadium	--	--	--	--	--	Kidney	1.46E-02	1.93E-05	--	--	1.46E-02				

TABLE H3-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	6.48E-04	8.55E-07	--	--	6.48E-04
		Exposure Point Total	Chemical Total	2.88E-06	2.60E-07	0.00E+00	0.00E+00	3.14E-06		1.64E-01	9.59E-03	0.00E+00	0.00E+00	1.74E-01
Exposure Medium Total				3.14E-06					1.74E-01					
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene		--	--	--	--	--	Kidney	--	--	8.46E-03	--	8.46E-03
		1,2,4-Trichlorobenzene		--	--	--	--	--	Kidney	--	--	2.88E-02	--	2.88E-02
		1,2,4-Trimethylbenzene		--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.14E-03	--	6.14E-03
		1,2-Dichlorobenzene		--	--	--	--	--	Body weight	--	--	8.32E-03	--	8.32E-03
		1,2-Dichloropropane		--	--	5.90E-10	--	5.90E-10	Nasal	--	--	2.24E-04	--	2.24E-04
		1,3,5-Trimethylbenzene		--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.92E-03	--	1.92E-03
		1,3-Dichlorobenzene		--	--	--	--	--	Kidney/Liver	--	--	4.84E-04	--	4.84E-04
		1,4-Dichlorobenzene		--	--	3.58E-07	--	3.58E-07	Liver	--	--	6.05E-04	--	6.05E-04
		2,4-Dimethylphenol		--	--	--	--	--	Blood/Whole Body	--	--	7.09E-10	--	7.09E-10
		2-Methylphenol		--	--	--	--	--	--	--	--	--	--	--
		2-Methylnaphthalene		--	--	--	--	--	CNS/Body Weight	--	--	1.32E-04	--	1.32E-04
		4,4'-DDD		--	--	1.25E-15	--	1.25E-15	Liver	--	--	1.62E-10	--	1.62E-10
		4,4'-DDE		--	--	1.89E-11	--	1.89E-11	Liver	--	--	1.73E-06	--	1.73E-06
		4,4'-DDT		--	--	6.57E-14	--	6.57E-14	Liver	--	--	6.01E-09	--	6.01E-09
		4-Methylphenol		--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	3.65E-09	--	3.65E-09
		4-Nitroaniline		--	--	5.65E-14	--	5.65E-14	--	--	--	4.19E-08	--	4.19E-08
		4-Nitrophenol		--	--	--	--	--	Blood/Kidney/Liver	--	--	4.97E-08	--	4.97E-08
		Acenaphthene		--	--	--	--	--	Liver	--	--	8.63E-05	--	8.63E-05
		Acenaphthylene		--	--	--	--	--	Liver	--	--	2.12E-06	--	2.12E-06
		Aldrin		--	--	5.49E-10	--	5.49E-10	Liver	--	--	1.67E-05	--	1.67E-05
		alpha-BHC		--	--	5.63E-11	--	5.63E-11	Liver/Kidney	--	--	6.48E-07	--	6.48E-07
		alpha-Chlordane		--	--	5.54E-11	--	5.54E-11	Liver	--	--	3.59E-06	--	3.59E-06
		Aluminum		--	--	--	--	--	Respiratory System	--	--	4.17E-04	--	4.17E-04
		Anthracene		--	--	--	--	--	No Observed Effect	--	--	4.30E-06	--	4.30E-06
		Antimony		--	--	--	--	--	--	--	--	--	--	--
		Aroclor-1248		--	--	1.04E-11	--	1.04E-11	Immune System/Eye/Finger and Toe nails	--	--	4.05E-06	--	4.05E-06
		Aroclor-1254		--	--	3.86E-12	--	3.86E-12	Immune System/Eye/Finger and Toe nails	--	--	1.50E-06	--	1.50E-06
		Aroclor-1260		--	--	4.70E-12	--	4.70E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.83E-06	--	1.83E-06
		Aroclor-1268		--	--	2.41E-13	--	2.41E-13	Immune System/Eye/Finger and Toe nails	--	--	9.37E-08	--	9.37E-08
		Arsenic		--	--	3.21E-10	--	3.21E-10	Developmental	--	--	4.84E-05	--	4.84E-05
		Barium		--	--	--	--	--	Developmental	--	--	3.27E-05	--	3.27E-05
		Benzo(a)anthracene		--	--	8.47E-12	--	8.47E-12	--	--	--	--	--	--
Benzo(a)pyrene		--	--	2.82E-11	--	2.82E-11	--	--	--	--	--	--		
Benzo(b)fluoranthene		--	--	3.96E-09	--	3.96E-09	--	--	--	--	--	--		
Benzo(g,h,i)perylene		--	--	--	--	--	Kidney	--	--	1.72E-09	--	1.72E-09		
Benzo(k)fluoranthene		--	--	5.52E-12	--	5.52E-12	--	--	--	--	--	--		
Beryllium		--	--	8.68E-12	--	8.68E-12	Immune System/Lung	--	--	2.81E-06	--	2.81E-06		
Beta-BHC		--	--	1.43E-14	--	1.43E-14	Liver/Kidney	--	--	7.43E-10	--	7.43E-10		

TABLE H3-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	2.86E-13	--	2.86E-13	Liver	--	--	2.64E-08	--	2.64E-08
			Cadmium	--	--	8.17E-10	--	6.17E-10	Kidney/Respiratory System	--	--	1.12E-04	--	1.12E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	2.02E-07	--	2.02E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.61E-05	--	1.61E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.40E-09	--	1.40E-09	--	--	--	--	--	--
			Cobalt	--	--	3.22E-10	--	3.22E-10	Respiratory System	--	--	8.95E-05	--	8.95E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	3.60E-10	--	3.60E-10	Liver/Kidney	--	--	1.87E-05	--	1.87E-05
			Dibenzo(a,h)anthracene	--	--	5.65E-12	--	5.65E-12	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	2.00E-03	--	2.00E-03
			Dieldrin	--	--	6.80E-09	--	6.80E-09	Liver	--	--	1.32E-04	--	1.32E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	3.21E-12	--	3.21E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.49E-09	--	1.49E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.20E-06	--	1.20E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.24E-06	--	1.24E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.24E-06	--	2.24E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	9.47E-09	--	9.47E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	2.25E-09	--	2.25E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.82E-05	--	3.82E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.80E-05	--	3.80E-05
			gamma-BHC (Lindane)	--	--	1.00E-10	--	1.00E-10	Liver/Kidney	--	--	4.74E-06	--	4.74E-06
			gamma-Chlordane	--	--	8.92E-11	--	8.92E-11	Liver	--	--	5.78E-06	--	5.78E-06
			Heptachlor	--	--	7.94E-09	--	7.94E-09	Liver	--	--	6.02E-05	--	6.02E-05
			Heptachlor Epoxide	--	--	2.66E-13	--	2.66E-13	Liver	--	--	5.79E-08	--	5.79E-08
			Indeno(1,2,3-cd)pyrene	--	--	1.48E-12	--	1.48E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.56E-03	--	1.56E-03
			Mercury	--	--	--	--	--	CNS	--	--	2.43E-07	--	2.43E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.54E-06	--	1.54E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	4.81E-07	--	4.81E-07	Nasal Epithelium	--	--	7.27E-02	--	7.27E-02
			Nickel	--	--	1.55E-10	--	1.55E-10	Respiratory System	--	--	1.89E-04	--	1.89E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.68E-05	--	5.68E-05
			Phenol	--	--	--	--	--	Liver/CNS	--	--	6.85E-10	--	6.85E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.55E-04	--	1.55E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	5.49E-05	--	5.49E-05
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	6.26E-05	--	6.26E-05
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	2.66E-09	--	2.66E-09			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H3-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	3.75E-09	--	3.75E-09	Liver	--	--	2.43E-04	--	2.43E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.95E-08	--	1.95E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	8.60E-07	0.00E+00	8.66E-07		0.00E+00	0.00E+00	1.33E-01	0.00E+00	1.33E-01
			Exposure Point Total					8.66E-07						1.33E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	3.23E-01	--	3.23E-01
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.10E+00	--	1.10E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.97E-02	--	6.97E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.08E-01	--	1.08E-01
			1,2-Dichloropropane	--	--	1.97E-09	--	1.97E-09	Nasal	--	--	7.48E-04	--	7.48E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.23E-02	--	2.23E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	8.69E-03	--	8.69E-03
			1,4-Dichlorobenzene	--	--	4.14E-06	--	4.14E-06	Liver	--	--	7.01E-03	--	7.01E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-03	--	3.50E-03
			4,4'-DDE	--	--	4.72E-12	--	4.72E-12	Liver	--	--	4.32E-07	--	4.32E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.01E-03	--	1.01E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.60E-05	--	2.60E-05
			Aldrin	--	--	6.26E-10	--	6.26E-10	Liver	--	--	1.91E-05	--	1.91E-05
			alpha-BHC	--	--	6.67E-10	--	6.67E-10	Liver/Kidney	--	--	7.68E-06	--	7.68E-06
			alpha-Chlordane	--	--	1.49E-10	--	1.49E-10	Liver	--	--	9.65E-06	--	9.65E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.31E-05	--	5.31E-05
			Benzo(b)fluoranthene	--	--	2.81E-09	--	2.81E-09	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	2.84E-07	--	2.84E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	9.12E-05	--	9.12E-05
			Chrysene	--	--	1.59E-09	--	1.59E-09	--	--	--	--	--	--
			Delta-BHC	--	--	6.34E-09	--	6.34E-09	Liver/Kidney	--	--	3.28E-04	--	3.28E-04
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	4.22E-04	--	4.22E-04
			Dieldrin	--	--	1.92E-08	--	1.92E-08	Liver	--	--	3.73E-04	--	3.73E-04
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.28E-05	--	1.28E-05
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.30E-05	--	1.30E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.40E-05	--	2.40E-05
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	4.37E-06	--	4.37E-06
			Fluorene	--	--	--	--	--	Blood	--	--	2.39E-04	--	2.39E-04
			gamma-BHC (Lindane)	--	--	1.44E-09	--	1.44E-09	Liver/Kidney	--	--	6.78E-05	--	6.78E-05
			gamma-Chlordane	--	--	2.71E-12	--	2.71E-12	Liver	--	--	1.76E-07	--	1.76E-07
			Heptachlor	--	--	1.02E-09	--	1.02E-09	Liver	--	--	7.73E-06	--	7.73E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.11E-06	--	2.11E-06
			Methylene Chloride	--	--	1.28E-10	--	1.28E-10	Blood	--	--	5.17E-06	--	5.17E-06
			Naphthalene	--	--	1.75E-05	--	1.75E-05	Nasal Epithelium	--	--	2.65E+00	--	2.65E+00
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	6.80E-04	--	6.80E-04

TABLE H3-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.37E-04	--	2.37E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	4.72E-05	--	4.72E-05
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.06E-04	--	2.06E-04
			Technical Chlordane	--	--	1.15E-08	--	1.15E-08	Liver	--	--	7.48E-04	--	7.48E-04
			Toluene	--	--	--	--	--	--	--	7.13E-08	--	7.13E-08	
			Chemical Total	0.00E+00	0.00E+00	2.17E-05	0.00E+00	2.17E-05			0.00E+00	0.00E+00	4.30E+00	4.30E+00
		Exposure Point Total												4.30E+00
	Exposure Medium Total													4.43E+00
Medium Total														4.60E+00
Groundwater	Outdoor Air	Inhalation (Outdoor Air)	1,1-Dichloroethane	--	--	1.38E-11	--	1.38E-11	No observed effect	--	--	2.70E-07	--	2.70E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.62E-06	--	6.62E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.29E-06	--	1.29E-06
			1,2-Dichloroethane	--	--	2.46E-10	--	2.46E-10	Liver/Kidney/CNS	--	--	3.79E-05	--	3.79E-05
			1,2-Dichloropropane	--	--	4.60E-11	--	4.60E-11	Nasal	--	--	1.74E-05	--	1.74E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.77E-06	--	3.77E-06
			1,4-Dichlorobenzene	--	--	6.46E-11	--	6.46E-11	Liver	--	--	1.09E-07	--	1.09E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	6.79E-10	--	6.79E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.72E-09	--	1.72E-09
			4,4'-DDE	--	--	2.52E-12	--	2.52E-12	Liver	--	--	2.31E-07	--	2.31E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	4.19E-10	--	4.19E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.76E-08	--	5.76E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.45E-09	--	2.45E-09
			Aldrin	--	--	2.18E-10	--	2.18E-10	Liver	--	--	6.64E-06	--	6.64E-06
			alpha-BHC	--	--	4.38E-12	--	4.38E-12	Liver/Kidney	--	--	5.05E-08	--	5.05E-08
			alpha-Chlordane	--	--	4.61E-12	--	4.61E-12	Liver	--	--	2.99E-07	--	2.99E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.76E-10	--	9.76E-10
			Benzene	--	--	1.50E-10	--	1.50E-10	Blood	--	--	2.70E-06	--	2.70E-06
			Benzo(b)fluoranthene	--	--	1.09E-12	--	1.09E-12	--	--	--	--	--	--
			Bromoforn	--	--	1.65E-13	--	1.65E-13	Liver	--	--	3.28E-08	--	3.28E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	2.01E-06	--	2.01E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	2.28E-08	--	2.28E-08
			Chloroforn	--	--	2.25E-10	--	2.25E-10	GI Tract/ Kidney/ Developmental	--	--	2.15E-06	--	2.15E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	2.57E-06	--	2.57E-06
			Chrysene	--	--	2.94E-13	--	2.94E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	4.72E-06	--	4.72E-06
			Dieckrin	--	--	9.01E-11	--	9.01E-11	Liver	--	--	1.75E-06	--	1.75E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.33E-09	--	3.33E-09
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	5.47E-12	--	5.47E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	6.13E-08	--	6.13E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.13E-09	--	1.13E-09
			Fluorene	--	--	--	--	--	Blood	--	--	2.23E-09	--	2.23E-09
			gamma-BHC (Lindane)	--	--	7.83E-15	--	7.83E-15	Liver/Kidney	--	--	3.69E-10	--	3.69E-10

TABLE H3-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Outdoor Air) (continued)	gamma-Chlordane	--	--	1.20E-11	--	1.20E-11	Liver	--	--	7.75E-07	--	7.75E-07
			Heptachlor	--	--	4.19E-10	--	4.19E-10	Liver	--	--	3.18E-06	--	3.18E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.78E-05	--	2.78E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	2.13E-06	--	2.13E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	5.82E-08	--	5.82E-08
			Naphthalene	--	--	3.74E-12	--	3.74E-12	Nasal Epithelium	--	--	5.65E-07	--	5.65E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	2.63E-05	--	2.63E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	6.28E-07	--	6.28E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	7.78E-10	--	7.78E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.78E-05	--	2.78E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	1.37E-09	--	1.37E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.78E-06	--	1.78E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	2.02E-06	--	2.02E-06
			Toluene	--	--	--	--	--	CNS	--	--	2.37E-08	--	2.37E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.99E-06	--	3.99E-06
			Trichloroethene	--	--	3.74E-11	--	3.74E-11	CNS/Eye	--	--	4.89E-07	--	4.89E-07
			Vinyl chloride	--	--	2.98E-09	--	2.98E-09	Liver	--	--	6.01E-06	--	6.01E-06
			Chemical Total	0.00E+00	0.00E+00	4.52E-09	0.00E+00	4.52E-09		0.00E+00	0.00E+00	1.94E-04	0.00E+00	1.94E-04
			Exposure Point Total					4.52E-09						1.94E-04
			Exposure Medium Total					4.52E-09						1.94E-04
Groundwater Vapor Intrusion	Indoor Air (Inhalation)	Indoor Air (Inhalation)	1,1-Dichloroethane	--	--	1.95E-09	--	1.95E-09	No observed effect	--	--	3.81E-05	--	3.81E-05
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.41E-04	--	1.41E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.70E-05	--	2.70E-05
			1,2-Dichloroethane	--	--	5.39E-09	--	5.39E-09	Liver/Kidney/CNS	--	--	8.31E-04	--	8.31E-04
			1,2-Dichloropropane	--	--	1.08E-09	--	1.08E-09	Nasal	--	--	4.09E-04	--	4.09E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.05E-05	--	8.05E-05
			1,4-Dichlorobenzene	--	--	1.37E-09	--	1.37E-09	Liver	--	--	2.32E-06	--	2.32E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.59E-08	--	1.59E-08
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.16E-08	--	3.16E-08
			4,4'-DDE	--	--	9.62E-14	--	9.62E-14	Liver	--	--	8.80E-09	--	8.80E-09
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.58E-09	--	9.58E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.19E-06	--	1.19E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.08E-08	--	5.08E-08
			Aldrin	--	--	1.02E-11	--	1.02E-11	Liver	--	--	3.11E-07	--	3.11E-07
			alpha-BHC	--	--	2.15E-13	--	2.15E-13	Liver/Kidney	--	--	2.48E-09	--	2.48E-09
			alpha-Chlordane	--	--	5.76E-13	--	5.76E-13	Liver	--	--	3.73E-08	--	3.73E-08
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.02E-08	--	2.02E-08
			Benzene	--	--	3.49E-09	--	3.49E-09	Blood	--	--	6.31E-05	--	6.31E-05
			Benzo(b)fluoranthene	--	--	1.91E-11	--	1.91E-11	--	--	--	--	--	--
			Bromoform	--	--	4.68E-12	--	4.68E-12	Liver	--	--	9.33E-07	--	9.33E-07
Carbon disulfide	--	--	--	--	--	CNS	--	--	4.75E-05	--	4.75E-05			
Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	5.14E-07	--	5.14E-07			

TABLE H3-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (Inhalation) (continued)	Chloroform	--	--	5.16E-09	--	5.16E-09	GI Tract/ Kidney/ Developmental	--	--	4.93E-05	--	4.93E-05			
			Chloromethane	--	--	--	--	--	CNS	--	--	6.37E-05	--	6.37E-05			
			Chrysene	--	--	5.34E-12	--	5.34E-12	--	--	--	--	--	--			
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.17E-04	--	1.17E-04			
			Dieldrin	--	--	1.48E-12	--	1.48E-12	Liver	--	--	2.88E-08	--	2.88E-08			
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.11E-10	--	3.11E-10			
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.04E-10	--	1.04E-10			
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.35E-06	--	1.35E-06			
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.91E-08	--	1.91E-08			
			Fluorene	--	--	--	--	--	Blood	--	--	4.85E-08	--	4.85E-08			
			gamma-BHC (Lindane)	--	--	1.18E-13	--	1.18E-13	Liver/Kidney	--	--	5.57E-09	--	5.57E-09			
			gamma-Chlordane	--	--	2.79E-13	--	2.79E-13	Liver	--	--	1.81E-08	--	1.81E-08			
			Heptachlor	--	--	6.91E-12	--	6.91E-12	Liver	--	--	5.24E-08	--	5.24E-08			
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	5.57E-04	--	5.57E-04			
			m,p-Xylene	--	--	--	--	--	CNS	--	--	4.73E-05	--	4.73E-05			
			Methoxychlor	--	--	--	--	--	Developmental	--	--	9.65E-10	--	9.65E-10			
			Naphthalene	--	--	7.74E-11	--	7.74E-11	Nasal Epithelium	--	--	1.17E-05	--	1.17E-05			
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	5.62E-04	--	5.62E-04			
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.36E-05	--	1.36E-05			
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.65E-08	--	1.65E-08			
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	5.57E-04	--	5.57E-04			
			Pyrene	--	--	--	--	--	Kidney	--	--	2.20E-08	--	2.20E-08			
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.85E-07	--	4.85E-07			
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	4.83E-05	--	4.83E-05			
			Toluene	--	--	--	--	--	CNS	--	--	5.20E-08	--	5.20E-08			
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.03E-04	--	1.03E-04			
			Trichloroethene	--	--	8.76E-10	--	8.76E-10	CNS/Eye	--	--	1.14E-05	--	1.14E-05			
			Vinyl chloride	--	--	7.70E-08	--	7.70E-08	Liver	--	--	1.55E-04	--	1.55E-04			
						Chemical Total	0.00E+00	0.00E+00	9.65E-08	0.00E+00	9.65E-08		0.00E+00	0.00E+00	3.94E-03	0.00E+00	3.94E-03
						Exposure Point Total					9.65E-08						3.94E-03
						Exposure Medium Total					9.65E-08						3.94E-03
						Medium Total					1.01E-07						4.13E-03
						Receptor Total					2.58E-05						4.61E+00

TABLE H3-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CNS Central nervous system
- COPC Chemicals of Potential Concern
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- GI Gastrointestinal
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	8.24E-02
Total Organ 2 (Kidney) HI Across All Media =	1.50E+00
Total Organ 3 (Reproductive System) HI Across All Media =	1.08E-04
Total Organ 4 (Nervous System) HI Across All Media =	1.16E-01
Total Organ 5 (Skin) HI Across All Media =	9.25E-03
Total Organ 6 (Blood) HI Across All Media =	1.10E-01
Total Organ 7 (Adrenal) HI Across All Media =	2.94E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.01E-03
Total Organ 9 (Brain) HI Across All Media =	3.21E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	8.22E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	5.62E-02
Total Organ 12 (Body Weight) HI Across All Media =	1.20E-01
Total Organ 13 (Developmental) HI Across All Media =	1.48E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.02E-01
Total Organ 15 (Whole Body) HI Across All Media =	5.60E-03
Total Organ 16 (Immune System) HI Across All Media =	5.66E-02
Total Organ 17 (Organ Weight) HI Across All Media =	1.48E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	5.62E-02
Total Organ 19 (Nasal Tissue) HI Across All Media =	2.73E+00

TABLE H3-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	6.43E-05	8.48E-06	--	--	7.27E-05
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	2.19E-04	2.88E-06	--	--	2.21E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.28E-06	5.66E-08	--	--	4.34E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.24E-04	1.63E-06	--	--	1.25E-04
			1,2-Dichloropropane	3.57E-12	4.71E-14	--	--	3.62E-12	Nasal	1.35E-06	1.79E-08	--	--	1.37E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.37E-06	1.81E-08	--	--	1.39E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.57E-05	2.07E-07	--	--	1.59E-05
			1,4-Dichlorobenzene	1.01E-09	--	--	--	1.01E-09	Organ weight	9.71E-05	--	--	--	9.71E-05
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	4.50E-06	5.94E-08	--	--	4.56E-06
			2-Methylphenol	--	--	--	--	--	Respiratory System	8.68E-06	1.15E-06	--	--	9.82E-06
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	1.24E-05	1.64E-07	--	--	1.26E-05
			4,4'-DDD	7.93E-12	1.05E-13	--	--	8.04E-12	Liver	1.03E-06	1.36E-08	--	--	1.04E-06
			4,4'-DDE	7.03E-10	9.27E-12	--	--	7.12E-10	Liver	6.43E-05	8.48E-07	--	--	6.51E-05
			4,4'-DDT	3.93E-10	1.56E-11	--	--	4.09E-10	Liver	3.60E-05	1.42E-06	--	--	3.74E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	2.31E-05	3.05E-06	--	--	2.62E-05
			4-Nitroaniline	3.59E-10	4.74E-11	--	--	4.06E-10	--	8.85E-05	1.17E-05	--	--	1.00E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	3.60E-04	4.75E-05	--	--	4.07E-04
			Acenaphthene	--	--	--	--	--	Liver	2.48E-05	4.25E-06	--	--	2.90E-05
			Acenaphthylene	--	--	--	--	--	Liver	6.40E-07	8.44E-09	--	--	6.48E-07
			Aldrin	6.09E-09	8.04E-10	--	--	6.89E-09	Liver	1.86E-04	2.45E-05	--	--	2.10E-04
			alpha-BHC	5.43E-11	7.17E-13	--	--	5.50E-11	Liver/Kidney	6.26E-07	8.26E-09	--	--	6.34E-07
			alpha-Chlordane	2.50E-10	--	--	--	2.50E-10	Liver	5.98E-06	--	--	--	5.98E-06
			Aluminum	--	--	--	--	--	CNS	3.88E-03	5.12E-06	--	--	3.88E-03
			Anthracene	--	--	--	--	--	No Observed Effect	1.30E-06	2.24E-07	--	--	1.53E-06
			Antimony	--	--	--	--	--	Whole Body/Blood	2.92E-03	3.85E-06	--	--	2.92E-03
			Aroclor-1248	6.61E-08	1.22E-08	--	--	7.83E-08	Immune System/ Eye/Finger and Toe Nails	2.57E-02	4.75E-03	--	--	3.05E-02
			Aroclor-1254	2.41E-08	4.46E-09	--	--	2.86E-08	Immune System/ Eye/Finger and Toe Nails	9.38E-03	1.73E-03	--	--	1.11E-02
			Aroclor-1260	2.69E-08	4.97E-09	--	--	3.19E-08	Immune System/ Eye/Finger and Toe Nails	1.05E-02	1.93E-03	--	--	1.24E-02
			Aroclor-1268	1.50E-09	2.77E-10	--	--	1.77E-09	Immune System/ Eye/Finger and Toe Nails	5.82E-04	1.08E-04	--	--	6.90E-04
			Arsenic	2.48E-06	9.83E-08	--	--	2.58E-06	Skin	1.36E-02	5.39E-04	--	--	1.42E-02
			Barium	--	--	--	--	--	Kidney	4.25E-04	5.61E-07	--	--	4.26E-04
			Benzo(a)anthracene	1.39E-07	2.39E-08	--	--	1.63E-07	--	--	--	--	--	--
			Benzo(a)pyrene	4.65E-07	7.98E-08	--	--	5.45E-07	--	--	--	--	--	--
			Benzo(b)fluoranthene	7.84E-08	1.35E-08	--	--	9.19E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	9.25E-06	1.59E-06	--	--	1.08E-05
			Benzo(k)fluoranthene	9.34E-08	1.60E-08	--	--	1.09E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	4.88E-05	6.44E-08	--	--	4.89E-05
			Beta-BHC	9.09E-11	1.20E-12	--	--	9.21E-11	Liver/Kidney	4.71E-06	6.22E-08	--	--	4.78E-06
			bis(2-ethylhexyl)phthalate	4.38E-10	5.78E-12	--	--	4.43E-10	Liver	1.13E-04	1.50E-06	--	--	1.15E-04
			Cadmium	9.05E-08	1.20E-10	--	--	9.07E-08	Kidney	7.41E-03	9.78E-06	--	--	7.42E-03
			Carbon disulfide	--	--	--	--	--	Developmental	1.03E-09	3.39E-10	--	--	1.37E-09
			Chlorobenzene	--	--	--	--	--	Liver	2.36E-06	3.11E-08	--	--	2.39E-06

TABLE H3-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	2.86E-05	3.77E-08	--	--	2.86E-05	
			Chrysene	1.59E-08	2.72E-09	--	--	1.86E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	1.59E-04	2.10E-07	--	--	--	1.60E-04
			Copper	--	--	--	--	--	GI Tract/Kidney	6.43E-04	8.49E-07	--	--	--	6.44E-04
			Delta-BHC	3.47E-10	2.29E-11	--	--	3.70E-10	Liver/Kidney	1.80E-05	1.19E-06	--	--	--	1.92E-05
			Dibenzo(a,h)anthracene	3.11E-08	5.34E-09	--	--	3.65E-08	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	2.78E-03	3.68E-05	--	--	--	2.82E-03
			Dieldrin	2.16E-08	2.85E-10	--	--	2.19E-08	Liver	4.19E-04	5.53E-06	--	--	--	4.25E-04
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	2.04E-08	2.69E-10	--	--	--	2.06E-08
			di-n-Butylphthalate	--	--	--	--	--	Liver	4.93E-06	6.50E-08	--	--	--	4.99E-06
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	1.64E-06	1.08E-07	--	--	--	1.75E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	1.67E-06	1.10E-07	--	--	--	1.78E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	3.07E-06	2.03E-07	--	--	--	3.27E-06
			Endrin aldehyde	--	--	--	--	--	Liver	9.00E-05	5.94E-06	--	--	--	9.59E-05
			Endrin Ketone	--	--	--	--	--	Liver	1.43E-05	--	--	--	--	1.43E-05
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	2.38E-04	4.09E-05	--	--	--	2.79E-04
			Fluorene	--	--	--	--	--	Blood	2.71E-05	4.65E-06	--	--	--	3.17E-05
			gamma-BHC (Lindane)	7.88E-11	4.16E-12	--	--	8.30E-11	Liver/Kidney	3.71E-06	1.96E-07	--	--	--	3.91E-06
			gamma-Chlordane	4.55E-10	--	--	--	4.55E-10	Liver	1.09E-05	--	--	--	--	1.09E-05
			Heptachlor	7.79E-10	1.03E-11	--	--	7.90E-10	Liver	5.91E-06	7.80E-08	--	--	--	5.99E-06
			Heptachlor Epoxide	1.49E-09	1.97E-11	--	--	1.51E-09	Liver	3.25E-04	4.29E-06	--	--	--	3.29E-04
			Indeno(1,2,3-cd)pyrene	1.64E-08	2.82E-09	--	--	1.93E-08	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	5.25E-02	6.93E-05	--	--	--	5.26E-02
			Isophorone	5.23E-12	6.91E-13	--	--	5.93E-12	No Observed Effect	4.28E-07	5.66E-08	--	--	--	4.85E-07
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	5.43E-03	7.17E-06	--	--	--	5.44E-03
			Mercury	--	--	--	--	--	Immune System	3.79E-04	--	--	--	--	3.79E-04
			Methoxychlor	--	--	--	--	--	Developmental	1.03E-05	1.36E-07	--	--	--	1.04E-05
			Methylene chloride	9.26E-13	1.22E-14	--	--	9.38E-13	Liver	1.71E-08	2.26E-10	--	--	--	1.74E-08
			Molybdenum	--	--	--	--	--	Blood	1.87E-04	2.47E-07	--	--	--	1.87E-04
			Naphthalene	--	--	--	--	--	Whole Body	2.78E-04	4.78E-05	--	--	--	3.26E-04
			Nickel	--	--	--	--	--	Whole Body	8.34E-04	1.10E-06	--	--	--	8.35E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.67E-05	2.20E-07	--	--	--	1.69E-05
			Phenol	--	--	--	--	--	Whole Body	8.28E-07	1.09E-07	--	--	--	9.38E-07
			p-Isopropyltoluene	--	--	--	--	--	Kidney	4.71E-07	--	--	--	--	4.71E-07
			Pyrene	--	--	--	--	--	Kidney	2.91E-04	4.99E-05	--	--	--	3.40E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	7.60E-07	--	--	--	--	7.60E-07
			Selenium	--	--	--	--	--	Whole Body	2.43E-05	3.21E-08	--	--	--	2.43E-05
			Silver	--	--	--	--	--	Skin	8.40E-05	1.11E-07	--	--	--	8.41E-05
			Technical Chlordane	1.94E-08	1.02E-09	--	--	2.04E-08	Liver	4.63E-04	2.45E-05	--	--	--	4.88E-04
Thallium	--	--	--	--	--	Blood	2.58E-03	--	--	--	--	2.58E-03			
Toluene	--	--	--	--	--	Liver/Kidney	2.30E-09	3.04E-11	--	--	--	2.33E-09			

TABLE H3-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	1.44E-02	1.90E-05	--	--	1.44E-02
			Zinc	--	--	--	--	--	Blood	4.74E-04	6.25E-07	--	--	4.74E-04
			Chemical Total	3.58E-06	2.67E-07	0.00E+00	0.00E+00	3.85E-06		1.58E-01	9.51E-03	0.00E+00	0.00E+00	1.68E-01
			Exposure Point Total					3.85E-06						1.68E-01
			Exposure Medium Total					3.65E-06						1.68E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	8.46E-03	--	8.46E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.88E-02	--	2.88E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.14E-03	--	6.14E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	8.32E-03	--	8.32E-03
			1,2-Dichloropropane	--	--	5.90E-10	--	5.90E-10	Nasal	--	--	2.24E-04	--	2.24E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.92E-03	--	1.92E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	4.84E-04	--	4.84E-04
			1,4-Dichlorobenzene	--	--	3.58E-07	--	3.58E-07	Liver	--	--	6.05E-04	--	6.05E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	7.09E-10	--	7.09E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.14E-04	--	1.14E-04
			4,4'-DDD	--	--	1.25E-15	--	1.25E-15	Liver	--	--	1.62E-10	--	1.62E-10
			4,4'-DDE	--	--	1.72E-11	--	1.72E-11	Liver	--	--	1.58E-06	--	1.58E-06
			4,4'-DDT	--	--	6.20E-14	--	6.20E-14	Liver	--	--	5.67E-09	--	5.67E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	3.65E-09	--	3.65E-09
			4-Nitroaniline	--	--	5.65E-14	--	5.65E-14	--	--	--	4.19E-08	--	4.19E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	4.97E-08	--	4.97E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.08E-05	--	7.08E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.83E-06	--	1.83E-06
			Aldrin	--	--	5.49E-10	--	5.49E-10	Liver	--	--	1.67E-05	--	1.67E-05
			alpha-BHC	--	--	5.63E-11	--	5.63E-11	Liver/Kidney	--	--	6.48E-07	--	6.48E-07
			alpha-Chlordane	--	--	4.75E-11	--	4.75E-11	Liver	--	--	3.08E-06	--	3.08E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	4.27E-04	--	4.27E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.72E-06	--	3.72E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	1.04E-11	--	1.04E-11	Immune System/Eye/Finger and Toe nails	--	--	4.05E-06	--	4.05E-06
			Aroclor-1254	--	--	3.80E-12	--	3.80E-12	Immune System/Eye/Finger and Toe nails	--	--	1.48E-06	--	1.48E-06
			Aroclor-1260	--	--	4.24E-12	--	4.24E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.65E-06	--	1.65E-06
			Aroclor-1268	--	--	2.36E-13	--	2.36E-13	Immune System/Eye/Finger and Toe nails	--	--	9.18E-08	--	9.18E-08
			Arsenic	--	--	4.97E-10	--	4.97E-10	Developmental	--	--	7.48E-05	--	7.48E-05
			Barium	--	--	--	--	--	Developmental	--	--	3.35E-05	--	3.35E-05
			Benzo(a)anthracene	--	--	7.13E-12	--	7.13E-12	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	2.38E-11	--	2.38E-11	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	3.43E-09	--	3.43E-09	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.46E-09	--	1.46E-09
			Benzo(k)fluoranthene	--	--	4.78E-12	--	4.78E-12	--	--	--	--	--	--
			Beryllium	--	--	8.31E-12	--	8.31E-12	Immune System/Lung	--	--	2.69E-06	--	2.69E-06

TABLE H3-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	1.43E-14	--	1.43E-14	Liver/Kidney	--	--	7.43E-10	--	7.43E-10
			bis(2-ethylhexyl)phthalate	--	--	1.93E-13	--	1.93E-13	Liver	--	--	1.79E-08	--	1.79E-08
			Cadmium	--	--	5.63E-10	--	5.63E-10	Kidney/Respiratory System	--	--	1.02E-04	--	1.02E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	2.02E-07	--	2.02E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.61E-05	--	1.61E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.18E-09	--	1.18E-09	--	--	--	--	--	--
			Cobalt	--	--	3.17E-10	--	3.17E-10	Respiratory System	--	--	8.80E-05	--	8.80E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	3.60E-10	--	3.60E-10	Liver/Kidney	--	--	1.87E-05	--	1.87E-05
			Dibenzo(a,h)anthracene	--	--	4.91E-12	--	4.91E-12	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	2.00E-03	--	2.00E-03
			Dieldrin	--	--	6.03E-09	--	6.03E-09	Liver	--	--	1.17E-04	--	1.17E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	3.21E-12	--	3.21E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.55E-09	--	1.55E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.20E-06	--	1.20E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.22E-06	--	1.22E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.24E-06	--	2.24E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.42E-08	--	1.42E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	2.25E-09	--	2.25E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.21E-05	--	3.21E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.30E-05	--	3.30E-05
			gamma-BHC (Lindane)	--	--	1.00E-10	--	1.00E-10	Liver/Kidney	--	--	4.74E-06	--	4.74E-06
			gamma-Chlordane	--	--	8.64E-11	--	8.64E-11	Liver	--	--	5.60E-06	--	5.60E-06
			Heptachlor	--	--	7.94E-09	--	7.94E-09	Liver	--	--	6.02E-05	--	6.02E-05
			Heptachlor Epoxide	--	--	2.35E-13	--	2.35E-13	Liver	--	--	5.12E-08	--	5.12E-08
			Indeno(1,2,3-cd)pyrene	--	--	8.42E-13	--	8.42E-13	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.44E-03	--	1.44E-03
			Mercury	--	--	--	--	--	CNS	--	--	2.08E-07	--	2.08E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.54E-06	--	1.54E-06
			Methylene chloride	--	--	--	--	--	Blood	--	--	--	--	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	4.81E-07	--	4.81E-07	Nasal Epithelium	--	--	7.27E-02	--	7.27E-02
			Nickel	--	--	1.54E-10	--	1.54E-10	Respiratory System	--	--	1.88E-04	--	1.88E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.76E-05	--	4.76E-05
			Phenol	--	--	--	--	--	Liver/CNS	--	--	6.85E-10	--	6.85E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.55E-04	--	1.55E-04
Pyrene	--	--	--	--	--	Kidney	--	--	4.62E-05	--	4.62E-05			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	6.26E-05	--	6.26E-05			

TABLE H3-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	3.36E-09	--	3.36E-09
			Silver	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	3.68E-09	--	3.68E-09	Liver	--	--	2.39E-04	--	2.39E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.95E-08	--	1.95E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	8.65E-07	0.00E+00	8.65E-07		0.00E+00	0.00E+00	1.33E-01	0.00E+00	1.33E-01
		Exposure Point Total						8.65E-07						1.33E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	3.23E-01	--	3.23E-01
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.10E+00	--	1.10E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.97E-02	--	6.97E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.08E-01	--	1.08E-01
			1,2-Dichloropropane	--	--	1.97E-09	--	1.97E-09	Nasal	--	--	7.48E-04	--	7.48E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.23E-02	--	2.23E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	8.69E-03	--	8.69E-03
			1,4-Dichlorobenzene	--	--	4.14E-06	--	4.14E-06	Liver	--	--	7.01E-03	--	7.01E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.50E-03	--	3.50E-03
			4,4'-DDE	--	--	4.72E-12	--	4.72E-12	Liver	--	--	4.32E-07	--	4.32E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.01E-03	--	1.01E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.60E-05	--	2.60E-05
			Aktrin	--	--	6.26E-10	--	6.26E-10	Liver	--	--	1.91E-05	--	1.91E-05
			alpha-BHC	--	--	6.67E-10	--	6.67E-10	Liver/Kidney	--	--	7.68E-06	--	7.68E-06
			alpha-Chlordane	--	--	1.49E-10	--	1.49E-10	Liver	--	--	9.65E-06	--	9.65E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.31E-05	--	5.31E-05
			Benzo(b)fluoranthene	--	--	2.81E-09	--	2.81E-09	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	2.84E-07	--	2.84E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	9.12E-05	--	9.12E-05
			Chrysene	--	--	1.59E-09	--	1.59E-09	--	--	--	--	--	--
			Delta-BHC	--	--	6.34E-09	--	6.34E-09	Liver/Kidney	--	--	3.28E-04	--	3.28E-04
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	4.22E-04	--	4.22E-04
			Dieldrin	--	--	1.92E-08	--	1.92E-08	Liver	--	--	3.73E-04	--	3.73E-04
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.28E-05	--	1.28E-05
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.30E-05	--	1.30E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.40E-05	--	2.40E-05
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	4.37E-06	--	4.37E-06
			Fluorene	--	--	--	--	--	Blood	--	--	2.39E-04	--	2.39E-04
			gamma-BHC (Lindane)	--	--	1.44E-09	--	1.44E-09	Liver/Kidney	--	--	6.78E-05	--	6.78E-05
			gamma-Chlordane	--	--	2.71E-12	--	2.71E-12	Liver	--	--	1.76E-07	--	1.76E-07
			Heptachlor	--	--	1.02E-09	--	1.02E-09	Liver	--	--	7.73E-06	--	7.73E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.11E-06	--	2.11E-06
			Methylene Chloride	--	--	1.28E-10	--	1.28E-10	Blood	--	--	5.17E-06	--	5.17E-06

TABLE H3-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	1.75E-05	--	1.75E-05	Nasal Epithelium	--	--	2.65E+00	--	2.65E+00
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	6.80E-04	--	6.80E-04
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.37E-04	--	2.37E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	4.72E-05	--	4.72E-05
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.06E-04	--	2.06E-04
			Technical Chlordane	--	--	1.15E-08	--	1.15E-08	Liver	--	--	7.48E-04	--	7.48E-04
			Toluene	--	--	--	--	--	CNS	--	--	7.13E-08	--	7.13E-08
			Chemical Total	0.00E+00	0.00E+00	2.17E-05	0.00E+00	2.17E-05		0.00E+00	0.00E+00	4.30E+00	0.00E+00	4.30E+00
			Exposure Point Total					2.17E-05						4.30E+00
			Exposure Medium Total					2.26E-05						4.43E+00
Medium Total								2.64E-05						4.60E+00
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	1.38E-11	--	1.38E-11	No observed effect	--	--	2.70E-07	--	2.70E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.62E-06	--	6.62E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.29E-06	--	1.29E-06
			1,2-Dichloroethane	--	--	2.46E-10	--	2.46E-10	Liver/Kidney/CNS	--	--	3.79E-05	--	3.79E-05
			1,2-Dichloropropane	--	--	4.60E-11	--	4.60E-11	Nasal	--	--	1.74E-05	--	1.74E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.77E-06	--	3.77E-06
			1,4-Dichlorobenzene	--	--	6.46E-11	--	6.46E-11	Liver	--	--	1.09E-07	--	1.09E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	6.79E-10	--	6.79E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.72E-09	--	1.72E-09
			4,4'-DDE	--	--	2.52E-12	--	2.52E-12	Liver	--	--	2.31E-07	--	2.31E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	4.19E-10	--	4.19E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.76E-08	--	5.76E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.45E-09	--	2.45E-09
			Aldrin	--	--	2.18E-10	--	2.18E-10	Liver	--	--	6.64E-06	--	6.64E-06
			alpha-BHC	--	--	4.38E-12	--	4.38E-12	Liver/Kidney	--	--	5.05E-08	--	5.05E-08
			alpha-Chlordane	--	--	4.61E-12	--	4.61E-12	Liver	--	--	2.99E-07	--	2.99E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.76E-10	--	9.76E-10
			Benzene	--	--	1.50E-10	--	1.50E-10	Blood	--	--	2.70E-06	--	2.70E-06
			Benzo(b)fluoranthene	--	--	1.09E-12	--	1.09E-12	--	--	--	--	--	--
			Bromoform	--	--	1.65E-13	--	1.65E-13	Liver	--	--	3.28E-08	--	3.28E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	2.01E-06	--	2.01E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	2.28E-08	--	2.28E-08
			Chloroform	--	--	2.25E-10	--	2.25E-10	GI Tract/ Kidney/ Developmental	--	--	2.15E-06	--	2.15E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	2.57E-06	--	2.57E-06
			Chrysene	--	--	2.94E-13	--	2.94E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	4.72E-06	--	4.72E-06
			Dieldrin	--	--	9.01E-11	--	9.01E-11	Liver	--	--	1.75E-06	--	1.75E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.33E-09	--	3.33E-09
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	5.47E-12	--	5.47E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	6.13E-08	--	6.13E-08
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.13E-09	--	1.13E-09			

TABLE H3-8.2  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	2.23E-09	--	2.23E-09
			gamma-BHC (Lindane)	--	--	7.83E-15	--	7.83E-15	Liver/Kidney	--	--	3.69E-10	--	3.69E-10
			gamma-Chlordane	--	--	1.20E-11	--	1.20E-11	Liver	--	--	7.75E-07	--	7.75E-07
			Heptachlor	--	--	4.19E-10	--	4.19E-10	Liver	--	--	3.18E-06	--	3.18E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	2.78E-05	--	2.78E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	2.13E-06	--	2.13E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	5.82E-08	--	5.82E-08
			Naphthalene	--	--	3.74E-12	--	3.74E-12	Nasal Epithelium	--	--	5.65E-07	--	5.65E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	2.63E-05	--	2.63E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	6.28E-07	--	6.28E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	7.78E-10	--	7.78E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.78E-05	--	2.78E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	1.37E-09	--	1.37E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.78E-06	--	1.78E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	2.02E-06	--	2.02E-06
			Toluene	--	--	--	--	--	CNS	--	--	2.37E-08	--	2.37E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	3.99E-06	--	3.99E-06
			Trichloroethene	--	--	3.74E-11	--	3.74E-11	CNS/Eye	--	--	4.89E-07	--	4.89E-07
			Vinyl chloride	--	--	2.98E-09	--	2.98E-09	Liver	--	--	6.01E-06	--	6.01E-06
						Chemical Total	0.00E+00	0.00E+00	4.52E-09	0.00E+00	4.52E-09		0.00E+00	0.00E+00
Exposure Point Total														
Exposure Medium Total														
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)		1,1-Dichloroethane	--	--	1.95E-09	--	1.95E-09	No observed effect	--	--	3.81E-05	--	3.81E-05
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.41E-04	--	1.41E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.70E-05	--	2.70E-05
			1,2-Dichloroethane	--	--	5.39E-09	--	5.39E-09	Liver/Kidney/CNS	--	--	8.31E-04	--	8.31E-04
			1,2-Dichloropropane	--	--	1.08E-09	--	1.08E-09	Nasal	--	--	4.09E-04	--	4.09E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.05E-05	--	8.05E-05
			1,4-Dichlorobenzene	--	--	1.37E-09	--	1.37E-09	Liver	--	--	2.32E-06	--	2.32E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.59E-08	--	1.59E-08
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.16E-08	--	3.16E-08
			4,4'-DDE	--	--	9.62E-14	--	9.62E-14	Liver	--	--	8.80E-09	--	8.80E-09
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.58E-09	--	9.58E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.19E-06	--	1.19E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.08E-08	--	5.08E-08
			Aldrin	--	--	1.02E-11	--	1.02E-11	Liver	--	--	3.11E-07	--	3.11E-07
			alpha-BHC	--	--	2.15E-13	--	2.15E-13	Liver/Kidney	--	--	2.48E-09	--	2.48E-09
			alpha-Chlordane	--	--	5.76E-13	--	5.76E-13	Liver	--	--	3.73E-08	--	3.73E-08
Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.02E-08	--	2.02E-08			
Benzene	--	--	3.49E-09	--	3.49E-09	Blood	--	--	6.31E-05	--	6.31E-05			
Benzo(b)fluoranthene	--	--	1.91E-11	--	1.91E-11	--	--	--	--	--	--	--		
Bromoform	--	--	4.68E-12	--	4.68E-12	Liver	--	--	9.33E-07	--	9.33E-07			

**TABLE H3-8.2**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	-	-	-	-	-	CNS	-	-	4.75E-05	-	4.75E-05		
			Chlorobenzene	-	-	-	-	-	GI Tract/Kidney/Reproductive System	-	-	5.14E-07	-	5.14E-07		
			Chloroform	-	-	5.16E-09	-	5.16E-09	GI Tract/ Kidney/ Developmental	-	-	4.93E-05	-	4.93E-05		
			Chloromethane	-	-	-	-	-	CNS	-	-	6.37E-05	-	6.37E-05		
			Chrysene	-	-	5.34E-12	-	5.34E-12	-	-	-	-	-	-		
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.17E-04	-	1.17E-04		
			Dieldrin	-	-	1.48E-12	-	1.48E-12	Liver	-	-	2.88E-08	-	2.88E-08		
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	3.11E-10	-	3.11E-10		
			Endosulfan II	-	-	-	-	-	Body weight/Kidney	-	-	1.04E-10	-	1.04E-10		
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	1.35E-06	-	1.35E-06		
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	1.91E-08	-	1.91E-08		
			Fluorene	-	-	-	-	-	Blood	-	-	4.85E-08	-	4.85E-08		
			gamma-BHC (Lindane)	-	-	1.18E-13	-	1.18E-13	Liver/Kidney	-	-	5.57E-09	-	5.57E-09		
			gamma-Chlordane	-	-	2.79E-13	-	2.79E-13	Liver	-	-	1.81E-08	-	1.81E-08		
			Heptachlor	-	-	6.91E-12	-	6.91E-12	Liver	-	-	5.24E-08	-	5.24E-08		
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	5.57E-04	-	5.57E-04		
			m,p-Xylene	-	-	-	-	-	CNS	-	-	4.73E-05	-	4.73E-05		
			Methoxychlor	-	-	-	-	-	Developmental	-	-	9.65E-10	-	9.65E-10		
			Naphthalene	-	-	7.74E-11	-	7.74E-11	Nasal Epithelium	-	-	1.17E-05	-	1.17E-05		
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	5.62E-04	-	5.62E-04		
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	1.36E-05	-	1.36E-05		
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	1.65E-08	-	1.65E-08		
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	5.57E-04	-	5.57E-04		
			Pyrene	-	-	-	-	-	Kidney	-	-	2.20E-08	-	2.20E-08		
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	4.85E-07	-	4.85E-07		
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	4.83E-05	-	4.83E-05		
			Toluene	-	-	-	-	-	CNS	-	-	5.20E-08	-	5.20E-08		
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.03E-04	-	1.03E-04		
			Trichloroethene	-	-	8.76E-10	-	8.76E-10	CNS/Eye	-	-	1.14E-05	-	1.14E-05		
			Vinyl chloride	-	-	7.70E-08	-	7.70E-08	Liver	-	-	1.55E-04	-	1.55E-04		
						<b>Chemical Total</b>	0.00E+00	0.00E+00	9.65E-08	0.00E+00	9.65E-08		0.00E+00	0.00E+00	3.94E-03	3.94E-03
						<b>Exposure Point Total</b>					9.65E-08					3.94E-03
						<b>Exposure Medium Total</b>					9.65E-08					3.94E-03
<b>Medium Total</b>								9.65E-08					3.94E-03			
<b>Receptor Total</b>								2.65E-05					4.60E+00			

**TABLE H3-8.2**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

- Not applicable or not available
- CNS Central nervous system
- COPC Chemicals of Potential Concern
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- GI Gastrointestinal
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	7.64E-02
Total Organ 2 (Kidney) HI Across All Media =	1.50E+00
Total Organ 3 (Reproductive System) HI Across All Media =	1.08E-04
Total Organ 4 (Nervous System) HI Across All Media =	1.16E-01
Total Organ 5 (Skin) HI Across All Media =	1.42E-02
Total Organ 6 (Blood) HI Across All Media =	1.08E-01
Total Organ 7 (Adrenal) HI Across All Media =	2.94E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	9.96E-04
Total Organ 9 (Brain) HI Across All Media =	3.21E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	8.53E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	5.47E-02
Total Organ 12 (Body Weight) HI Across All Media =	1.20E-01
Total Organ 13 (Developmental) HI Across All Media =	1.75E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.02E-01
Total Organ 15 (Whole Body) HI Across All Media =	4.14E-03
Total Organ 16 (Immune System) HI Across All Media =	5.50E-02
Total Organ 17 (Organ Weight) HI Across All Media =	1.48E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	5.47E-02
Total Organ 19 (Nasal Tissue) HI Across All Media =	2.73E+00

TABLE H3-8.3  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	5.28E-05	1.74E-05	--	--	7.03E-05
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.80E-04	5.93E-06	--	--	1.86E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	3.52E-06	1.16E-07	--	--	3.64E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.02E-04	3.36E-06	--	--	1.05E-04
			1,2-Dichloropropane	6.52E-13	2.15E-14	--	--	6.74E-13	Nasal	1.11E-06	3.67E-08	--	--	1.15E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.13E-06	3.72E-08	--	--	1.16E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.29E-05	4.26E-07	--	--	1.33E-05
			1,4-Dichlorobenzene	1.85E-10	--	--	--	1.85E-10	Organ weight	7.98E-05	--	--	--	7.98E-05
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	3.70E-06	1.22E-07	--	--	3.82E-06
			2-Methylphenol	--	--	--	--	--	Respiratory System	7.13E-06	2.35E-06	--	--	9.49E-06
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	1.18E-05	3.89E-07	--	--	1.22E-05
			4,4'-DDD	1.45E-12	4.78E-14	--	--	1.50E-12	Liver	8.45E-07	2.79E-08	--	--	8.73E-07
			4,4'-DDE	1.41E-10	4.65E-12	--	--	1.45E-10	Liver	5.80E-05	1.91E-06	--	--	5.99E-05
			4,4'-DDT	7.61E-11	7.54E-12	--	--	8.37E-11	Liver	3.13E-05	3.10E-06	--	--	3.44E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.90E-05	6.28E-06	--	--	2.53E-05
			4-Nitroaniline	6.55E-11	2.16E-11	--	--	8.71E-11	--	7.28E-05	2.40E-05	--	--	9.68E-05
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.96E-04	9.76E-05	--	--	3.94E-04
			Acenaphthene	--	--	--	--	--	Liver	2.49E-05	1.07E-05	--	--	3.55E-05
			Acenaphthylene	--	--	--	--	--	Liver	6.12E-07	2.02E-08	--	--	6.32E-07
			Aldrin	1.11E-09	3.67E-10	--	--	1.48E-09	Liver	1.53E-04	5.04E-05	--	--	2.03E-04
			alpha-BHC	9.92E-12	3.27E-13	--	--	1.02E-11	Liver/Kidney	5.14E-07	1.70E-08	--	--	5.31E-07
			alpha-Chlordane	5.33E-11	--	--	--	5.33E-11	Liver	5.74E-06	--	--	--	5.74E-06
			Aluminum	--	--	--	--	--	CNS	3.11E-03	1.03E-05	--	--	3.12E-03
			Anthracene	--	--	--	--	--	No Observed Effect	1.24E-06	5.31E-07	--	--	1.77E-06
			Antimony	--	--	--	--	--	Whole Body/Blood	3.59E-03	1.19E-05	--	--	3.60E-03
			Aroclor-1248	1.21E-08	5.58E-09	--	--	1.77E-08	Immune System/ Eye/Finger and Toe Nails	2.11E-02	9.76E-03	--	--	3.09E-02
			Aroclor-1254	4.47E-09	2.06E-09	--	--	6.53E-09	Immune System/ Eye/Finger and Toe Nails	7.82E-03	3.61E-03	--	--	1.14E-02
			Aroclor-1260	5.45E-09	2.52E-09	--	--	7.97E-09	Immune System/ Eye/Finger and Toe Nails	9.53E-03	4.41E-03	--	--	1.39E-02
			Aroclor-1268	2.79E-10	1.29E-10	--	--	4.08E-10	Immune System/ Eye/Finger and Toe Nails	4.89E-04	2.26E-04	--	--	7.15E-04
			Arsenic	2.93E-07	2.90E-08	--	--	3.22E-07	Skin	7.24E-03	7.17E-04	--	--	7.96E-03
			Barium	--	--	--	--	--	Kidney	3.41E-04	1.13E-06	--	--	3.42E-04
			Benzo(a)anthracene	3.02E-08	1.30E-08	--	--	4.32E-08	--	--	--	--	--	--
			Benzo(a)pyrene	1.01E-07	4.31E-08	--	--	1.44E-07	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.65E-08	7.09E-09	--	--	2.36E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	8.97E-06	3.85E-06	--	--	1.28E-05
			Benzo(k)fluoranthene	1.97E-08	8.45E-09	--	--	2.81E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	4.19E-05	1.38E-07	--	--	4.21E-05
			Beta-BHC	1.66E-11	5.48E-13	--	--	1.72E-11	Liver/Kidney	3.87E-06	1.28E-07	--	--	4.00E-06
			bis(2-ethylhexyl)phthalate	1.18E-10	3.90E-12	--	--	1.22E-10	Liver	1.38E-04	4.55E-06	--	--	1.42E-04
			Cadmium	1.81E-08	5.98E-11	--	--	1.82E-08	Kidney	6.67E-03	2.20E-05	--	--	6.70E-03
			Carbon disulfide	--	--	--	--	--	Developmental	8.45E-10	6.97E-10	--	--	1.54E-09
			Chlorobenzene	--	--	--	--	--	Liver	1.94E-06	6.39E-08	--	--	2.00E-06

TABLE H3-8.3

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	2.61E-05	8.62E-08	--	--	2.62E-05	
			Chrysene	3.43E-09	1.47E-09	--	--	4.90E-09	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	1.33E-04	4.40E-07	--	--	--	1.34E-04
			Copper	--	--	--	--	--	GI Tract/Kidney	5.02E-04	1.66E-06	--	--	--	5.04E-04
			Delta-BHC	6.34E-11	1.05E-11	--	--	7.39E-11	Liver/Kidney	1.48E-05	2.44E-06	--	--	--	1.72E-05
			Dibenzo(a,h)anthracene	6.55E-09	2.81E-09	--	--	9.36E-09	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	2.29E-03	7.56E-05	--	--	--	2.37E-03
			Dieldrin	4.44E-09	1.47E-10	--	--	4.59E-09	Liver	3.88E-04	1.28E-05	--	--	--	4.01E-04
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	1.67E-08	5.52E-10	--	--	--	1.73E-08
			di-n-Butylphthalate	--	--	--	--	--	Liver	3.87E-06	1.28E-07	--	--	--	4.00E-06
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	1.35E-06	2.23E-07	--	--	--	1.57E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	1.40E-06	2.31E-07	--	--	--	1.63E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	2.52E-06	4.17E-07	--	--	--	2.94E-06
			Endrin aldehyde	--	--	--	--	--	Liver	4.94E-05	8.15E-06	--	--	--	5.76E-05
			Endrin Ketone	--	--	--	--	--	Liver	1.17E-05	--	--	--	--	1.17E-05
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	2.33E-04	1.00E-04	--	--	--	3.34E-04
			Fluorene	--	--	--	--	--	Blood	2.57E-05	1.10E-05	--	--	--	3.67E-05
			gamma-BHC (Lindane)	1.44E-11	1.90E-12	--	--	1.63E-11	Liver/Kidney	3.05E-08	4.03E-07	--	--	--	3.46E-08
			gamma-Chlordane	8.57E-11	--	--	--	8.57E-11	Liver	9.23E-06	--	--	--	--	9.23E-06
			Heptachlor	1.42E-10	4.70E-12	--	--	1.47E-10	Liver	4.86E-06	1.80E-07	--	--	--	5.02E-06
			Heptachlor Epoxide	3.09E-10	1.02E-11	--	--	3.19E-10	Liver	3.02E-04	9.97E-06	--	--	--	3.12E-04
			Indeno(1,2,3-cd)pyrene	5.27E-09	2.26E-09	--	--	7.53E-09	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	4.78E-02	1.58E-04	--	--	--	4.80E-02
			Isophorone	9.56E-13	3.16E-13	--	--	1.27E-12	No Observed Effect	3.52E-07	1.16E-07	--	--	--	4.68E-07
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	4.86E-03	1.60E-05	--	--	--	4.87E-03
			Mercury	--	--	--	--	--	Immune System	3.63E-04	--	--	--	--	3.63E-04
			Methoxychlor	--	--	--	--	--	Developmental	8.45E-06	2.79E-07	--	--	--	8.73E-06
			Molybdenum	--	--	--	--	--	Blood	1.76E-04	5.82E-07	--	--	--	1.77E-04
			Naphthalene	--	--	--	--	--	Whole Body	2.29E-04	9.82E-05	--	--	--	3.27E-04
			Nickel	--	--	--	--	--	Whole Body	6.89E-04	2.27E-06	--	--	--	6.91E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.63E-05	5.39E-07	--	--	--	1.69E-05
			Phenol	--	--	--	--	--	Whole Body	6.81E-07	2.25E-07	--	--	--	9.06E-07
p-Isopropyltoluene	--	--	--	--	--	Kidney	3.87E-07	--	--	--	--	3.87E-07			
Pyrene	--	--	--	--	--	Kidney	2.84E-04	1.22E-04	--	--	--	4.05E-04			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	6.25E-07	--	--	--	--	6.25E-07			
Selenium	--	--	--	--	--	Whole Body	1.58E-05	5.22E-08	--	--	--	1.59E-05			
Silver	--	--	--	--	--	Skin	8.16E-05	2.69E-07	--	--	--	8.19E-05			
Technical Chlordane	3.61E-09	4.76E-10	--	--	4.08E-09	Liver	3.88E-04	5.12E-05	--	--	--	4.39E-04			
Thallium	--	--	--	--	--	Blood	2.19E-03	--	--	--	--	2.19E-03			
Toluene	--	--	--	--	--	Liver/Kidney	1.89E-09	6.25E-11	--	--	--	1.96E-09			
Vanadium	--	--	--	--	--	Kidney	1.20E-02	3.97E-05	--	--	--	1.21E-02			

TABLE H3-8.3  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	5.32E-04	1.76E-06	--	--	5.34E-04
		Exposure Point Total	Chemical Total	5.26E-07	1.19E-07	0.00E+00	0.00E+00	6.45E-07		1.35E-01	1.97E-02	0.00E+00	0.00E+00	1.55E-01
	Exposure Medium Total						6.45E-07							1.55E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	3.48E-03	--	3.48E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.18E-02	--	1.18E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.53E-03	--	2.53E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	3.42E-03	--	3.42E-03
			1,2-Dichloropropane	--	--	5.39E-11	--	5.39E-11	Nasal	--	--	9.20E-05	--	9.20E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.87E-04	--	7.87E-04
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.99E-04	--	1.99E-04
			1,4-Dichlorobenzene	--	--	3.27E-08	--	3.27E-08	Liver	--	--	2.49E-04	--	2.49E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	5.85E-10	--	5.85E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	5.42E-05	--	5.42E-05
			4,4'-DDD	--	--	2.29E-16	--	2.29E-16	Liver	--	--	1.34E-10	--	1.34E-10
			4,4'-DDE	--	--	1.73E-12	--	1.73E-12	Liver	--	--	7.11E-07	--	7.11E-07
			4,4'-DDT	--	--	1.20E-14	--	1.20E-14	Liver	--	--	4.95E-09	--	4.95E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	3.01E-09	--	3.01E-09
			4-Nitroaniline	--	--	1.04E-14	--	1.04E-14	--	--	--	3.45E-08	--	3.45E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	4.10E-08	--	4.10E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.55E-05	--	3.55E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	8.73E-07	--	8.73E-07
			Aldrin	--	--	5.01E-11	--	5.01E-11	Liver	--	--	6.88E-06	--	6.88E-06
			alpha-BHC	--	--	5.14E-12	--	5.14E-12	Liver/Kidney	--	--	2.67E-07	--	2.67E-07
			alpha-Chlordane	--	--	5.06E-12	--	5.06E-12	Liver	--	--	1.48E-06	--	1.48E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	3.44E-04	--	3.44E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.77E-06	--	1.77E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	1.91E-12	--	1.91E-12	Immune System/Eye/Finger and Toe nails	--	--	3.34E-06	--	3.34E-06
			Aroclor-1254	--	--	7.06E-13	--	7.06E-13	Immune System/Eye/Finger and Toe nails	--	--	1.24E-06	--	1.24E-06
			Aroclor-1260	--	--	8.61E-13	--	8.61E-13	Immune System/Eye/Finger and Toe Nails	--	--	1.51E-06	--	1.51E-06
			Aroclor-1268	--	--	4.42E-14	--	4.42E-14	Immune System/Eye/Finger and Toe nails	--	--	7.73E-08	--	7.73E-08
			Arsenic	--	--	5.89E-11	--	5.89E-11	Developmental	--	--	3.99E-05	--	3.99E-05
			Barium	--	--	--	--	--	Developmental	--	--	2.70E-05	--	2.70E-05
			Benzo(a)anthracene	--	--	1.55E-12	--	1.55E-12	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	5.17E-12	--	5.17E-12	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	3.61E-10	--	3.61E-10	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	--	--	--	--	--	--
			Benzo(k)fluoranthene	--	--	1.01E-12	--	1.01E-12	Kidney	--	--	1.42E-09	--	1.42E-09
			Beryllium	--	--	1.59E-12	--	1.59E-12	Immune System/Lung	--	--	2.32E-06	--	2.32E-06
			Beta-BHC	--	--	2.62E-15	--	2.62E-15	Liver/Kidney	--	--	6.12E-10	--	6.12E-10

TABLE H3-8.3

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	5.23E-14	--	5.23E-14	Liver	--	--	2.18E-08	--	2.18E-08
			Cadmium	--	--	1.13E-10	--	1.13E-10	Kidney/Respiratory System	--	--	9.23E-05	--	9.23E-05
			Carbon disulfide	--	--	--	--	--	CNS	--	--	8.29E-08	--	8.29E-08
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	6.64E-06	--	6.64E-06
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.28E-10	--	1.28E-10	--	--	--	--	--	--
			Cobalt	--	--	5.90E-11	--	5.90E-11	Respiratory System	--	--	7.38E-05	--	7.38E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	3.29E-11	--	3.29E-11	Liver/Kidney	--	--	7.67E-06	--	7.67E-06
			Dibenzo(a,h)anthracene	--	--	1.04E-12	--	1.04E-12	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	8.22E-04	--	8.22E-04
			Dieldrin	--	--	6.21E-10	--	6.21E-10	Liver	--	--	5.43E-05	--	5.43E-05
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	2.64E-12	--	2.64E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.22E-09	--	1.22E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.92E-07	--	4.92E-07
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	5.09E-07	--	5.09E-07
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	9.20E-07	--	9.20E-07
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	7.81E-09	--	7.81E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.86E-09	--	1.86E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.57E-05	--	1.57E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.56E-05	--	1.56E-05
			gamma-BHC (Lindane)	--	--	9.18E-12	--	9.18E-12	Liver/Kidney	--	--	1.95E-06	--	1.95E-06
			gamma-Chlordane	--	--	8.15E-12	--	8.15E-12	Liver	--	--	2.38E-06	--	2.38E-06
			Heptachlor	--	--	7.25E-10	--	7.25E-10	Liver	--	--	2.48E-05	--	2.48E-05
			Heptachlor Epoxide	--	--	4.88E-14	--	4.88E-14	Liver	--	--	4.78E-08	--	4.78E-08
			Indeno(1,2,3-cd)pyrene	--	--	2.71E-13	--	2.71E-13	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.29E-03	--	1.29E-03
			Mercury	--	--	--	--	--	CNS	--	--	2.00E-07	--	2.00E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	6.33E-07	--	6.33E-07
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	4.39E-08	--	4.39E-08	Nasal Epithelium	--	--	2.99E-02	--	2.99E-02			
Nickel	--	--	2.83E-11	--	2.83E-11	Respiratory System	--	--	1.56E-04	--	1.56E-04			
Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.33E-05	--	2.33E-05			
Phenol	--	--	--	--	--	Liver/CNS	--	--	5.65E-10	--	5.65E-10			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	6.38E-05	--	6.38E-05			
Pyrene	--	--	--	--	--	Kidney	--	--	2.26E-05	--	2.26E-05			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.57E-05	--	2.57E-05			
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	2.19E-09	--	2.19E-09			
Silver	--	--	--	--	--	--	--	--	--	--	--			

**TABLE H3-8.3**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	3.43E-10	--	3.43E-10	Liver	--	--	9.99E-05	--	9.99E-05
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	8.01E-09	--	8.01E-09
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	7.93E-08	0.00E+00	7.93E-08		0.00E+00	0.00E+00	5.58E-02	0.00E+00	5.58E-02
		Exposure Point Total						7.93E-08						5.58E-02
	Exposure Medium Total							7.93E-08						5.58E-02
Medium Total								7.24E-07						2.10E-01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	1.26E-12	--	1.26E-12	No observed effect	--	--	1.11E-07	--	1.11E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.72E-06	--	2.72E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	5.32E-07	--	5.32E-07
			1,2-Dichloroethane	--	--	2.24E-11	--	2.24E-11	Liver/Kidney/CNS	--	--	1.56E-05	--	1.56E-05
			1,2-Dichloropropane	--	--	4.20E-12	--	4.20E-12	Nasal	--	--	7.17E-06	--	7.17E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.55E-06	--	1.55E-06
			1,4-Dichlorobenzene	--	--	5.90E-12	--	5.90E-12	Liver	--	--	4.49E-08	--	4.49E-08
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.79E-10	--	2.79E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	7.09E-10	--	7.09E-10
			4,4'-DDE	--	--	2.30E-13	--	2.30E-13	Liver	--	--	9.48E-08	--	9.48E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.72E-10	--	1.72E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.37E-08	--	2.37E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.01E-09	--	1.01E-09
			Aldrin	--	--	1.99E-11	--	1.99E-11	Liver	--	--	2.73E-06	--	2.73E-06
			alpha-BHC	--	--	4.00E-13	--	4.00E-13	Liver/Kidney	--	--	2.07E-08	--	2.07E-08
			alpha-Chlordane	--	--	4.21E-13	--	4.21E-13	Liver	--	--	1.23E-07	--	1.23E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	4.01E-10	--	4.01E-10
			Benzene	--	--	1.37E-11	--	1.37E-11	Blood	--	--	1.11E-06	--	1.11E-06
			Benzo(b)fluoranthene	--	--	9.93E-14	--	9.93E-14	--	--	--	--	--	--
			Bromoform	--	--	1.50E-14	--	1.50E-14	Liver	--	--	1.35E-08	--	1.35E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	8.25E-07	--	8.25E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	9.39E-09	--	9.39E-09
			Chloroform	--	--	2.06E-11	--	2.06E-11	GI Tract/ Kidney/ Developmental	--	--	8.84E-07	--	8.84E-07
			Chloromethane	--	--	--	--	--	CNS	--	--	1.06E-06	--	1.06E-06
			Chrysene	--	--	2.69E-14	--	2.69E-14	--	--	--	--	--	--
			cis-1,2-Dichloroethane	--	--	--	--	--	Blood	--	--	1.94E-06	--	1.94E-06
			Dieckrin	--	--	8.23E-12	--	8.23E-12	Liver	--	--	7.20E-07	--	7.20E-07
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.37E-09	--	1.37E-09
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	2.25E-12	--	2.25E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	2.52E-08	--	2.52E-08
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	4.63E-10	--	4.63E-10			
Fluorene	--	--	--	--	--	Blood	--	--	9.15E-10	--	9.15E-10			
gamma-BHC (Lindane)	--	--	7.15E-16	--	7.15E-16	Liver/Kidney	--	--	1.52E-10	--	1.52E-10			

TABLE H3-8.3

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	1.09E-12	-	1.09E-12	Liver	-	-	3.19E-07	-	3.19E-07			
			Heptachlor	-	-	3.83E-11	-	3.83E-11	Liver	-	-	1.31E-06	-	1.31E-06			
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	1.14E-05	-	1.14E-05			
			m,p-Xylene	-	-	-	-	-	CNS	-	-	8.77E-07	-	8.77E-07			
			Methoxychlor	-	-	-	-	-	Developmental	-	-	2.39E-08	-	2.39E-08			
			Naphthalene	-	-	3.41E-13	-	3.41E-13	Nasal Epithelium	-	-	2.32E-07	-	2.32E-07			
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	1.08E-05	-	1.08E-05			
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	2.58E-07	-	2.58E-07			
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	3.20E-10	-	3.20E-10			
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	1.14E-05	-	1.14E-05			
			Pyrene	-	-	-	-	-	Kidney	-	-	5.63E-10	-	5.63E-10			
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	7.34E-07	-	7.34E-07			
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	8.32E-07	-	8.32E-07			
			Toluene	-	-	-	-	-	CNS	-	-	9.74E-09	-	9.74E-09			
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	1.64E-06	-	1.64E-06			
			Trichloroethene	-	-	3.41E-12	-	3.41E-12	CNS/Eye	-	-	2.01E-07	-	2.01E-07			
			Vinyl chloride	-	-	2.72E-10	-	2.72E-10	Liver	-	-	2.47E-06	-	2.47E-06			
						Chemical Total	0.00E+00	0.00E+00	4.13E-10	0.00E+00	4.13E-10		0.00E+00	0.00E+00	7.98E-05	0.00E+00	7.98E-05
						Exposure Point Total					4.13E-10						7.98E-05
						Exposure Medium Total					4.13E-10						7.98E-05
Medium Total								4.13E-10						7.98E-05			
Receptor Total								7.25E-07						2.11E-01			

TABLE H3-8.3  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

-	Not applicable or not available
CNS	Central nervous system
COPC	Chemicals of Potential Concern
CTE	Central Tendency Exposure
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard Index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	5.12E-02
Total Organ 2 (Kidney) HI Across All Media =	3.98E-02
Total Organ 3 (Reproductive System) HI Across All Media =	6.65E-06
Total Organ 4 (Nervous System) HI Across All Media =	1.27E-02
Total Organ 5 (Skin) HI Across All Media =	8.04E-03
Total Organ 6 (Blood) HI Across All Media =	1.08E-02
Total Organ 7 (Adrenal) HI Across All Media =	2.56E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.76E-04
Total Organ 9 (Brain) HI Across All Media =	2.64E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	5.54E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	5.70E-02
Total Organ 12 (Body Weight) HI Across All Media =	3.50E-03
Total Organ 13 (Developmental) HI Across All Media =	7.72E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	4.03E-03
Total Organ 15 (Whole Body) HI Across All Media =	4.67E-03
Total Organ 16 (Immune System) HI Across All Media =	5.74E-02
Total Organ 17 (Organ Weight) HI Across All Media =	8.07E-05
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	5.70E-02
Total Organ 19 (Nasal Tissue) HI Across All Media =	3.00E-02

TABLE H3-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	5.28E-05	1.74E-05	--	--	7.03E-05
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	1.80E-04	5.93E-06	--	--	1.86E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	3.52E-06	1.16E-07	--	--	3.64E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.02E-04	3.36E-06	--	--	1.05E-04
			1,2-Dichloropropane	6.52E-13	2.15E-14	--	--	6.74E-13	Nasal	1.11E-06	3.67E-08	--	--	1.15E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.13E-06	3.72E-08	--	--	1.16E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.29E-05	4.26E-07	--	--	1.33E-05
			1,4-Dichlorobenzene	1.85E-10	--	--	--	1.85E-10	Organ weight	7.98E-05	--	--	--	7.98E-05
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	3.70E-06	1.22E-07	--	--	3.82E-06
			2-Methylphenol	--	--	--	--	--	Respiratory System	7.13E-06	2.35E-06	--	--	9.49E-06
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	1.02E-05	3.37E-07	--	--	1.05E-05
			4,4'-DDD	1.45E-12	4.78E-14	--	--	1.50E-12	Liver	8.45E-07	2.79E-08	--	--	8.73E-07
			4,4'-DDE	1.28E-10	4.23E-12	--	--	1.33E-10	Liver	5.28E-05	1.74E-06	--	--	5.46E-05
			4,4'-DDT	7.18E-11	7.11E-12	--	--	7.90E-11	Liver	2.96E-05	2.93E-06	--	--	3.25E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	1.90E-05	6.28E-06	--	--	2.53E-05
			4-Nitroaniline	6.55E-11	2.16E-11	--	--	8.71E-11	--	7.28E-05	2.40E-05	--	--	9.68E-05
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	2.96E-04	9.76E-05	--	--	3.94E-04
			Acenaphthene	--	--	--	--	--	Liver	2.04E-05	8.74E-06	--	--	2.91E-05
			Acenaphthylene	--	--	--	--	--	Liver	5.26E-07	1.74E-08	--	--	5.43E-07
			Aldrin	1.11E-09	3.67E-10	--	--	1.48E-09	Liver	1.53E-04	5.04E-05	--	--	2.03E-04
			alpha-BHC	9.92E-12	3.27E-13	--	--	1.02E-11	Liver/Kidney	5.14E-07	1.70E-08	--	--	5.31E-07
			alpha-Chlordane	4.57E-11	--	--	--	4.57E-11	Liver	4.92E-06	--	--	--	4.92E-06
			Aluminum	--	--	--	--	--	CNS	3.19E-03	1.05E-05	--	--	3.20E-03
			Anthracene	--	--	--	--	--	No Observed Effect	1.07E-06	4.60E-07	--	--	1.53E-06
			Antimony	--	--	--	--	--	Whole Body/Blood	2.40E-03	7.92E-06	--	--	2.41E-03
			Aroclor-1248	1.21E-08	5.58E-09	--	--	1.77E-08	Immune System/ Eye/Finger and Toe Nails	2.11E-02	9.76E-03	--	--	3.09E-02
			Aroclor-1254	4.40E-09	2.03E-09	--	--	6.44E-09	Immune System/ Eye/Finger and Toe Nails	7.71E-03	3.56E-03	--	--	1.13E-02
			Aroclor-1260	4.91E-09	2.27E-09	--	--	7.18E-09	Immune System/ Eye/Finger and Toe Nails	8.60E-03	3.97E-03	--	--	1.26E-02
			Aroclor-1268	2.74E-10	1.26E-10	--	--	4.00E-10	Immune System/ Eye/Finger and Toe Nails	4.79E-04	2.21E-04	--	--	7.00E-04
			Arsenic	4.53E-07	4.49E-08	--	--	4.98E-07	Skin	1.12E-02	1.11E-03	--	--	1.23E-02
			Barium	--	--	--	--	--	Kidney	3.49E-04	1.15E-06	--	--	3.51E-04
			Benzo(a)anthracene	2.54E-08	1.09E-08	--	--	3.64E-08	--	--	--	--	--	--
			Benzo(a)pyrene	8.49E-08	3.64E-08	--	--	1.21E-07	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.43E-08	6.15E-09	--	--	2.05E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	7.61E-06	3.26E-06	--	--	1.09E-05
			Benzo(k)fluoranthene	1.71E-08	7.32E-09	--	--	2.44E-08	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	4.01E-05	1.32E-07	--	--	4.03E-05
			Beta-BHC	1.66E-11	5.48E-13	--	--	1.72E-11	Liver/Kidney	3.87E-06	1.28E-07	--	--	4.00E-06
			bis(2-ethylhexyl)phthalate	7.99E-11	2.64E-12	--	--	8.26E-11	Liver	9.33E-05	3.08E-06	--	--	9.63E-05
			Cadmium	1.65E-08	5.46E-11	--	--	1.66E-08	Kidney	6.09E-03	2.01E-05	--	--	6.11E-03
			Carbon disulfide	--	--	--	--	--	Developmental	8.45E-10	6.97E-10	--	--	1.54E-09
			Chlorobenzene	--	--	--	--	--	Liver	1.94E-06	6.39E-08	--	--	2.00E-06

TABLE H3-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	2.35E-05	7.75E-08	--	--	2.36E-05
			Chrysene	2.90E-09	1.24E-09	--	--	4.14E-09	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	1.31E-04	4.33E-07	--	--	1.32E-04
			Copper	--	--	--	--	--	GI Tract/Kidney	5.29E-04	1.75E-06	--	--	5.31E-04
			Delta-BHC	6.34E-11	1.05E-11	--	--	7.39E-11	Liver/Kidney	1.48E-05	2.44E-06	--	--	1.72E-05
			Dibenzo(a,h)anthracene	5.69E-09	2.44E-09	--	--	8.13E-09	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	2.29E-03	7.56E-05	--	--	2.37E-03
			Dieldrin	3.94E-09	1.30E-10	--	--	4.07E-09	Liver	3.45E-04	1.14E-05	--	--	3.56E-04
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	1.67E-08	5.52E-10	--	--	1.73E-08
			di-n-Butylphthalate	--	--	--	--	--	Liver	4.05E-06	1.34E-07	--	--	4.18E-06
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	1.35E-06	2.23E-07	--	--	1.57E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	1.37E-06	2.26E-07	--	--	1.60E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	2.52E-06	4.17E-07	--	--	2.94E-06
			Endrin aldehyde	--	--	--	--	--	Liver	7.40E-05	1.22E-05	--	--	8.62E-05
			Endrin Ketone	--	--	--	--	--	Liver	1.17E-05	--	--	--	1.17E-05
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	1.96E-04	8.41E-05	--	--	2.80E-04
			Fluorene	--	--	--	--	--	Blood	2.23E-05	9.55E-06	--	--	3.18E-05
			gamma-BHC (Lindane)	1.44E-11	1.90E-12	--	--	1.63E-11	Liver/Kidney	3.05E-06	4.03E-07	--	--	3.46E-06
			gamma-Chlordane	8.31E-11	--	--	--	8.31E-11	Liver	8.95E-06	--	--	--	8.95E-06
			Heptachlor	1.42E-10	4.70E-12	--	--	1.47E-10	Liver	4.86E-06	1.60E-07	--	--	5.02E-06
			Heptachlor Epoxide	2.73E-10	9.00E-12	--	--	2.82E-10	Liver	2.67E-04	8.81E-06	--	--	2.76E-04
			Indeno(1,2,3-cd)pyrene	3.00E-09	1.29E-09	--	--	4.29E-09	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	4.32E-02	1.42E-04	--	--	4.33E-02
			Isophorone	9.56E-13	3.16E-13	--	--	1.27E-12	No Observed Effect	3.52E-07	1.16E-07	--	--	4.68E-07
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	4.47E-03	1.47E-05	--	--	4.48E-03
			Mercury	--	--	--	--	--	Immune System	3.12E-04	--	--	--	3.12E-04
			Methoxychlor	--	--	--	--	--	Developmental	8.45E-06	2.79E-07	--	--	8.73E-06
			Methylene chloride	1.69E-13	5.58E-15	--	--	1.75E-13	Liver	1.41E-08	4.65E-10	--	--	1.46E-08
			Molybdenum	--	--	--	--	--	Blood	1.54E-04	5.07E-07	--	--	1.54E-04
			Naphthalene	--	--	--	--	--	Whole Body	2.29E-04	9.82E-05	--	--	3.27E-04
			Nickel	--	--	--	--	--	Whole Body	6.86E-04	2.26E-06	--	--	6.88E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.37E-05	4.53E-07	--	--	1.42E-05
			Phenol	--	--	--	--	--	Whole Body	6.81E-07	2.25E-07	--	--	9.06E-07
			p-Isopropyltoluene	--	--	--	--	--	Kidney	3.87E-07	--	--	--	3.87E-07
			Pyrene	--	--	--	--	--	Kidney	2.39E-04	1.02E-04	--	--	3.41E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	6.25E-07	--	--	--	6.25E-07
			Selenium	--	--	--	--	--	Whole Body	2.00E-05	6.59E-08	--	--	2.00E-05
			Silver	--	--	--	--	--	Skin	6.90E-05	2.28E-07	--	--	6.93E-05
			Technical Chlordane	3.54E-09	4.67E-10	--	--	4.00E-09	Liver	3.81E-04	5.03E-05	--	--	4.31E-04
Thallium	--	--	--	--	--	Blood	2.12E-03	--	--	--	2.12E-03			
Toluene	--	--	--	--	--	Liver/Kidney	1.89E-09	6.25E-11	--	--	1.96E-09			

TABLE H3-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	1.19E-02	3.92E-05	--	--	1.19E-02
			Zinc	--	--	--	--	--	Blood	3.90E-04	1.29E-06	--	--	3.91E-04
			Chemical Total	6.55E-07	1.22E-07	0.00E+00	0.00E+00	7.76E-07		1.30E-01	1.96E-02	0.00E+00	0.00E+00	1.50E-01
			Exposure Point Total					7.76E-07						1.50E-01
	Exposure Medium Total							7.76E-07						1.50E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	3.48E-03	--	3.48E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.18E-02	--	1.18E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.53E-03	--	2.53E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	3.42E-03	--	3.42E-03
			1,2-Dichloropropane	--	--	5.39E-11	--	5.39E-11	Nasal	--	--	9.20E-05	--	9.20E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	7.87E-04	--	7.87E-04
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.99E-04	--	1.99E-04
			1,4-Dichlorobenzene	--	--	3.27E-08	--	3.27E-08	Liver	--	--	2.49E-04	--	2.49E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	5.85E-10	--	5.85E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.70E-05	--	4.70E-05
			4,4'-DDD	--	--	2.29E-16	--	2.29E-16	Liver	--	--	1.34E-10	--	1.34E-10
			4,4'-DDE	--	--	1.57E-12	--	1.57E-12	Liver	--	--	6.47E-07	--	6.47E-07
			4,4'-DDT	--	--	1.14E-14	--	1.14E-14	Liver	--	--	4.68E-09	--	4.68E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	3.01E-09	--	3.01E-09
			4-Nitroaniline	--	--	1.04E-14	--	1.04E-14	--	--	--	3.45E-08	--	3.45E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	4.10E-08	--	4.10E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.91E-05	--	2.91E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	7.51E-07	--	7.51E-07
			Aldrin	--	--	5.01E-11	--	5.01E-11	Liver	--	--	6.88E-06	--	6.88E-06
			alpha-BHC	--	--	5.14E-12	--	5.14E-12	Liver/Kidney	--	--	2.67E-07	--	2.67E-07
			alpha-Chlordane	--	--	4.34E-12	--	4.34E-12	Liver	--	--	1.27E-06	--	1.27E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	3.53E-04	--	3.53E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.53E-06	--	1.53E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	1.91E-12	--	1.91E-12	Immune System/Eye/Finger and Toe nails	--	--	3.34E-06	--	3.34E-06
			Aroclor-1254	--	--	6.96E-13	--	6.96E-13	Immune System/Eye/Finger and Toe nails	--	--	1.22E-06	--	1.22E-06
			Aroclor-1260	--	--	7.77E-13	--	7.77E-13	Immune System/Eye/Finger and Toe Nails	--	--	1.36E-06	--	1.36E-06
			Aroclor-1268	--	--	4.32E-14	--	4.32E-14	Immune System/Eye/Finger and Toe nails	--	--	7.57E-08	--	7.57E-08
			Arsenic	--	--	9.10E-11	--	9.10E-11	Developmental	--	--	6.17E-05	--	6.17E-05
			Barium	--	--	--	--	--	Developmental	--	--	2.76E-05	--	2.76E-05
			Benzo(a)anthracene	--	--	1.31E-12	--	1.31E-12	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	4.36E-12	--	4.36E-12	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	3.13E-10	--	3.13E-10	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.20E-09	--	1.20E-09
			Benzo(k)fluoranthene	--	--	8.76E-13	--	8.76E-13	--	--	--	--	--	--
			Beryllium	--	--	1.52E-12	--	1.52E-12	Immune System/Lung	--	--	2.22E-06	--	2.22E-06

TABLE H3-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	2.62E-15	--	2.62E-15	Liver/Kidney	--	--	6.12E-10	--	6.12E-10	
			bis(2-ethylhexyl)phthalate	--	--	3.54E-14	--	3.54E-14	Liver	--	--	1.47E-08	--	1.47E-08	
			Cadmium	--	--	1.03E-10	--	1.03E-10	Kidney/Respiratory System	--	--	8.43E-05	--	8.43E-05	
			Carbon disulfide	--	--	--	--	--	CNS	--	--	8.29E-08	--	8.29E-08	
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	6.64E-06	--	6.64E-06	
			Chromium	--	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	1.08E-10	--	1.08E-10	--	--	--	--	--	--	--
			Cobalt	--	--	5.80E-11	--	5.80E-11	Respiratory System	--	--	7.26E-05	--	7.26E-05	--
			Copper	--	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	3.29E-11	--	3.29E-11	Liver/Kidney	--	--	7.67E-06	--	7.67E-06	--
			Dibenzo(a,h)anthracene	--	--	8.99E-13	--	8.99E-13	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	8.22E-04	--	8.22E-04	--
			Dieldrin	--	--	5.51E-10	--	5.51E-10	Liver	--	--	4.82E-05	--	4.82E-05	--
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	2.64E-12	--	2.64E-12	--
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.28E-09	--	1.28E-09	--
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.92E-07	--	4.92E-07	--
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	5.00E-07	--	5.00E-07	--
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	9.20E-07	--	9.20E-07	--
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.17E-08	--	1.17E-08	--
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.86E-09	--	1.86E-09	--
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.32E-05	--	1.32E-05	--
			Fluorene	--	--	--	--	--	Blood	--	--	1.35E-05	--	1.35E-05	--
			gamma-BHC (Lindane)	--	--	9.18E-12	--	9.18E-12	Liver/Kidney	--	--	1.95E-06	--	1.95E-06	--
			gamma-Chlordane	--	--	7.89E-12	--	7.89E-12	Liver	--	--	2.30E-06	--	2.30E-06	--
			Heptachlor	--	--	7.25E-10	--	7.25E-10	Liver	--	--	2.48E-05	--	2.48E-05	--
			Heptachlor Epoxide	--	--	4.31E-14	--	4.31E-14	Liver	--	--	4.22E-08	--	4.22E-08	--
			Indeno(1,2,3-cd)pyrene	--	--	1.54E-13	--	1.54E-13	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.19E-03	--	1.19E-03	--
			Mercury	--	--	--	--	--	CNS	--	--	1.72E-07	--	1.72E-07	--
			Methoxychlor	--	--	--	--	--	Developmental	--	--	6.33E-07	--	6.33E-07	--
			Methylene chloride	--	--	--	--	--	Blood	--	--	--	--	--	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	4.39E-08	--	4.39E-08	Nasal Epithelium	--	--	2.99E-02	--	2.99E-02	--
			Nickel	--	--	2.82E-11	--	2.82E-11	Respiratory System	--	--	1.55E-04	--	1.55E-04	--
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.96E-05	--	1.96E-05	--
			Phenol	--	--	--	--	--	Liver/CNS	--	--	5.65E-10	--	5.65E-10	--
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	6.38E-05	--	6.38E-05	--
Pyrene	--	--	--	--	--	Kidney	--	--	1.90E-05	--	1.90E-05	--			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.57E-05	--	2.57E-05	--			

TABLE H3-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	2.77E-09	--	2.77E-09	
			Silver	--	--	--	--	--		--	--	--	--	--	
			Technical Chlordane	--	--	3.36E-10	--	3.36E-10		Liver	--	--	9.81E-05	--	9.81E-05
			Thallium	--	--	--	--	--		--	--	--	--	--	--
			Toluene	--	--	--	--	--		CNS	--	--	8.01E-09	--	8.01E-09
			Vanadium	--	--	--	--	--		--	--	--	--	--	--
			Zinc	--	--	--	--	--		--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	7.91E-08	0.00E+00	7.91E-08		0.00E+00	0.00E+00	5.57E-02	0.00E+00	5.57E-02	
			Exposure Point Total					7.91E-08						5.57E-02	
			Exposure Medium Total					7.91E-08						5.57E-02	
Medium Total								8.55E-07						2.06E-01	
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	1.26E-12	--	1.26E-12	No observed effect	--	--	1.11E-07	--	1.11E-07	
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.72E-06	--	2.72E-06	
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	5.32E-07	--	5.32E-07	
			1,2-Dichloroethane	--	--	2.24E-11	--	2.24E-11	Liver/Kidney/CNS	--	--	1.56E-05	--	1.56E-05	
			1,2-Dichloropropane	--	--	4.20E-12	--	4.20E-12	Nasal	--	--	7.17E-06	--	7.17E-06	
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.55E-06	--	1.55E-06	
			1,4-Dichlorobenzene	--	--	5.90E-12	--	5.90E-12	Liver	--	--	4.49E-08	--	4.49E-08	
			2-Hexanone	--	--	--	--	--	Developmental	--	--	2.79E-10	--	2.79E-10	
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	7.09E-10	--	7.09E-10	
			4,4'-DDE	--	--	2.30E-13	--	2.30E-13	Liver	--	--	9.48E-08	--	9.48E-08	
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	1.72E-10	--	1.72E-10	
			Acenaphthene	--	--	--	--	--	Liver	--	--	2.37E-08	--	2.37E-08	
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.01E-09	--	1.01E-09	
			Aldrin	--	--	1.99E-11	--	1.99E-11	Liver	--	--	2.73E-06	--	2.73E-06	
			alpha-BHC	--	--	4.00E-13	--	4.00E-13	Liver/Kidney	--	--	2.07E-08	--	2.07E-08	
			alpha-Chlordane	--	--	4.21E-13	--	4.21E-13	Liver	--	--	1.23E-07	--	1.23E-07	
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	4.01E-10	--	4.01E-10	
			Benzene	--	--	1.37E-11	--	1.37E-11	Blood	--	--	1.11E-06	--	1.11E-06	
			Benzo(b)fluoranthene	--	--	9.93E-14	--	9.93E-14	--	--	--	--	--	--	
			Bromoform	--	--	1.50E-14	--	1.50E-14	Liver	--	--	1.35E-08	--	1.35E-08	
			Carbon disulfide	--	--	--	--	--	CNS	--	--	8.25E-07	--	8.25E-07	
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	9.39E-09	--	9.39E-09	
			Chloroform	--	--	2.06E-11	--	2.06E-11	GI Tract/ Kidney/ Developmental	--	--	8.84E-07	--	8.84E-07	
			Chloromethane	--	--	--	--	--	CNS	--	--	1.06E-06	--	1.06E-06	
			Chrysene	--	--	2.69E-14	--	2.69E-14	--	--	--	--	--	--	
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.94E-06	--	1.94E-06	
			Dieldrin	--	--	8.23E-12	--	8.23E-12	Liver	--	--	7.20E-07	--	7.20E-07	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.37E-09	--	1.37E-09	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	2.25E-12	--	2.25E-12	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	2.52E-08	--	2.52E-08	
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	4.63E-10	--	4.63E-10				

TABLE H3-8.4

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	9.15E-10	--	9.15E-10
			gamma-BHC (Lindane)	--	--	7.15E-16	--	7.15E-16	Liver/Kidney	--	--	1.52E-10	--	1.52E-10
			gamma-Chlordane	--	--	1.09E-12	--	1.09E-12	Liver	--	--	3.19E-07	--	3.19E-07
			Heptachlor	--	--	3.83E-11	--	3.83E-11	Liver	--	--	1.31E-06	--	1.31E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.14E-05	--	1.14E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	8.77E-07	--	8.77E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.39E-08	--	2.39E-08
			Naphthalene	--	--	3.41E-13	--	3.41E-13	Nasal Epithelium	--	--	2.32E-07	--	2.32E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.08E-05	--	1.08E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.58E-07	--	2.58E-07
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.20E-10	--	3.20E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.14E-05	--	1.14E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	5.63E-10	--	5.63E-10
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	7.34E-07	--	7.34E-07
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	8.32E-07	--	8.32E-07
			Toluene	--	--	--	--	--	CNS	--	--	9.74E-09	--	9.74E-09
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.64E-06	--	1.64E-06
			Trichloroethene	--	--	3.41E-12	--	3.41E-12	CNS/Eye	--	--	2.01E-07	--	2.01E-07
			Vinyl chloride	--	--	2.72E-10	--	2.72E-10	Liver	--	--	2.47E-06	--	2.47E-06
						Chemical Total	0.00E+00	0.00E+00	4.13E-10	0.00E+00	4.13E-10		0.00E+00	0.00E+00
			Exposure Point Total					4.13E-10						7.98E-05
			Exposure Medium Total					4.13E-10						7.98E-05
Medium Total								4.13E-10						7.98E-05
Receptor Total								8.56E-07						2.06E-01

**TABLE H3-8.4**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
CNS	Central nervous system
COPC	Chemicals of Potential Concern
CTE	Central Tendency Exposure
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.64E-02
Total Organ 2 (Kidney) HI Across All Media =	3.89E-02
Total Organ 3 (Reproductive System) HI Across All Media =	6.65E-06
Total Organ 4 (Nervous System) HI Across All Media =	1.23E-02
Total Organ 5 (Skin) HI Across All Media =	1.24E-02
Total Organ 6 (Blood) HI Across All Media =	9.27E-03
Total Organ 7 (Adrenal) HI Across All Media =	2.56E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	1.66E-04
Total Organ 9 (Brain) HI Across All Media =	2.64E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	5.79E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	5.54E-02
Total Organ 12 (Body Weight) HI Across All Media =	3.49E-03
Total Organ 13 (Developmental) HI Across All Media =	9.97E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	4.03E-03
Total Organ 15 (Whole Body) HI Across All Media =	3.48E-03
Total Organ 16 (Immune System) HI Across All Media =	5.58E-02
Total Organ 17 (Organ Weight) HI Across All Media =	8.07E-05
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	5.54E-02
Total Organ 19 (Nasal Tissue) HI Across All Media =	3.00E-02

TABLE H3-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	1.03E-04	1.17E-05	--	--	1.14E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	3.49E-04	3.98E-06	--	--	3.53E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	6.85E-06	7.81E-08	--	--	6.93E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.98E-04	2.26E-06	--	--	2.00E-04
			1,2-Dichloropropane	8.88E-12	1.01E-13	--	--	8.98E-12	Nasal	2.16E-06	2.47E-08	--	--	2.19E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.19E-06	2.50E-08	--	--	2.22E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	2.51E-05	2.88E-07	--	--	2.54E-05
			1,4-Dichlorobenzene	2.52E-09	--	--	--	2.52E-09	Organ weight	1.55E-04	--	--	--	1.55E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	7.19E-06	8.20E-08	--	2.01E-03	2.01E-03
			2-Methylphenol	--	--	--	--	--	Respiratory System	1.39E-05	1.58E-06	--	9.21E-03	9.22E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	2.29E-05	2.61E-07	--	--	2.32E-05
			4,4'-DDD	1.97E-11	2.25E-13	--	9.38E-12	2.93E-11	Liver	1.64E-06	1.87E-08	--	7.81E-07	2.44E-06
			4,4'-DDE	1.92E-09	2.19E-11	--	6.60E-10	2.60E-09	Liver	1.13E-04	1.29E-06	--	3.88E-05	1.53E-04
			4,4'-DDT	1.04E-09	3.54E-11	--	1.54E-09	2.61E-09	Liver	6.09E-05	2.08E-06	--	9.05E-05	1.54E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	3.70E-05	4.22E-06	--	2.52E-02	2.53E-02
			4-Nitroaniline	8.92E-10	1.02E-10	--	4.16E-07	4.17E-07	--	1.42E-04	1.61E-05	--	6.61E-02	6.63E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	5.75E-04	6.56E-05	--	4.03E-01	4.04E-01
			Acenaphthene	--	--	--	--	--	Liver	4.83E-05	7.16E-06	--	--	5.55E-05
			Acenaphthylene	--	--	--	--	--	Liver	1.19E-06	1.36E-08	--	--	1.20E-06
			Aldrin	1.51E-08	1.73E-09	--	1.18E-08	2.86E-08	Liver	2.97E-04	3.38E-05	--	2.31E-04	5.62E-04
			alpha-BHC	1.35E-10	1.54E-12	--	2.27E-08	2.28E-08	Liver/Kidney	1.00E-06	1.14E-08	--	1.68E-04	1.69E-04
			alpha-Chlordane	7.25E-10	--	--	1.24E-09	1.96E-09	Liver	1.12E-05	--	--	1.91E-05	3.02E-05
			Aluminum	--	--	--	--	--	CNS	6.04E-03	6.89E-06	--	1.41E-03	7.46E-03
			Anthracene	--	--	--	--	--	No Observed Effect	2.41E-06	3.57E-07	--	--	2.77E-06
			Antimony	--	--	--	--	--	Whole Body/Blood	6.98E-03	7.96E-06	--	7.50E-02	8.20E-02
			Aroclor-1248	1.64E-07	2.62E-08	--	7.84E-08	2.69E-07	Immune System/ Eye/Finger and Toe Nails	4.11E-02	6.56E-03	--	1.96E-02	6.73E-02
			Aroclor-1254	6.08E-08	9.71E-09	--	3.88E-07	4.59E-07	Immune System/ Eye/Finger and Toe Nails	1.52E-02	2.43E-03	--	9.70E-02	1.15E-01
			Aroclor-1260	7.42E-08	1.18E-08	--	1.69E-08	1.03E-07	Immune System/ Eye/Finger and Toe Nails	1.85E-02	2.96E-03	--	4.23E-03	2.57E-02
			Aroclor-1268	3.80E-09	6.07E-10	--	2.43E-08	2.87E-08	Immune System/ Eye/Finger and Toe Nails	9.51E-04	1.52E-04	--	6.07E-03	7.17E-03
			Arsenic	3.99E-06	1.36E-07	--	8.57E-06	1.27E-05	Skin	1.41E-02	4.81E-04	--	3.02E-02	4.48E-02
			Barium	--	--	--	--	--	Kidney	6.64E-04	7.57E-07	--	3.56E-03	4.23E-03
			Benzo(a)anthracene	4.11E-07	6.10E-08	--	3.78E-08	5.10E-07	--	--	--	--	--	--
			Benzo(a)pyrene	1.37E-06	2.03E-07	--	7.13E-08	1.64E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	2.25E-07	3.34E-08	--	1.17E-07	3.76E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.74E-05	2.58E-06	--	6.93E-06	2.69E-05
			Benzo(k)fluoranthene	2.68E-07	3.97E-08	--	1.40E-07	4.47E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	8.16E-05	9.30E-08	--	4.38E-05	1.25E-04
			Beta-BHC	2.26E-10	2.58E-12	--	3.80E-08	3.82E-08	Liver/Kidney	7.53E-06	8.59E-08	--	1.27E-03	1.27E-03
			bis(2-ethylhexyl)phthalate	1.61E-09	1.83E-11	--	1.99E-07	2.01E-07	Liver	2.68E-04	3.06E-06	--	3.32E-02	3.35E-02
			Cadmium	2.47E-07	2.81E-10	--	1.32E-05	1.35E-05	Kidney	1.30E-02	1.48E-05	--	6.97E-01	7.10E-01
			Carbon disulfide	--	--	--	--	--	Developmental	1.64E-09	4.68E-10	--	--	2.11E-09
			Chlorobenzene	--	--	--	--	--	Liver	3.77E-06	4.29E-08	--	--	3.81E-06

TABLE H3-8.5

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	—	—	—	—	—	No Observed Effect	5.08E-05	5.79E-08	—	8.18E-05	1.33E-04	
			Chrysene	4.67E-08	6.92E-09	—	3.01E-08	8.37E-08	—	—	—	—	—	—	—
			Cobalt	—	—	—	—	—	Blood	2.59E-04	2.96E-07	—	6.50E-04	9.10E-04	
			Copper	—	—	—	—	—	GI Tract/Kidney	9.77E-04	1.11E-08	—	8.74E-02	8.84E-02	
			Delta-BHC	8.63E-10	4.92E-11	—	1.18E-09	2.09E-09	Liver/Kidney	2.88E-05	1.64E-06	—	3.94E-05	6.98E-05	
			Dibenzo(a,h)anthracene	8.92E-08	1.32E-08	—	2.87E-08	1.31E-07	—	—	—	—	—	—	—
			Dibenzofuran	—	—	—	—	—	Kidney	4.45E-03	5.08E-05	—	—	4.50E-03	
			Dieldrin	6.04E-08	6.89E-10	—	1.15E-05	1.15E-05	Liver	7.55E-04	8.61E-06	—	1.43E-01	1.44E-01	
			Dimethylphthalate	—	—	—	—	—	Developmental/Organ Weight	3.25E-08	3.71E-10	—	1.73E-05	1.74E-05	
			di-n-Butylphthalate	—	—	—	—	—	Liver	7.53E-06	8.59E-08	—	5.62E-06	1.32E-05	
			Endosulfan I	—	—	—	—	—	Body weight/Kidney/CNS	2.63E-06	1.50E-07	—	4.21E-04	4.24E-04	
			Endosulfan II	—	—	—	—	—	Body Weight/Kidney	2.72E-06	1.55E-07	—	4.18E-04	4.21E-04	
			Endosulfan Sulfate	—	—	—	—	—	Body Weight/Kidney/CNS	4.91E-06	2.80E-07	—	7.37E-04	7.42E-04	
			Endrin aldehyde	—	—	—	—	—	Liver	9.61E-05	5.48E-06	—	5.70E-05	1.59E-04	
			Endrin Ketone	—	—	—	—	—	Liver	2.28E-05	—	—	1.36E-05	3.64E-05	
			Fluoranthene	—	—	—	—	—	Kidney/Liver/Blood	4.54E-04	6.73E-05	—	4.39E-04	9.60E-04	
			Fluorene	—	—	—	—	—	Blood	4.99E-05	7.40E-06	—	—	5.73E-05	
			gamma-BHC (Lindane)	1.96E-10	8.93E-12	—	1.16E-07	1.16E-07	Liver/Kidney	5.94E-06	2.71E-07	—	3.51E-03	3.51E-03	
			gamma-Chlordane	1.17E-09	—	—	1.99E-09	3.16E-09	Liver	1.79E-05	—	—	3.07E-05	4.86E-05	
			Heptachlor	1.94E-09	2.21E-11	—	2.46E-09	4.42E-09	Liver	9.45E-06	1.08E-07	—	1.20E-05	2.16E-05	
			Heptachlor Epoxide	4.20E-09	4.79E-11	—	1.74E-06	1.74E-06	Liver	5.88E-04	6.70E-06	—	2.43E-01	2.43E-01	
			Indeno(1,2,3-cd)pyrene	7.17E-08	1.06E-08	—	2.80E-08	1.10E-07	—	—	—	—	—	—	—
			Iron	—	—	—	—	—	Liver	9.30E-02	1.06E-04	—	3.31E-02	1.26E-01	
			Isophorone	1.30E-11	1.48E-12	—	—	1.45E-11	No Observed Effect	6.85E-07	7.81E-08	—	—	7.63E-07	
			Lead	—	—	—	—	—	—	—	—	—	—	—	—
			Manganese	—	—	—	—	—	CNS	9.45E-03	1.08E-05	—	1.69E-01	1.79E-01	
			Mercury	—	—	—	—	—	Immune System	7.07E-04	—	—	5.06E-02	5.13E-02	
			Methoxychlor	—	—	—	—	—	Developmental	1.64E-05	1.87E-07	—	5.10E-06	2.17E-05	
			Molybdenum	—	—	—	—	—	Blood	3.43E-04	3.91E-07	—	7.37E-03	7.71E-03	
			Naphthalene	—	—	—	—	—	Whole Body	4.45E-04	6.60E-05	—	—	5.11E-04	
			Nickel	—	—	—	—	—	Whole Body	1.34E-03	1.53E-06	—	2.88E-02	3.01E-02	
			Phenanthrene	—	—	—	—	—	No Observed Effect	3.18E-05	3.62E-07	—	—	3.21E-05	
			Phenol	—	—	—	—	—	Whole Body	1.32E-06	1.51E-07	—	2.34E-03	2.34E-03	
			p-Isopropyltoluene	—	—	—	—	—	Kidney	7.53E-07	—	—	—	7.53E-07	
			Pyrene	—	—	—	—	—	Kidney	5.51E-04	8.17E-05	—	—	6.33E-04	
			sec-Butylbenzene	—	—	—	—	—	Liver/Kidney	1.22E-06	—	—	—	1.22E-06	
			Selenium	—	—	—	—	—	Whole Body	3.07E-05	3.51E-08	—	2.75E-04	3.06E-04	
			Silver	—	—	—	—	—	Skin	1.59E-04	1.81E-07	—	5.68E-03	5.84E-03	
			Technical Chlordane	4.91E-08	2.24E-09	—	8.38E-08	1.35E-07	Liver	7.55E-04	3.44E-05	—	1.29E-03	2.08E-03	
			Thallium	—	—	—	—	—	Blood	4.26E-03	—	—	6.09E-04	4.86E-03	
Toluene	—	—	—	—	—	Liver/Kidney	3.68E-09	4.20E-11	—	—	3.72E-09				
Vanadium	—	—	—	—	—	Kidney	2.34E-02	2.67E-05	—	2.51E-02	4.85E-02				

**TABLE H3-8.5**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	1.04E-03	1.18E-06	--	3.34E-01	3.35E-01
		Exposure Point Total	Chemical Total	7.16E-06	5.58E-07	0.00E+00	3.69E-05	4.46E-05		2.62E-01	1.32E-02	0.00E+00	2.61E+00	2.89E+00
	Exposure Medium Total						4.46E-05							2.89E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.97E-02	--	1.97E-02
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.68E-02	--	6.68E-02	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.43E-02	--	1.43E-02	
		1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.93E-02	--	1.93E-02	
		1,2-Dichloropropane	--	--	2.13E-09	--	2.13E-09	Nasal	--	--	5.20E-04	--	5.20E-04	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.45E-03	--	4.45E-03	
		1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.12E-03	--	1.12E-03	
		1,4-Dichlorobenzene	--	--	1.29E-06	--	1.29E-06	Liver	--	--	1.41E-03	--	1.41E-03	
		2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	1.65E-09	--	1.65E-09	
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	3.06E-04	--	3.06E-04	
		4,4'-DDD	--	--	4.52E-15	--	4.52E-15	Liver	--	--	3.77E-10	--	3.77E-10	
		4,4'-DDE	--	--	6.83E-11	--	6.83E-11	Liver	--	--	4.02E-06	--	4.02E-06	
		4,4'-DDT	--	--	2.37E-13	--	2.37E-13	Liver	--	--	1.40E-08	--	1.40E-08	
		4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	8.47E-09	--	8.47E-09	
		4-Nitroaniline	--	--	2.04E-13	--	2.04E-13	--	--	--	9.73E-08	--	9.73E-08	
		4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.16E-07	--	1.16E-07	
		Acenaphthene	--	--	--	--	--	Liver	--	--	2.01E-04	--	2.01E-04	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	4.94E-06	--	4.94E-06	
		Aldrin	--	--	1.98E-09	--	1.98E-09	Liver	--	--	3.89E-05	--	3.89E-05	
		alpha-BHC	--	--	2.03E-10	--	2.03E-10	Liver/Kidney	--	--	1.51E-06	--	1.51E-06	
		alpha-Chlordane	--	--	2.00E-10	--	2.00E-10	Liver	--	--	8.35E-06	--	8.35E-06	
		Aluminum	--	--	--	--	--	Respiratory System	--	--	9.68E-04	--	9.68E-04	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.00E-05	--	1.00E-05	
		Antimony	--	--	--	--	--	--	--	--	--	--	--	
		Aroclor-1248	--	--	3.77E-11	--	3.77E-11	Immune System/Eye/Finger and Toe nails	--	--	9.41E-06	--	9.41E-06	
		Aroclor-1254	--	--	1.39E-11	--	1.39E-11	Immune System/Eye/Finger and Toe nails	--	--	3.48E-06	--	3.48E-06	
		Aroclor-1260	--	--	1.70E-11	--	1.70E-11	Immune System/Eye/Finger and Toe Nails	--	--	4.25E-06	--	4.25E-06	
		Aroclor-1268	--	--	8.71E-13	--	8.71E-13	Immune System/Eye/Finger and Toe nails	--	--	2.18E-07	--	2.18E-07	
		Arsenic	--	--	1.16E-09	--	1.16E-09	Developmental	--	--	1.13E-04	--	1.13E-04	
		Barium	--	--	--	--	--	Developmental	--	--	7.60E-05	--	7.60E-05	
		Benzo(a)anthracene	--	--	3.06E-11	--	3.06E-11	--	--	--	--	--	--	
		Benzo(a)pyrene	--	--	1.02E-10	--	1.02E-10	--	--	--	--	--	--	
		Benzo(b)fluoranthene	--	--	1.43E-08	--	1.43E-08	--	--	--	--	--	--	
		Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	3.99E-09	--	3.99E-09	
		Benzo(k)fluoranthene	--	--	2.00E-11	--	2.00E-11	--	--	--	--	--	--	
		Beryllium	--	--	3.14E-11	--	3.14E-11	Immune System/Lung	--	--	6.54E-06	--	6.54E-06	
		Beta-BHC	--	--	5.18E-14	--	5.18E-14	Liver/Kidney	--	--	1.73E-09	--	1.73E-09	

TABLE H3-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.03E-12	--	1.03E-12	Liver	--	--	6.14E-08	--	6.14E-08
			Cadmium	--	--	2.23E-09	--	2.23E-09	Kidney/Respiratory System	--	--	2.60E-04	--	2.60E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.69E-07	--	4.69E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.75E-05	--	3.75E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	5.05E-09	--	5.05E-09	--	--	--	--	--	--
			Cobalt	--	--	1.16E-09	--	1.16E-09	Respiratory System	--	--	2.08E-04	--	2.08E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.30E-09	--	1.30E-09	Liver/Kidney	--	--	4.33E-05	--	4.33E-05
			Dibenzo(a,h)anthracene	--	--	2.04E-11	--	2.04E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	4.65E-03	--	4.65E-03
			Dieldrin	--	--	2.46E-08	--	2.46E-08	Liver	--	--	3.07E-04	--	3.07E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	7.45E-12	--	7.45E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	3.45E-09	--	3.45E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.78E-06	--	2.78E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	2.88E-06	--	2.88E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.20E-06	--	5.20E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	2.20E-08	--	2.20E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	5.23E-09	--	5.23E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	8.88E-05	--	8.88E-05
			Fluorene	--	--	--	--	--	Blood	--	--	8.84E-05	--	8.84E-05
			gamma-BHC (Lindane)	--	--	3.63E-10	--	3.63E-10	Liver/Kidney	--	--	1.10E-05	--	1.10E-05
			gamma-Chlordane	--	--	3.22E-10	--	3.22E-10	Liver	--	--	1.34E-05	--	1.34E-05
			Heptachlor	--	--	2.87E-08	--	2.87E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Heptachlor Epoxide	--	--	9.63E-13	--	9.63E-13	Liver	--	--	1.35E-07	--	1.35E-07
			Indeno(1,2,3-cd)pyrene	--	--	5.34E-12	--	5.34E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	3.64E-03	--	3.64E-03
			Mercury	--	--	--	--	--	CNS	--	--	5.65E-07	--	5.65E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.58E-06	--	3.58E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	1.74E-06	--	1.74E-06	Nasal Epithelium	--	--	1.69E-01	--	1.69E-01
			Nickel	--	--	5.59E-10	--	5.59E-10	Respiratory System	--	--	4.39E-04	--	4.39E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.32E-04	--	1.32E-04
			Phenol	--	--	--	--	--	Liver/CNS	--	--	1.59E-09	--	1.59E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.61E-04	--	3.61E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	1.28E-04	--	1.28E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.45E-04	--	1.45E-04
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	6.18E-09	--	6.18E-09			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H3-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	1.36E-08	--	1.36E-08	Liver	--	--	5.65E-04	--	5.65E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	4.53E-08	--	4.53E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	3.13E-06	0.00E+00	3.13E-06		0.00E+00	0.00E+00	3.10E-01	0.00E+00	3.10E-01
			Exposure Point Total					3.13E-06						3.10E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.66E+00	--	1.66E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.64E+00	--	5.64E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.58E-01	--	3.58E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	5.55E-01	--	5.55E-01
			1,2-Dichloropropane	--	--	1.58E-08	--	1.58E-08	Nasal	--	--	3.84E-03	--	3.84E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.14E-01	--	1.14E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	4.46E-02	--	4.46E-02
			1,4-Dichlorobenzene	--	--	3.31E-05	--	3.31E-05	Liver	--	--	3.60E-02	--	3.60E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.01E-02	--	2.01E-02
			4,4'-DDE	--	--	4.27E-11	--	4.27E-11	Liver	--	--	2.51E-06	--	2.51E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.85E-03	--	5.85E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.51E-04	--	1.51E-04
			Aldrin	--	--	5.67E-09	--	5.67E-09	Liver	--	--	1.11E-04	--	1.11E-04
			alpha-BHC	--	--	6.02E-09	--	6.02E-09	Liver/Kidney	--	--	4.46E-05	--	4.46E-05
			alpha-Chlordane	--	--	1.35E-09	--	1.35E-09	Liver	--	--	5.62E-05	--	5.62E-05
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.08E-04	--	3.08E-04
			Benzo(b)fluoranthene	--	--	2.55E-08	--	2.55E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	4.68E-04	--	4.68E-04
			Chrysene	--	--	1.44E-08	--	1.44E-08	--	--	--	--	--	--
			Delta-BHC	--	--	5.71E-08	--	5.71E-08	Liver/Kidney	--	--	1.90E-03	--	1.90E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	2.45E-03	--	2.45E-03
			Diieldrin	--	--	1.74E-07	--	1.74E-07	Liver	--	--	2.17E-03	--	2.17E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.45E-05	--	7.45E-05
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	7.58E-05	--	7.58E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.39E-04	--	1.39E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.54E-05	--	2.54E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.39E-03	--	1.39E-03
			gamma-BHC (Lindane)	--	--	1.30E-08	--	1.30E-08	Liver/Kidney	--	--	3.93E-04	--	3.93E-04
			gamma-Chlordane	--	--	2.45E-11	--	2.45E-11	Liver	--	--	1.02E-06	--	1.02E-06
			Heptachlor	--	--	9.22E-09	--	9.22E-09	Liver	--	--	4.50E-05	--	4.50E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.23E-05	--	1.23E-05
			Methylene Chloride	--	--	1.02E-09	--	1.02E-09	Blood	--	--	2.65E-05	--	2.65E-05
			Naphthalene	--	--	1.56E-04	--	1.56E-04	Nasal Epithelium	--	--	1.52E+01	--	1.52E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.94E-03	--	3.94E-03

TABLE H3-8.5

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.22E-03	--	1.22E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	2.75E-04	--	2.75E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.19E-03	--	1.19E-03
			Technical Chlordane	--	--	1.05E-07	--	1.05E-07	Liver	--	--	4.36E-03	--	4.36E-03
			Toluene	--	--	--	--	--	CNS	--	--	3.66E-07	--	3.66E-07
			Chemical Total	0.00E+00	0.00E+00	1.90E-04	0.00E+00	1.90E-04			0.00E+00	0.00E+00	2.37E+01	0.00E+00
		Exposure Point Total											2.37E+01	
		Exposure Medium Total												2.40E+01
Medium Total														2.69E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	5.00E-11	--	5.00E-11	No observed effect	--	--	6.26E-07	--	6.26E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.54E-05	--	1.54E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	3.01E-06	--	3.01E-06
			1,2-Dichloroethane	--	--	8.87E-10	--	8.87E-10	Liver/Kidney/CNS	--	--	8.80E-05	--	8.80E-05
			1,2-Dichloropropane	--	--	1.66E-10	--	1.66E-10	Nasal	--	--	4.05E-05	--	4.05E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.76E-06	--	8.76E-06
			1,4-Dichlorobenzene	--	--	2.33E-10	--	2.33E-10	Liver	--	--	2.54E-07	--	2.54E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.58E-09	--	1.58E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.01E-09	--	4.01E-09
			4,4'-DDE	--	--	9.11E-12	--	9.11E-12	Liver	--	--	5.36E-07	--	5.36E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.74E-10	--	9.74E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.34E-07	--	1.34E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.70E-09	--	5.70E-09
			Aldrin	--	--	7.87E-10	--	7.87E-10	Liver	--	--	1.54E-05	--	1.54E-05
			alpha-BHC	--	--	1.58E-11	--	1.58E-11	Liver/Kidney	--	--	1.17E-07	--	1.17E-07
			alpha-Chlordane	--	--	1.67E-11	--	1.67E-11	Liver	--	--	6.94E-07	--	6.94E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.27E-09	--	2.27E-09
			Benzene	--	--	5.40E-10	--	5.40E-10	Blood	--	--	6.28E-06	--	6.28E-06
			Benzo(b)fluoranthene	--	--	3.93E-12	--	3.93E-12	--	--	--	--	--	--
			Bromoform	--	--	5.95E-13	--	5.95E-13	Liver	--	--	7.62E-08	--	7.62E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.67E-06	--	4.67E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	5.31E-08	--	5.31E-08
			Chloroform	--	--	8.14E-10	--	8.14E-10	GI Tract/ Kidney/ Developmental	--	--	5.00E-06	--	5.00E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	5.97E-06	--	5.97E-06
			Chrysene	--	--	1.06E-12	--	1.06E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.10E-05	--	1.10E-05
			Dielsin	--	--	3.26E-10	--	3.26E-10	Liver	--	--	4.07E-06	--	4.07E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.73E-09	--	7.73E-09
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.27E-11	--	1.27E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.42E-07	--	1.42E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.62E-09	--	2.62E-09			
Fluorene	--	--	--	--	--	Blood	--	--	5.18E-09	--	5.18E-09			
gamma-BHC (Lindane)	--	--	2.83E-14	--	2.83E-14	Liver/Kidney	--	--	8.58E-10	--	8.58E-10			

TABLE H3-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	4.32E-11	--	4.32E-11	Liver	--	--	1.80E-06	--	1.80E-06
			Heptachlor	--	--	1.52E-09	--	1.52E-09	Liver	--	--	7.40E-06	--	7.40E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	6.45E-05	--	6.45E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	4.96E-06	--	4.96E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.35E-07	--	1.35E-07
			Naphthalene	--	--	1.35E-11	--	1.35E-11	Nasal Epithelium	--	--	1.31E-06	--	1.31E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	6.11E-05	--	6.11E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.46E-06	--	1.46E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.81E-09	--	1.81E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	6.45E-05	--	6.45E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	3.18E-09	--	3.18E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.15E-06	--	4.15E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	4.70E-06	--	4.70E-06
			Toluene	--	--	--	--	--	CNS	--	--	5.51E-08	--	5.51E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	9.28E-06	--	9.28E-06
			Trichloroethene	--	--	1.35E-10	--	1.35E-10	CNS/Eye	--	--	1.14E-06	--	1.14E-06
			Vinyl chloride	--	--	1.08E-08	--	1.08E-08	Liver	--	--	1.40E-05	--	1.40E-05
			Chemical Total	0.00E+00	0.00E+00	1.63E-08	0.00E+00	1.63E-08		0.00E+00	0.00E+00	4.51E-04	0.00E+00	4.51E-04
			Exposure Point Total					1.63E-08						4.51E-04
			Exposure Medium Total					1.63E-08						4.51E-04
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	8.79E-09	--	8.79E-09	No observed effect	--	--	1.10E-04	--	1.10E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.98E-04	--	3.98E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	7.99E-05	--	7.99E-05
			1,2-Dichloroethane	--	--	2.66E-08	--	2.66E-08	Liver/Kidney/CNS	--	--	2.64E-03	--	2.64E-03
			1,2-Dichloropropane	--	--	4.92E-09	--	4.92E-09	Nasal	--	--	1.20E-03	--	1.20E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.28E-04	--	2.28E-04
			1,4-Dichlorobenzene	--	--	6.25E-09	--	6.25E-09	Liver	--	--	6.80E-06	--	6.80E-06
			2-Hexanone	--	--	--	--	--	Developmental	--	--	8.12E-08	--	8.12E-08
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.12E-07	--	1.12E-07
			4,4'-DDE	--	--	8.21E-13	--	8.21E-13	Liver	--	--	4.83E-08	--	4.83E-08
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	4.00E-08	--	4.00E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.70E-06	--	5.70E-06
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.43E-07	--	2.43E-07
			Aldrin	--	--	8.58E-11	--	8.58E-11	Liver	--	--	1.68E-06	--	1.68E-06
			alpha-BHC	--	--	2.03E-12	--	2.03E-12	Liver/Kidney	--	--	1.50E-08	--	1.50E-08
			alpha-Chlordane	--	--	5.47E-12	--	5.47E-12	Liver	--	--	2.28E-07	--	2.28E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.64E-08	--	9.64E-08
Benzene	--	--	1.59E-08	--	1.59E-08	Blood	--	--	1.85E-04	--	1.85E-04			
Benzo(b)fluoranthene	--	--	1.65E-10	--	1.65E-10	--	--	--	--	--	--			
Bromoform	--	--	3.19E-11	--	3.19E-11	Liver	--	--	4.09E-06	--	4.09E-06			
Carbon disulfide	--	--	--	--	--	CNS	--	--	1.40E-04	--	1.40E-04			
Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.49E-06	--	1.49E-06			

TABLE H3-8.5  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	--	--	2.41E-08	--	2.41E-08	GI Tract/ Kidney/ Developmental	--	--	1.48E-04	--	1.48E-04	
			Chloromethane	--	--	--	--	--	CNS	--	--	1.93E-04	--	1.93E-04	
			Chrysene	--	--	4.65E-11	--	4.65E-11	--	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	7.12E-04	--	7.12E-04	
			Dieldrin	--	--	1.25E-11	--	1.25E-11	Liver	--	--	1.56E-07	--	1.56E-07	
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.68E-09	--	1.68E-09	
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	5.59E-10	--	5.59E-10	
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.85E-06	--	3.85E-06	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.06E-07	--	1.06E-07	
			Fluorene	--	--	--	--	--	Blood	--	--	2.70E-07	--	2.70E-07	
			gamma-BHC (Lindane)	--	--	1.12E-12	--	1.12E-12	Liver/Kidney	--	--	3.39E-08	--	3.39E-08	
			gamma-Chlordane	--	--	2.65E-12	--	2.65E-12	Liver	--	--	1.10E-07	--	1.10E-07	
			Heptachlor	--	--	4.09E-11	--	4.09E-11	Liver	--	--	1.99E-07	--	1.99E-07	
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	3.39E-03	--	3.39E-03	
			m,p-Xylene	--	--	--	--	--	CNS	--	--	2.88E-04	--	2.88E-04	
			Methoxychlor	--	--	--	--	--	Developmental	--	--	5.87E-09	--	5.87E-09	
			Naphthalene	--	--	7.33E-10	--	7.33E-10	Nasal Epithelium	--	--	7.12E-05	--	7.12E-05	
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	3.43E-03	--	3.43E-03	
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	8.28E-05	--	8.28E-05	
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.00E-07	--	1.00E-07	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.39E-03	--	3.39E-03	
			Pyrene	--	--	--	--	--	Kidney	--	--	1.33E-07	--	1.33E-07	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.94E-06	--	2.94E-06	
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	2.95E-04	--	2.95E-04	
			Toluene	--	--	--	--	--	CNS	--	--	3.16E-07	--	3.16E-07	
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	6.25E-04	--	6.25E-04	
			Trichloroethene	--	--	8.27E-09	--	8.27E-09	CNS/Eye	--	--	6.95E-05	--	6.95E-05	
Vinyl chloride	--	--	7.25E-07	--	7.25E-07	Liver	--	--	9.40E-04	--	9.40E-04				
			Chemical Total	0.00E+00	0.00E+00	8.21E-07	0.00E+00	8.21E-07		0.00E+00	0.00E+00	1.86E-02	0.00E+00	1.86E-02	
			Exposure Point Total					8.21E-07						1.86E-02	
			Exposure Medium Total					8.21E-07						1.86E-02	
Medium Total								8.38E-07						1.91E-02	
Receptor Total								Receptor Risk Total						Receptor HI Total	2.69E+01

TABLE H3-8.5

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CNS Central nervous system
- COPC Chemicals of Potential Concern
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- GI Gastrointestinal
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.07E+00
Total Organ 2 (Kidney) HI Across All Media =	8.72E-00
Total Organ 3 (Reproductive System) HI Across All Media =	5.07E-04
Total Organ 4 (Nervous System) HI Across All Media =	7.32E-01
Total Organ 5 (Skin) HI Across All Media =	5.06E-02
Total Organ 6 (Blood) HI Across All Media =	1.33E+00
Total Organ 7 (Adrenal) HI Across All Media =	4.68E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	4.87E-03
Total Organ 9 (Brain) HI Across All Media =	7.45E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	8.92E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	2.15E-01
Total Organ 12 (Body Weight) HI Across All Media =	5.97E-01
Total Organ 13 (Developmental) HI Across All Media =	4.01E-04
Total Organ 14 (Respiratory/Lung) HI Across All Media =	5.31E-01
Total Organ 15 (Whole Body) HI Across All Media =	1.43E-01
Total Organ 16 (Immune System) HI Across All Media =	2.66E-01
Total Organ 17 (Organ Weight) HI Across All Media =	4.72E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.15E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.54E-01

TABLE H3-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	-	-	-	-	-	-	Adrenal	1.03E-04	1.17E-05	-	-	1.14E-04
			1,2,4-Trichlorobenzene	-	-	-	-	-	-	Adrenal	3.49E-04	3.98E-06	-	-	3.53E-04
			1,2,4-Trimethylbenzene	-	-	-	-	-	-	Whole Body/Liver/Kidney	6.85E-06	7.81E-08	-	-	6.93E-06
			1,2-Dichlorobenzene	-	-	-	-	-	-	No Observed Effect	1.98E-04	2.26E-06	-	-	2.00E-04
			1,2-Dichloropropane	8.88E-12	1.01E-13	-	-	-	8.98E-12	Nasal	2.16E-06	2.47E-08	-	-	2.19E-06
			1,3,5-Trimethylbenzene	-	-	-	-	-	-	Whole Body/Liver/Kidney	2.19E-06	2.50E-08	-	-	2.22E-06
			1,3-Dichlorobenzene	-	-	-	-	-	-	Kidney/Liver	2.51E-05	2.86E-07	-	-	2.54E-05
			1,4-Dichlorobenzene	2.52E-09	-	-	-	-	2.52E-09	Organ weight	1.55E-04	-	-	-	1.55E-04
			2,4-Dimethylphenol	-	-	-	-	-	-	Blood/Whole Body	7.19E-06	8.20E-08	-	2.01E-03	2.01E-03
			2-Methylphenol	-	-	-	-	-	-	Respiratory System	1.39E-05	1.58E-06	-	9.21E-03	9.22E-03
			2-Methylnaphthalene	-	-	-	-	-	-	CNS/Body Weight	1.99E-05	2.26E-07	-	-	2.01E-05
			4,4'-DDD	1.97E-11	2.25E-13	-	9.38E-12	2.93E-11	2.93E-11	Liver	1.64E-06	1.87E-08	-	7.81E-07	2.44E-06
			4,4'-DDE	1.75E-09	1.99E-11	-	6.01E-10	2.37E-09	2.37E-09	Liver	1.03E-04	1.17E-06	-	3.54E-05	1.39E-04
			4,4'-DDT	9.78E-10	3.34E-11	-	1.45E-09	2.46E-09	2.46E-09	Liver	5.75E-05	1.97E-06	-	8.54E-05	1.45E-04
			4-Methylphenol	-	-	-	-	-	-	Whole Body/CNS/Respiratory	3.70E-05	4.22E-06	-	2.52E-02	2.53E-02
			4-Nitroaniline	8.92E-10	1.02E-10	-	4.16E-07	4.17E-07	4.17E-07	-	1.42E-04	1.61E-05	-	6.61E-02	6.63E-02
			4-Nitrophenol	-	-	-	-	-	-	Kidney/Liver/Blood	5.75E-04	6.56E-05	-	4.03E-01	4.04E-01
			Acenaphthene	-	-	-	-	-	-	Liver	3.96E-05	5.87E-06	-	-	4.55E-05
			Acenaphthylene	-	-	-	-	-	-	Liver	1.02E-06	1.17E-08	-	-	1.03E-06
			Aldrin	1.51E-08	1.73E-09	-	1.18E-08	2.86E-08	2.86E-08	Liver	2.97E-04	3.38E-05	-	2.31E-04	5.62E-04
			alpha-BHC	1.35E-10	1.54E-12	-	2.27E-08	2.28E-08	2.28E-08	Liver/Kidney	1.00E-06	1.14E-08	-	1.68E-04	1.69E-04
			alpha-Chlordane	6.22E-10	-	-	1.06E-09	1.68E-09	1.68E-09	Liver	9.56E-06	-	-	1.63E-05	2.59E-05
			Aluminum	-	-	-	-	-	-	CNS	6.20E-03	7.07E-06	-	1.44E-03	7.65E-03
			Anthracene	-	-	-	-	-	-	No Observed Effect	2.09E-06	3.09E-07	-	-	2.39E-06
			Antimony	-	-	-	-	-	-	Whole Body/Blood	4.66E-03	5.32E-06	-	5.01E-02	5.48E-02
			Aroclor-1248	1.64E-07	2.62E-08	-	7.84E-08	2.69E-07	2.69E-07	Immune System/ Eye/Finger and Toe Nails	4.11E-02	6.56E-03	-	1.96E-02	6.73E-02
			Aroclor-1254	6.00E-08	9.57E-09	-	3.83E-07	4.52E-07	4.52E-07	Immune System/ Eye/Finger and Toe Nails	1.50E-02	2.39E-03	-	9.56E-02	1.13E-01
			Aroclor-1260	6.69E-08	1.07E-08	-	1.53E-08	9.28E-08	9.28E-08	Immune System/ Eye/Finger and Toe Nails	1.67E-02	2.67E-03	-	3.82E-03	2.32E-02
			Aroclor-1268	3.72E-09	5.94E-10	-	2.38E-08	2.81E-08	2.81E-08	Immune System/ Eye/Finger and Toe Nails	9.31E-04	1.49E-04	-	5.94E-03	7.02E-03
			Arsenic	6.17E-06	2.11E-07	-	1.33E-05	1.96E-05	1.96E-05	Skin	2.18E-02	7.44E-04	-	4.67E-02	6.93E-02
			Barium	-	-	-	-	-	-	Kidney	6.80E-04	7.75E-07	-	3.65E-03	4.33E-03
			Benzo(a)anthracene	3.46E-07	5.13E-08	-	3.18E-08	4.29E-07	4.29E-07	-	-	-	-	-	-
			Benzo(a)pyrene	1.16E-06	1.71E-07	-	6.02E-08	1.39E-06	1.39E-06	-	-	-	-	-	-
			Benzo(b)fluoranthene	1.95E-07	2.89E-08	-	1.02E-07	3.26E-07	3.26E-07	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	-	Kidney	1.48E-05	2.19E-06	-	5.88E-06	2.29E-05
			Benzo(k)fluoranthene	2.32E-07	3.44E-08	-	1.21E-07	3.88E-07	3.88E-07	-	-	-	-	-	-
			Beryllium	-	-	-	-	-	-	GI Tract	7.80E-05	8.89E-08	-	4.19E-05	1.20E-04
			Beta-BHC	2.26E-10	2.58E-12	-	3.80E-08	3.82E-08	3.82E-08	Liver/Kidney	7.53E-06	8.59E-08	-	1.27E-03	1.27E-03
			bis(2-ethylhexyl)phthalate	1.09E-09	1.24E-11	-	1.35E-07	1.36E-07	1.36E-07	Liver	1.81E-04	2.07E-06	-	2.24E-02	2.26E-02
			Cadmium	2.25E-07	2.57E-10	-	1.21E-05	1.23E-05	1.23E-05	Kidney	1.18E-02	1.35E-05	-	6.36E-01	6.48E-01
			Carbon disulfide	-	-	-	-	-	-	Developmental	1.64E-09	4.68E-10	-	-	2.11E-09
			Chlorobenzene	-	-	-	-	-	-	Liver	3.77E-06	4.29E-08	-	-	3.81E-06

TABLE H3-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	4.56E-05	5.20E-08	--	7.35E-05	1.19E-04	
			Chrysene	3.94E-08	5.84E-09	--	2.54E-08	7.07E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	2.55E-04	2.91E-07	--	6.39E-04	8.94E-04	
			Copper	--	--	--	--	--	GI Tract/Kidney	1.03E-03	1.17E-06	--	9.20E-02	9.31E-02	
			Delta-BHC	8.63E-10	4.92E-11	--	1.18E-09	2.09E-09	Liver/Kidney	2.88E-05	1.64E-06	--	3.94E-05	6.98E-05	
			Dibenzo(a,h)anthracene	7.74E-08	1.15E-08	--	2.49E-08	1.14E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	4.45E-03	5.08E-05	--	--	4.50E-03	
			Dieldrin	5.36E-08	6.11E-10	--	1.02E-05	1.02E-05	Liver	6.70E-04	7.64E-06	--	1.27E-01	1.28E-01	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	3.25E-08	3.71E-10	--	1.73E-05	1.74E-05	
			di-n-Butylphthalate	--	--	--	--	--	Liver	7.88E-06	8.98E-08	--	5.87E-06	1.38E-05	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	2.63E-06	1.50E-07	--	4.21E-04	4.24E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	2.67E-06	1.52E-07	--	4.13E-04	4.13E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	4.91E-06	2.80E-07	--	7.37E-04	7.42E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.44E-04	8.20E-06	--	8.54E-05	2.37E-04	
			Endrin Ketone	--	--	--	--	--	Liver	2.28E-05	--	--	1.36E-05	3.64E-05	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	3.81E-04	5.65E-05	--	3.68E-04	8.06E-04	
			Fluorene	--	--	--	--	--	Blood	4.33E-05	6.41E-06	--	--	4.97E-05	
			gamma-BHC (Lindane)	1.96E-10	8.93E-12	--	1.16E-07	1.16E-07	Liver/Kidney	5.94E-06	2.71E-07	--	3.51E-03	3.51E-03	
			gamma-Chlordane	1.13E-09	--	--	1.93E-09	3.06E-09	Liver	1.74E-05	--	--	2.97E-05	4.71E-05	
			Heptachlor	1.94E-09	2.21E-11	--	2.46E-09	4.42E-09	Liver	9.45E-06	1.08E-07	--	1.20E-05	2.16E-05	
			Heptachlor Epoxide	3.71E-09	4.23E-11	--	1.53E-06	1.54E-06	Liver	5.19E-04	5.92E-06	--	2.15E-01	2.15E-01	
			Indeno(1,2,3-cd)pyrene	4.09E-08	6.06E-09	--	1.59E-08	6.29E-08	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	8.39E-02	9.57E-05	--	2.99E-02	1.14E-01	
			Isophorone	1.30E-11	1.48E-12	--	--	1.45E-11	No Observed Effect	6.85E-07	7.81E-08	--	--	7.63E-07	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	8.69E-03	9.90E-06	--	1.55E-01	1.64E-01	
			Mercury	--	--	--	--	--	Immune System	6.06E-04	--	--	4.34E-02	4.40E-02	
			Methoxychlor	--	--	--	--	--	Developmental	1.64E-05	1.87E-07	--	5.10E-06	2.17E-05	
			Methylene chloride	2.30E-12	2.62E-14	--	--	2.33E-12	Liver	2.74E-08	3.12E-10	--	--	2.77E-08	
			Molybdenum	--	--	--	--	--	Blood	2.99E-04	3.40E-07	--	6.41E-03	6.71E-03	
			Naphthalene	--	--	--	--	--	Whole Body	4.45E-04	6.60E-05	--	--	5.11E-04	
			Nickel	--	--	--	--	--	Whole Body	1.33E-03	1.52E-06	--	2.86E-02	3.00E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.67E-05	3.04E-07	--	--	2.70E-05	
			Phenol	--	--	--	--	--	Whole Body	1.32E-06	1.51E-07	--	2.34E-03	2.34E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	7.53E-07	--	--	--	7.53E-07	
			Pyrene	--	--	--	--	--	Kidney	4.64E-04	6.88E-05	--	--	5.33E-04	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.22E-06	--	--	--	1.22E-06	
			Selenium	--	--	--	--	--	Whole Body	3.88E-05	4.43E-08	--	3.48E-04	3.87E-04	
			Silver	--	--	--	--	--	Skin	1.34E-04	1.53E-07	--	4.81E-03	4.94E-03	
			Technical Chlordane	4.82E-08	2.20E-09	--	8.23E-08	1.33E-07	Liver	7.41E-04	3.38E-05	--	1.27E-03	2.04E-03	
			Thallium	--	--	--	--	--	Blood	4.13E-03	--	--	5.92E-04	4.72E-03	
			Toluene	--	--	--	--	--	Liver/Kidney	3.68E-09	4.20E-11	--	--	3.72E-09	

TABLE H3-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	2.31E-02	2.63E-05	--	2.48E-02	4.79E-02
			Zinc	--	--	--	--	--	Blood	7.57E-04	8.64E-07	--	2.44E-01	2.45E-01
			Chemical Total	8.91E-06	5.72E-07	0.00E+00	3.88E-05	4.82E-05		2.54E-01	1.31E-02	0.00E+00	2.37E+00	2.64E+00
		Exposure Point Total					4.82E-05							2.64E+00
	Exposure Medium Total						4.82E-05							2.64E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.97E-02	--	1.97E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	6.68E-02	--	6.68E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.43E-02	--	1.43E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.93E-02	--	1.93E-02
			1,2-Dichloropropane	--	--	2.13E-09	--	2.13E-09	Nasal	--	--	5.20E-04	--	5.20E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	4.45E-03	--	4.45E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.12E-03	--	1.12E-03
			1,4-Dichlorobenzene	--	--	1.29E-06	--	1.29E-06	Liver	--	--	1.41E-03	--	1.41E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	1.65E-09	--	1.65E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.66E-04	--	2.66E-04
			4,4'-DDD	--	--	4.52E-15	--	4.52E-15	Liver	--	--	3.77E-10	--	3.77E-10
			4,4'-DDE	--	--	6.22E-11	--	6.22E-11	Liver	--	--	3.66E-06	--	3.66E-06
			4,4'-DDT	--	--	2.24E-13	--	2.24E-13	Liver	--	--	1.32E-08	--	1.32E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	8.47E-09	--	8.47E-09
			4-Nitroaniline	--	--	2.04E-13	--	2.04E-13	--	--	--	9.73E-08	--	9.73E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	1.16E-07	--	1.16E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.65E-04	--	1.65E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.25E-06	--	4.25E-06
			Aldrin	--	--	1.98E-09	--	1.98E-09	Liver	--	--	3.89E-05	--	3.89E-05
			alpha-BHC	--	--	2.03E-10	--	2.03E-10	Liver/Kidney	--	--	1.51E-06	--	1.51E-06
			alpha-Chlordane	--	--	1.72E-10	--	1.72E-10	Liver	--	--	7.16E-06	--	7.16E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	9.94E-04	--	9.94E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.66E-06	--	8.66E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	3.77E-11	--	3.77E-11	Immune System/Eye/Finger and Toe nails	--	--	9.41E-06	--	9.41E-06
			Aroclor-1254	--	--	1.37E-11	--	1.37E-11	Immune System/Eye/Finger and Toe nails	--	--	3.43E-06	--	3.43E-06
			Aroclor-1260	--	--	1.53E-11	--	1.53E-11	Immune System/Eye/Finger and Toe Nails	--	--	3.83E-06	--	3.83E-06
			Aroclor-1268	--	--	8.53E-13	--	8.53E-13	Immune System/Eye/Finger and Toe nails	--	--	2.13E-07	--	2.13E-07
			Arsenic	--	--	1.79E-09	--	1.79E-09	Developmental	--	--	1.74E-04	--	1.74E-04
			Barium	--	--	--	--	--	Developmental	--	--	7.78E-05	--	7.78E-05
			Benzo(a)anthracene	--	--	2.58E-11	--	2.58E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	8.60E-11	--	8.60E-11	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.24E-08	--	1.24E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	3.39E-09	--	3.39E-09
			Benzo(k)fluoranthene	--	--	1.73E-11	--	1.73E-11	--	--	--	--	--	--
			Beryllium	--	--	3.00E-11	--	3.00E-11	Immune System/Lung	--	--	6.26E-06	--	6.26E-06

TABLE H3-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	5.18E-14	--	5.18E-14	Liver/Kidney	--	--	1.73E-09	--	1.73E-09
			bis(2-ethylhexyl)phthalate	--	--	6.98E-13	--	6.98E-13	Liver	--	--	4.15E-08	--	4.15E-08
			Cadmium	--	--	2.04E-09	--	2.04E-09	Kidney/Respiratory System	--	--	2.37E-04	--	2.37E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.69E-07	--	4.69E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.75E-05	--	3.75E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	4.26E-09	--	4.26E-09	--	--	--	--	--	--
			Cobalt	--	--	1.14E-09	--	1.14E-09	Respiratory System	--	--	2.05E-04	--	2.05E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.30E-09	--	1.30E-09	Liver/Kidney	--	--	4.33E-05	--	4.33E-05
			Dibenzo(a,h)anthracene	--	--	1.77E-11	--	1.77E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	4.65E-03	--	4.65E-03
			Dieldrin	--	--	2.18E-08	--	2.18E-08	Liver	--	--	2.73E-04	--	2.73E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	7.45E-12	--	7.45E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	3.61E-09	--	3.61E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.78E-06	--	2.78E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	2.83E-06	--	2.83E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.20E-06	--	5.20E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	3.30E-08	--	3.30E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	5.23E-09	--	5.23E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	7.45E-05	--	7.45E-05
			Fluorene	--	--	--	--	--	Blood	--	--	7.66E-05	--	7.66E-05
			gamma-BHC (Lindane)	--	--	3.63E-10	--	3.63E-10	Liver/Kidney	--	--	1.10E-05	--	1.10E-05
			gamma-Chlordane	--	--	3.12E-10	--	3.12E-10	Liver	--	--	1.30E-05	--	1.30E-05
			Heptachlor	--	--	2.87E-08	--	2.87E-08	Liver	--	--	1.40E-04	--	1.40E-04
			Heptachlor Epoxide	--	--	8.51E-13	--	8.51E-13	Liver	--	--	1.19E-07	--	1.19E-07
			Indeno(1,2,3-cd)pyrene	--	--	3.04E-12	--	3.04E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	3.34E-03	--	3.34E-03
			Mercury	--	--	--	--	--	CNS	--	--	4.84E-07	--	4.84E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.58E-06	--	3.58E-06
			Methylene chloride	--	--	--	--	--	Blood	--	--	--	--	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	1.74E-06	--	1.74E-06	Nasal Epithelium	--	--	1.69E-01	--	1.69E-01
			Nickel	--	--	5.56E-10	--	5.56E-10	Respiratory System	--	--	4.36E-04	--	4.36E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.11E-04	--	1.11E-04
			Phenol	--	--	--	--	--	Liver/CNS	--	--	1.59E-09	--	1.59E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	3.61E-04	--	3.61E-04
Pyrene	--	--	--	--	--	Kidney	--	--	1.07E-04	--	1.07E-04			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.45E-04	--	1.45E-04			

TABLE H3-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	7.81E-09	--	7.81E-09
			Silver	--	--	--	--	--		--	--	--	--	--
			Technical Chlordane	--	--	1.33E-08	--	1.33E-08	Liver	--	--	5.54E-04	--	5.54E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	4.53E-08	--	4.53E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	3.13E-06	0.00E+00	3.13E-06		0.00E+00	0.00E+00	3.09E-01	0.00E+00	3.09E-01
		Exposure Point Total						3.13E-06						3.09E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.66E+00	--	1.66E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	5.64E+00	--	5.64E+00
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.58E-01	--	3.58E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	5.55E-01	--	5.55E-01
			1,2-Dichloropropane	--	--	1.58E-08	--	1.58E-08	Nasal	--	--	3.84E-03	--	3.84E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.14E-01	--	1.14E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	4.46E-02	--	4.46E-02
			1,4-Dichlorobenzene	--	--	3.31E-05	--	3.31E-05	Liver	--	--	3.60E-02	--	3.60E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.01E-02	--	2.01E-02
			4,4'-DDE	--	--	4.27E-11	--	4.27E-11	Liver	--	--	2.51E-06	--	2.51E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.85E-03	--	5.85E-03
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.51E-04	--	1.51E-04
			Aldrin	--	--	5.67E-09	--	5.67E-09	Liver	--	--	1.11E-04	--	1.11E-04
			alpha-BHC	--	--	6.02E-09	--	6.02E-09	Liver/Kidney	--	--	4.46E-05	--	4.46E-05
			alpha-Chlordane	--	--	1.35E-09	--	1.35E-09	Liver	--	--	5.62E-05	--	5.62E-05
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.08E-04	--	3.08E-04
			Benzo(b)fluoranthene	--	--	2.55E-08	--	2.55E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	1.46E-06	--	1.46E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	4.68E-04	--	4.68E-04
			Chrysene	--	--	1.44E-08	--	1.44E-08	--	--	--	--	--	--
			Delta-BHC	--	--	5.71E-08	--	5.71E-08	Liver/Kidney	--	--	1.90E-03	--	1.90E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	2.45E-03	--	2.45E-03
			Dieldrin	--	--	1.74E-07	--	1.74E-07	Liver	--	--	2.17E-03	--	2.17E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.45E-05	--	7.45E-05
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	7.58E-05	--	7.58E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.39E-04	--	1.39E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.54E-05	--	2.54E-05
			Fluorene	--	--	--	--	--	Blood	--	--	1.39E-03	--	1.39E-03
			gamma-BHC (Lindane)	--	--	1.30E-08	--	1.30E-08	Liver/Kidney	--	--	3.93E-04	--	3.93E-04
			gamma-Chlordane	--	--	2.45E-11	--	2.45E-11	Liver	--	--	1.02E-06	--	1.02E-06
			Heptachlor	--	--	9.22E-09	--	9.22E-09	Liver	--	--	4.50E-05	--	4.50E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.23E-05	--	1.23E-05
			Methylene Chloride	--	--	1.02E-09	--	1.02E-09	Blood	--	--	2.65E-05	--	2.65E-05

TABLE H3-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	1.56E-04	--	1.56E-04	Nasal Epithelium	--	--	1.52E+01	--	1.52E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.94E-03	--	3.94E-03
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.22E-03	--	1.22E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	2.75E-04	--	2.75E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.19E-03	--	1.19E-03
			Technical Chlordane	--	--	1.05E-07	--	1.05E-07	Liver	--	--	4.36E-03	--	4.36E-03
			Toluene	--	--	--	--	--	CNS	--	--	3.66E-07	--	3.66E-07
			Chemical Total	0.00E+00	0.00E+00	1.90E-04	0.00E+00	1.90E-04		0.00E+00	0.00E+00	2.37E+01	0.00E+00	2.37E+01
Exposure Point Total					1.90E-04						2.37E+01			
Exposure Medium Total					1.93E-04						2.40E+01			
Medium Total					2.41E-04						2.66E+01			
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	5.00E-11	--	5.00E-11	No observed effect	--	--	6.26E-07	--	6.26E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.54E-05	--	1.54E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	3.01E-06	--	3.01E-06
			1,2-Dichloroethane	--	--	8.87E-10	--	8.87E-10	Liver/Kidney/CNS	--	--	8.80E-05	--	8.80E-05
			1,2-Dichloropropane	--	--	1.66E-10	--	1.66E-10	Nasal	--	--	4.05E-05	--	4.05E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.76E-06	--	8.76E-06
			1,4-Dichlorobenzene	--	--	2.33E-10	--	2.33E-10	Liver	--	--	2.54E-07	--	2.54E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.58E-09	--	1.58E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.01E-09	--	4.01E-09
			4,4'-DDE	--	--	9.11E-12	--	9.11E-12	Liver	--	--	5.36E-07	--	5.36E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.74E-10	--	9.74E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.34E-07	--	1.34E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.70E-09	--	5.70E-09
			Aldrin	--	--	7.87E-10	--	7.87E-10	Liver	--	--	1.54E-05	--	1.54E-05
			alpha-BHC	--	--	1.58E-11	--	1.58E-11	Liver/Kidney	--	--	1.17E-07	--	1.17E-07
			alpha-Chlordane	--	--	1.67E-11	--	1.67E-11	Liver	--	--	6.94E-07	--	6.94E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.27E-09	--	2.27E-09
			Benzene	--	--	5.40E-10	--	5.40E-10	Blood	--	--	6.28E-06	--	6.28E-06
			Benzo(b)fluoranthene	--	--	3.93E-12	--	3.93E-12	--	--	--	--	--	--
			Bromoform	--	--	5.95E-13	--	5.95E-13	Liver	--	--	7.62E-08	--	7.62E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	4.67E-06	--	4.67E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	5.31E-08	--	5.31E-08
			Chloroform	--	--	8.14E-10	--	8.14E-10	GI Tract/ Kidney/ Developmental	--	--	5.00E-06	--	5.00E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	5.97E-06	--	5.97E-06
			Chrysene	--	--	1.06E-12	--	1.06E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.10E-05	--	1.10E-05
			Dieldrin	--	--	3.26E-10	--	3.26E-10	Liver	--	--	4.07E-06	--	4.07E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	7.73E-09	--	7.73E-09
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.27E-11	--	1.27E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.42E-07	--	1.42E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.62E-09	--	2.62E-09			

TABLE H3-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	5.18E-09	--	5.18E-09
			gamma-BHC (Lindane)	--	--	2.83E-14	--	2.83E-14	Liver/Kidney	--	--	8.58E-10	--	8.58E-10
			gamma-Chlordane	--	--	4.32E-11	--	4.32E-11	Liver	--	--	1.80E-06	--	1.80E-06
			Heptachlor	--	--	1.52E-09	--	1.52E-09	Liver	--	--	7.40E-06	--	7.40E-06
			isopropylbenzene	--	--	--	--	--	Kidney	--	--	6.45E-05	--	6.45E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	4.96E-06	--	4.96E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.35E-07	--	1.35E-07
			Naphthalene	--	--	1.35E-11	--	1.35E-11	Nasal Epithelium	--	--	1.31E-06	--	1.31E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	6.11E-05	--	6.11E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.46E-06	--	1.46E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.81E-09	--	1.81E-09
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	6.45E-05	--	6.45E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	3.18E-09	--	3.18E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	4.15E-06	--	4.15E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	4.70E-06	--	4.70E-06
			Toluene	--	--	--	--	--	CNS	--	--	5.51E-08	--	5.51E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	9.28E-06	--	9.28E-06
			Trichloroethene	--	--	1.35E-10	--	1.35E-10	CNS/Eye	--	--	1.14E-06	--	1.14E-06
			Vinyl chloride	--	--	1.08E-08	--	1.08E-08	Liver	--	--	1.40E-05	--	1.40E-05
						Chemical Total	0.00E+00	0.00E+00	1.63E-08	0.00E+00	1.63E-08		0.00E+00	0.00E+00
			Exposure Point Total			1.63E-08		1.63E-08				4.51E-04		4.51E-04
			Exposure Medium Total			1.63E-08		1.63E-08				4.51E-04		4.51E-04
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	8.79E-09	--	8.79E-09	No observed effect	--	--	1.10E-04	--	1.10E-04	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.98E-04	--	3.98E-04	
		1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	7.99E-05	--	7.99E-05	
		1,2-Dichloroethane	--	--	2.66E-08	--	2.66E-08	Liver/Kidney/CNS	--	--	2.64E-03	--	2.64E-03	
		1,2-Dichloropropane	--	--	4.92E-09	--	4.92E-09	Nasal	--	--	1.20E-03	--	1.20E-03	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.28E-04	--	2.28E-04	
		1,4-Dichlorobenzene	--	--	6.25E-09	--	6.25E-09	Liver	--	--	6.80E-06	--	6.80E-06	
		2-Hexanone	--	--	--	--	--	Developmental	--	--	8.12E-08	--	8.12E-08	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.12E-07	--	1.12E-07	
		4,4'-DDE	--	--	8.21E-13	--	8.21E-13	Liver	--	--	4.83E-08	--	4.83E-08	
		4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	4.00E-08	--	4.00E-08	
		Acenaphthene	--	--	--	--	--	Liver	--	--	5.70E-06	--	5.70E-06	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	2.43E-07	--	2.43E-07	
		Aldrin	--	--	8.58E-11	--	8.58E-11	Liver	--	--	1.68E-06	--	1.68E-06	
		alpha-BHC	--	--	2.03E-12	--	2.03E-12	Liver/Kidney	--	--	1.50E-08	--	1.50E-08	
		alpha-Chlordane	--	--	5.47E-12	--	5.47E-12	Liver	--	--	2.28E-07	--	2.28E-07	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	9.64E-08	--	9.64E-08	
		Benzene	--	--	1.59E-08	--	1.59E-08	Blood	--	--	1.85E-04	--	1.85E-04	
		Benzo(b)fluoranthene	--	--	1.65E-10	--	1.65E-10	--	--	--	--	--	--	
		Bromoform	--	--	3.19E-11	--	3.19E-11	Liver	--	--	4.09E-06	--	4.09E-06	

TABLE H3-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	-	-	-	-	-	CNS	-	-	1.40E-04	-	1.40E-04		
			Chlorobenzene	-	-	-	-	-	GI Tract/Kidney/Reproductive System	-	-	1.49E-06	-	1.49E-06		
			Chloroform	-	-	2.41E-08	-	2.41E-08	GI Tract/ Kidney/ Developmental	-	-	1.48E-04	-	1.48E-04		
			Chloromethane	-	-	-	-	-	CNS	-	-	1.93E-04	-	1.93E-04		
			Chrysene	-	-	4.65E-11	-	4.65E-11	-	-	-	-	-	-		
			cis-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	7.12E-04	-	7.12E-04		
			Dieldrin	-	-	1.25E-11	-	1.25E-11	Liver	-	-	1.56E-07	-	1.56E-07		
			Endosulfan I	-	-	-	-	-	Body Weight/Kidney/CNS	-	-	1.68E-09	-	1.68E-09		
			Endosulfan II	-	-	-	-	-	Body weight/Kidney	-	-	5.59E-10	-	5.59E-10		
			Ethylbenzene	-	-	-	-	-	Developmental	-	-	3.85E-06	-	3.85E-06		
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	-	-	1.06E-07	-	1.06E-07		
			Fluorene	-	-	-	-	-	Blood	-	-	2.70E-07	-	2.70E-07		
			gamma-BHC (Lindane)	-	-	1.12E-12	-	1.12E-12	Liver/Kidney	-	-	3.39E-08	-	3.39E-08		
			gamma-Chlordane	-	-	2.65E-12	-	2.65E-12	Liver	-	-	1.10E-07	-	1.10E-07		
			Heptachlor	-	-	4.09E-11	-	4.09E-11	Liver	-	-	1.99E-07	-	1.99E-07		
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	3.39E-03	-	3.39E-03		
			m,p-Xylene	-	-	-	-	-	CNS	-	-	2.88E-04	-	2.88E-04		
			Methoxychlor	-	-	-	-	-	Developmental	-	-	5.87E-09	-	5.87E-09		
			Naphthalene	-	-	7.33E-10	-	7.33E-10	Nasal Epithelium	-	-	7.12E-05	-	7.12E-05		
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	3.43E-03	-	3.43E-03		
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	8.28E-05	-	8.28E-05		
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	1.00E-07	-	1.00E-07		
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	3.39E-03	-	3.39E-03		
			Pyrene	-	-	-	-	-	Kidney	-	-	1.33E-07	-	1.33E-07		
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	2.94E-06	-	2.94E-06		
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	2.95E-04	-	2.95E-04		
			Toluene	-	-	-	-	-	CNS	-	-	3.16E-07	-	3.16E-07		
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	6.25E-04	-	6.25E-04		
			Trichloroethene	-	-	8.27E-09	-	8.27E-09	CNS/Eye	-	-	6.95E-05	-	6.95E-05		
			Vinyl chloride	-	-	7.25E-07	-	7.25E-07	Liver	-	-	9.40E-04	-	9.40E-04		
					Chemical Total		0.00E+00	0.00E+00	8.21E-07	0.00E+00	8.21E-07		0.00E+00	0.00E+00	1.86E-02	1.86E-02
					Exposure Point Total				8.21E-07		8.21E-07				1.86E-02	1.86E-02
					Exposure Medium Total				8.21E-07		8.21E-07				1.86E-02	1.86E-02
Medium Total						8.38E-07		8.38E-07				1.91E-02	1.91E-02			
Receptor Total						2.42E-04		2.42E-04				2.66E+01	2.66E+01			

TABLE H3-8.6

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CNS Central nervous system
- COPC Chemicals of Potential Concern
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- GI Gastrointestinal
- HI Hazard Index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	9.97E-01
Total Organ 2 (Kidney) HI Across All Media =	8.66E+00
Total Organ 3 (Reproductive System) HI Across All Media =	5.07E-04
Total Organ 4 (Nervous System) HI Across All Media =	7.17E-01
Total Organ 5 (Skin) HI Across All Media =	7.42E-02
Total Organ 6 (Blood) HI Across All Media =	1.21E+00
Total Organ 7 (Adrenal) HI Across All Media =	4.68E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	4.83E-03
Total Organ 9 (Brain) HI Across All Media =	7.45E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	9.39E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	2.11E-01
Total Organ 12 (Body Weight) HI Across All Media =	5.96E-01
Total Organ 13 (Developmental) HI Across All Media =	4.64E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	5.31E-01
Total Organ 15 (Whole Body) HI Across All Media =	1.15E-01
Total Organ 16 (Immune System) HI Across All Media =	2.54E-01
Total Organ 17 (Organ Weight) HI Across All Media =	4.72E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	2.11E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.54E+01

TABLE H3-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	9.59E-04	1.07E-04	--	--	1.07E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	3.26E-03	3.65E-05	--	--	3.30E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	6.39E-05	7.16E-07	--	--	6.46E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.85E-03	2.07E-05	--	--	1.87E-03
			1,2-Dichloropropane	2.37E-11	2.65E-13	--	--	2.39E-11	Nasal	2.02E-05	2.26E-07	--	--	2.04E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.05E-05	2.29E-07	--	--	2.07E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	2.34E-04	2.63E-06	--	--	2.37E-04
			1,4-Dichlorobenzene	6.71E-09	--	--	--	6.71E-09	Organ weight	1.45E-03	--	--	--	1.45E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	6.71E-05	7.52E-07	--	1.75E-03	1.82E-03
			2-Methylphenol	--	--	--	--	--	Respiratory System	1.29E-04	1.45E-05	--	8.02E-03	8.17E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	2.14E-04	2.39E-06	--	--	2.16E-04
			4,4'-DDD	5.26E-11	5.89E-13	--	2.33E-12	5.55E-11	Liver	1.53E-05	1.72E-07	--	6.81E-07	1.62E-05
			4,4'-DDE	5.11E-09	5.73E-11	--	1.64E-10	5.33E-09	Liver	1.05E-03	1.18E-05	--	3.38E-05	1.10E-03
			4,4'-DDT	2.76E-09	9.28E-11	--	3.83E-10	3.24E-09	Liver	5.69E-04	1.91E-05	--	7.88E-05	6.67E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	3.45E-04	3.87E-05	--	2.20E-02	2.24E-02
			4-Nitroaniline	2.38E-09	2.66E-10	--	1.04E-07	1.06E-07	--	1.32E-03	1.48E-04	--	5.76E-02	5.90E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	5.37E-03	6.01E-04	--	3.51E-01	3.57E-01
			Acenaphthene	--	--	--	--	--	Liver	4.51E-04	6.57E-05	--	--	5.17E-04
			Acenaphthylene	--	--	--	--	--	Liver	1.11E-05	1.24E-07	--	--	1.12E-05
			Aldrin	4.04E-08	4.52E-09	--	2.93E-09	4.78E-08	Liver	2.77E-03	3.10E-04	--	2.01E-04	3.28E-03
			alpha-BHC	3.60E-10	4.03E-12	--	5.64E-09	6.01E-09	Liver/Kidney	9.33E-06	1.05E-07	--	1.46E-04	1.56E-04
			alpha-Chlordane	1.93E-09	--	--	3.08E-10	2.24E-09	Liver	1.04E-04	--	--	1.66E-05	1.21E-04
			Aluminum	--	--	--	--	--	CNS	5.64E-02	6.32E-05	--	1.22E-03	5.77E-02
			Anthracene	--	--	--	--	--	No Observed Effect	2.25E-05	3.27E-06	--	--	2.58E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	6.52E-02	7.30E-05	--	6.53E-02	1.31E-01
			Aroclor-1248	4.38E-07	6.87E-08	--	1.95E-08	5.27E-07	Immune System/ Eye/Finger and Toe Nails	3.84E-01	6.01E-02	--	1.71E-02	4.61E-01
			Aroclor-1254	1.62E-07	2.54E-08	--	9.66E-08	2.84E-07	Immune System/ Eye/Finger and Toe Nails	1.42E-01	2.23E-02	--	8.45E-02	2.49E-01
			Aroclor-1260	1.98E-07	3.10E-08	--	4.21E-09	2.33E-07	Immune System/ Eye/Finger and Toe Nails	1.73E-01	2.71E-02	--	3.68E-03	2.04E-01
			Aroclor-1268	1.01E-08	1.59E-09	--	6.04E-09	1.78E-08	Immune System/ Eye/Finger and Toe Nails	8.87E-03	1.39E-03	--	5.28E-03	1.55E-02
			Arsenic	1.06E-05	3.58E-07	--	2.13E-06	1.31E-05	Skin	1.31E-01	4.41E-03	--	2.63E-02	1.62E-01
			Barium	--	--	--	--	--	Kidney	6.19E-03	6.94E-06	--	3.10E-03	9.30E-03
			Benzo(a)anthracene	1.10E-06	1.60E-07	--	9.40E-09	1.27E-06	--	--	--	--	--	--
			Benzo(a)pyrene	3.65E-06	5.31E-07	--	1.78E-08	4.20E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	6.00E-07	8.74E-08	--	2.92E-08	7.17E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.63E-04	2.37E-05	--	6.04E-06	1.92E-04
			Benzo(k)fluoranthene	7.15E-07	1.04E-07	--	3.48E-08	8.53E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	7.61E-04	8.52E-07	--	3.81E-05	8.00E-04
			Beta-BHC	6.03E-10	6.75E-12	--	9.45E-09	1.01E-08	Liver/Kidney	7.03E-05	7.88E-07	--	1.10E-03	1.17E-03
			bis(2-ethylhexyl)phthalate	4.29E-09	4.81E-11	--	4.96E-08	5.39E-08	Liver	2.50E-03	2.80E-05	--	2.89E-02	3.14E-02
			Cadmium	6.58E-07	7.36E-10	--	3.29E-06	3.95E-06	Kidney	1.21E-01	1.36E-04	--	6.07E-01	7.28E-01
			Carbon disulfide	--	--	--	--	--	Developmental	1.53E-08	4.30E-09	--	--	1.96E-08
			Chlorobenzene	--	--	--	--	--	Liver	3.52E-05	3.94E-07	--	--	3.56E-05

TABLE H3-8.7

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	4.74E-04	5.31E-07	--	7.12E-05	5.46E-04	
			Chrysene	1.25E-07	1.81E-08	--	7.49E-09	1.50E-07	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	2.42E-03	2.71E-06	--	5.66E-04	2.99E-03	
			Copper	--	--	--	--	--	GI Tract/Kidney	9.12E-03	1.02E-05	--	7.62E-02	8.53E-02	
			Delta-BHC	2.30E-09	1.29E-10	--	2.94E-10	2.72E-09	Liver/Kidney	2.68E-04	1.50E-05	--	3.43E-05	3.18E-04	
			Dibenzo(a,h)anthracene	2.38E-07	3.46E-08	--	7.15E-09	2.80E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	4.16E-02	4.65E-04	--	--	4.20E-02	
			Dieldrin	1.61E-07	1.80E-09	--	2.85E-06	3.02E-06	Liver	7.05E-03	7.90E-05	--	1.25E-01	1.32E-01	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	3.04E-07	3.40E-09	--	1.51E-05	1.54E-05	
			di-n-Butylphthalate	--	--	--	--	--	Liver	7.03E-05	7.88E-07	--	4.89E-06	7.60E-05	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	2.45E-05	1.37E-06	--	3.67E-04	3.93E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	2.54E-05	1.42E-06	--	3.64E-04	3.91E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	4.58E-05	2.57E-06	--	6.42E-04	6.90E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	8.97E-04	5.02E-05	--	4.97E-05	9.97E-04	
			Endrin Ketone	--	--	--	--	--	Liver	2.13E-04	--	--	1.18E-05	2.25E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	4.24E-03	6.17E-04	--	3.82E-04	5.24E-03	
			Fluorene	--	--	--	--	--	Blood	4.66E-04	6.79E-05	--	--	5.34E-04	
			gamma-BHC (Lindane)	5.22E-10	2.34E-11	--	2.88E-08	2.94E-08	Liver/Kidney	5.54E-05	2.48E-06	--	3.06E-03	3.11E-03	
			gamma-Chlordane	3.11E-09	--	--	4.96E-10	3.61E-09	Liver	1.68E-04	--	--	2.67E-05	1.94E-04	
			Heptachlor	5.17E-09	5.79E-11	--	6.12E-10	5.84E-09	Liver	8.82E-05	9.88E-07	--	1.05E-05	9.97E-05	
			Heptachlor Epoxide	1.12E-08	1.25E-10	--	4.32E-07	4.43E-07	Liver	5.49E-03	6.14E-05	--	2.11E-01	2.17E-01	
			Indeno(1,2,3-cd)pyrene	1.91E-07	2.79E-08	--	6.97E-09	2.26E-07	--	--	--	--	--	--	
			Iron	--	--	--	--	--	Liver	8.68E-01	9.72E-04	--	2.88E-02	8.98E-01	
			Isophorone	3.47E-11	3.89E-12	--	--	3.86E-11	No Observed Effect	6.39E-06	7.16E-07	--	--	7.11E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	
			Manganese	--	--	--	--	--	CNS	8.82E-02	9.88E-05	--	1.47E-01	2.36E-01	
			Mercury	--	--	--	--	--	Immune System	6.60E-03	--	--	4.41E-02	5.07E-02	
			Methoxychlor	--	--	--	--	--	Developmental	1.53E-04	1.72E-06	--	4.44E-06	1.60E-04	
			Molybdenum	--	--	--	--	--	Blood	3.20E-03	3.59E-06	--	6.42E-03	9.62E-03	
			Naphthalene	--	--	--	--	--	Whole Body	4.16E-03	6.05E-04	--	--	4.76E-03	
			Nickel	--	--	--	--	--	Whole Body	1.25E-02	1.40E-05	--	2.51E-02	3.76E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.97E-04	3.32E-06	--	--	3.00E-04	
			Phenol	--	--	--	--	--	Whole Body	1.24E-05	1.38E-06	--	2.04E-03	2.05E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	7.03E-06	--	--	--	7.03E-06	
			Pyrene	--	--	--	--	--	Kidney	5.15E-03	7.49E-04	--	--	5.89E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.13E-05	--	--	--	1.13E-05	
			Selenium	--	--	--	--	--	Whole Body	2.87E-04	3.21E-07	--	2.40E-04	5.27E-04	
			Silver	--	--	--	--	--	Skin	1.48E-03	1.66E-06	--	4.95E-03	6.43E-03	
			Technical Chlordane	1.31E-07	5.86E-09	--	2.09E-08	1.58E-07	Liver	7.05E-03	3.16E-04	--	1.12E-03	8.48E-03	
			Thallium	--	--	--	--	--	Blood	3.97E-02	--	--	5.31E-04	4.02E-02	
Toluene	--	--	--	--	--	Liver/Kidney	3.44E-08	3.85E-10	--	--	3.47E-08				
Vanadium	--	--	--	--	--	Kidney	2.18E-01	2.44E-04	--	2.19E-02	2.40E-01				

TABLE H3-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	9.66E-03	1.08E-05	--	2.91E-01	3.00E-01
		Chemical Total		1.91E-05	1.46E-06	0.00E+00	9.18E-06	2.97E-05		2.45E+00	1.21E-01	0.00E+00	2.28E+00	4.85E+00
		Exposure Point Total					2.97E-05							4.85E+00
	Exposure Medium Total						2.97E-05							4.85E+00
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene		--	--	--	--	--	Kidney	--	--	4.81E-02	--	4.81E-02
		1,2,4-Trichlorobenzene		--	--	--	--	--	Kidney	--	--	1.63E-01	--	1.63E-01
		1,2,4-Trimethylbenzene		--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.49E-02	--	3.49E-02
		1,2-Dichlorobenzene		--	--	--	--	--	Body weight	--	--	4.73E-02	--	4.73E-02
		1,2-Dichloropropane		--	--	1.49E-09	--	1.49E-09	Nasal	--	--	1.27E-03	--	1.27E-03
		1,3,5-Trimethylbenzene		--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.09E-02	--	1.09E-02
		1,3-Dichlorobenzene		--	--	--	--	--	Kidney/Liver	--	--	2.75E-03	--	2.75E-03
		1,4-Dichlorobenzene		--	--	9.04E-07	--	9.04E-07	Liver	--	--	3.44E-03	--	3.44E-03
		2,4-Dimethylphenol		--	--	--	--	--	Blood/Whole Body	--	--	4.03E-09	--	4.03E-09
		2-Methylphenol		--	--	--	--	--	--	--	--	--	--	--
		2-Methylnaphthalene		--	--	--	--	--	CNS/Body Weight	--	--	7.49E-04	--	7.49E-04
		4,4'-DDD		--	--	3.16E-15	--	3.16E-15	Liver	--	--	9.21E-10	--	9.21E-10
		4,4'-DDE		--	--	4.77E-11	--	4.77E-11	Liver	--	--	9.82E-06	--	9.82E-06
		4,4'-DDT		--	--	1.66E-13	--	1.66E-13	Liver	--	--	3.41E-08	--	3.41E-08
		4-Methylphenol		--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.07E-08	--	2.07E-08
		4-Nitroaniline		--	--	1.43E-13	--	1.43E-13	--	--	--	2.38E-07	--	2.38E-07
		4-Nitrophenol		--	--	--	--	--	Blood/Kidney/Liver	--	--	2.83E-07	--	2.83E-07
		Acenaphthene		--	--	--	--	--	Liver	--	--	4.91E-04	--	4.91E-04
		Acenaphthylene		--	--	--	--	--	Liver	--	--	1.21E-05	--	1.21E-05
		Aldrin		--	--	1.39E-09	--	1.39E-09	Liver	--	--	9.51E-05	--	9.51E-05
		alpha-BHC		--	--	1.42E-10	--	1.42E-10	Liver/Kidney	--	--	3.68E-06	--	3.68E-06
		alpha-Chlordane		--	--	1.40E-10	--	1.40E-10	Liver	--	--	2.04E-05	--	2.04E-05
		Aluminum		--	--	--	--	--	Respiratory System	--	--	2.37E-03	--	2.37E-03
		Anthracene		--	--	--	--	--	No Observed Effect	--	--	2.44E-05	--	2.44E-05
		Antimony		--	--	--	--	--	--	--	--	--	--	--
		Aroclor-1248		--	--	2.63E-11	--	2.63E-11	Immune System/Eye/Finger and Toe nails	--	--	2.30E-05	--	2.30E-05
		Aroclor-1254		--	--	9.73E-12	--	9.73E-12	Immune System/Eye/Finger and Toe nails	--	--	8.52E-06	--	8.52E-06
		Aroclor-1260		--	--	1.19E-11	--	1.19E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.04E-05	--	1.04E-05
		Aroclor-1268		--	--	6.08E-13	--	6.08E-13	Immune System/Eye/Finger and Toe nails	--	--	5.32E-07	--	5.32E-07
		Arsenic		--	--	8.11E-10	--	8.11E-10	Developmental	--	--	2.75E-04	--	2.75E-04
		Barium		--	--	--	--	--	Developmental	--	--	1.86E-04	--	1.86E-04
		Benzo(a)anthracene		--	--	2.14E-11	--	2.14E-11	--	--	--	--	--	--
		Benzo(a)pyrene		--	--	7.12E-11	--	7.12E-11	--	--	--	--	--	--
Benzo(b)fluoranthene		--	--	9.99E-09	--	9.99E-09	--	--	--	--	--	--		
Benzo(g,h,i)perylene		--	--	--	--	--	Kidney	--	--	9.76E-09	--	9.76E-09		
Benzo(k)fluoranthene		--	--	1.39E-11	--	1.39E-11	--	--	--	--	--	--		
Beryllium		--	--	2.19E-11	--	2.19E-11	Immune System/Lung	--	--	1.60E-05	--	1.60E-05		
Beta-BHC		--	--	3.62E-14	--	3.62E-14	Liver/Kidney	--	--	4.22E-09	--	4.22E-09		

TABLE H3-8.7

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	7.21E-13	--	7.21E-13	Liver	--	--	1.50E-07	--	1.50E-07
			Cadmium	--	--	1.56E-09	--	1.56E-09	Kidney/Respiratory System	--	--	6.36E-04	--	6.36E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.15E-06	--	1.15E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	9.17E-05	--	9.17E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	3.52E-09	--	3.52E-09	--	--	--	--	--	--
			Cobalt	--	--	8.13E-10	--	8.13E-10	Respiratory System	--	--	5.09E-04	--	5.09E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	9.08E-10	--	9.08E-10	Liver/Kidney	--	--	1.06E-04	--	1.06E-04
			Dibenzo(a,h)anthracene	--	--	1.43E-11	--	1.43E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.14E-02	--	1.14E-02
			Dieldrin	--	--	1.72E-08	--	1.72E-08	Liver	--	--	7.51E-04	--	7.51E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	1.82E-11	--	1.82E-11
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	8.44E-09	--	8.44E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.80E-06	--	6.80E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	7.04E-06	--	7.04E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.27E-05	--	1.27E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	5.38E-08	--	5.38E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.28E-08	--	1.28E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.17E-04	--	2.17E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.16E-04	--	2.16E-04
			gamma-BHC (Lindane)	--	--	2.54E-10	--	2.54E-10	Liver/Kidney	--	--	2.69E-05	--	2.69E-05
			gamma-Chlordane	--	--	2.25E-10	--	2.25E-10	Liver	--	--	3.28E-05	--	3.28E-05
			Heptachlor	--	--	2.00E-08	--	2.00E-08	Liver	--	--	3.42E-04	--	3.42E-04
			Heptachlor Epoxide	--	--	6.72E-13	--	6.72E-13	Liver	--	--	3.29E-07	--	3.29E-07
			Indeno(1,2,3-cd)pyrene	--	--	3.73E-12	--	3.73E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	8.89E-03	--	8.89E-03
			Mercury	--	--	--	--	--	CNS	--	--	1.38E-06	--	1.38E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.74E-06	--	8.74E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	1.21E-06	--	1.21E-06	Nasal Epithelium	--	--	4.13E-01	--	4.13E-01
			Nickel	--	--	3.90E-10	--	3.90E-10	Respiratory System	--	--	1.07E-03	--	1.07E-03
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.23E-04	--	3.23E-04
			Phenol	--	--	--	--	--	Liver/CNS	--	--	3.89E-09	--	3.89E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.82E-04	--	8.82E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	3.12E-04	--	3.12E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.55E-04	--	3.55E-04
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	1.51E-08	--	1.51E-08			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H3-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	9.47E-09	--	9.47E-09	Liver	--	--	1.38E-03	--	1.38E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.11E-07	--	1.11E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.19E-06	0.00E+00	2.19E-06		0.00E+00	0.00E+00	7.57E-01	0.00E+00	7.57E-01
			Exposure Point Total					2.19E-06						7.57E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.74E-01	--	8.74E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.36E+00	--	1.36E+00
			1,2-Dichloropropane	--	--	1.10E-08	--	1.10E-08	Nasal	--	--	9.39E-03	--	9.39E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.80E-01	--	2.80E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.09E-01	--	1.09E-01
			1,4-Dichlorobenzene	--	--	2.31E-05	--	2.31E-05	Liver	--	--	8.79E-02	--	8.79E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.91E-02	--	4.91E-02
			4,4'-DDE	--	--	2.98E-11	--	2.98E-11	Liver	--	--	6.14E-06	--	6.14E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.43E-02	--	1.43E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.69E-04	--	3.69E-04
			Aldrin	--	--	3.96E-09	--	3.96E-09	Liver	--	--	2.72E-04	--	2.72E-04
			alpha-BHC	--	--	4.20E-09	--	4.20E-09	Liver/Kidney	--	--	1.09E-04	--	1.09E-04
			alpha-Chlordane	--	--	9.42E-10	--	9.42E-10	Liver	--	--	1.37E-04	--	1.37E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.52E-04	--	7.52E-04
			Benzo(b)fluoranthene	--	--	1.78E-08	--	1.78E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	3.57E-06	--	3.57E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.14E-03	--	1.14E-03
			Chrysene	--	--	1.00E-08	--	1.00E-08	--	--	--	--	--	--
			Delta-BHC	--	--	3.99E-08	--	3.99E-08	Liver/Kidney	--	--	4.66E-03	--	4.66E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.00E-03	--	6.00E-03
			Dieldrin	--	--	1.21E-07	--	1.21E-07	Liver	--	--	5.31E-03	--	5.31E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.82E-04	--	1.82E-04
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.85E-04	--	1.85E-04
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.40E-04	--	3.40E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.21E-05	--	6.21E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.39E-03	--	3.39E-03
			gamma-BHC (Lindane)	--	--	9.06E-09	--	9.06E-09	Liver/Kidney	--	--	9.61E-04	--	9.61E-04
			gamma-Chlordane	--	--	1.71E-11	--	1.71E-11	Liver	--	--	2.50E-06	--	2.50E-06
			Heptachlor	--	--	6.44E-09	--	6.44E-09	Liver	--	--	1.10E-04	--	1.10E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.00E-05	--	3.00E-05
			Methylene Chloride	--	--	7.14E-10	--	7.14E-10	Blood	--	--	6.49E-05	--	6.49E-05
			Naphthalene	--	--	1.09E-04	--	1.09E-04	Nasal Epithelium	--	--	3.72E+01	--	3.72E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	9.64E-03	--	9.64E-03

**TABLE H3-8.7**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.97E-03	--	2.97E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	6.71E-04	--	6.71E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.90E-03	--	2.90E-03
			Technical Chlordane	--	--	7.30E-08	--	7.30E-08	Liver	--	--	1.06E-02	--	1.06E-02
			Toluene	--	--	--	--	--	CNS	--	--	8.95E-07	--	8.95E-07
			Chemical Total	0.00E+00	0.00E+00	1.33E-04	0.00E+00	1.33E-04		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01
			Exposure Point Total					1.33E-04						5.78E+01
			Exposure Medium Total					1.33E-04						5.78E+01
			Medium Total					1.65E-04						6.34E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	3.49E-11	--	3.49E-11	No observed effect	--	--	1.53E-06	--	1.53E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.76E-05	--	3.76E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	7.35E-06	--	7.35E-06
			1,2-Dichloroethane	--	--	6.20E-10	--	6.20E-10	Liver/Kidney/CNS	--	--	2.15E-04	--	2.15E-04
			1,2-Dichloropropane	--	--	1.16E-10	--	1.16E-10	Nasal	--	--	9.91E-05	--	9.91E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.14E-05	--	2.14E-05
			1,4-Dichlorobenzene	--	--	1.63E-10	--	1.63E-10	Liver	--	--	6.20E-07	--	6.20E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	3.86E-09	--	3.86E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.79E-09	--	9.79E-09
			4,4'-DDE	--	--	6.36E-12	--	6.36E-12	Liver	--	--	1.31E-06	--	1.31E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	2.38E-09	--	2.38E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.27E-07	--	3.27E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.39E-08	--	1.39E-08
			Aldrin	--	--	5.50E-10	--	5.50E-10	Liver	--	--	3.77E-05	--	3.77E-05
			alpha-BHC	--	--	1.11E-11	--	1.11E-11	Liver/Kidney	--	--	2.87E-07	--	2.87E-07
			alpha-Chlordane	--	--	1.16E-11	--	1.16E-11	Liver	--	--	1.70E-06	--	1.70E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.54E-09	--	5.54E-09
			Benzene	--	--	3.77E-10	--	3.77E-10	Blood	--	--	1.54E-05	--	1.54E-05
			Benzo(b)fluoranthene	--	--	2.74E-12	--	2.74E-12	--	--	--	--	--	--
			Bromoform	--	--	4.15E-13	--	4.15E-13	Liver	--	--	1.86E-07	--	1.86E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.14E-05	--	1.14E-05
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.30E-07	--	1.30E-07
			Chloroform	--	--	5.68E-10	--	5.68E-10	GI Tract/ Kidney/ Developmental	--	--	1.22E-05	--	1.22E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.46E-05	--	1.46E-05
			Chrysene	--	--	7.42E-13	--	7.42E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.68E-05	--	2.68E-05
			Dieckrin	--	--	2.27E-10	--	2.27E-10	Liver	--	--	9.95E-06	--	9.95E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.89E-08	--	1.89E-08
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	3.11E-11	--	3.11E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.48E-07	--	3.48E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.40E-09	--	6.40E-09			
Fluorene	--	--	--	--	--	Blood	--	--	1.27E-08	--	1.27E-08			
gamma-BHC (Lindane)	--	--	1.98E-14	--	1.98E-14	Liver/Kidney	--	--	2.10E-09	--	2.10E-09			

TABLE H3-8.7  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	3.02E-11	--	3.02E-11	Liver	--	--	4.40E-06	--	4.40E-06
			Heptachlor	--	--	1.06E-09	--	1.06E-09	Liver	--	--	1.81E-05	--	1.81E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.21E-05	--	1.21E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.31E-07	--	3.31E-07
			Naphthalene	--	--	9.43E-12	--	9.43E-12	Nasal Epithelium	--	--	3.21E-06	--	3.21E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.49E-04	--	1.49E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.57E-06	--	3.57E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.42E-09	--	4.42E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.78E-09	--	7.78E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.01E-05	--	1.01E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.15E-05	--	1.15E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.35E-07	--	1.35E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.27E-05	--	2.27E-05
			Trichloroethene	--	--	9.44E-11	--	9.44E-11	CNS/Eye	--	--	2.78E-06	--	2.78E-06
Vinyl chloride	--	--	7.53E-09	--	7.53E-09	Liver	--	--	3.42E-05	--	3.42E-05			
			Chemical Total	0.00E+00	0.00E+00	1.14E-08	0.00E+00	1.14E-08		0.00E+00	0.00E+00	1.10E-03	0.00E+00	1.10E-03
			Exposure Point Total					1.14E-08						1.10E-03
			Exposure Medium Total					1.14E-08						1.10E-03
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	6.14E-09	--	6.14E-09	No observed effect	--	--	2.69E-04	--	2.69E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.73E-04	--	9.73E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.95E-04	--	1.95E-04
			1,2-Dichloroethane	--	--	1.86E-08	--	1.86E-08	Liver/Kidney/CNS	--	--	6.44E-03	--	6.44E-03
			1,2-Dichloropropane	--	--	3.44E-09	--	3.44E-09	Nasal	--	--	2.93E-03	--	2.93E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.57E-04	--	5.57E-04
			1,4-Dichlorobenzene	--	--	4.37E-09	--	4.37E-09	Liver	--	--	1.66E-05	--	1.66E-05
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.99E-07	--	1.99E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.75E-07	--	2.75E-07
			4,4'-DDE	--	--	5.73E-13	--	5.73E-13	Liver	--	--	1.18E-07	--	1.18E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.79E-08	--	9.79E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.39E-05	--	1.39E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.93E-07	--	5.93E-07
			Aldrin	--	--	6.00E-11	--	6.00E-11	Liver	--	--	4.11E-06	--	4.11E-06
			alpha-BHC	--	--	1.42E-12	--	1.42E-12	Liver/Kidney	--	--	3.68E-08	--	3.68E-08
			alpha-Chlordane	--	--	3.82E-12	--	3.82E-12	Liver	--	--	5.58E-07	--	5.58E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.36E-07	--	2.36E-07
			Benzene	--	--	1.11E-08	--	1.11E-08	Blood	--	--	4.51E-04	--	4.51E-04
			Benzo(b)fluoranthene	--	--	1.15E-10	--	1.15E-10	--	--	--	--	--	--
			Bromoform	--	--	2.23E-11	--	2.23E-11	Liver	--	--	1.00E-05	--	1.00E-05
Carbon disulfide	--	--	--	--	--	CNS	--	--	3.42E-04	--	3.42E-04			
Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.64E-06	--	3.64E-06			

TABLE H3-8.7

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	--	--	1.68E-08	--	1.68E-08	GI Tract/ Kidney/ Developmental	--	--	3.62E-04	--	3.62E-04			
			Chloromethane	--	--	--	--	--	CNS	--	--	4.73E-04	--	4.73E-04			
			Chrysene	--	--	3.25E-11	--	3.25E-11	--	--	--	--	--	--			
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.74E-03	--	1.74E-03			
			Dieldrin	--	--	8.71E-12	--	8.71E-12	Liver	--	--	3.81E-07	--	3.81E-07			
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.10E-09	--	4.10E-09			
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.37E-09	--	1.37E-09			
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	9.41E-06	--	9.41E-06			
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.59E-07	--	2.59E-07			
			Fluorene	--	--	--	--	--	Blood	--	--	6.59E-07	--	6.59E-07			
			gamma-BHC (Lindane)	--	--	7.81E-13	--	7.81E-13	Liver/Kidney	--	--	8.28E-08	--	8.28E-08			
			gamma-Chlordane	--	--	1.85E-12	--	1.85E-12	Liver	--	--	2.70E-07	--	2.70E-07			
			Heptachlor	--	--	2.86E-11	--	2.86E-11	Liver	--	--	4.87E-07	--	4.87E-07			
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03			
			m,p-Xylene	--	--	--	--	--	CNS	--	--	7.04E-04	--	7.04E-04			
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.43E-08	--	1.43E-08			
			Naphthalene	--	--	5.12E-10	--	5.12E-10	Nasal Epithelium	--	--	1.74E-04	--	1.74E-04			
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.38E-03	--	8.38E-03			
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.02E-04	--	2.02E-04			
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.45E-07	--	2.45E-07			
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03			
			Pyrene	--	--	--	--	--	Kidney	--	--	3.24E-07	--	3.24E-07			
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	7.20E-06	--	7.20E-06			
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	7.20E-04	--	7.20E-04			
			Toluene	--	--	--	--	--	CNS	--	--	7.72E-07	--	7.72E-07			
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.53E-03	--	1.53E-03			
			Trichloroethene	--	--	5.78E-09	--	5.78E-09	CNS/Eye	--	--	1.70E-04	--	1.70E-04			
			Vinyl chloride	--	--	5.07E-07	--	5.07E-07	Liver	--	--	2.30E-03	--	2.30E-03			
						Chemical Total	0.00E+00	0.00E+00	5.74E-07	0.00E+00	5.74E-07		0.00E+00	0.00E+00	4.55E-02	0.00E+00	4.55E-02
					Exposure Point Total						5.74E-07						4.55E-02
	Exposure Medium Total							5.74E-07						4.55E-02			
Medium Total								5.85E-07						4.67E-02			
Receptor Total						Receptor Risk Total		1.65E-04					Receptor HI Total	6.35E+01			

**TABLE H3-8.7**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
CNS	Central nervous system
COPC	Chemicals of Potential Concern
CTE	Central Tendency Exposure
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.92E+00
Total Organ 2 (Kidney) HI Across All Media =	1.97E+01
Total Organ 3 (Reproductive System) HI Across All Media =	1.24E-03
Total Organ 4 (Nervous System) HI Across All Media =	1.59E+00
Total Organ 5 (Skin) HI Across All Media =	1.69E-01
Total Organ 6 (Blood) HI Across All Media =	2.06E+00
Total Organ 7 (Adrenal) HI Across All Media =	4.36E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.38E-02
Total Organ 9 (Brain) HI Across All Media =	1.82E-11
Total Organ 10 (Gastrointestinal System) HI Across All Media =	8.77E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	9.29E-01
Total Organ 12 (Body Weight) HI Across All Media =	1.46E+00
Total Organ 13 (Developmental) HI Across All Media =	1.08E-03
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.25E+00
Total Organ 15 (Whole Body) HI Across All Media =	2.00E-01
Total Organ 16 (Immune System) HI Across All Media =	9.80E-01
Total Organ 17 (Organ Weight) HI Across All Media =	2.20E-03
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	9.29E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	3.76E+01

TABLE H3-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	9.59E-04	1.07E-04	--	--	1.07E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	3.26E-03	3.65E-05	--	--	3.30E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	6.39E-05	7.16E-07	--	--	6.46E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.85E-03	2.07E-05	--	--	1.87E-03
			1,2-Dichloropropane	2.37E-11	2.65E-13	--	--	2.39E-11	Nasal	2.02E-05	2.26E-07	--	--	2.04E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.05E-05	2.29E-07	--	--	2.07E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	2.34E-04	2.63E-06	--	--	2.37E-04
			1,4-Dichlorobenzene	6.71E-09	--	--	--	6.71E-09	Organ weight	1.45E-03	--	--	--	1.45E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	6.71E-05	7.52E-07	--	1.75E-03	1.82E-03
			2-Methylphenol	--	--	--	--	--	Respiratory System	1.29E-04	1.45E-05	--	8.02E-03	8.17E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	1.85E-04	2.08E-06	--	--	1.87E-04
			4,4'-DDD	5.26E-11	5.89E-13	--	2.33E-12	5.55E-11	Liver	1.53E-05	1.72E-07	--	6.81E-07	1.62E-05
			4,4'-DDE	4.66E-09	5.22E-11	--	1.50E-10	4.86E-09	Liver	9.59E-04	1.07E-05	--	3.08E-05	1.00E-03
			4,4'-DDT	2.61E-09	8.76E-11	--	3.61E-10	3.06E-09	Liver	5.37E-04	1.80E-05	--	7.44E-05	6.29E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	3.45E-04	3.87E-05	--	2.20E-02	2.24E-02
			4-Nitroaniline	2.38E-09	2.66E-10	--	1.04E-07	1.06E-07	--	1.32E-03	1.48E-04	--	5.76E-02	5.90E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	5.37E-03	6.01E-04	--	3.51E-01	3.57E-01
			Acenaphthene	--	--	--	--	--	Liver	3.70E-04	5.39E-05	--	--	4.24E-04
			Acenaphthylene	--	--	--	--	--	Liver	9.54E-06	1.07E-07	--	--	9.65E-06
			Aldrin	4.04E-08	4.52E-09	--	2.93E-09	4.78E-08	Liver	2.77E-03	3.10E-04	--	2.01E-04	3.28E-03
			alpha-BHC	3.60E-10	4.03E-12	--	5.64E-09	6.01E-09	Liver/Kidney	9.33E-06	1.05E-07	--	1.46E-04	1.56E-04
			alpha-Chlordane	1.66E-09	--	--	2.64E-10	1.92E-09	Liver	8.93E-05	--	--	1.42E-05	1.03E-04
			Aluminum	--	--	--	--	--	CNS	5.79E-02	6.48E-05	--	1.26E-03	5.92E-02
			Anthracene	--	--	--	--	--	No Observed Effect	1.95E-05	2.83E-06	--	--	2.23E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	4.35E-02	4.88E-05	--	4.36E-02	8.72E-02
			Aroclor-1248	4.38E-07	6.87E-08	--	1.95E-08	5.27E-07	Immune System/ Eye/Finger and Toe Nails	3.84E-01	6.01E-02	--	1.71E-02	4.61E-01
			Aroclor-1254	1.60E-07	2.51E-08	--	9.52E-08	2.80E-07	Immune System/ Eye/Finger and Toe Nails	1.40E-01	2.19E-02	--	8.33E-02	2.45E-01
			Aroclor-1260	1.78E-07	2.80E-08	--	3.80E-09	2.10E-07	Immune System/ Eye/Finger and Toe Nails	1.56E-01	2.45E-02	--	3.32E-03	1.84E-01
			Aroclor-1268	9.93E-09	1.56E-09	--	5.91E-09	1.74E-08	Immune System/ Eye/Finger and Toe Nails	8.69E-03	1.36E-03	--	5.17E-03	1.52E-02
			Arsenic	1.65E-05	5.53E-07	--	3.30E-06	2.03E-05	Skin	2.03E-01	6.83E-03	--	4.07E-02	2.51E-01
			Barium	--	--	--	--	--	Kidney	6.34E-03	7.10E-06	--	3.18E-03	9.53E-03
			Benzo(a)anthracene	9.23E-07	1.34E-07	--	7.91E-09	1.07E-06	--	--	--	--	--	--
			Benzo(a)pyrene	3.08E-06	4.49E-07	--	1.50E-08	3.55E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	5.20E-07	7.57E-08	--	2.53E-08	6.21E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.38E-04	2.01E-05	--	5.12E-06	1.63E-04
			Benzo(k)fluoranthene	6.19E-07	9.01E-08	--	3.01E-08	7.39E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	7.28E-04	8.15E-07	--	3.65E-05	7.65E-04
			Beta-BHC	6.03E-10	6.75E-12	--	9.45E-09	1.01E-08	Liver/Kidney	7.03E-05	7.88E-07	--	1.10E-03	1.17E-03
			bis(2-ethylhexyl)phthalate	2.90E-09	3.25E-11	--	3.35E-08	3.64E-08	Liver	1.69E-03	1.99E-05	--	1.95E-02	2.13E-02
			Cadmium	6.00E-07	6.72E-10	--	3.01E-06	3.61E-06	Kidney	1.11E-01	1.24E-04	--	5.54E-01	6.65E-01
			Carbon disulfide	--	--	--	--	--	Developmental	1.53E-08	4.30E-09	--	--	1.96E-08
			Chlorobenzene	--	--	--	--	--	Liver	3.52E-05	3.94E-07	--	--	3.56E-05

TABLE H3-8.8

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	4.26E-04	4.77E-07	--	6.40E-05	4.91E-04	
			Chrysene	1.05E-07	1.53E-08	--	6.32E-09	1.27E-07	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	2.38E-03	2.66E-06	--	5.56E-04	2.94E-03	
			Copper	--	--	--	--	--	GI Tract/Kidney	9.60E-03	1.08E-05	--	8.02E-02	8.98E-02	
			Delta-BHC	2.30E-09	1.29E-10	--	2.94E-10	2.72E-09	Liver/Kidney	2.68E-04	1.50E-05	--	3.43E-05	3.18E-04	
			Dibenzo(a,h)anthracene	2.06E-07	3.01E-08	--	6.20E-09	2.43E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	4.16E-02	4.65E-04	--	--	4.20E-02	
			Dieldrin	1.43E-07	1.60E-09	--	2.53E-06	2.68E-06	Liver	6.28E-03	7.01E-05	--	1.11E-01	1.17E-01	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	3.04E-07	3.40E-09	--	1.51E-05	1.54E-05	
			di-n-Butylphthalate	--	--	--	--	--	Liver	7.35E-05	8.23E-07	--	5.11E-06	7.95E-05	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	2.45E-05	1.37E-06	--	3.67E-04	3.93E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	2.49E-05	1.39E-06	--	3.57E-04	3.83E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	4.58E-05	2.57E-06	--	6.42E-04	6.90E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.34E-03	7.52E-05	--	7.44E-05	1.49E-03	
			Endrin Ketone	--	--	--	--	--	Liver	2.13E-04	--	--	1.18E-05	2.25E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	3.56E-03	5.18E-04	--	3.21E-04	4.39E-03	
			Fluorene	--	--	--	--	--	Blood	4.04E-04	5.88E-05	--	--	4.63E-04	
			gamma-BHC (Lindane)	5.22E-10	2.34E-11	--	2.88E-08	2.94E-08	Liver/Kidney	5.54E-05	2.48E-06	--	3.06E-03	3.11E-03	
			gamma-Chlordane	3.02E-09	--	--	4.81E-10	3.50E-09	Liver	1.62E-04	--	--	2.59E-05	1.88E-04	
			Heptachlor	5.17E-09	5.79E-11	--	6.12E-10	5.84E-09	Liver	8.82E-05	9.88E-07	--	1.05E-05	9.97E-05	
			Heptachlor Epoxide	9.90E-09	1.11E-10	--	3.82E-07	3.92E-07	Liver	4.85E-03	5.43E-05	--	1.87E-01	1.92E-01	
			Indeno(1,2,3-cd)pyrene	1.09E-07	1.59E-08	--	3.97E-09	1.29E-07	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	7.83E-01	8.77E-04	--	2.60E-02	8.10E-01	
			Isophorone	3.47E-11	3.89E-12	--	--	3.86E-11	No Observed Effect	6.39E-06	7.16E-07	--	--	7.11E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	8.11E-02	9.08E-05	--	1.35E-01	2.17E-01	
			Mercury	--	--	--	--	--	Immune System	5.65E-03	--	--	3.78E-02	4.34E-02	
			Methoxychlor	--	--	--	--	--	Developmental	1.53E-04	1.72E-06	--	4.44E-06	1.60E-04	
			Methylene chloride	6.14E-12	6.87E-14	--	--	6.21E-12	Liver	2.56E-07	2.86E-09	--	--	2.59E-07	
			Molybdenum	--	--	--	--	--	Blood	2.79E-03	3.12E-06	--	5.59E-03	8.38E-03	
			Naphthalene	--	--	--	--	--	Whole Body	4.16E-03	6.05E-04	--	--	4.76E-03	
			Nickel	--	--	--	--	--	Whole Body	1.24E-02	1.39E-05	--	2.50E-02	3.74E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.49E-04	2.79E-06	--	--	2.52E-04	
			Phenol	--	--	--	--	--	Whole Body	1.24E-05	1.38E-06	--	2.04E-03	2.05E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	7.03E-06	--	--	--	7.03E-06	
			Pyrene	--	--	--	--	--	Kidney	4.33E-03	6.31E-04	--	--	4.97E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.13E-05	--	--	--	1.13E-05	
			Selenium	--	--	--	--	--	Whole Body	3.63E-04	4.06E-07	--	3.03E-04	6.66E-04	
			Silver	--	--	--	--	--	Skin	1.25E-03	1.40E-06	--	4.19E-03	5.44E-03	
			Technical Chlordane	1.28E-07	5.75E-09	--	2.05E-08	1.55E-07	Liver	6.91E-03	3.10E-04	--	1.10E-03	8.33E-03	
Thallium	--	--	--	--	--	Blood	3.86E-02	--	--	5.15E-04	3.91E-02				
Toluene	--	--	--	--	--	Liver/Kidney	3.44E-08	3.85E-10	--	--	3.47E-08				

TABLE H3-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney	2.15E-01	2.41E-04	--	2.16E-02	2.37E-01
			Zinc	--	--	--	--	--		Blood	7.07E-03	7.92E-06	--	2.13E-01
			Chemical Total	2.38E-05	1.50E-06	0.00E+00	9.64E-06	3.49E-05		2.37E+00	1.20E-01	0.00E+00	2.07E+00	4.56E+00
			Exposure Point Total					3.49E-05						4.56E+00
	Exposure Medium Total							3.49E-05						4.56E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.81E-02	--	4.81E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.63E-01	--	1.63E-01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.49E-02	--	3.49E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	4.73E-02	--	4.73E-02
			1,2-Dichloropropane	--	--	1.49E-09	--	1.49E-09	Nasal	--	--	1.27E-03	--	1.27E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.09E-02	--	1.09E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	2.75E-03	--	2.75E-03
			1,4-Dichlorobenzene	--	--	9.04E-07	--	9.04E-07	Liver	--	--	3.44E-03	--	3.44E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	4.03E-09	--	4.03E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.49E-04	--	6.49E-04
			4,4'-DDD	--	--	3.16E-15	--	3.16E-15	Liver	--	--	9.21E-10	--	9.21E-10
			4,4'-DDE	--	--	4.35E-11	--	4.35E-11	Liver	--	--	8.95E-06	--	8.95E-06
			4,4'-DDT	--	--	1.56E-13	--	1.56E-13	Liver	--	--	3.22E-08	--	3.22E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.07E-08	--	2.07E-08
			4-Nitroaniline	--	--	1.43E-13	--	1.43E-13	--	--	--	2.38E-07	--	2.38E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	2.83E-07	--	2.83E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.02E-04	--	4.02E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.04E-05	--	1.04E-05
			Aldrin	--	--	1.39E-09	--	1.39E-09	Liver	--	--	9.51E-05	--	9.51E-05
			alpha-BHC	--	--	1.42E-10	--	1.42E-10	Liver/Kidney	--	--	3.68E-06	--	3.68E-06
			alpha-Chlordane	--	--	1.20E-10	--	1.20E-10	Liver	--	--	1.75E-05	--	1.75E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	2.43E-03	--	2.43E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.12E-05	--	2.12E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	2.63E-11	--	2.63E-11	Immune System/Eye/Finger and Toe nails	--	--	2.30E-05	--	2.30E-05
			Aroclor-1254	--	--	9.59E-12	--	9.59E-12	Immune System/Eye/Finger and Toe nails	--	--	8.39E-06	--	8.39E-06
			Aroclor-1260	--	--	1.07E-11	--	1.07E-11	Immune System/Eye/Finger and Toe Nails	--	--	9.36E-06	--	9.36E-06
			Aroclor-1268	--	--	5.96E-13	--	5.96E-13	Immune System/Eye/Finger and Toe nails	--	--	5.21E-07	--	5.21E-07
			Arsenic	--	--	1.25E-09	--	1.25E-09	Developmental	--	--	4.25E-04	--	4.25E-04
			Barium	--	--	--	--	--	Developmental	--	--	1.90E-04	--	1.90E-04
			Benzo(a)anthracene	--	--	1.80E-11	--	1.80E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	6.01E-11	--	6.01E-11	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	8.66E-09	--	8.66E-09	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	8.28E-09	--	8.28E-09
			Benzo(k)fluoranthene	--	--	1.21E-11	--	1.21E-11	--	--	--	--	--	--
			Beryllium	--	--	2.10E-11	--	2.10E-11	Immune System/Lung	--	--	1.53E-05	--	1.53E-05

TABLE H3-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	3.62E-14	--	3.62E-14	Liver/Kidney	--	--	4.22E-09	--	4.22E-09
			bis(2-ethylhexyl)phthalate	--	--	4.87E-13	--	4.87E-13	Liver	--	--	1.02E-07	--	1.02E-07
			Cadmium	--	--	1.42E-09	--	1.42E-09	Kidney/Respiratory System	--	--	5.80E-04	--	5.80E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.15E-06	--	1.15E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	9.17E-05	--	9.17E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	2.97E-09	--	2.97E-09	--	--	--	--	--	--
			Cobalt	--	--	7.99E-10	--	7.99E-10	Respiratory System	--	--	5.00E-04	--	5.00E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	9.08E-10	--	9.08E-10	Liver/Kidney	--	--	1.06E-04	--	1.06E-04
			Dibenzo(a,h)anthracene	--	--	1.24E-11	--	1.24E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.14E-02	--	1.14E-02
			Dieldrin	--	--	1.52E-08	--	1.52E-08	Liver	--	--	6.66E-04	--	6.66E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	1.82E-11	--	1.82E-11
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	8.82E-09	--	8.82E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.80E-06	--	6.80E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	6.91E-06	--	6.91E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.27E-05	--	1.27E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	8.05E-08	--	8.05E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.28E-08	--	1.28E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.82E-04	--	1.82E-04
			Fluorene	--	--	--	--	--	Blood	--	--	1.87E-04	--	1.87E-04
			gamma-BHC (Lindane)	--	--	2.54E-10	--	2.54E-10	Liver/Kidney	--	--	2.69E-05	--	2.69E-05
			gamma-Chlordane	--	--	2.18E-10	--	2.18E-10	Liver	--	--	3.18E-05	--	3.18E-05
			Heptachlor	--	--	2.00E-08	--	2.00E-08	Liver	--	--	3.42E-04	--	3.42E-04
			Heptachlor Epoxide	--	--	5.94E-13	--	5.94E-13	Liver	--	--	2.91E-07	--	2.91E-07
			Indeno(1,2,3-cd)pyrene	--	--	2.12E-12	--	2.12E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	8.17E-03	--	8.17E-03
			Mercury	--	--	--	--	--	CNS	--	--	1.18E-06	--	1.18E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.74E-06	--	8.74E-06
			Methylene chloride	--	--	--	--	--	Blood	--	--	--	--	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	1.21E-06	--	1.21E-06	Nasal Epithelium	--	--	4.13E-01	--	4.13E-01
			Nickel	--	--	3.88E-10	--	3.88E-10	Respiratory System	--	--	1.07E-03	--	1.07E-03
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.71E-04	--	2.71E-04
			Phenol	--	--	--	--	--	Liver/CNS	--	--	3.89E-09	--	3.89E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.82E-04	--	8.82E-04
Pyrene	--	--	--	--	--	Kidney	--	--	2.63E-04	--	2.63E-04			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.55E-04	--	3.55E-04			

TABLE H3-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft BGS) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	1.91E-08	--	1.91E-08
			Silver	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	9.29E-09	--	9.29E-09	Liver	--	--	1.36E-03	--	1.36E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.11E-07	--	1.11E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.18E-06	0.00E+00	2.18E-06		0.00E+00	0.00E+00	7.56E-01	0.00E+00	7.56E-01
			Exposure Point Total					2.18E-06				7.56E-01		7.56E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.74E-01	--	8.74E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.36E+00	--	1.36E+00
			1,2-Dichloropropane	--	--	1.10E-08	--	1.10E-08	Nasal	--	--	9.39E-03	--	9.39E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.80E-01	--	2.80E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.09E-01	--	1.09E-01
			1,4-Dichlorobenzene	--	--	2.31E-05	--	2.31E-05	Liver	--	--	8.79E-02	--	8.79E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.91E-02	--	4.91E-02
			4,4'-DDE	--	--	2.98E-11	--	2.98E-11	Liver	--	--	6.14E-06	--	6.14E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.43E-02	--	1.43E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.69E-04	--	3.69E-04
			Aldrin	--	--	3.96E-09	--	3.96E-09	Liver	--	--	2.72E-04	--	2.72E-04
			alpha-BHC	--	--	4.20E-09	--	4.20E-09	Liver/Kidney	--	--	1.09E-04	--	1.09E-04
			alpha-Chlordane	--	--	9.42E-10	--	9.42E-10	Liver	--	--	1.37E-04	--	1.37E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.52E-04	--	7.52E-04
			Benzo(b)fluoranthene	--	--	1.78E-08	--	1.78E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	3.57E-06	--	3.57E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.14E-03	--	1.14E-03
			Chrysene	--	--	1.00E-08	--	1.00E-08	--	--	--	--	--	--
			Delta-BHC	--	--	3.99E-08	--	3.99E-08	Liver/Kidney	--	--	4.66E-03	--	4.66E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.00E-03	--	6.00E-03
			Dioksin	--	--	1.21E-07	--	1.21E-07	Liver	--	--	5.31E-03	--	5.31E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.82E-04	--	1.82E-04
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.85E-04	--	1.85E-04
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.40E-04	--	3.40E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.21E-05	--	6.21E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.39E-03	--	3.39E-03
			gamma-BHC (Lindane)	--	--	9.06E-09	--	9.06E-09	Liver/Kidney	--	--	9.61E-04	--	9.61E-04
			gamma-Chlordane	--	--	1.71E-11	--	1.71E-11	Liver	--	--	2.50E-06	--	2.50E-06
			Heptachlor	--	--	6.44E-09	--	6.44E-09	Liver	--	--	1.10E-04	--	1.10E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.00E-05	--	3.00E-05
			Methylene Chloride	--	--	7.14E-10	--	7.14E-10	Blood	--	--	6.49E-05	--	6.49E-05

TABLE H3-8.8

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	1.09E-04	--	1.09E-04	Nasal Epithelium	--	--	3.72E+01	--	3.72E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	9.64E-03	--	9.64E-03
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.97E-03	--	2.97E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	6.71E-04	--	6.71E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.90E-03	--	2.90E-03
			Technical Chlordane	--	--	7.30E-08	--	7.30E-08	Liver	--	--	1.06E-02	--	1.06E-02
			Toluene	--	--	--	--	--	CNS	--	--	8.95E-07	--	8.95E-07
			Chemical Total	0.00E+00	0.00E+00	1.33E-04	0.00E+00	1.33E-04		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01
			Exposure Point Total					1.33E-04						5.78E+01
			Exposure Medium Total					1.33E-04						5.78E+01
Medium Total								1.70E-04						6.31E+01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	3.49E-11	--	3.49E-11	No observed effect	--	--	1.53E-06	--	1.53E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.76E-05	--	3.76E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	7.35E-06	--	7.35E-06
			1,2-Dichloroethane	--	--	6.20E-10	--	6.20E-10	Liver/Kidney/CNS	--	--	2.15E-04	--	2.15E-04
			1,2-Dichloropropane	--	--	1.16E-10	--	1.16E-10	Nasal	--	--	9.91E-05	--	9.91E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.14E-05	--	2.14E-05
			1,4-Dichlorobenzene	--	--	1.63E-10	--	1.63E-10	Liver	--	--	6.20E-07	--	6.20E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	3.86E-09	--	3.86E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.79E-09	--	9.79E-09
			4,4'-DDE	--	--	6.36E-12	--	6.36E-12	Liver	--	--	1.31E-06	--	1.31E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	2.38E-09	--	2.38E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.27E-07	--	3.27E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.39E-08	--	1.39E-08
			Aldrin	--	--	5.50E-10	--	5.50E-10	Liver	--	--	3.77E-05	--	3.77E-05
			alpha-BHC	--	--	1.11E-11	--	1.11E-11	Liver/Kidney	--	--	2.87E-07	--	2.87E-07
			alpha-Chlordane	--	--	1.16E-11	--	1.16E-11	Liver	--	--	1.70E-06	--	1.70E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.54E-09	--	5.54E-09
			Benzene	--	--	3.77E-10	--	3.77E-10	Blood	--	--	1.54E-05	--	1.54E-05
			Benzo(b)fluoranthene	--	--	2.74E-12	--	2.74E-12	--	--	--	--	--	--
			Bromoform	--	--	4.15E-13	--	4.15E-13	Liver	--	--	1.86E-07	--	1.86E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.14E-05	--	1.14E-05
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.30E-07	--	1.30E-07
			Chloroform	--	--	5.68E-10	--	5.68E-10	GI Tract/ Kidney/ Developmental	--	--	1.22E-05	--	1.22E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.46E-05	--	1.46E-05
			Chrysene	--	--	7.42E-13	--	7.42E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.68E-05	--	2.68E-05
			Dieldrin	--	--	2.27E-10	--	2.27E-10	Liver	--	--	9.95E-06	--	9.95E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.89E-08	--	1.89E-08
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	3.11E-11	--	3.11E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.48E-07	--	3.48E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.40E-09	--	6.40E-09			

TABLE H3-8.8  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	1.27E-08	--	1.27E-08
			gamma-BHC (Lindane)	--	--	1.98E-14	--	1.98E-14	Liver/Kidney	--	--	2.10E-09	--	2.10E-09
			gamma-Chlordane	--	--	3.02E-11	--	3.02E-11	Liver	--	--	4.40E-06	--	4.40E-06
			Heptachlor	--	--	1.06E-09	--	1.06E-09	Liver	--	--	1.81E-05	--	1.81E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.21E-05	--	1.21E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.31E-07	--	3.31E-07
			Naphthalene	--	--	9.43E-12	--	9.43E-12	Nasal Epithelium	--	--	3.21E-06	--	3.21E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.49E-04	--	1.49E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.57E-06	--	3.57E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.42E-09	--	4.42E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.78E-09	--	7.78E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.01E-05	--	1.01E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.15E-05	--	1.15E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.35E-07	--	1.35E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.27E-05	--	2.27E-05
			Trichloroethene	--	--	9.44E-11	--	9.44E-11	CNS/Eye	--	--	2.78E-06	--	2.78E-06
			Vinyl chloride	--	--	7.53E-09	--	7.53E-09	Liver	--	--	3.42E-05	--	3.42E-05
						Chemical Total	0.00E+00	0.00E+00	1.14E-08	0.00E+00	1.14E-08		0.00E+00	0.00E+00
			Exposure Point Total											
			Exposure Medium Total					1.14E-08						1.10E-03
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	6.14E-09	--	6.14E-09	No observed effect	--	--	2.69E-04	--	2.69E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.73E-04	--	9.73E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.95E-04	--	1.95E-04
			1,2-Dichloroethane	--	--	1.86E-08	--	1.86E-08	Liver/Kidney/CNS	--	--	6.44E-03	--	6.44E-03
			1,2-Dichloropropane	--	--	3.44E-09	--	3.44E-09	Nasal	--	--	2.93E-03	--	2.93E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.57E-04	--	5.57E-04
			1,4-Dichlorobenzene	--	--	4.37E-09	--	4.37E-09	Liver	--	--	1.66E-05	--	1.66E-05
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.99E-07	--	1.99E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.75E-07	--	2.75E-07
			4,4'-DDE	--	--	5.73E-13	--	5.73E-13	Liver	--	--	1.18E-07	--	1.18E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.79E-08	--	9.79E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.39E-05	--	1.39E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.93E-07	--	5.93E-07
			Aldrin	--	--	6.00E-11	--	6.00E-11	Liver	--	--	4.11E-06	--	4.11E-06
			alpha-BHC	--	--	1.42E-12	--	1.42E-12	Liver/Kidney	--	--	3.68E-08	--	3.68E-08
			alpha-Chlordane	--	--	3.82E-12	--	3.82E-12	Liver	--	--	5.58E-07	--	5.58E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.36E-07	--	2.36E-07
			Benzene	--	--	1.11E-08	--	1.11E-08	Blood	--	--	4.51E-04	--	4.51E-04
			Benzo(b)fluoranthene	--	--	1.15E-10	--	1.15E-10	--	--	--	--	--	--
			Bromoform	--	--	2.23E-11	--	2.23E-11	Liver	--	--	1.00E-05	--	1.00E-05

TABLE H3-8.8

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	--	--	--	--	--	CNS	--	--	3.42E-04	--	3.42E-04
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.64E-06	--	3.64E-06
			Chloroform	--	--	1.68E-08	--	1.68E-08	GI Tract/ Kidney/ Developmental	--	--	3.62E-04	--	3.62E-04
			Chloromethane	--	--	--	--	--	CNS	--	--	4.73E-04	--	4.73E-04
			Chrysene	--	--	3.25E-11	--	3.25E-11	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.74E-03	--	1.74E-03
			Dieldrin	--	--	8.71E-12	--	8.71E-12	Liver	--	--	3.81E-07	--	3.81E-07
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.10E-09	--	4.10E-09
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.37E-09	--	1.37E-09
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	9.41E-06	--	9.41E-06
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.59E-07	--	2.59E-07
			Fluorene	--	--	--	--	--	Blood	--	--	6.59E-07	--	6.59E-07
			gamma-BHC (Lindane)	--	--	7.81E-13	--	7.81E-13	Liver/Kidney	--	--	8.28E-08	--	8.28E-08
			gamma-Chlordane	--	--	1.85E-12	--	1.85E-12	Liver	--	--	2.70E-07	--	2.70E-07
			Heptachlor	--	--	2.86E-11	--	2.86E-11	Liver	--	--	4.87E-07	--	4.87E-07
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03
			m,p-Xylene	--	--	--	--	--	CNS	--	--	7.04E-04	--	7.04E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.43E-08	--	1.43E-08
			Naphthalene	--	--	5.12E-10	--	5.12E-10	Nasal Epithelium	--	--	1.74E-04	--	1.74E-04
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.38E-03	--	8.38E-03
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.02E-04	--	2.02E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.45E-07	--	2.45E-07
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	3.24E-07	--	3.24E-07
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	7.20E-06	--	7.20E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	7.20E-04	--	7.20E-04
			Toluene	--	--	--	--	--	CNS	--	--	7.72E-07	--	7.72E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.53E-03	--	1.53E-03
			Trichloroethene	--	--	5.78E-09	--	5.78E-09	CNS/Eye	--	--	1.70E-04	--	1.70E-04
			Vinyl chloride	--	--	5.07E-07	--	5.07E-07	Liver	--	--	2.30E-03	--	2.30E-03
			Chemical Total	0.00E+00	0.00E+00	5.74E-07	0.00E+00	5.74E-07		0.00E+00	0.00E+00	4.55E-02	0.00E+00	4.55E-02
			Exposure Point Total					5.74E-07						4.55E-02
			Exposure Medium Total					5.74E-07						4.55E-02
			Medium Total					5.85E-07						4.67E-02
			Receptor Total					1.70E-04						6.32E+01

**TABLE H3-8.8**  
**EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
CNS	Central nervous system
COPC	Chemicals of Potential Concern
CTE	Central Tendency Exposure
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.78E+00
Total Organ 2 (Kidney) HI Across All Media =	1.96E+01
Total Organ 3 (Reproductive System) HI Across All Media =	1.24E-03
Total Organ 4 (Nervous System) HI Across All Media =	1.57E+00
Total Organ 5 (Skin) HI Across All Media =	2.56E-01
Total Organ 6 (Blood) HI Across All Media =	1.93E+00
Total Organ 7 (Adrenal) HI Across All Media =	4.36E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.36E-02
Total Organ 9 (Brain) HI Across All Media =	1.82E-11
Total Organ 10 (Gastrointestinal System) HI Across All Media =	9.22E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	9.05E-01
Total Organ 12 (Body Weight) HI Across All Media =	1.46E+00
Total Organ 13 (Developmental) HI Across All Media =	1.21E-03
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.25E+00
Total Organ 15 (Whole Body) HI Across All Media =	1.56E-01
Total Organ 16 (Immune System) HI Across All Media =	9.48E-01
Total Organ 17 (Organ Weight) HI Across All Media =	2.20E-03
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	9.05E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	3.76E+01

TABLE H3-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	9.59E-04	1.07E-04	--	--	1.07E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	3.26E-03	3.65E-05	--	--	3.30E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	6.39E-05	7.16E-07	--	--	6.46E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.85E-03	2.07E-05	--	--	1.87E-03
			1,2-Dichloropropane	3.25E-11	3.66E-13	--	--	3.29E-11	Nasal	2.02E-05	2.26E-07	--	--	2.04E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.05E-05	2.29E-07	--	--	2.07E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	2.34E-04	2.63E-06	--	--	2.37E-04
			1,4-Dichlorobenzene	9.22E-09	--	--	--	9.22E-09	Organ weight	1.45E-03	--	--	--	1.45E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	6.71E-05	7.52E-07	--	1.75E-03	1.82E-03
			2-Methylphenol	--	--	--	--	--	Respiratory System	1.29E-04	1.45E-05	--	8.02E-03	8.17E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	2.14E-04	2.39E-06	--	--	2.16E-04
			4,4'-DDD	7.23E-11	8.14E-13	--	1.17E-11	8.49E-11	Liver	1.53E-05	1.72E-07	--	6.81E-07	1.62E-05
			4,4'-DDE	7.03E-09	7.91E-11	--	8.24E-10	7.93E-09	Liver	1.05E-03	1.18E-05	--	3.38E-05	1.10E-03
			4,4'-DDT	3.80E-09	1.28E-10	--	1.92E-09	5.85E-09	Liver	5.69E-04	1.91E-05	--	7.88E-05	6.67E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	3.45E-04	3.87E-05	--	2.20E-02	2.24E-02
			4-Nitroaniline	3.27E-09	3.68E-10	--	5.24E-07	5.24E-07	--	1.32E-03	1.48E-04	--	5.76E-02	5.90E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	5.37E-03	6.01E-04	--	3.51E-01	3.57E-01
			Acenaphthene	--	--	--	--	--	Liver	4.51E-04	6.57E-05	--	--	5.17E-04
			Acenaphthylene	--	--	--	--	--	Liver	1.11E-05	1.24E-07	--	--	1.12E-05
			Aldrin	5.55E-08	6.25E-09	--	1.47E-08	7.65E-08	Liver	2.77E-03	3.10E-04	--	2.01E-04	3.28E-03
			alpha-BHC	4.95E-10	5.57E-12	--	2.83E-08	2.88E-08	Liver/Kidney	9.33E-06	1.05E-07	--	1.46E-04	1.56E-04
			alpha-Chlordane	2.66E-09	--	--	1.55E-09	4.20E-09	Liver	1.04E-04	--	--	1.66E-05	1.21E-04
			Aluminum	--	--	--	--	--	CNS	5.64E-02	6.32E-05	--	1.22E-03	5.77E-02
			Anthracene	--	--	--	--	--	No Observed Effect	2.25E-05	3.27E-06	--	--	2.58E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	6.52E-02	7.30E-05	--	6.53E-02	1.31E-01
			Aroclor-1248	6.03E-07	9.50E-08	--	9.79E-08	7.96E-07	Immune System/ Eye/Finger and Toe Nails	3.84E-01	6.01E-02	--	1.71E-02	4.61E-01
			Aroclor-1254	2.23E-07	3.51E-08	--	4.85E-07	7.43E-07	Immune System/ Eye/Finger and Toe Nails	1.42E-01	2.23E-02	--	8.45E-02	2.49E-01
			Aroclor-1260	2.72E-07	4.28E-08	--	2.11E-08	3.36E-07	Immune System/ Eye/Finger and Toe Nails	1.73E-01	2.71E-02	--	3.68E-03	2.04E-01
			Aroclor-1268	1.39E-08	2.20E-09	--	3.03E-08	4.64E-08	Immune System/ Eye/Finger and Toe Nails	8.87E-03	1.39E-03	--	5.28E-03	1.55E-02
			Arsenic	1.46E-05	4.94E-07	--	1.07E-05	2.58E-05	Skin	1.31E-01	4.41E-03	--	2.63E-02	1.62E-01
			Barium	--	--	--	--	--	Kidney	6.19E-03	6.94E-06	--	3.10E-03	9.30E-03
			Benzo(a)anthracene	1.51E-06	2.21E-07	--	4.72E-08	1.78E-06	--	--	--	--	--	--
			Benzo(a)pyrene	5.02E-06	7.34E-07	--	8.91E-08	5.84E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	8.25E-07	1.21E-07	--	1.47E-07	1.09E-06	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.63E-04	2.37E-05	--	6.04E-06	1.92E-04
			Benzo(k)fluoranthene	9.83E-07	1.44E-07	--	1.74E-07	1.30E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	7.61E-04	8.52E-07	--	3.81E-05	8.00E-04
			Beta-BHC	8.29E-10	9.33E-12	--	4.74E-08	4.82E-08	Liver/Kidney	7.03E-05	7.88E-07	--	1.10E-03	1.17E-03
			bis(2-ethylhexyl)phthalate	5.90E-09	6.64E-11	--	2.49E-07	2.55E-07	Liver	2.50E-03	2.80E-05	--	2.89E-02	3.14E-02
			Cadmium	9.04E-07	1.02E-09	--	1.65E-05	1.74E-05	Kidney	1.21E-01	1.36E-04	--	6.07E-01	7.28E-01
			Carbon disulfide	--	--	--	--	--	Developmental	1.53E-08	4.30E-09	--	--	1.96E-08
			Chlorobenzene	--	--	--	--	--	Liver	3.52E-05	3.94E-07	--	--	3.56E-05

TABLE H3-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	4.74E-04	5.31E-07	--	7.12E-05	5.46E-04	
			Chrysene	1.71E-07	2.51E-08	--	3.76E-08	2.34E-07	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	2.42E-03	2.71E-06	--	5.66E-04	2.99E-03	
			Copper	--	--	--	--	--	GI Tract/Kidney	9.12E-03	1.02E-05	--	7.62E-02	8.53E-02	
			Delta-BHC	3.16E-09	1.78E-10	--	1.48E-09	4.82E-09	Liver/Kidney	2.68E-04	1.50E-05	--	3.43E-05	3.18E-04	
			Dibenzo(a,h)anthracene	3.27E-07	4.78E-08	--	3.59E-08	4.11E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	4.16E-02	4.65E-04	--	--	4.20E-02	
			Dieldrin	2.22E-07	2.49E-09	--	1.43E-05	1.45E-05	Liver	7.05E-03	7.90E-05	--	1.25E-01	1.32E-01	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	3.04E-07	3.40E-09	--	1.51E-05	1.54E-05	
			di-n-Butylphthalate	--	--	--	--	--	Liver	7.03E-05	7.88E-07	--	4.89E-06	7.60E-05	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	2.45E-05	1.37E-06	--	3.67E-04	3.93E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	2.54E-05	1.42E-06	--	3.64E-04	3.91E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	4.58E-05	2.57E-06	--	6.42E-04	6.90E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	8.97E-04	5.02E-05	--	4.97E-05	9.97E-04	
			Endrin Ketone	--	--	--	--	--	Liver	2.13E-04	--	--	1.18E-05	2.25E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	4.24E-03	6.17E-04	--	3.82E-04	5.24E-03	
			Fluorene	--	--	--	--	--	Blood	4.66E-04	6.79E-05	--	--	5.34E-04	
			gamma-BHC (Lindane)	7.18E-10	3.23E-11	--	1.45E-07	1.45E-07	Liver/Kidney	5.54E-05	2.48E-06	--	3.06E-03	3.11E-03	
			gamma-Chlordane	4.28E-09	--	--	2.49E-09	6.77E-09	Liver	1.68E-04	--	--	2.67E-05	1.94E-04	
			Heptachlor	7.10E-09	8.00E-11	--	3.07E-09	1.03E-08	Liver	8.82E-05	9.88E-07	--	1.05E-05	9.97E-05	
			Heptachlor Epoxide	1.54E-08	1.73E-10	--	2.17E-06	2.18E-06	Liver	5.49E-03	6.14E-05	--	2.11E-01	2.17E-01	
			Indeno(1,2,3-cd)pyrene	2.63E-07	3.85E-08	--	3.50E-08	3.37E-07	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	8.68E-01	9.72E-04	--	2.88E-02	8.98E-01	
			Isophorone	4.77E-11	5.37E-12	--	--	5.31E-11	No Observed Effect	6.39E-06	7.16E-07	--	--	7.11E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	8.82E-02	9.88E-05	--	1.47E-01	2.36E-01	
			Mercury	--	--	--	--	--	Immune System	6.60E-03	--	--	4.41E-02	5.07E-02	
			Methoxychlor	--	--	--	--	--	Developmental	1.53E-04	1.72E-06	--	4.44E-06	1.60E-04	
			Molybdenum	--	--	--	--	--	Blood	3.20E-03	3.59E-06	--	6.42E-03	9.62E-03	
			Naphthalene	--	--	--	--	--	Whole Body	4.16E-03	6.05E-04	--	--	4.76E-03	
			Nickel	--	--	--	--	--	Whole Body	1.25E-02	1.40E-05	--	2.51E-02	3.76E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.97E-04	3.32E-06	--	--	3.00E-04	
			Phenol	--	--	--	--	--	Whole Body	1.24E-05	1.38E-06	--	2.04E-03	2.05E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	7.03E-06	--	--	--	7.03E-06	
			Pyrene	--	--	--	--	--	Kidney	5.15E-03	7.49E-04	--	--	5.89E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.13E-05	--	--	--	1.13E-05	
			Selenium	--	--	--	--	--	Whole Body	2.87E-04	3.21E-07	--	2.40E-04	5.27E-04	
			Silver	--	--	--	--	--	Skin	1.48E-03	1.66E-06	--	4.95E-03	6.43E-03	
			Technical Chlordane	1.80E-07	8.10E-09	--	1.05E-07	2.93E-07	Liver	7.05E-03	3.16E-04	--	1.12E-03	8.48E-03	
			Thallium	--	--	--	--	--	Blood	3.97E-02	--	--	5.31E-04	4.02E-02	
Toluene	--	--	--	--	--	Liver/Kidney	3.44E-08	3.85E-10	--	--	3.47E-08				
Vanadium	--	--	--	--	--	Kidney	2.18E-01	2.44E-04	--	2.19E-02	2.40E-01				

TABLE H3-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	9.66E-03	1.08E-05	--	2.91E-01	3.00E-01
		Exposure Point Total	Chemical Total	2.63E-05	2.02E-06	0.00E+00	4.60E-05	7.43E-05		2.45E+00	1.21E-01	0.00E+00	2.28E+00	4.85E+00
Exposure Medium Total							7.43E-05						4.85E+00	
Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.81E-02	--	4.81E-02	
		1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.63E-01	--	1.63E-01	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.49E-02	--	3.49E-02	
		1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	4.73E-02	--	4.73E-02	
		1,2-Dichloropropane	--	--	3.62E-09	--	3.62E-09	Nasal	--	--	1.27E-03	--	1.27E-03	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.09E-02	--	1.09E-02	
		1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	2.75E-03	--	2.75E-03	
		1,4-Dichlorobenzene	--	--	2.20E-06	--	2.20E-06	Liver	--	--	3.44E-03	--	3.44E-03	
		2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	4.03E-09	--	4.03E-09	
		2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	7.49E-04	--	7.49E-04	
		4,4'-DDD	--	--	7.68E-15	--	7.68E-15	Liver	--	--	9.21E-10	--	9.21E-10	
		4,4'-DDE	--	--	1.16E-10	--	1.16E-10	Liver	--	--	9.82E-06	--	9.82E-06	
		4,4'-DDT	--	--	4.03E-13	--	4.03E-13	Liver	--	--	3.41E-08	--	3.41E-08	
		4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.07E-08	--	2.07E-08	
		4-Nitroaniline	--	--	3.47E-13	--	3.47E-13	--	--	--	2.38E-07	--	2.38E-07	
		4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	2.83E-07	--	2.83E-07	
		Acenaphthene	--	--	--	--	--	Liver	--	--	4.91E-04	--	4.91E-04	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	1.21E-05	--	1.21E-05	
		Aldrin	--	--	3.37E-09	--	3.37E-09	Liver	--	--	9.51E-05	--	9.51E-05	
		alpha-BHC	--	--	3.46E-10	--	3.46E-10	Liver/Kidney	--	--	3.68E-06	--	3.68E-06	
		alpha-Chlordane	--	--	3.40E-10	--	3.40E-10	Liver	--	--	2.04E-05	--	2.04E-05	
		Aluminum	--	--	--	--	--	Respiratory System	--	--	2.37E-03	--	2.37E-03	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.44E-05	--	2.44E-05	
		Antimony	--	--	--	--	--	--	--	--	--	--	--	
		Aroclor-1248	--	--	6.40E-11	--	6.40E-11	Immune System/Eye/Finger and Toe nails	--	--	2.30E-05	--	2.30E-05	
		Aroclor-1254	--	--	2.37E-11	--	2.37E-11	Immune System/Eye/Finger and Toe nails	--	--	8.52E-06	--	8.52E-06	
		Aroclor-1260	--	--	2.89E-11	--	2.89E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.04E-05	--	1.04E-05	
		Aroclor-1268	--	--	1.48E-12	--	1.48E-12	Immune System/Eye/Finger and Toe nails	--	--	5.32E-07	--	5.32E-07	
		Arsenic	--	--	1.97E-09	--	1.97E-09	Developmental	--	--	2.75E-04	--	2.75E-04	
		Barium	--	--	--	--	--	Developmental	--	--	1.86E-04	--	1.86E-04	
		Benzo(a)anthracene	--	--	5.20E-11	--	5.20E-11	--	--	--	--	--	--	
Benzo(a)pyrene	--	--	1.73E-10	--	1.73E-10	--	--	--	--	--	--			
Benzo(b)fluoranthene	--	--	2.43E-08	--	2.43E-08	--	--	--	--	--	--			
Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	9.76E-09	--	9.76E-09			
Benzo(k)fluoranthene	--	--	3.39E-11	--	3.39E-11	--	--	--	--	--	--			
Beryllium	--	--	5.33E-11	--	5.33E-11	Immune System/Lung	--	--	1.60E-05	--	1.60E-05			
Beta-BHC	--	--	8.79E-14	--	8.79E-14	Liver/Kidney	--	--	4.22E-09	--	4.22E-09			

TABLE H3-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.75E-12	--	1.75E-12	Liver	--	--	1.50E-07	--	1.50E-07
			Cadmium	--	--	3.79E-09	--	3.79E-09	Kidney/Respiratory System	--	--	6.36E-04	--	6.36E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.15E-06	--	1.15E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	9.17E-05	--	9.17E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	8.57E-09	--	8.57E-09	--	--	--	--	--	--
			Cobalt	--	--	1.98E-09	--	1.98E-09	Respiratory System	--	--	5.09E-04	--	5.09E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	2.21E-09	--	2.21E-09	Liver/Kidney	--	--	1.06E-04	--	1.06E-04
			Dibenzo(a,h)anthracene	--	--	3.47E-11	--	3.47E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.14E-02	--	1.14E-02
			Dieldrin	--	--	4.17E-08	--	4.17E-08	Liver	--	--	7.51E-04	--	7.51E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	1.82E-11	--	1.82E-11
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	8.44E-09	--	8.44E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.80E-06	--	6.80E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	7.04E-06	--	7.04E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.27E-05	--	1.27E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	5.38E-08	--	5.38E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.28E-08	--	1.28E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.17E-04	--	2.17E-04
			Fluorene	--	--	--	--	--	Blood	--	--	2.16E-04	--	2.16E-04
			gamma-BHC (Lindane)	--	--	6.17E-10	--	6.17E-10	Liver/Kidney	--	--	2.69E-05	--	2.69E-05
			gamma-Chlordane	--	--	5.47E-10	--	5.47E-10	Liver	--	--	3.28E-05	--	3.28E-05
			Heptachlor	--	--	4.87E-08	--	4.87E-08	Liver	--	--	3.42E-04	--	3.42E-04
			Heptachlor Epoxide	--	--	1.63E-12	--	1.63E-12	Liver	--	--	3.29E-07	--	3.29E-07
			Indeno(1,2,3-cd)pyrene	--	--	9.07E-12	--	9.07E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	8.89E-03	--	8.89E-03
			Mercury	--	--	--	--	--	CNS	--	--	1.38E-06	--	1.38E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.74E-06	--	8.74E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	2.95E-06	--	2.95E-06	Nasal Epithelium	--	--	4.13E-01	--	4.13E-01
			Nickel	--	--	9.49E-10	--	9.49E-10	Respiratory System	--	--	1.07E-03	--	1.07E-03
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	3.23E-04	--	3.23E-04
Phenol	--	--	--	--	--	Liver/CNS	--	--	3.89E-09	--	3.89E-09			
p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.82E-04	--	8.82E-04			
Pyrene	--	--	--	--	--	Kidney	--	--	3.12E-04	--	3.12E-04			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.55E-04	--	3.55E-04			
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	1.51E-08	--	1.51E-08			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H3-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	2.30E-08	--	2.30E-08	Liver	--	--	1.38E-03	--	1.38E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.11E-07	--	1.11E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	5.32E-06	0.00E+00	5.32E-06		0.00E+00	0.00E+00	7.57E-01	0.00E+00	7.57E-01
		Exposure Point Total						5.32E-06						7.57E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.74E-01	--	8.74E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.36E+00	--	1.36E+00
			1,2-Dichloropropane	--	--	2.68E-08	--	2.68E-08	Nasal	--	--	9.39E-03	--	9.39E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.80E-01	--	2.80E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.09E-01	--	1.09E-01
			1,4-Dichlorobenzene	--	--	5.62E-05	--	5.62E-05	Liver	--	--	8.79E-02	--	8.79E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.91E-02	--	4.91E-02
			4,4'-DDE	--	--	7.26E-11	--	7.26E-11	Liver	--	--	6.14E-06	--	6.14E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.43E-02	--	1.43E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.69E-04	--	3.69E-04
			Aldrin	--	--	9.63E-09	--	9.63E-09	Liver	--	--	2.72E-04	--	2.72E-04
			alpha-BHC	--	--	1.02E-08	--	1.02E-08	Liver/Kidney	--	--	1.09E-04	--	1.09E-04
			alpha-Chlordane	--	--	2.29E-09	--	2.29E-09	Liver	--	--	1.37E-04	--	1.37E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.52E-04	--	7.52E-04
			Benzo(b)fluoranthene	--	--	4.32E-08	--	4.32E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	3.57E-06	--	3.57E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.14E-03	--	1.14E-03
			Chrysene	--	--	2.44E-08	--	2.44E-08	--	--	--	--	--	--
			Delta-BHC	--	--	9.70E-08	--	9.70E-08	Liver/Kidney	--	--	4.66E-03	--	4.66E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.00E-03	--	6.00E-03
			Dieldrin	--	--	2.95E-07	--	2.95E-07	Liver	--	--	5.31E-03	--	5.31E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.82E-04	--	1.82E-04
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.85E-04	--	1.85E-04
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.40E-04	--	3.40E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.21E-05	--	6.21E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.39E-03	--	3.39E-03
			gamma-BHC (Lindane)	--	--	2.20E-08	--	2.20E-08	Liver/Kidney	--	--	9.61E-04	--	9.61E-04
			gamma-Chlordane	--	--	4.17E-11	--	4.17E-11	Liver	--	--	2.50E-06	--	2.50E-06
			Heptachlor	--	--	1.57E-08	--	1.57E-08	Liver	--	--	1.10E-04	--	1.10E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.00E-05	--	3.00E-05
			Methylene Chloride	--	--	1.74E-09	--	1.74E-09	Blood	--	--	6.49E-05	--	6.49E-05
			Naphthalene	--	--	2.66E-04	--	2.66E-04	Nasal Epithelium	--	--	3.72E+01	--	3.72E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	9.64E-03	--	9.64E-03

TABLE H3-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.97E-03	--	2.97E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	6.71E-04	--	6.71E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.90E-03	--	2.90E-03
			Technical Chlordane	--	--	1.78E-07	--	1.78E-07	Liver	--	--	1.08E-02	--	1.08E-02
			Toluene	--	--	--	--	--	CNS	--	--	8.95E-07	--	8.95E-07
		Chemical Total	0.00E+00	0.00E+00	3.22E-04	0.00E+00	3.22E-04		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01	
		Exposure Point Total					3.22E-04						5.78E+01	
		Exposure Medium Total					3.28E-04						5.86E+01	
Medium Total							4.02E-04						6.34E+01	
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	8.49E-11	--	8.49E-11	No observed effect	--	--	1.53E-06	--	1.53E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.76E-05	--	3.76E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	7.35E-06	--	7.35E-06
			1,2-Dichloroethane	--	--	1.51E-09	--	1.51E-09	Liver/Kidney/CNS	--	--	2.15E-04	--	2.15E-04
			1,2-Dichloropropane	--	--	2.82E-10	--	2.82E-10	Nasal	--	--	9.91E-05	--	9.91E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.14E-05	--	2.14E-05
			1,4-Dichlorobenzene	--	--	3.96E-10	--	3.96E-10	Liver	--	--	6.20E-07	--	6.20E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	3.86E-09	--	3.86E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.79E-09	--	9.79E-09
			4,4'-DDE	--	--	1.55E-11	--	1.55E-11	Liver	--	--	1.31E-06	--	1.31E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	2.38E-09	--	2.38E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.27E-07	--	3.27E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.39E-08	--	1.39E-08
			Aldrin	--	--	1.34E-09	--	1.34E-09	Liver	--	--	3.77E-05	--	3.77E-05
			alpha-BHC	--	--	2.69E-11	--	2.69E-11	Liver/Kidney	--	--	2.87E-07	--	2.87E-07
			alpha-Chlordane	--	--	2.83E-11	--	2.83E-11	Liver	--	--	1.70E-06	--	1.70E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.54E-09	--	5.54E-09
			Benzene	--	--	9.18E-10	--	9.18E-10	Blood	--	--	1.54E-05	--	1.54E-05
			Benzo(b)fluoranthene	--	--	6.67E-12	--	6.67E-12	--	--	--	--	--	--
			Bromoform	--	--	1.01E-12	--	1.01E-12	Liver	--	--	1.86E-07	--	1.86E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.14E-05	--	1.14E-05
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.30E-07	--	1.30E-07
			Chloroform	--	--	1.38E-09	--	1.38E-09	GI Tract/ Kidney/ Developmental	--	--	1.22E-05	--	1.22E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.46E-05	--	1.46E-05
			Chrysene	--	--	1.81E-12	--	1.81E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.68E-05	--	2.68E-05
			Dieldrin	--	--	5.53E-10	--	5.53E-10	Liver	--	--	9.95E-06	--	9.95E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.89E-08	--	1.89E-08
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	3.11E-11	--	3.11E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.48E-07	--	3.48E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.40E-09	--	6.40E-09
			Fluorene	--	--	--	--	--	Blood	--	--	1.27E-08	--	1.27E-08
			gamma-BHC (Lindane)	--	--	4.81E-14	--	4.81E-14	Liver/Kidney	--	--	2.10E-09	--	2.10E-09

TABLE H3-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	7.35E-11	--	7.35E-11	Liver	--	--	4.40E-06	--	4.40E-06
			Heptachlor	--	--	2.57E-09	--	2.57E-09	Liver	--	--	1.81E-05	--	1.81E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.21E-05	--	1.21E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.31E-07	--	3.31E-07
			Naphthalene	--	--	2.29E-11	--	2.29E-11	Nasal Epithelium	--	--	3.21E-06	--	3.21E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.49E-04	--	1.49E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.57E-06	--	3.57E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.42E-09	--	4.42E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.78E-09	--	7.78E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.01E-05	--	1.01E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.15E-05	--	1.15E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.35E-07	--	1.35E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.27E-05	--	2.27E-05
			Trichloroethene	--	--	2.30E-10	--	2.30E-10	CNS/Eye	--	--	2.78E-06	--	2.78E-06
			Vinyl chloride	--	--	1.83E-08	--	1.83E-08	Liver	--	--	3.42E-05	--	3.42E-05
			Chemical Total	0.00E+00	0.00E+00	2.78E-08	0.00E+00	2.78E-08		0.00E+00	0.00E+00	1.10E-03	0.00E+00	1.10E-03
			Exposure Point Total					2.78E-08						1.10E-03
	Exposure Medium Total							2.78E-08						1.10E-03
Groundwater Vapor Intrusion	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	1.49E-08	--	1.49E-08	No observed effect	--	--	2.69E-04	--	2.69E-04	
		1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.73E-04	--	9.73E-04	
		1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.95E-04	--	1.95E-04	
		1,2-Dichloroethane	--	--	4.51E-08	--	4.51E-08	Liver/Kidney/CNS	--	--	6.44E-03	--	6.44E-03	
		1,2-Dichloropropane	--	--	8.36E-09	--	8.36E-09	Nasal	--	--	2.93E-03	--	2.93E-03	
		1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.57E-04	--	5.57E-04	
		1,4-Dichlorobenzene	--	--	1.06E-08	--	1.06E-08	Liver	--	--	1.66E-05	--	1.66E-05	
		2-Hexanone	--	--	--	--	--	Developmental	--	--	1.99E-07	--	1.99E-07	
		2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.75E-07	--	2.75E-07	
		4,4'-DDE	--	--	1.39E-12	--	1.39E-12	Liver	--	--	1.18E-07	--	1.18E-07	
		4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.79E-08	--	9.79E-08	
		Acenaphthene	--	--	--	--	--	Liver	--	--	1.39E-05	--	1.39E-05	
		Acenaphthylene	--	--	--	--	--	Liver	--	--	5.93E-07	--	5.93E-07	
		Aldrin	--	--	1.46E-10	--	1.46E-10	Liver	--	--	4.11E-06	--	4.11E-06	
		alpha-BHC	--	--	3.45E-12	--	3.45E-12	Liver/Kidney	--	--	3.68E-08	--	3.68E-08	
		alpha-Chlordane	--	--	9.30E-12	--	9.30E-12	Liver	--	--	5.58E-07	--	5.58E-07	
		Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.36E-07	--	2.36E-07	
		Benzene	--	--	2.70E-08	--	2.70E-08	Blood	--	--	4.51E-04	--	4.51E-04	
		Benzo(b)fluoranthene	--	--	2.81E-10	--	2.81E-10	--	--	--	--	--	--	
		Bromoform	--	--	5.42E-11	--	5.42E-11	Liver	--	--	1.00E-05	--	1.00E-05	
Carbon disulfide	--	--	--	--	--	CNS	--	--	3.42E-04	--	3.42E-04			
Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.64E-06	--	3.64E-06			

TABLE H3-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Chloroform	--	--	4.10E-08	--	4.10E-08	GI Tract/ Kidney/ Developmental	--	--	3.62E-04	--	3.62E-04			
			Chloromethane	--	--	--	--	--	CNS	--	--	4.73E-04	--	4.73E-04			
			Chrysene	--	--	7.90E-11	--	7.90E-11	--	--	--	--	--	--			
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.74E-03	--	1.74E-03			
			Dieldrin	--	--	2.12E-11	--	2.12E-11	Liver	--	--	3.81E-07	--	3.81E-07			
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.10E-09	--	4.10E-09			
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.37E-09	--	1.37E-09			
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	9.41E-06	--	9.41E-06			
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.59E-07	--	2.59E-07			
			Fluorene	--	--	--	--	--	Blood	--	--	6.59E-07	--	6.59E-07			
			gamma-BHC (Lindane)	--	--	1.90E-12	--	1.90E-12	Liver/Kidney	--	--	8.28E-08	--	8.28E-08			
			gamma-Chlordane	--	--	4.50E-12	--	4.50E-12	Liver	--	--	2.70E-07	--	2.70E-07			
			Heptachlor	--	--	6.94E-11	--	6.94E-11	Liver	--	--	4.87E-07	--	4.87E-07			
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03			
			m,p-Xylene	--	--	--	--	--	CNS	--	--	7.04E-04	--	7.04E-04			
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.43E-08	--	1.43E-08			
			Naphthalene	--	--	1.24E-09	--	1.24E-09	Nasal Epithelium	--	--	1.74E-04	--	1.74E-04			
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.38E-03	--	8.38E-03			
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.02E-04	--	2.02E-04			
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.45E-07	--	2.45E-07			
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03			
			Pyrene	--	--	--	--	--	Kidney	--	--	3.24E-07	--	3.24E-07			
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	7.20E-06	--	7.20E-06			
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	7.20E-04	--	7.20E-04			
			Toluene	--	--	--	--	--	CNS	--	--	7.72E-07	--	7.72E-07			
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.53E-03	--	1.53E-03			
			Trichloroethene	--	--	1.40E-08	--	1.40E-08	CNS/Eye	--	--	1.70E-04	--	1.70E-04			
			Vinyl chloride	--	--	1.23E-06	--	1.23E-06	Liver	--	--	2.30E-03	--	2.30E-03			
						Chemical Total	0.00E+00	0.00E+00	1.39E-06	0.00E+00	1.39E-06		0.00E+00	0.00E+00	4.55E-02	0.00E+00	4.55E-02
						Exposure Point Total					1.39E-06						4.55E-02
			Exposure Medium Total					1.39E-06						4.55E-02			
Medium Total								1.42E-06						4.67E-02			
Receptor Total								4.04E-04						6.35E+01			

TABLE H3-8.9

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H3-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	9.59E-04	1.07E-04	--	--	1.07E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	3.26E-03	3.65E-05	--	--	3.30E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	6.39E-05	7.16E-07	--	--	6.46E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.85E-03	2.07E-05	--	--	1.87E-03
			1,2-Dichloropropane	3.25E-11	3.66E-13	--	--	3.29E-11	Nasal	2.02E-05	2.26E-07	--	--	2.04E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	2.05E-05	2.29E-07	--	--	2.07E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	2.34E-04	2.63E-06	--	--	2.37E-04
			1,4-Dichlorobenzene	9.22E-09	--	--	--	9.22E-09	Organ weight	1.45E-03	--	--	--	1.45E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	6.71E-05	7.52E-07	--	1.75E-03	1.82E-03
			2-Methylphenol	--	--	--	--	--	Respiratory System	1.29E-04	1.45E-05	--	8.02E-03	8.17E-03
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	1.85E-04	2.08E-06	--	--	1.87E-04
			4,4'-DDD	7.23E-11	8.14E-13	--	1.17E-11	8.49E-11	Liver	1.53E-05	1.72E-07	--	6.81E-07	1.62E-05
			4,4'-DDE	8.40E-09	7.21E-11	--	7.51E-10	7.23E-09	Liver	9.59E-04	1.07E-05	--	3.08E-05	1.00E-03
			4,4'-DDT	3.59E-09	1.21E-10	--	1.81E-09	5.52E-09	Liver	5.37E-04	1.80E-05	--	7.44E-05	6.29E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	3.45E-04	3.87E-05	--	2.20E-02	2.24E-02
			4-Nitroaniline	3.27E-09	3.68E-10	--	5.20E-07	5.24E-07	--	1.32E-03	1.48E-04	--	5.76E-02	5.90E-02
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	5.37E-03	6.01E-04	--	3.51E-01	3.57E-01
			Acenaphthene	--	--	--	--	--	Liver	3.70E-04	5.39E-05	--	--	4.24E-04
			Acenaphthylene	--	--	--	--	--	Liver	9.54E-06	1.07E-07	--	--	9.65E-06
			Aldrin	5.55E-08	6.25E-09	--	1.47E-08	7.65E-08	Liver	2.77E-03	3.10E-04	--	2.01E-04	3.28E-03
			alpha-BHC	4.95E-10	5.57E-12	--	2.83E-08	2.88E-08	Liver/Kidney	9.33E-06	1.05E-07	--	1.46E-04	1.56E-04
			alpha-Chlordane	2.28E-09	--	--	1.33E-09	3.61E-09	Liver	8.93E-05	--	--	1.42E-05	1.03E-04
			Aluminum	--	--	--	--	--	CNS	5.79E-02	6.48E-05	--	1.26E-03	5.92E-02
			Anthracene	--	--	--	--	--	No Observed Effect	1.95E-05	2.83E-06	--	--	2.23E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	4.35E-02	4.88E-05	--	4.36E-02	8.72E-02
			Aroclor-1248	6.03E-07	9.50E-08	--	9.79E-08	7.96E-07	Immune System/ Eye/Finger and Toe Nails	3.84E-01	6.01E-02	--	1.71E-02	4.61E-01
			Aroclor-1254	2.20E-07	3.46E-08	--	4.78E-07	7.32E-07	Immune System/ Eye/Finger and Toe Nails	1.40E-01	2.19E-02	--	8.33E-02	2.45E-01
			Aroclor-1260	2.45E-07	3.86E-08	--	1.91E-08	3.03E-07	Immune System/ Eye/Finger and Toe Nails	1.56E-01	2.45E-02	--	3.32E-03	1.84E-01
			Aroclor-1268	1.37E-08	2.15E-09	--	2.97E-08	4.55E-08	Immune System/ Eye/Finger and Toe Nails	8.69E-03	1.36E-03	--	5.17E-03	1.52E-02
			Arsenic	2.26E-05	7.64E-07	--	1.65E-05	3.99E-05	Skin	2.03E-01	6.83E-03	--	4.07E-02	2.51E-01
			Barium	--	--	--	--	--	Kidney	6.34E-03	7.10E-06	--	3.18E-03	9.53E-03
			Benzo(a)anthracene	1.27E-06	1.86E-07	--	3.97E-08	1.50E-06	--	--	--	--	--	--
			Benzo(a)pyrene	4.24E-06	6.20E-07	--	7.52E-08	4.93E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	7.15E-07	1.05E-07	--	1.27E-07	9.47E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.38E-04	2.01E-05	--	5.12E-06	1.63E-04
			Benzo(k)fluoranthene	8.51E-07	1.25E-07	--	1.51E-07	1.13E-06	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	7.28E-04	8.15E-07	--	3.65E-05	7.65E-04
			Beta-BHC	8.29E-10	9.33E-12	--	4.74E-08	4.82E-08	Liver/Kidney	7.03E-05	7.88E-07	--	1.10E-03	1.17E-03
			bis(2-ethylhexyl)phthalate	3.99E-09	4.49E-11	--	1.68E-07	1.72E-07	Liver	1.69E-03	1.90E-05	--	1.95E-02	1.23E-02
			Cadmium	8.25E-07	9.29E-10	--	1.51E-05	1.59E-05	Kidney	1.11E-01	1.24E-04	--	5.54E-01	6.65E-01
			Carbon disulfide	--	--	--	--	--	Developmental	1.53E-08	4.30E-09	--	--	1.96E-08
			Chlorobenzene	--	--	--	--	--	Liver	3.52E-05	3.94E-07	--	--	3.56E-05

TABLE H3-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	4.26E-04	4.77E-07	--	6.40E-05	4.91E-04	
			Chrysene	1.45E-07	2.11E-08	--	3.17E-08	1.97E-07	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	2.38E-03	2.66E-06	--	5.56E-04	2.94E-03	
			Copper	--	--	--	--	--	GI Tract/Kidney	9.60E-03	1.08E-05	--	8.02E-02	8.98E-02	
			Delta-BHC	3.16E-09	1.78E-10	--	1.48E-09	4.82E-09	Liver/Kidney	2.68E-04	1.50E-05	--	3.43E-05	3.18E-04	
			Dibenzo(a,h)anthracene	2.84E-07	4.15E-08	--	3.11E-08	3.56E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	4.16E-02	4.65E-04	--	--	4.20E-02	
			Dieldrin	1.97E-07	2.21E-09	--	1.27E-05	1.29E-05	Liver	6.26E-03	7.01E-05	--	1.11E-01	1.17E-01	
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	3.04E-07	3.40E-09	--	1.51E-05	1.54E-05	
			di-n-Butylphthalate	--	--	--	--	--	Liver	7.35E-05	8.23E-07	--	5.11E-06	7.95E-05	
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	2.45E-05	1.37E-06	--	3.67E-04	3.93E-04	
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	2.49E-05	1.39E-06	--	3.57E-04	3.83E-04	
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	4.58E-05	2.57E-06	--	6.42E-04	6.90E-04	
			Endrin aldehyde	--	--	--	--	--	Liver	1.34E-03	7.52E-05	--	7.44E-05	1.49E-03	
			Endrin Ketone	--	--	--	--	--	Liver	2.13E-04	--	--	1.18E-05	2.25E-04	
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	3.56E-03	5.18E-04	--	3.21E-04	4.39E-03	
			Fluorene	--	--	--	--	--	Blood	4.04E-04	5.88E-05	--	--	4.63E-04	
			gamma-BHC (Lindane)	7.18E-10	3.23E-11	--	1.45E-07	1.45E-07	Liver/Kidney	5.54E-05	2.48E-06	--	3.06E-03	3.11E-03	
			gamma-Chlordane	4.15E-09	--	--	2.41E-09	6.56E-09	Liver	1.62E-04	--	--	2.59E-05	1.88E-04	
			Heptachlor	7.10E-09	8.00E-11	--	3.07E-09	1.03E-08	Liver	8.82E-05	9.88E-07	--	1.05E-05	9.97E-05	
			Heptachlor Epoxide	1.36E-08	1.53E-10	--	1.92E-06	1.93E-06	Liver	4.85E-03	5.43E-05	--	1.87E-01	1.92E-01	
			Indeno(1,2,3-cd)pyrene	1.50E-07	2.19E-08	--	1.99E-08	1.92E-07	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	7.83E-01	8.77E-04	--	2.60E-02	8.10E-01	
			Isophorone	4.77E-11	5.37E-12	--	--	5.31E-11	No Observed Effect	6.39E-06	7.16E-07	--	--	7.11E-06	
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	8.11E-02	9.08E-05	--	1.35E-01	2.17E-01	
			Mercury	--	--	--	--	--	Immune System	5.65E-03	--	--	3.78E-02	4.34E-02	
			Methoxychlor	--	--	--	--	--	Developmental	1.53E-04	1.72E-06	--	4.44E-06	1.60E-04	
			Methylene chloride	8.44E-12	9.50E-14	--	--	8.53E-12	Liver	2.56E-07	2.86E-09	--	--	2.59E-07	
			Molybdenum	--	--	--	--	--	Blood	2.79E-03	3.12E-06	--	5.59E-03	8.38E-03	
			Naphthalene	--	--	--	--	--	Whole Body	4.16E-03	6.05E-04	--	--	4.78E-03	
			Nickel	--	--	--	--	--	Whole Body	1.24E-02	1.39E-05	--	2.50E-02	3.74E-02	
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.49E-04	2.79E-06	--	--	2.52E-04	
			Phenol	--	--	--	--	--	Whole Body	1.24E-05	1.38E-06	--	2.04E-03	2.05E-03	
			p-Isopropyltoluene	--	--	--	--	--	Kidney	7.03E-06	--	--	--	7.03E-06	
			Pyrene	--	--	--	--	--	Kidney	4.33E-03	6.31E-04	--	--	4.97E-03	
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	1.13E-05	--	--	--	1.13E-05	
			Selenium	--	--	--	--	--	Whole Body	3.63E-04	4.06E-07	--	3.03E-04	6.66E-04	
			Silver	--	--	--	--	--	Skin	1.25E-03	1.40E-06	--	4.19E-03	5.44E-03	
			Technical Chlordane	1.77E-07	7.95E-09	--	1.03E-07	2.87E-07	Liver	6.91E-03	3.10E-04	--	1.10E-03	8.33E-03	
Thallium	--	--	--	--	--	Blood	3.86E-02	--	--	5.15E-04	3.91E-02				
Toluene	--	--	--	--	--	Liver/Kidney	3.44E-08	3.85E-10	--	--	3.47E-08				

TABLE H3-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Vanadium	--	--	--	--	--	Kidney Blood	2.15E-01	2.41E-04	--	2.16E-02	2.37E-01
			Zinc	--	--	--	--	--		7.07E-03	7.92E-06	--	2.13E-01	2.20E-01
			Chemical Total	3.27E-05	2.07E-06	0.00E+00	4.84E-05	8.31E-05		2.37E+00	1.20E-01	0.00E+00	2.07E+00	4.56E+00
		Exposure Point Total						8.31E-05						4.56E+00
	Exposure Medium Total							8.31E-05						4.56E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.81E-02	--	4.81E-02
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.63E-01	--	1.63E-01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.49E-02	--	3.49E-02
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	4.73E-02	--	4.73E-02
			1,2-Dichloropropane	--	--	3.62E-09	--	3.62E-09	Nasal	--	--	1.27E-03	--	1.27E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.09E-02	--	1.09E-02
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	2.75E-03	--	2.75E-03
			1,4-Dichlorobenzene	--	--	2.20E-06	--	2.20E-06	Liver	--	--	3.44E-03	--	3.44E-03
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	4.03E-09	--	4.03E-09
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	6.49E-04	--	6.49E-04
			4,4'-DDD	--	--	7.68E-15	--	7.68E-15	Liver	--	--	9.21E-10	--	9.21E-10
			4,4'-DDE	--	--	1.06E-10	--	1.06E-10	Liver	--	--	8.95E-06	--	8.95E-06
			4,4'-DDT	--	--	3.81E-13	--	3.81E-13	Liver	--	--	3.22E-08	--	3.22E-08
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	2.07E-08	--	2.07E-08
			4-Nitroaniline	--	--	3.47E-13	--	3.47E-13	--	--	--	2.38E-07	--	2.38E-07
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	2.83E-07	--	2.83E-07
			Acenaphthene	--	--	--	--	--	Liver	--	--	4.02E-04	--	4.02E-04
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.04E-05	--	1.04E-05
			Aldrin	--	--	3.37E-09	--	3.37E-09	Liver	--	--	9.51E-05	--	9.51E-05
			alpha-BHC	--	--	3.46E-10	--	3.46E-10	Liver/Kidney	--	--	3.68E-06	--	3.68E-06
			alpha-Chlordane	--	--	2.92E-10	--	2.92E-10	Liver	--	--	1.75E-05	--	1.75E-05
			Aluminum	--	--	--	--	--	Respiratory System	--	--	2.43E-03	--	2.43E-03
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.12E-05	--	2.12E-05
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	6.40E-11	--	6.40E-11	Immune System/Eye/Finger and Toe nails	--	--	2.30E-05	--	2.30E-05
			Aroclor-1254	--	--	2.33E-11	--	2.33E-11	Immune System/Eye/Finger and Toe nails	--	--	8.39E-06	--	8.39E-06
			Aroclor-1260	--	--	2.60E-11	--	2.60E-11	Immune System/Eye/Finger and Toe Nails	--	--	9.36E-06	--	9.36E-06
			Aroclor-1268	--	--	1.45E-12	--	1.45E-12	Immune System/Eye/Finger and Toe nails	--	--	5.21E-07	--	5.21E-07
			Arsenic	--	--	3.05E-09	--	3.05E-09	Developmental	--	--	4.25E-04	--	4.25E-04
			Barium	--	--	--	--	--	Developmental	--	--	1.90E-04	--	1.90E-04
			Benzo(a)anthracene	--	--	4.38E-11	--	4.38E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	1.46E-10	--	1.46E-10	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	2.10E-08	--	2.10E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	8.28E-09	--	8.28E-09
			Benzo(k)fluoranthene	--	--	2.94E-11	--	2.94E-11	--	--	--	--	--	--
			Beryllium	--	--	5.10E-11	--	5.10E-11	Immune System/Lung	--	--	1.53E-05	--	1.53E-05

TABLE H3-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Beta-BHC	--	--	8.79E-14	--	8.79E-14	Liver/Kidney	--	--	4.22E-09	--	4.22E-09
			bis(2-ethylhexyl)phthalate	--	--	1.19E-12	--	1.19E-12	Liver	--	--	1.02E-07	--	1.02E-07
			Cadmium	--	--	3.46E-09	--	3.46E-09	Kidney/Respiratory System	--	--	5.80E-04	--	5.80E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.15E-06	--	1.15E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	9.17E-05	--	9.17E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	7.23E-09	--	7.23E-09	--	--	--	--	--	--
			Cobalt	--	--	1.94E-09	--	1.94E-09	Respiratory System	--	--	5.00E-04	--	5.00E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	2.21E-09	--	2.21E-09	Liver/Kidney	--	--	1.06E-04	--	1.06E-04
			Dibenzo(a,h)anthracene	--	--	3.01E-11	--	3.01E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.14E-02	--	1.14E-02
			Dieldrin	--	--	3.70E-08	--	3.70E-08	Liver	--	--	6.66E-04	--	6.66E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	1.82E-11	--	1.82E-11
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	8.82E-09	--	8.82E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	6.80E-06	--	6.80E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	6.91E-06	--	6.91E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.27E-05	--	1.27E-05
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	8.05E-08	--	8.05E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	1.28E-08	--	1.28E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.82E-04	--	1.82E-04
			Fluorene	--	--	--	--	--	Blood	--	--	1.87E-04	--	1.87E-04
			gamma-BHC (Lindane)	--	--	6.17E-10	--	6.17E-10	Liver/Kidney	--	--	2.69E-05	--	2.69E-05
			gamma-Chlordane	--	--	5.31E-10	--	5.31E-10	Liver	--	--	3.18E-05	--	3.18E-05
			Heptachlor	--	--	4.87E-08	--	4.87E-08	Liver	--	--	3.42E-04	--	3.42E-04
			Heptachlor Epoxide	--	--	1.44E-12	--	1.44E-12	Liver	--	--	2.91E-07	--	2.91E-07
			Indeno(1,2,3-cd)pyrene	--	--	5.17E-12	--	5.17E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	8.17E-03	--	8.17E-03
			Mercury	--	--	--	--	--	CNS	--	--	1.18E-06	--	1.18E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	8.74E-06	--	8.74E-06
			Methylene chloride	--	--	--	--	--	Blood	--	--	--	--	--
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	2.95E-06	--	2.95E-06	Nasal Epithelium	--	--	4.13E-01	--	4.13E-01
			Nickel	--	--	9.44E-10	--	9.44E-10	Respiratory System	--	--	1.07E-03	--	1.07E-03
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.71E-04	--	2.71E-04
			Phenol	--	--	--	--	--	Liver/CNS	--	--	3.89E-09	--	3.89E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.82E-04	--	8.82E-04
Pyrene	--	--	--	--	--	Kidney	--	--	2.63E-04	--	2.63E-04			
sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.55E-04	--	3.55E-04			

TABLE H3-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	1.91E-08	--	1.91E-08
			Silver	--	--	--	--	--	--	--	--	--	--	--
			Technical Chlordane	--	--	2.26E-08	--	2.26E-08	Liver	--	--	1.36E-03	--	1.36E-03
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.11E-07	--	1.11E-07
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	5.31E-06	0.00E+00	5.31E-06		0.00E+00	0.00E+00	7.56E-01	0.00E+00	7.56E-01
			Exposure Point Total					5.31E-06						7.56E-01
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	8.74E-01	--	8.74E-01
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.36E+00	--	1.36E+00
			1,2-Dichloropropane	--	--	2.68E-08	--	2.68E-08	Nasal	--	--	9.39E-03	--	9.39E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.80E-01	--	2.80E-01
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	1.09E-01	--	1.09E-01
			1,4-Dichlorobenzene	--	--	5.62E-05	--	5.62E-05	Liver	--	--	8.79E-02	--	8.79E-02
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	4.91E-02	--	4.91E-02
			4,4'-DDE	--	--	7.26E-11	--	7.26E-11	Liver	--	--	6.14E-06	--	6.14E-06
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.43E-02	--	1.43E-02
			Acenaphthylene	--	--	--	--	--	Liver	--	--	3.69E-04	--	3.69E-04
			Aldrin	--	--	9.63E-09	--	9.63E-09	Liver	--	--	2.72E-04	--	2.72E-04
			alpha-BHC	--	--	1.02E-08	--	1.02E-08	Liver/Kidney	--	--	1.09E-04	--	1.09E-04
			alpha-Chlordane	--	--	2.29E-09	--	2.29E-09	Liver	--	--	1.37E-04	--	1.37E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	7.52E-04	--	7.52E-04
			Benzo(b)fluoranthene	--	--	4.32E-08	--	4.32E-08	--	--	--	--	--	--
			Carbon Disulfide	--	--	--	--	--	CNS	--	--	3.57E-06	--	3.57E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.14E-03	--	1.14E-03
			Chrysene	--	--	2.44E-08	--	2.44E-08	--	--	--	--	--	--
			Delta-BHC	--	--	9.70E-08	--	9.70E-08	Liver/Kidney	--	--	4.66E-03	--	4.66E-03
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	6.00E-03	--	6.00E-03
			Dieldrin	--	--	2.95E-07	--	2.95E-07	Liver	--	--	5.31E-03	--	5.31E-03
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.82E-04	--	1.82E-04
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.85E-04	--	1.85E-04
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.40E-04	--	3.40E-04
			fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.21E-05	--	6.21E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.39E-03	--	3.39E-03
			gamma-BHC (Lindane)	--	--	2.20E-08	--	2.20E-08	Liver/Kidney	--	--	9.61E-04	--	9.61E-04
			gamma-Chlordane	--	--	4.17E-11	--	4.17E-11	Liver	--	--	2.50E-06	--	2.50E-06
			Heptachlor	--	--	1.57E-08	--	1.57E-08	Liver	--	--	1.10E-04	--	1.10E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.00E-05	--	3.00E-05
			Methylene Chloride	--	--	1.74E-09	--	1.74E-09	Blood	--	--	6.49E-05	--	6.49E-05

TABLE H3-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-4 ft bgs) (continued)	Air (continued)	Indoor Air (Vapor Intrusion) (continued)	Naphthalene	--	--	2.66E-04	--	2.66E-04	Nasal Epithelium	--	--	3.72E+01	--	3.72E+01
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	9.64E-03	--	9.64E-03
			p-isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.97E-03	--	2.97E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	6.71E-04	--	6.71E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.90E-03	--	2.90E-03
			Technical Chlordane	--	--	1.78E-07	--	1.78E-07	Liver	--	--	1.06E-02	--	1.06E-02
			Toluene	--	--	--	--	--	CNS	--	--	8.95E-07	--	8.95E-07
			<b>Chemical Total</b>	<b>0.00E+00</b>	<b>0.00E+00</b>	<b>3.22E-04</b>	<b>0.00E+00</b>	<b>3.22E-04</b>		<b>0.00E+00</b>	<b>0.00E+00</b>	<b>5.78E+01</b>	<b>0.00E+00</b>	<b>5.78E+01</b>
			<b>Exposure Point Total</b>					<b>3.22E-04</b>						<b>5.78E+01</b>
			<b>Exposure Medium Total</b>					<b>3.28E-04</b>						<b>5.86E+01</b>
<b>Medium Total</b>					<b>4.11E-04</b>						<b>6.31E+01</b>			
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	8.49E-11	--	8.49E-11	No observed effect	--	--	1.53E-06	--	1.53E-06
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.76E-05	--	3.76E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	7.35E-06	--	7.35E-06
			1,2-Dichloroethane	--	--	1.51E-09	--	1.51E-09	Liver/Kidney/CNS	--	--	2.15E-04	--	2.15E-04
			1,2-Dichloropropane	--	--	2.82E-10	--	2.82E-10	Nasal	--	--	9.91E-05	--	9.91E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	2.14E-05	--	2.14E-05
			1,4-Dichlorobenzene	--	--	3.96E-10	--	3.96E-10	Liver	--	--	6.20E-07	--	6.20E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	3.86E-09	--	3.86E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	9.79E-09	--	9.79E-09
			4,4'-DDE	--	--	1.55E-11	--	1.55E-11	Liver	--	--	1.31E-06	--	1.31E-06
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	2.38E-09	--	2.38E-09
			Acenaphthene	--	--	--	--	--	Liver	--	--	3.27E-07	--	3.27E-07
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.39E-08	--	1.39E-08
			Aldrin	--	--	1.34E-09	--	1.34E-09	Liver	--	--	3.77E-05	--	3.77E-05
			alpha-BHC	--	--	2.69E-11	--	2.69E-11	Liver/Kidney	--	--	2.87E-07	--	2.87E-07
			alpha-Chlordane	--	--	2.83E-11	--	2.83E-11	Liver	--	--	1.70E-06	--	1.70E-06
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	5.54E-09	--	5.54E-09
			Benzene	--	--	9.18E-10	--	9.18E-10	Blood	--	--	1.54E-05	--	1.54E-05
			Benzo(b)fluoranthene	--	--	6.67E-12	--	6.67E-12	--	--	--	--	--	--
			Bromoform	--	--	1.01E-12	--	1.01E-12	Liver	--	--	1.86E-07	--	1.86E-07
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.14E-05	--	1.14E-05
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.30E-07	--	1.30E-07
			Chloroform	--	--	1.38E-09	--	1.38E-09	GI Tract/ Kidney/ Developmental	--	--	1.22E-05	--	1.22E-05
			Chloromethane	--	--	--	--	--	CNS	--	--	1.46E-05	--	1.46E-05
			Chrysene	--	--	1.81E-12	--	1.81E-12	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.68E-05	--	2.68E-05
			Dieldrin	--	--	5.53E-10	--	5.53E-10	Liver	--	--	9.95E-06	--	9.95E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.89E-08	--	1.89E-08
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	3.11E-11	--	3.11E-11
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	3.48E-07	--	3.48E-07
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.40E-09	--	6.40E-09			

TABLE H3-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	Fluorene	--	--	--	--	--	Blood	--	--	1.27E-08	--	1.27E-08
			gamma-BHC (Lindane)	--	--	4.81E-14	--	4.81E-14	Liver/Kidney	--	--	2.10E-09	--	2.10E-09
			gamma-Chlordane	--	--	7.35E-11	--	7.35E-11	Liver	--	--	4.40E-06	--	4.40E-06
			Heptachlor	--	--	2.57E-09	--	2.57E-09	Liver	--	--	1.81E-05	--	1.81E-05
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			m,p-Xylene	--	--	--	--	--	CNS	--	--	1.21E-05	--	1.21E-05
			Methoxychlor	--	--	--	--	--	Developmental	--	--	3.31E-07	--	3.31E-07
			Naphthalene	--	--	2.29E-11	--	2.29E-11	Nasal Epithelium	--	--	3.21E-06	--	3.21E-06
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	1.49E-04	--	1.49E-04
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.57E-06	--	3.57E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	4.42E-09	--	4.42E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.58E-04	--	1.58E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	7.78E-09	--	7.78E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.01E-05	--	1.01E-05
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	1.15E-05	--	1.15E-05
			Toluene	--	--	--	--	--	CNS	--	--	1.35E-07	--	1.35E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	2.27E-05	--	2.27E-05
			Trichloroethene	--	--	2.30E-10	--	2.30E-10	CNS/Eye	--	--	2.78E-06	--	2.78E-06
			Vinyl chloride	--	--	1.83E-08	--	1.83E-08	Liver	--	--	3.42E-05	--	3.42E-05
						Chemical Total	0.00E+00	0.00E+00	2.78E-08	0.00E+00	2.78E-08		0.00E+00	0.00E+00
		Exposure Point Total						2.78E-08						1.10E-03
	Exposure Medium Total							2.78E-08						1.10E-03
Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	1,1-Dichloroethane	--	--	1.49E-08	--	1.49E-08	No observed effect	--	--	2.69E-04	--	2.69E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	9.73E-04	--	9.73E-04
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.95E-04	--	1.95E-04
			1,2-Dichloroethane	--	--	4.51E-08	--	4.51E-08	Liver/Kidney/CNS	--	--	6.44E-03	--	6.44E-03
			1,2-Dichloropropane	--	--	8.36E-09	--	8.36E-09	Nasal	--	--	2.93E-03	--	2.93E-03
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.57E-04	--	5.57E-04
			1,4-Dichlorobenzene	--	--	1.06E-08	--	1.06E-08	Liver	--	--	1.66E-05	--	1.66E-05
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.99E-07	--	1.99E-07
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.75E-07	--	2.75E-07
			4,4'-DDE	--	--	1.39E-12	--	1.39E-12	Liver	--	--	1.18E-07	--	1.18E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	9.79E-08	--	9.79E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	1.39E-05	--	1.39E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	5.93E-07	--	5.93E-07
			Aldrin	--	--	1.46E-10	--	1.46E-10	Liver	--	--	4.11E-06	--	4.11E-06
			alpha-BHC	--	--	3.45E-12	--	3.45E-12	Liver/Kidney	--	--	3.68E-08	--	3.68E-08
			alpha-Chlordane	--	--	9.30E-12	--	9.30E-12	Liver	--	--	5.58E-07	--	5.58E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	2.36E-07	--	2.36E-07
			Benzene	--	--	2.70E-08	--	2.70E-08	Blood	--	--	4.51E-04	--	4.51E-04
			Benzo(b)fluoranthene	--	--	2.81E-10	--	2.81E-10	--	--	--	--	--	--
			Bromoform	--	--	5.42E-11	--	5.42E-11	Liver	--	--	1.00E-05	--	1.00E-05

TABLE H3-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Groundwater Vapor Intrusion Indoor Air (continued)	Indoor Air (inhalation) (continued)	Carbon disulfide	--	--	--	--	--	CNS	--	--	3.42E-04	--	3.42E-04
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.64E-06	--	3.64E-06
			Chloroform	--	--	4.10E-08	--	4.10E-08	GI Tract/ Kidney/ Developmental	--	--	3.62E-04	--	3.62E-04
			Chloromethane	--	--	--	--	--	CNS	--	--	4.73E-04	--	4.73E-04
			Chrysene	--	--	7.90E-11	--	7.90E-11	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.74E-03	--	1.74E-03
			Dieldrin	--	--	2.12E-11	--	2.12E-11	Liver	--	--	3.81E-07	--	3.81E-07
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	4.10E-09	--	4.10E-09
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.37E-09	--	1.37E-09
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	9.41E-06	--	9.41E-06
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	2.59E-07	--	2.59E-07
			Fluorene	--	--	--	--	--	Blood	--	--	6.59E-07	--	6.59E-07
			gamma-BHC (Lindane)	--	--	1.90E-12	--	1.90E-12	Liver/Kidney	--	--	8.28E-08	--	8.28E-08
			gamma-Chlordane	--	--	4.50E-12	--	4.50E-12	Liver	--	--	2.70E-07	--	2.70E-07
			Heptachlor	--	--	6.94E-11	--	6.94E-11	Liver	--	--	4.87E-07	--	4.87E-07
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03
			m,p-Xylene	--	--	--	--	--	CNS	--	--	7.04E-04	--	7.04E-04
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.43E-08	--	1.43E-08
			Naphthalene	--	--	1.24E-09	--	1.24E-09	Nasal Epithelium	--	--	1.74E-04	--	1.74E-04
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	8.38E-03	--	8.38E-03
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	2.02E-04	--	2.02E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	2.45E-07	--	2.45E-07
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	8.28E-03	--	8.28E-03
			Pyrene	--	--	--	--	--	Kidney	--	--	3.24E-07	--	3.24E-07
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	7.20E-06	--	7.20E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	7.20E-04	--	7.20E-04
			Toluene	--	--	--	--	--	CNS	--	--	7.72E-07	--	7.72E-07
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	1.53E-03	--	1.53E-03
			Trichloroethene	--	--	1.40E-08	--	1.40E-08	CNS/Eye	--	--	1.70E-04	--	1.70E-04
			Vinyl chloride	--	--	1.23E-06	--	1.23E-06	Liver	--	--	2.30E-03	--	2.30E-03
		Chemical Total		0.00E+00	0.00E+00	1.39E-06	0.00E+00	1.39E-06		0.00E+00	0.00E+00	4.55E-02	0.00E+00	4.55E-02
		Exposure Point Total						1.39E-06						4.55E-02
		Exposure Medium Total						1.39E-06						4.55E-02
Medium Total								1.42E-06						4.67E-02
Receptor Total								4.12E-04						6.32E+01

TABLE H3-8.10

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CNS Central nervous system
- COPC Chemicals of Potential Concern
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- GI Gastrointestinal
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

TABLE H3-8.11

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	7.55E-05	1.17E-05	--	--	8.72E-05
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	2.57E-04	3.98E-06	--	--	2.61E-04
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	5.03E-06	7.81E-08	--	--	5.11E-06
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.45E-04	2.26E-06	--	--	1.48E-04
			1,2-Dichloropropane	6.52E-12	1.01E-13	--	--	6.62E-12	Nasal	1.59E-06	2.47E-08	--	--	1.61E-06
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.61E-06	2.50E-08	--	--	1.64E-06
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.85E-05	2.86E-07	--	--	1.87E-05
			1,4-Dichlorobenzene	1.85E-09	--	--	--	1.85E-09	Organ weight	1.14E-04	--	--	--	1.14E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	5.28E-06	8.20E-08	--	--	5.37E-06
			2-Methylphenol	--	--	--	--	--	Respiratory System	1.02E-05	1.58E-06	--	--	1.18E-05
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	1.68E-05	2.61E-07	--	--	1.71E-05
			4,4'-DDD	1.45E-11	2.25E-13	--	--	1.47E-11	Liver	1.21E-06	1.87E-08	--	--	1.23E-06
			4,4'-DDE	1.41E-09	2.19E-11	--	--	1.43E-09	Liver	8.28E-05	1.29E-06	--	--	8.41E-05
			4,4'-DDT	7.61E-10	3.54E-11	--	--	7.97E-10	Liver	4.48E-05	2.08E-06	--	--	4.69E-05
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	2.72E-05	4.22E-06	--	--	3.14E-05
			4-Nitroaniline	6.55E-10	1.02E-10	--	--	7.57E-10	--	1.04E-04	1.61E-05	--	--	1.20E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	4.23E-04	6.56E-05	--	--	4.88E-04
			Acenaphthene	--	--	--	--	--	Liver	3.55E-05	7.16E-06	--	--	4.27E-05
			Acenaphthylene	--	--	--	--	--	Liver	8.74E-07	1.36E-08	--	--	8.87E-07
			Aldrin	1.11E-08	1.73E-09	--	--	1.28E-08	Liver	2.18E-04	3.38E-05	--	--	2.52E-04
			alpha-BHC	9.92E-11	1.54E-12	--	--	1.01E-10	Liver/Kidney	7.35E-07	1.14E-08	--	--	7.46E-07
			alpha-Chlordane	5.33E-10	--	--	--	5.33E-10	Liver	8.19E-06	--	--	--	8.19E-06
			Aluminum	--	--	--	--	--	CNS	4.44E-03	6.89E-06	--	--	4.45E-03
			Anthracene	--	--	--	--	--	No Observed Effect	1.77E-06	3.57E-07	--	--	2.13E-06
			Antimony	--	--	--	--	--	Whole Body/Blood	5.13E-03	7.96E-06	--	--	5.14E-03
			Aroclor-1248	1.21E-07	2.62E-08	--	--	1.47E-07	Immune System/ Eye/Finger and Toe Nails	3.02E-02	6.56E-03	--	--	3.68E-02
			Aroclor-1254	4.47E-08	9.71E-09	--	--	5.44E-08	Immune System/ Eye/Finger and Toe Nails	1.12E-02	2.43E-03	--	--	1.38E-02
			Aroclor-1260	5.45E-08	1.18E-08	--	--	6.63E-08	Immune System/ Eye/Finger and Toe Nails	1.36E-02	2.96E-03	--	--	1.66E-02
			Aroclor-1268	2.79E-09	6.07E-10	--	--	3.40E-09	Immune System/ Eye/Finger and Toe Nails	6.98E-04	1.52E-04	--	--	8.50E-04
			Arsenic	2.93E-06	1.36E-07	--	--	3.07E-06	Skin	1.03E-02	4.81E-04	--	--	1.08E-02
			Barium	--	--	--	--	--	Kidney	4.88E-04	7.57E-07	--	--	4.88E-04
			Benzo(a)anthracene	3.02E-07	6.10E-08	--	--	3.63E-07	--	--	--	--	--	--
			Benzo(a)pyrene	1.01E-06	2.03E-07	--	--	1.21E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	1.65E-07	3.34E-08	--	--	1.99E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.28E-05	2.58E-06	--	--	1.54E-05
			Benzo(k)fluoranthene	1.97E-07	3.97E-08	--	--	2.37E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	5.99E-05	9.30E-08	--	--	6.00E-05
			Beta-BHC	1.66E-10	2.58E-12	--	--	1.69E-10	Liver/Kidney	5.54E-06	8.59E-08	--	--	5.62E-06
			bis(2-ethylhexyl)phthalate	1.18E-09	1.83E-11	--	--	1.20E-09	Liver	1.97E-04	3.06E-06	--	--	2.00E-04
			Cadmium	1.81E-07	2.81E-10	--	--	1.81E-07	Kidney	9.53E-03	1.48E-05	--	--	9.55E-03
			Carbon disulfide	--	--	--	--	--	Developmental	1.21E-09	4.68E-10	--	--	1.68E-09
			Chlorobenzene	--	--	--	--	--	Liver	2.77E-06	4.29E-08	--	--	2.81E-06

TABLE H3-8.11

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	3.73E-05	5.79E-08	--	--	3.74E-05	
			Chrysene	3.43E-08	6.92E-09	--	--	4.12E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	1.91E-04	2.96E-07	--	--	--	1.91E-04
			Copper	--	--	--	--	--	GI Tract/Kidney	7.18E-04	1.11E-06	--	--	--	7.19E-04
			Delta-BHC	6.34E-10	4.92E-11	--	--	6.83E-10	Liver/Kidney	2.11E-05	1.64E-06	--	--	--	2.28E-05
			Dibenzo(a,h)anthracene	6.55E-08	1.32E-08	--	--	7.87E-08	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	3.27E-03	5.08E-05	--	--	--	3.32E-03
			Dieldrin	4.44E-08	6.89E-10	--	--	4.51E-08	Liver	5.55E-04	8.61E-06	--	--	--	5.64E-04
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	2.39E-08	3.71E-10	--	--	--	2.43E-08
			di-n-Butylphthalate	--	--	--	--	--	Liver	5.54E-06	8.59E-08	--	--	--	5.62E-06
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	1.93E-06	1.50E-07	--	--	--	2.08E-06
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	2.00E-06	1.55E-07	--	--	--	2.15E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	3.61E-06	2.80E-07	--	--	--	3.89E-06
			Endrin aldehyde	--	--	--	--	--	Liver	7.06E-05	5.48E-06	--	--	--	7.61E-05
			Endrin Ketone	--	--	--	--	--	Liver	1.68E-05	--	--	--	--	1.68E-05
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	3.33E-04	6.73E-05	--	--	--	4.01E-04
			Fluorene	--	--	--	--	--	Blood	3.67E-05	7.40E-06	--	--	--	4.41E-05
			gamma-BHC (Lindane)	1.44E-10	8.93E-12	--	--	1.53E-10	Liver/Kidney	4.36E-06	2.71E-07	--	--	--	4.63E-06
			gamma-Chlordane	8.57E-10	--	--	--	8.57E-10	Liver	1.32E-05	--	--	--	--	1.32E-05
			Heptachlor	1.42E-09	2.21E-11	--	--	1.45E-09	Liver	6.94E-06	1.08E-07	--	--	--	7.05E-06
			Heptachlor Epoxide	3.09E-09	4.79E-11	--	--	3.14E-09	Liver	4.32E-04	6.70E-06	--	--	--	4.38E-04
			Indeno(1,2,3-cd)pyrene	5.27E-08	1.06E-08	--	--	6.33E-08	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	6.83E-02	1.06E-04	--	--	--	6.84E-02
			Isophorone	9.56E-12	1.48E-12	--	--	1.10E-11	No Observed Effect	5.03E-07	7.81E-08	--	--	--	5.81E-07
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	6.94E-03	1.08E-05	--	--	--	6.95E-03
			Mercury	--	--	--	--	--	Immune System	5.19E-04	--	--	--	--	5.19E-04
			Methoxychlor	--	--	--	--	--	Developmental	1.21E-05	1.87E-07	--	--	--	1.23E-05
			Molybdenum	--	--	--	--	--	Blood	2.52E-04	3.91E-07	--	--	--	2.52E-04
			Naphthalene	--	--	--	--	--	Whole Body	3.27E-04	6.60E-05	--	--	--	3.93E-04
			Nickel	--	--	--	--	--	Whole Body	9.84E-04	1.53E-06	--	--	--	9.86E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	2.33E-05	3.62E-07	--	--	--	2.37E-05
			Phenol	--	--	--	--	--	Whole Body	9.73E-07	1.51E-07	--	--	--	1.12E-06
			p-Isopropyltoluene	--	--	--	--	--	Kidney	5.54E-07	--	--	--	--	5.54E-07
			Pyrene	--	--	--	--	--	Kidney	4.05E-04	8.17E-05	--	--	--	4.87E-04
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	8.93E-07	--	--	--	--	8.93E-07
			Selenium	--	--	--	--	--	Whole Body	2.26E-05	3.51E-08	--	--	--	2.26E-05
			Silver	--	--	--	--	--	Skin	1.17E-04	1.81E-07	--	--	--	1.17E-04
			Technical Chlordane	3.61E-08	2.24E-09	--	--	3.83E-08	Liver	5.55E-04	3.44E-05	--	--	--	5.89E-04
			Thallium	--	--	--	--	--	Blood	3.13E-03	--	--	--	--	3.13E-03
Toluene	--	--	--	--	--	Liver/Kidney	2.70E-09	4.20E-11	--	--	--	2.75E-09			
Vanadium	--	--	--	--	--	Kidney	1.72E-02	2.67E-05	--	--	--	1.72E-02			

TABLE H3-8.11

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	-	-	-	-	-	Blood	7.61E-04	1.18E-06	-	-	7.62E-04
		Exposure Point Total	Chemical Total	5.26E-06	5.58E-07	0.00E+00	0.00E+00	5.82E-06		1.93E-01	1.32E-02	0.00E+00	0.00E+00	2.06E-01
	Exposure Medium Total						5.82E-06							2.06E-01
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	-	-	-	-	-	Kidney	-	-	1.42E-02	-	1.42E-02
			1,2,4-Trichlorobenzene	-	-	-	-	-	Kidney	-	-	4.84E-02	-	4.84E-02
			1,2,4-Trimethylbenzene	-	-	-	-	-	CNS/Blood/Respiratory System	-	-	1.03E-02	-	1.03E-02
			1,2-Dichlorobenzene	-	-	-	-	-	Body weight	-	-	1.40E-02	-	1.40E-02
			1,2-Dichloropropane	-	-	1.55E-09	-	1.55E-09	Nasal	-	-	3.77E-04	-	3.77E-04
			1,3,5-Trimethylbenzene	-	-	-	-	-	CNS/Blood/Respiratory System	-	-	3.23E-03	-	3.23E-03
			1,3-Dichlorobenzene	-	-	-	-	-	Kidney/Liver	-	-	8.15E-04	-	8.15E-04
			1,4-Dichlorobenzene	-	-	9.38E-07	-	9.38E-07	Liver	-	-	1.02E-03	-	1.02E-03
			2,4-Dimethylphenol	-	-	-	-	-	Blood/Whole Body	-	-	1.19E-09	-	1.19E-09
			2-Methylphenol	-	-	-	-	-	-	-	-	-	-	-
			2-Methylnaphthalene	-	-	-	-	-	CNS/Body Weight	-	-	2.22E-04	-	2.22E-04
			4,4'-DDD	-	-	3.27E-15	-	3.27E-15	Liver	-	-	2.73E-10	-	2.73E-10
			4,4'-DDE	-	-	4.95E-11	-	4.95E-11	Liver	-	-	2.91E-06	-	2.91E-06
			4,4'-DDT	-	-	1.72E-13	-	1.72E-13	Liver	-	-	1.01E-08	-	1.01E-08
			4-Methylphenol	-	-	-	-	-	Whole Body/CNS/Respiratory System	-	-	6.14E-09	-	6.14E-09
			4-Nitroaniline	-	-	1.48E-13	-	1.48E-13	-	-	-	7.05E-08	-	7.05E-08
			4-Nitrophenol	-	-	-	-	-	Blood/Kidney/Liver	-	-	8.38E-08	-	8.38E-08
			Acenaphthene	-	-	-	-	-	Liver	-	-	1.45E-04	-	1.45E-04
			Acenaphthylene	-	-	-	-	-	Liver	-	-	3.58E-06	-	3.58E-06
			Aldrin	-	-	1.44E-09	-	1.44E-09	Liver	-	-	2.82E-05	-	2.82E-05
			alpha-BHC	-	-	1.47E-10	-	1.47E-10	Liver/Kidney	-	-	1.09E-06	-	1.09E-06
			alpha-Chlordane	-	-	1.45E-10	-	1.45E-10	Liver	-	-	6.05E-06	-	6.05E-06
			Aluminum	-	-	-	-	-	Respiratory System	-	-	7.02E-04	-	7.02E-04
			Anthracene	-	-	-	-	-	No Observed Effect	-	-	7.25E-06	-	7.25E-06
			Antimony	-	-	-	-	-	-	-	-	-	-	-
			Aroclor-1248	-	-	2.73E-11	-	2.73E-11	Immune System/Eye/Finger and Toe nails	-	-	6.82E-06	-	6.82E-06
			Aroclor-1254	-	-	1.01E-11	-	1.01E-11	Immune System/Eye/Finger and Toe nails	-	-	2.52E-06	-	2.52E-06
			Aroclor-1260	-	-	1.23E-11	-	1.23E-11	Immune System/Eye/Finger and Toe Nails	-	-	3.08E-06	-	3.08E-06
			Aroclor-1268	-	-	6.31E-13	-	6.31E-13	Immune System/Eye/Finger and Toe nails	-	-	1.58E-07	-	1.58E-07
			Arsenic	-	-	8.41E-10	-	8.41E-10	Developmental	-	-	8.15E-05	-	8.15E-05
			Barium	-	-	-	-	-	Developmental	-	-	5.51E-05	-	5.51E-05
			Benzo(a)anthracene	-	-	2.22E-11	-	2.22E-11	-	-	-	-	-	-
			Benzo(a)pyrene	-	-	7.38E-11	-	7.38E-11	-	-	-	-	-	-
			Benzo(b)fluoranthene	-	-	1.04E-08	-	1.04E-08	-	-	-	-	-	-
			Benzo(g,h,i)perylene	-	-	-	-	-	Kidney	-	-	2.89E-09	-	2.89E-09
			Benzo(k)fluoranthene	-	-	1.45E-11	-	1.45E-11	-	-	-	-	-	-
			Beryllium	-	-	2.27E-11	-	2.27E-11	Immune System/Lung	-	-	4.74E-06	-	4.74E-06
			Beta-BHC	-	-	3.75E-14	-	3.75E-14	Liver/Kidney	-	-	1.25E-09	-	1.25E-09

TABLE H3-8.11

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	7.48E-13	--	7.48E-13	Liver	--	--	4.45E-08	--	4.45E-08
			Cadmium	--	--	1.62E-09	--	1.62E-09	Kidney/Respiratory System	--	--	1.88E-04	--	1.88E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.39E-07	--	3.39E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	2.72E-05	--	2.72E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	3.66E-09	--	3.66E-09	--	--	--	--	--	--
			Cobalt	--	--	8.44E-10	--	8.44E-10	Respiratory System	--	--	1.51E-04	--	1.51E-04
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	9.42E-10	--	9.42E-10	Liver/Kidney	--	--	3.14E-05	--	3.14E-05
			Dibenzo(a,h)anthracene	--	--	1.48E-11	--	1.48E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	3.37E-03	--	3.37E-03
			Dieldrin	--	--	1.78E-08	--	1.78E-08	Liver	--	--	2.23E-04	--	2.23E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	5.40E-12	--	5.40E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	2.50E-09	--	2.50E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.02E-06	--	2.02E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	2.09E-06	--	2.09E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.77E-06	--	3.77E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	1.59E-08	--	1.59E-08
			Endrin Ketone	--	--	--	--	--	Liver	--	--	3.79E-09	--	3.79E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	6.43E-05	--	6.43E-05
			Fluorene	--	--	--	--	--	Blood	--	--	6.40E-05	--	6.40E-05
			gamma-BHC (Lindane)	--	--	2.63E-10	--	2.63E-10	Liver/Kidney	--	--	7.98E-06	--	7.98E-06
			gamma-Chlordane	--	--	2.34E-10	--	2.34E-10	Liver	--	--	9.73E-06	--	9.73E-06
			Heptachlor	--	--	2.08E-08	--	2.08E-08	Liver	--	--	1.01E-04	--	1.01E-04
			Heptachlor Epoxide	--	--	6.98E-13	--	6.98E-13	Liver	--	--	9.76E-08	--	9.76E-08
			Indeno(1,2,3-cd)pyrene	--	--	3.87E-12	--	3.87E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	2.63E-03	--	2.63E-03
			Mercury	--	--	--	--	--	CNS	--	--	4.09E-07	--	4.09E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	2.59E-06	--	2.59E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	1.26E-06	--	1.26E-06	Nasal Epithelium	--	--	1.22E-01	--	1.22E-01
			Nickel	--	--	4.05E-10	--	4.05E-10	Respiratory System	--	--	3.18E-04	--	3.18E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	9.56E-05	--	9.56E-05
			Phenol	--	--	--	--	--	Liver/CNS	--	--	1.15E-09	--	1.15E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	2.61E-04	--	2.61E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	9.24E-05	--	9.24E-05
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.05E-04	--	1.05E-04
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	4.48E-09	--	4.48E-09			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H3-8.11

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	9.82E-09	--	9.82E-09	Liver	--	--	4.09E-04	--	4.09E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	3.28E-08	--	3.28E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.27E-06	0.00E+00	2.27E-06		0.00E+00	0.00E+00	2.24E-01	0.00E+00	2.24E-01
			Exposure Point Total											2.24E-01
			Exposure Medium Total					2.27E-06						2.24E-01
			Medium Total					8.09E-06						4.30E-01
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	3.62E-11	--	3.62E-11	No observed effect	--	--	4.54E-07	--	4.54E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.11E-05	--	1.11E-05
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	2.18E-06	--	2.18E-06
			1,2-Dichloroethane	--	--	6.43E-10	--	6.43E-10	Liver/Kidney/CNS	--	--	6.38E-05	--	6.38E-05
			1,2-Dichloropropane	--	--	1.21E-10	--	1.21E-10	Nasal	--	--	2.94E-05	--	2.94E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	6.35E-06	--	6.35E-06
			1,4-Dichlorobenzene	--	--	1.69E-10	--	1.69E-10	Liver	--	--	1.84E-07	--	1.84E-07
			2-Hexanone	--	--	--	--	--	Developmental	--	--	1.14E-09	--	1.14E-09
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	2.90E-09	--	2.90E-09
			4,4'-DDE	--	--	6.60E-12	--	6.60E-12	Liver	--	--	3.88E-07	--	3.88E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	7.06E-10	--	7.06E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	9.69E-08	--	9.69E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	4.13E-09	--	4.13E-09
			Aldrin	--	--	5.70E-10	--	5.70E-10	Liver	--	--	1.12E-05	--	1.12E-05
			alpha-BHC	--	--	1.15E-11	--	1.15E-11	Liver/Kidney	--	--	8.50E-08	--	8.50E-08
			alpha-Chlordane	--	--	1.21E-11	--	1.21E-11	Liver	--	--	5.03E-07	--	5.03E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	1.64E-09	--	1.64E-09
			Benzene	--	--	3.92E-10	--	3.92E-10	Blood	--	--	4.55E-06	--	4.55E-06
			Benzo(b)fluoranthene	--	--	2.85E-12	--	2.85E-12	--	--	--	--	--	--
			Bromoform	--	--	4.31E-13	--	4.31E-13	Liver	--	--	5.52E-08	--	5.52E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	3.38E-06	--	3.38E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	3.85E-08	--	3.85E-08
			Chloroform	--	--	5.89E-10	--	5.89E-10	GI Tract/ Kidney/ Developmental	--	--	3.62E-06	--	3.62E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	4.32E-06	--	4.32E-06
			Chrysene	--	--	7.70E-13	--	7.70E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	7.95E-06	--	7.95E-06
			Dieldrin	--	--	2.36E-10	--	2.36E-10	Liver	--	--	2.95E-06	--	2.95E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	5.60E-09	--	5.60E-09
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	9.21E-12	--	9.21E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	1.03E-07	--	1.03E-07
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.90E-09	--	1.90E-09
			Fluorene	--	--	--	--	--	Blood	--	--	3.75E-09	--	3.75E-09
gamma-BHC (Lindane)	--	--	2.05E-14	--	2.05E-14	Liver/Kidney	--	--	6.22E-10	--	6.22E-10			

TABLE H3-8.11  
 EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	--	--	3.13E-11	--	3.13E-11	Liver	--	--	1.31E-06	--	1.31E-06
			Heptachlor	--	--	1.10E-09	--	1.10E-09	Liver	--	--	5.36E-06	--	5.36E-06
			Isopropylbenzene	--	--	--	--	--	Kidney	--	--	4.67E-05	--	4.67E-05
			m,p-Xylene	--	--	--	--	--	CNS	--	--	3.59E-06	--	3.59E-06
			Methoxychlor	--	--	--	--	--	Developmental	--	--	9.80E-08	--	9.80E-08
			Naphthalene	--	--	9.78E-12	--	9.78E-12	Nasal Epithelium	--	--	9.51E-07	--	9.51E-07
			n-Butylbenzene	--	--	--	--	--	Respiratory System	--	--	4.43E-05	--	4.43E-05
			n-Propylbenzene	--	--	--	--	--	Liver/Kidney	--	--	1.06E-06	--	1.06E-06
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	1.31E-09	--	1.31E-09
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	4.67E-05	--	4.67E-05
			Pyrene	--	--	--	--	--	Kidney	--	--	2.31E-09	--	2.31E-09
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	3.01E-06	--	3.01E-06
			Tert-Butylbenzene	--	--	--	--	--	Organ weight	--	--	3.41E-06	--	3.41E-06
			Toluene	--	--	--	--	--	CNS	--	--	3.99E-08	--	3.99E-08
			trans-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	6.73E-06	--	6.73E-06
			Trichloroethene	--	--	9.79E-11	--	9.79E-11	CNS/Eye	--	--	8.23E-07	--	8.23E-07
			Vinyl chloride	--	--	7.81E-09	--	7.81E-09	Liver	--	--	1.01E-05	--	1.01E-05
		Chemical Total		0.00E+00	0.00E+00	1.18E-08	0.00E+00	1.18E-08		0.00E+00	0.00E+00	3.27E-04	0.00E+00	3.27E-04
		Exposure Point Total						1.18E-08						3.27E-04
		Exposure Medium Total						1.18E-08						3.27E-04
Medium Total								1.18E-08						3.27E-04
Receptor Total								8.10E-06						4.31E-01

- Notes:
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft. bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	7.48E-02
Total Organ 2 (Kidney) HI Across All Media =	1.01E-01
Total Organ 3 (Reproductive System) HI Across All Media =	2.72E-05
Total Organ 4 (Nervous System) HI Across All Media =	2.80E-02
Total Organ 5 (Skin) HI Across All Media =	1.09E-02
Total Organ 6 (Blood) HI Across All Media =	2.41E-02
Total Organ 7 (Adrenal) HI Across All Media =	3.48E-04
Total Organ 8 (No Observed Effect) HI Across All Media =	3.15E-04
Total Organ 9 (Brain) HI Across All Media =	5.40E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	8.10E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	6.78E-02
Total Organ 12 (Body Weight) HI Across All Media =	1.43E-02
Total Organ 13 (Developmental) HI Across All Media =	1.55E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.50E-02
Total Organ 15 (Whole Body) HI Across All Media =	6.59E-03
Total Organ 16 (Immune System) HI Across All Media =	6.83E-02
Total Organ 17 (Organ Weight) HI Across All Media =	1.17E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	6.78E-02
Total Organ 19 (Nasal Tissue) HI Across All Media =	1.23E-01

TABLE H3-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	--	--	Adrenal	6.16E-04	1.07E-04	--	--	7.24E-04
			1,2,4-Trichlorobenzene	--	--	--	--	--	Adrenal	2.10E-03	3.65E-05	--	--	2.13E-03
			1,2,4-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	4.11E-05	7.16E-07	--	--	4.18E-05
			1,2-Dichlorobenzene	--	--	--	--	--	No Observed Effect	1.19E-03	2.07E-05	--	--	1.21E-03
			1,2-Dichloropropane	1.52E-11	2.65E-13	--	--	1.55E-11	Nasal	1.30E-05	2.26E-07	--	--	1.32E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	Whole Body/Liver/Kidney	1.32E-05	2.29E-07	--	--	1.34E-05
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	1.51E-04	2.63E-06	--	--	1.53E-04
			1,4-Dichlorobenzene	4.31E-09	--	--	--	4.31E-09	Organ weight	9.32E-04	--	--	--	9.32E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	4.32E-05	7.52E-07	--	--	4.39E-05
			2-Methylphenol	--	--	--	--	--	Respiratory System	8.32E-05	1.45E-05	--	--	9.77E-05
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	1.37E-04	2.39E-06	--	--	1.40E-04
			4,4'-DDD	3.38E-11	5.89E-13	--	--	3.44E-11	Liver	9.86E-06	1.72E-07	--	--	1.00E-05
			4,4'-DDE	3.29E-09	5.73E-11	--	--	3.34E-09	Liver	6.77E-04	1.18E-05	--	--	6.88E-04
			4,4'-DDT	1.78E-09	9.28E-11	--	--	1.87E-09	Liver	3.66E-04	1.91E-05	--	--	3.85E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	2.22E-04	3.87E-05	--	--	2.61E-04
			4-Nitroaniline	1.53E-09	2.66E-10	--	--	1.80E-09	--	8.49E-04	1.48E-04	--	--	9.97E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	3.45E-03	6.01E-04	--	--	4.05E-03
			Acenaphthene	--	--	--	--	--	Liver	2.90E-04	6.57E-05	--	--	3.56E-04
			Acenaphthylene	--	--	--	--	--	Liver	7.14E-06	1.24E-07	--	--	7.26E-06
			Aldrin	2.59E-08	4.52E-09	--	--	3.05E-08	Liver	1.78E-03	3.10E-04	--	--	2.09E-03
			alpha-BHC	2.31E-10	4.03E-12	--	--	2.35E-10	Liver/Kidney	6.00E-06	1.05E-07	--	--	6.10E-06
			alpha-Chlordane	1.24E-09	--	--	--	1.24E-09	Liver	6.69E-05	--	--	--	6.69E-05
			Aluminum	--	--	--	--	--	CNS	3.63E-02	6.32E-05	--	--	3.63E-02
			Anthracene	--	--	--	--	--	No Observed Effect	1.45E-05	3.27E-06	--	--	1.77E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	4.19E-02	7.30E-05	--	--	4.20E-02
			Aroclor-1248	2.82E-07	6.87E-08	--	--	3.51E-07	Immune System/ Eye/Finger and Toe Nails	2.47E-01	6.01E-02	--	--	3.07E-01
			Aroclor-1254	1.04E-07	2.54E-08	--	--	1.30E-07	Immune System/ Eye/Finger and Toe Nails	9.13E-02	2.23E-02	--	--	1.14E-01
			Aroclor-1260	1.27E-07	3.10E-08	--	--	1.58E-07	Immune System/ Eye/Finger and Toe Nails	1.11E-01	2.71E-02	--	--	1.38E-01
			Aroclor-1268	6.52E-09	1.59E-09	--	--	8.11E-09	Immune System/ Eye/Finger and Toe Nails	5.70E-03	1.39E-03	--	--	7.10E-03
			Arsenic	6.84E-06	3.58E-07	--	--	7.20E-06	Skin	8.45E-02	4.41E-03	--	--	8.89E-02
			Barium	--	--	--	--	--	Kidney	3.98E-03	6.94E-06	--	--	3.99E-03
			Benzo(a)anthracene	7.05E-07	1.60E-07	--	--	8.65E-07	--	--	--	--	--	--
			Benzo(a)pyrene	2.35E-06	5.31E-07	--	--	2.88E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	3.86E-07	8.74E-08	--	--	4.73E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.05E-04	2.37E-05	--	--	1.28E-04
			Benzo(k)fluoranthene	4.59E-07	1.04E-07	--	--	5.63E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	4.89E-04	8.52E-07	--	--	4.90E-04
			Beta-BHC	3.87E-10	6.75E-12	--	--	3.94E-10	Liver/Kidney	4.52E-05	7.88E-07	--	--	4.60E-05
			bis(2-ethylhexyl)phthalate	2.76E-09	4.81E-11	--	--	2.81E-09	Liver	1.61E-03	2.80E-05	--	--	1.64E-03
			Cadmium	4.23E-07	7.36E-10	--	--	4.23E-07	Kidney	7.79E-02	1.36E-04	--	--	7.80E-02
			Carbon disulfide	--	--	--	--	--	Developmental	9.86E-09	4.30E-09	--	--	1.42E-08
			Chlorobenzene	--	--	--	--	--	Liver	2.26E-05	3.94E-07	--	--	2.30E-05

TABLE H3-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	--	--	--	--	--	No Observed Effect	3.05E-04	5.31E-07	--	--	3.05E-04	
			Chrysene	8.01E-08	1.81E-08	--	--	9.82E-08	--	--	--	--	--	--	--
			Cobalt	--	--	--	--	--	Blood	1.56E-03	2.71E-06	--	--	--	1.56E-03
			Copper	--	--	--	--	--	GI Tract/Kidney	5.86E-03	1.02E-05	--	--	--	5.87E-03
			Delta-BHC	1.48E-09	1.29E-10	--	--	1.61E-09	Liver/Kidney	1.73E-04	1.50E-05	--	--	--	1.88E-04
			Dibenzo(a,h)anthracene	1.53E-07	3.46E-08	--	--	1.87E-07	--	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	2.67E-02	4.65E-04	--	--	--	2.72E-02
			Dieldrin	1.04E-07	1.80E-09	--	--	1.05E-07	Liver	4.53E-03	7.90E-05	--	--	--	4.61E-03
			Dimethylphthalate	--	--	--	--	--	Developmental/Organ Weight	1.95E-07	3.40E-09	--	--	--	1.99E-07
			di-n-Butylphthalate	--	--	--	--	--	Liver	4.52E-05	7.88E-07	--	--	--	4.60E-05
			Endosulfan I	--	--	--	--	--	Body weight/Kidney/CNS	1.58E-05	1.37E-06	--	--	--	1.71E-05
			Endosulfan II	--	--	--	--	--	Body Weight/Kidney	1.63E-05	1.42E-06	--	--	--	1.77E-05
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	2.95E-05	2.57E-06	--	--	--	3.20E-05
			Endrin aldehyde	--	--	--	--	--	Liver	5.76E-04	5.02E-05	--	--	--	6.27E-04
			Endrin Ketone	--	--	--	--	--	Liver	1.37E-04	--	--	--	--	1.37E-04
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	2.72E-03	6.17E-04	--	--	--	3.34E-03
			Fluorene	--	--	--	--	--	Blood	3.00E-04	6.79E-05	--	--	--	3.67E-04
			gamma-BHC (Lindane)	3.36E-10	2.34E-11	--	--	3.59E-10	Liver/Kidney	3.56E-05	2.48E-06	--	--	--	3.81E-05
			gamma-Chlordane	2.00E-09	--	--	--	2.00E-09	Liver	1.08E-04	--	--	--	--	1.08E-04
			Heptachlor	3.32E-09	5.79E-11	--	--	3.38E-09	Liver	5.67E-05	9.88E-07	--	--	--	5.77E-05
			Heptachlor Epoxide	7.20E-09	1.25E-10	--	--	7.33E-09	Liver	3.53E-03	6.14E-05	--	--	--	3.59E-03
			Indeno(1,2,3-cd)pyrene	1.23E-07	2.79E-08	--	--	1.51E-07	--	--	--	--	--	--	--
			Iron	--	--	--	--	--	Liver	5.58E-01	9.72E-04	--	--	--	5.59E-01
			Isophorone	2.23E-11	3.89E-12	--	--	2.62E-11	No Observed Effect	4.11E-06	7.16E-07	--	--	--	4.83E-06
			Lead	--	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	5.67E-02	9.88E-05	--	--	--	5.68E-02
			Mercury	--	--	--	--	--	Immune System	4.24E-03	--	--	--	--	4.24E-03
			Methoxychlor	--	--	--	--	--	Developmental	9.86E-05	1.72E-06	--	--	--	1.00E-04
			Molybdenum	--	--	--	--	--	Blood	2.06E-03	3.59E-06	--	--	--	2.06E-03
			Naphthalene	--	--	--	--	--	Whole Body	2.67E-03	6.05E-04	--	--	--	3.28E-03
			Nickel	--	--	--	--	--	Whole Body	8.04E-03	1.40E-05	--	--	--	8.05E-03
			Phenanthrene	--	--	--	--	--	No Observed Effect	1.91E-04	3.32E-06	--	--	--	1.94E-04
			Phenol	--	--	--	--	--	Whole Body	7.95E-06	1.38E-06	--	--	--	9.33E-06
			p-Isopropyltoluene	--	--	--	--	--	Kidney	4.52E-06	--	--	--	--	4.52E-06
			Pyrene	--	--	--	--	--	Kidney	3.31E-03	7.49E-04	--	--	--	4.06E-03
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	7.29E-06	--	--	--	--	7.29E-06
			Selenium	--	--	--	--	--	Whole Body	1.84E-04	3.21E-07	--	--	--	1.85E-04
			Silver	--	--	--	--	--	Skin	9.53E-04	1.66E-06	--	--	--	9.54E-04
			Technical Chlordane	8.41E-08	5.86E-09	--	--	9.00E-08	Liver	4.53E-03	3.16E-04	--	--	--	4.85E-03
			Thallium	--	--	--	--	--	Blood	2.55E-02	--	--	--	--	2.55E-02
Toluene	--	--	--	--	--	Liver/Kidney	2.21E-08	3.85E-10	--	--	--	2.25E-08			
Vanadium	--	--	--	--	--	Kidney	1.40E-01	2.44E-04	--	--	--	1.41E-01			

TABLE H3-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	6.21E-03	1.08E-05	--	--	6.22E-03
			Chemical Total	1.23E-05	1.46E-06	0.00E+00	0.00E+00	1.37E-05		1.57E+00	1.21E-01	0.00E+00	0.00E+00	1.70E+00
		Exposure Point Total					1.37E-05							1.70E+00
	Exposure Medium Total						1.37E-05							1.70E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	7.65E-03	--	7.65E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.60E-02	--	2.60E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.55E-03	--	5.55E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	7.52E-03	--	7.52E-03
			1,2-Dichloropropane	--	--	2.37E-10	--	2.37E-10	Nasal	--	--	2.02E-04	--	2.02E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.73E-03	--	1.73E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	4.37E-04	--	4.37E-04
			1,4-Dichlorobenzene	--	--	1.44E-07	--	1.44E-07	Liver	--	--	5.47E-04	--	5.47E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	6.41E-10	--	6.41E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.19E-04	--	1.19E-04
			4,4'-DDD	--	--	5.02E-16	--	5.02E-16	Liver	--	--	1.46E-10	--	1.46E-10
			4,4'-DDE	--	--	7.59E-12	--	7.59E-12	Liver	--	--	1.56E-06	--	1.56E-06
			4,4'-DDT	--	--	2.64E-14	--	2.64E-14	Liver	--	--	5.43E-09	--	5.43E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	3.30E-09	--	3.30E-09
			4-Nitroaniline	--	--	2.27E-14	--	2.27E-14	--	--	--	3.78E-08	--	3.78E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	4.50E-08	--	4.50E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.80E-05	--	7.80E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.92E-06	--	1.92E-06
			Aldrin	--	--	2.20E-10	--	2.20E-10	Liver	--	--	1.51E-05	--	1.51E-05
			alpha-BHC	--	--	2.26E-11	--	2.26E-11	Liver/Kidney	--	--	5.86E-07	--	5.86E-07
			alpha-Chlordane	--	--	2.23E-11	--	2.23E-11	Liver	--	--	3.25E-06	--	3.25E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	3.77E-04	--	3.77E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.89E-06	--	3.89E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	4.18E-12	--	4.18E-12	Immune System/Eye/Finger and Toe nails	--	--	3.66E-06	--	3.66E-06
			Aroclor-1254	--	--	1.55E-12	--	1.55E-12	Immune System/Eye/Finger and Toe nails	--	--	1.35E-06	--	1.35E-06
			Aroclor-1260	--	--	1.89E-12	--	1.89E-12	Immune System/Eye/Finger and Toe Nails	--	--	1.65E-06	--	1.65E-06
			Aroclor-1268	--	--	9.68E-14	--	9.68E-14	Immune System/Eye/Finger and Toe nails	--	--	8.47E-08	--	8.47E-08
			Arsenic	--	--	1.29E-10	--	1.29E-10	Developmental	--	--	4.38E-05	--	4.38E-05
			Barium	--	--	--	--	--	Developmental	--	--	2.96E-05	--	2.96E-05
			Benzo(a)anthracene	--	--	3.40E-12	--	3.40E-12	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	1.13E-11	--	1.13E-11	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.59E-09	--	1.59E-09	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.55E-09	--	1.55E-09
			Benzo(k)fluoranthene	--	--	2.22E-12	--	2.22E-12	--	--	--	--	--	--
			Beryllium	--	--	3.49E-12	--	3.49E-12	Immune System/Lung	--	--	2.54E-06	--	2.54E-06
			Beta-BHC	--	--	5.75E-15	--	5.75E-15	Liver/Kidney	--	--	6.71E-10	--	6.71E-10

TABLE H3-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	1.15E-13	--	1.15E-13	Liver	--	--	2.39E-08	--	2.39E-08
			Cadmium	--	--	2.48E-10	--	2.48E-10	Kidney/Respiratory System	--	--	1.01E-04	--	1.01E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.82E-07	--	1.82E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.46E-05	--	1.46E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	5.61E-10	--	5.61E-10	--	--	--	--	--	--
			Cobalt	--	--	1.29E-10	--	1.29E-10	Respiratory System	--	--	8.09E-05	--	8.09E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.44E-10	--	1.44E-10	Liver/Kidney	--	--	1.69E-05	--	1.69E-05
			Dibenzo(a,h)anthracene	--	--	2.27E-12	--	2.27E-12	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.81E-03	--	1.81E-03
			Dieldrin	--	--	2.73E-09	--	2.73E-09	Liver	--	--	1.19E-04	--	1.19E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	2.90E-12	--	2.90E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.34E-09	--	1.34E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.08E-06	--	1.08E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.12E-06	--	1.12E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.02E-06	--	2.02E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	8.56E-09	--	8.56E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	2.03E-09	--	2.03E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.45E-05	--	3.45E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.44E-05	--	3.44E-05
			gamma-BHC (Lindane)	--	--	4.04E-11	--	4.04E-11	Liver/Kidney	--	--	4.28E-06	--	4.28E-06
			gamma-Chlordane	--	--	3.58E-11	--	3.58E-11	Liver	--	--	5.22E-06	--	5.22E-06
			Heptachlor	--	--	3.19E-09	--	3.19E-09	Liver	--	--	5.45E-05	--	5.45E-05
			Heptachlor Epoxide	--	--	1.07E-13	--	1.07E-13	Liver	--	--	5.24E-08	--	5.24E-08
			Indeno(1,2,3-cd)pyrene	--	--	5.94E-13	--	5.94E-13	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.41E-03	--	1.41E-03
			Mercury	--	--	--	--	--	CNS	--	--	2.20E-07	--	2.20E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.39E-06	--	1.39E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	1.93E-07	--	1.93E-07	Nasal Epithelium	--	--	6.57E-02	--	6.57E-02
			Nickel	--	--	6.21E-11	--	6.21E-11	Respiratory System	--	--	1.71E-04	--	1.71E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.13E-05	--	5.13E-05
			Phenol	--	--	--	--	--	Liver/CNS	--	--	6.19E-10	--	6.19E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.40E-04	--	1.40E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	4.96E-05	--	4.96E-05
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	5.65E-05	--	5.65E-05
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	2.40E-09	--	2.40E-09			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H3-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	1.51E-09	--	1.51E-09	Liver	--	--	2.20E-04	--	2.20E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.76E-08	--	1.76E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	3.48E-07	0.00E+00	3.48E-07		0.00E+00	0.00E+00	1.20E-01	0.00E+00	1.20E-01
Exposure Point Total						3.48E-07						1.20E-01		
Exposure Medium Total						3.48E-07						1.20E-01		
Medium Total						1.41E-05						1.82E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	5.55E-12	--	5.55E-12	No observed effect	--	--	2.44E-07	--	2.44E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.98E-06	--	5.98E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.17E-06	--	1.17E-06
			1,2-Dichloroethane	--	--	9.86E-11	--	9.86E-11	Liver/Kidney/CNS	--	--	3.42E-05	--	3.42E-05
			1,2-Dichloropropane	--	--	1.85E-11	--	1.85E-11	Nasal	--	--	1.58E-05	--	1.58E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.41E-06	--	3.41E-06
			1,4-Dichlorobenzene	--	--	2.59E-11	--	2.59E-11	Liver	--	--	9.86E-08	--	9.86E-08
			2-Hexanone	--	--	--	--	--	Developmental	--	--	6.14E-10	--	6.14E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.56E-09	--	1.56E-09
			4,4'-DDE	--	--	1.01E-12	--	1.01E-12	Liver	--	--	2.08E-07	--	2.08E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.79E-10	--	3.79E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.20E-08	--	5.20E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.22E-09	--	2.22E-09
			Aldrin	--	--	8.74E-11	--	8.74E-11	Liver	--	--	6.00E-06	--	6.00E-06
			alpha-BHC	--	--	1.76E-12	--	1.76E-12	Liver/Kidney	--	--	4.56E-08	--	4.56E-08
			alpha-Chlordane	--	--	1.85E-12	--	1.85E-12	Liver	--	--	2.70E-07	--	2.70E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.82E-10	--	8.82E-10
			Benzene	--	--	6.01E-11	--	6.01E-11	Blood	--	--	2.44E-06	--	2.44E-06
			Benzo(b)fluoranthene	--	--	4.37E-13	--	4.37E-13	--	--	--	--	--	--
			Bromoform	--	--	6.61E-14	--	6.61E-14	Liver	--	--	2.96E-08	--	2.96E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.81E-06	--	1.81E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	2.06E-08	--	2.06E-08
			Chloroform	--	--	9.04E-11	--	9.04E-11	GI Tract/ Kidney/ Developmental	--	--	1.94E-06	--	1.94E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	2.32E-06	--	2.32E-06
			Chrysene	--	--	1.18E-13	--	1.18E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	4.27E-06	--	4.27E-06
			Dieldrin	--	--	3.62E-11	--	3.62E-11	Liver	--	--	1.58E-06	--	1.58E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.01E-09	--	3.01E-09
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	4.94E-12	--	4.94E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	5.54E-08	--	5.54E-08
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.02E-09	--	1.02E-09
			Fluorene	--	--	--	--	--	Blood	--	--	2.01E-09	--	2.01E-09
gamma-BHC (Lindane)	--	--	3.15E-15	--	3.15E-15	Liver/Kidney	--	--	3.34E-10	--	3.34E-10			

TABLE H3-8.12

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	4.81E-12	-	4.81E-12	Liver	-	-	7.01E-07	-	7.01E-07	
			Heptachlor	-	-	1.68E-10	-	1.68E-10	Liver	-	-	2.88E-06	-	2.88E-06	
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	2.51E-05	-	2.51E-05	
			m,p-Xylene	-	-	-	-	-	CNS	-	-	1.93E-06	-	1.93E-06	
			Methoxychlor	-	-	-	-	-	Developmental	-	-	5.26E-08	-	5.26E-08	
			Naphthalene	-	-	1.50E-12	-	1.50E-12	Nasal Epithelium	-	-	5.10E-07	-	5.10E-07	
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	2.38E-05	-	2.38E-05	
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	5.67E-07	-	5.67E-07	
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	7.03E-10	-	7.03E-10	
			p-Isopropyltoluene	-	-	-	-	-	Kidney	-	-	2.51E-05	-	2.51E-05	
			Pyrene	-	-	-	-	-	Kidney	-	-	1.24E-09	-	1.24E-09	
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	1.61E-06	-	1.61E-06	
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	1.83E-06	-	1.83E-06	
			Toluene	-	-	-	-	-	CNS	-	-	2.14E-08	-	2.14E-08	
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	3.61E-06	-	3.61E-06	
			Trichloroethene	-	-	1.50E-11	-	1.50E-11	CNS/Eye	-	-	4.42E-07	-	4.42E-07	
			Vinyl chloride	-	-	1.20E-09	-	1.20E-09	Liver	-	-	5.44E-06	-	5.44E-06	
			Chemical Total	0.00E+00	0.00E+00	1.82E-09	0.00E+00	1.82E-09		0.00E+00	0.00E+00	1.76E-04	0.00E+00	1.76E-04	
			Exposure Point Total					1.82E-09						1.76E-04	
			Exposure Medium Total					1.82E-09						1.76E-04	
Medium Total								1.82E-09						1.76E-04	
Receptor Total								Receptor Risk Total						Receptor HI Total	1.82E+00

- Notes:
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	5.88E-01
Total Organ 2 (Kidney) HI Across All Media =	3.04E-01
Total Organ 3 (Reproductive System) HI Across All Media =	1.46E-05
Total Organ 4 (Nervous System) HI Across All Media =	1.02E-01
Total Organ 5 (Skin) HI Across All Media =	8.98E-02
Total Organ 6 (Blood) HI Across All Media =	9.25E-02
Total Organ 7 (Adrenal) HI Across All Media =	2.86E-03
Total Organ 8 (No Observed Effect) HI Across All Media =	1.79E-03
Total Organ 9 (Brain) HI Across All Media =	2.90E-12
Total Organ 10 (Gastrointestinal System) HI Across All Media =	6.38E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	5.66E-01
Total Organ 12 (Body Weight) HI Across All Media =	7.86E-03
Total Organ 13 (Developmental) HI Across All Media =	1.77E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	8.41E-03
Total Organ 15 (Whole Body) HI Across All Media =	5.39E-02
Total Organ 16 (Immune System) HI Across All Media =	5.70E-01
Total Organ 17 (Organ Weight) HI Across All Media =	9.34E-04
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	5.66E-01
Total Organ 19 (Nasal Tissue) HI Across All Media =	6.60E-02

TABLE H3-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	1,2,3-Trichlorobenzene	--	--	--	0.00E+00	0.00E+00	Adrenal	6.16E-04	1.07E-04	--	0.00E+00	7.24E-04
			1,2,4-Trichlorobenzene	--	--	--	0.00E+00	0.00E+00	Adrenal	2.10E-03	3.65E-05	--	0.00E+00	2.13E-03
			1,2,4-Trimethylbenzene	--	--	--	0.00E+00	0.00E+00	Whole Body/Liver/Kidney	4.11E-05	7.16E-07	--	0.00E+00	4.18E-05
			1,2-Dichlorobenzene	--	--	--	0.00E+00	0.00E+00	No Observed Effect	1.19E-03	2.07E-05	--	0.00E+00	1.21E-03
			1,2-Dichloropropane	2.17E-11	3.66E-13	--	0.00E+00	2.21E-11	Nasal	1.30E-05	2.26E-07	--	0.00E+00	1.32E-05
			1,3,5-Trimethylbenzene	--	--	--	0.00E+00	0.00E+00	Whole Body/Liver/Kidney	1.32E-05	2.29E-07	--	0.00E+00	1.34E-05
			1,3-Dichlorobenzene	--	--	--	0.00E+00	0.00E+00	Kidney/Liver	1.51E-04	2.63E-06	--	0.00E+00	1.53E-04
			1,4-Dichlorobenzene	6.16E-09	--	--	0.00E+00	6.16E-09	Organ weight	9.32E-04	--	--	0.00E+00	9.32E-04
			2,4-Dimethylphenol	--	--	--	0.00E+00	0.00E+00	Blood/Whole Body	4.32E-05	7.52E-07	--	0.00E+00	4.39E-05
			2-Methylphenol	--	--	--	0.00E+00	0.00E+00	Respiratory System	8.32E-05	1.45E-05	--	0.00E+00	9.77E-05
			2-Methylnaphthalene	--	--	--	0.00E+00	0.00E+00	CNS/Body Weight	1.37E-04	2.39E-06	--	0.00E+00	1.40E-04
			4,4'-DDD	4.83E-11	8.14E-13	--	--	4.91E-11	Liver	9.86E-06	1.72E-07	--	--	1.00E-05
			4,4'-DDE	4.69E-09	7.91E-11	--	--	4.77E-09	Liver	6.77E-04	1.18E-05	--	--	6.88E-04
			4,4'-DDT	2.54E-09	1.28E-10	--	--	2.67E-09	Liver	3.66E-04	1.91E-05	--	--	3.85E-04
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory	2.22E-04	3.87E-05	--	--	2.61E-04
			4-Nitroaniline	2.18E-09	3.68E-10	--	--	2.55E-09	--	8.49E-04	1.48E-04	--	--	9.97E-04
			4-Nitrophenol	--	--	--	--	--	Kidney/Liver/Blood	3.45E-03	6.01E-04	--	--	4.05E-03
			Acenaphthene	--	--	--	--	--	Liver	2.90E-04	6.57E-05	--	--	3.56E-04
			Acenaphthylene	--	--	--	--	--	Liver	7.14E-06	1.24E-07	--	--	7.26E-06
			Aldrin	3.71E-08	6.25E-09	--	--	4.33E-08	Liver	1.78E-03	3.10E-04	--	--	2.09E-03
			alpha-BHC	3.31E-10	5.57E-12	--	--	3.36E-10	Liver/Kidney	6.00E-06	1.05E-07	--	--	6.10E-06
			alpha-Chlordane	1.78E-09	--	--	--	1.78E-09	Liver	6.69E-05	--	--	--	6.69E-05
			Aluminum	--	--	--	--	--	CNS	3.63E-02	6.32E-05	--	--	3.63E-02
			Anthracene	--	--	--	--	--	No Observed Effect	1.45E-05	3.27E-06	--	--	1.77E-05
			Antimony	--	--	--	--	--	Whole Body/Blood	4.19E-02	7.30E-05	--	--	4.20E-02
			Aroclor-1248	4.03E-07	9.50E-08	--	--	4.98E-07	Immune System/ Eye/Finger and Toe Nails	2.47E-01	6.01E-02	--	--	3.07E-01
			Aroclor-1254	1.49E-07	3.51E-08	--	--	1.84E-07	Immune System/ Eye/Finger and Toe Nails	9.13E-02	2.23E-02	--	--	1.14E-01
			Aroclor-1260	1.82E-07	4.28E-08	--	--	2.24E-07	Immune System/ Eye/Finger and Toe Nails	1.11E-01	2.71E-02	--	--	1.38E-01
			Aroclor-1268	9.31E-09	2.20E-09	--	--	1.15E-08	Immune System/ Eye/Finger and Toe Nails	5.70E-03	1.39E-03	--	--	7.10E-03
			Arsenic	9.77E-06	4.94E-07	--	--	1.03E-05	Skin	8.45E-02	4.41E-03	--	--	8.89E-02
			Barium	--	--	--	--	--	Kidney	3.98E-03	6.94E-06	--	--	3.99E-03
			Benzo(a)anthracene	1.01E-06	2.21E-07	--	--	1.23E-06	--	--	--	--	--	--
			Benzo(a)pyrene	3.35E-06	7.34E-07	--	--	4.09E-06	--	--	--	--	--	--
			Benzo(b)fluoranthene	5.51E-07	1.21E-07	--	--	6.72E-07	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	1.05E-04	2.37E-05	--	--	1.28E-04
			Benzo(k)fluoranthene	6.56E-07	1.44E-07	--	--	8.00E-07	--	--	--	--	--	--
			Beryllium	--	--	--	--	--	GI Tract	4.89E-04	8.52E-07	--	--	4.90E-04
			Beta-BHC	5.54E-10	9.33E-12	--	--	5.63E-10	Liver/Kidney	4.52E-05	7.88E-07	--	--	4.60E-05
			bis(2-ethylhexyl)phthalate	3.94E-09	6.64E-11	--	--	4.01E-09	Liver	1.61E-03	2.80E-05	--	--	1.64E-03
			Cadmium	6.04E-07	1.02E-09	--	--	6.05E-07	Kidney	7.79E-02	1.36E-04	--	--	7.80E-02
			Carbon disulfide	--	--	--	--	--	Developmental	9.86E-09	4.30E-09	--	--	1.42E-08
			Chlorobenzene	--	--	--	--	--	Liver	2.26E-05	3.94E-07	--	--	2.30E-05

TABLE H3-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Chromium	-	-	-	-	-	No Observed Effect	3.05E-04	5.31E-07	-	-	3.05E-04
			Chrysene	1.14E-07	2.51E-08	-	-	1.39E-07	-	-	-	-	-	-
			Cobalt	-	-	-	-	-	Blood	1.56E-03	2.71E-06	-	-	1.56E-03
			Copper	-	-	-	-	-	GI Tract/Kidney	5.86E-03	1.02E-05	-	-	5.87E-03
			Delta-BHC	2.11E-09	1.78E-10	-	-	2.29E-09	Liver/Kidney	1.73E-04	1.50E-05	-	-	1.88E-04
			Dibenzo(a,h)anthracene	2.18E-07	4.78E-08	-	-	2.66E-07	-	-	-	-	-	-
			Dibenzofuran	-	-	-	-	-	Kidney	2.67E-02	4.65E-04	-	-	2.72E-02
			Dieldrin	1.48E-07	2.49E-09	-	-	1.50E-07	Liver	4.53E-03	7.90E-05	-	-	4.61E-03
			Dimethylphthalate	-	-	-	-	-	Developmental/Organ Weight	1.95E-07	3.40E-09	-	-	1.99E-07
			di-n-Butylphthalate	-	-	-	-	-	Liver	4.52E-05	7.88E-07	-	-	4.60E-05
			Endosulfan I	-	-	-	-	-	Body weight/Kidney/CNS	1.58E-05	1.37E-06	-	-	1.71E-05
			Endosulfan II	-	-	-	-	-	Body Weight/Kidney	1.63E-05	1.42E-06	-	-	1.77E-05
			Endosulfan Sulfate	-	-	-	-	-	Body Weight/Kidney/CNS	2.95E-05	2.57E-06	-	-	3.20E-05
			Endrin aldehyde	-	-	-	-	-	Liver	5.76E-04	5.02E-05	-	-	6.27E-04
			Endrin Ketone	-	-	-	-	-	Liver	1.37E-04	-	-	-	1.37E-04
			Fluoranthene	-	-	-	-	-	Kidney/Liver/Blood	2.72E-03	6.17E-04	-	-	3.34E-03
			Fluorene	-	-	-	-	-	Blood	3.00E-04	6.79E-05	-	-	3.67E-04
			gamma-BHC (Lindane)	4.80E-10	3.23E-11	-	-	5.12E-10	Liver/Kidney	3.56E-05	2.48E-06	-	-	3.81E-05
			gamma-Chlordane	2.86E-09	-	-	-	2.86E-09	Liver	1.08E-04	-	-	-	1.08E-04
			Heptachlor	4.75E-09	8.00E-11	-	-	4.83E-09	Liver	5.67E-05	9.88E-07	-	-	5.77E-05
			Heptachlor Epoxide	1.03E-08	1.73E-10	-	-	1.05E-08	Liver	3.53E-03	6.14E-05	-	-	3.59E-03
			Indeno(1,2,3-cd)pyrene	1.76E-07	3.85E-08	-	-	2.14E-07	-	-	-	-	-	-
			Iron	-	-	-	-	-	Liver	5.58E-01	9.72E-04	-	-	5.59E-01
			Isophorone	3.19E-11	5.37E-12	-	-	3.72E-11	No Observed Effect	4.11E-06	7.16E-07	-	-	4.83E-06
			Lead	-	-	-	-	-	-	-	-	-	-	-
			Manganese	-	-	-	-	-	CNS	5.67E-02	9.88E-05	-	-	5.68E-02
			Mercury	-	-	-	-	-	Immune System	4.24E-03	-	-	-	4.24E-03
			Methoxychlor	-	-	-	-	-	Developmental	9.86E-05	1.72E-06	-	-	1.00E-04
			Molybdenum	-	-	-	-	-	Blood	2.06E-03	3.59E-06	-	-	2.06E-03
			Naphthalene	-	-	-	-	-	Whole Body	2.67E-03	6.05E-04	-	-	3.28E-03
			Nickel	-	-	-	-	-	Whole Body	8.04E-03	1.40E-05	-	-	8.05E-03
			Phenanthrene	-	-	-	-	-	No Observed Effect	1.91E-04	3.32E-06	-	-	1.94E-04
			Phenol	-	-	-	-	-	Whole Body	7.95E-06	1.38E-06	-	-	9.33E-06
			p-Isopropyltoluene	-	-	-	-	-	Kidney	4.52E-06	-	-	-	4.52E-06
			Pyrene	-	-	-	-	-	Kidney	3.31E-03	7.49E-04	-	-	4.06E-03
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	7.29E-06	-	-	-	7.29E-06
			Selenium	-	-	-	-	-	Whole Body	1.84E-04	3.21E-07	-	-	1.85E-04
			Silver	-	-	-	-	-	Skin	9.53E-04	1.66E-06	-	-	9.54E-04
			Technical Chlordane	1.20E-07	8.10E-09	-	-	1.28E-07	Liver	4.53E-03	3.16E-04	-	-	4.85E-03
			Thallium	-	-	-	-	-	Blood	2.55E-02	-	-	-	2.55E-02
Toluene	-	-	-	-	-	Liver/Kidney	2.21E-08	3.85E-10	-	-	2.25E-08			
Vanadium	-	-	-	-	-	Kidney	1.40E-01	2.44E-04	-	-	1.41E-01			

TABLE H3-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Soil (continued)	Site Soil (continued)	Zinc	--	--	--	--	--	Blood	6.21E-03	1.08E-05	--	--	6.22E-03
			Chemical Total	1.75E-05	2.02E-06	0.00E+00	0.00E+00	1.96E-05		1.57E+00	1.21E-01	0.00E+00	0.00E+00	1.70E+00
			Exposure Point Total					1.96E-05						
		Exposure Medium Total					1.96E-05							1.70E+00
	Air	Outdoor Air (Particulates and VOCs)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	7.65E-03	--	7.65E-03
			1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	2.60E-02	--	2.60E-02
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.55E-03	--	5.55E-03
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	7.52E-03	--	7.52E-03
			1,2-Dichloropropane	--	--	1.78E-09	--	1.78E-09	Nasal	--	--	2.02E-04	--	2.02E-04
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	1.73E-03	--	1.73E-03
			1,3-Dichlorobenzene	--	--	--	--	--	Kidney/Liver	--	--	4.37E-04	--	4.37E-04
			1,4-Dichlorobenzene	--	--	1.08E-06	--	1.08E-06	Liver	--	--	5.47E-04	--	5.47E-04
			2,4-Dimethylphenol	--	--	--	--	--	Blood/Whole Body	--	--	6.41E-10	--	6.41E-10
			2-Methylphenol	--	--	--	--	--	--	--	--	--	--	--
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.19E-04	--	1.19E-04
			4,4'-DDD	--	--	3.78E-15	--	3.78E-15	Liver	--	--	1.46E-10	--	1.46E-10
			4,4'-DDE	--	--	5.71E-11	--	5.71E-11	Liver	--	--	1.56E-06	--	1.56E-06
			4,4'-DDT	--	--	1.98E-13	--	1.98E-13	Liver	--	--	5.43E-09	--	5.43E-09
			4-Methylphenol	--	--	--	--	--	Whole Body/CNS/Respiratory System	--	--	3.30E-09	--	3.30E-09
			4-Nitroaniline	--	--	1.71E-13	--	1.71E-13	--	--	--	3.78E-08	--	3.78E-08
			4-Nitrophenol	--	--	--	--	--	Blood/Kidney/Liver	--	--	4.50E-08	--	4.50E-08
			Acenaphthene	--	--	--	--	--	Liver	--	--	7.80E-05	--	7.80E-05
			Acenaphthylene	--	--	--	--	--	Liver	--	--	1.92E-06	--	1.92E-06
			Aldrin	--	--	1.66E-09	--	1.66E-09	Liver	--	--	1.51E-05	--	1.51E-05
			alpha-BHC	--	--	1.70E-10	--	1.70E-10	Liver/Kidney	--	--	5.86E-07	--	5.86E-07
			alpha-Chlordane	--	--	1.67E-10	--	1.67E-10	Liver	--	--	3.25E-06	--	3.25E-06
			Aluminum	--	--	--	--	--	Respiratory System	--	--	3.77E-04	--	3.77E-04
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	3.89E-06	--	3.89E-06
			Antimony	--	--	--	--	--	--	--	--	--	--	--
			Aroclor-1248	--	--	3.15E-11	--	3.15E-11	Immune System/Eye/Finger and Toe nails	--	--	3.66E-06	--	3.66E-06
			Aroclor-1254	--	--	1.16E-11	--	1.16E-11	Immune System/Eye/Finger and Toe nails	--	--	1.35E-06	--	1.35E-06
			Aroclor-1260	--	--	1.42E-11	--	1.42E-11	Immune System/Eye/Finger and Toe Nails	--	--	1.65E-06	--	1.65E-06
			Aroclor-1268	--	--	7.28E-13	--	7.28E-13	Immune System/Eye/Finger and Toe nails	--	--	8.47E-08	--	8.47E-08
			Arsenic	--	--	9.70E-10	--	9.70E-10	Developmental	--	--	4.38E-05	--	4.38E-05
			Barium	--	--	--	--	--	Developmental	--	--	2.96E-05	--	2.96E-05
			Benzo(a)anthracene	--	--	2.56E-11	--	2.56E-11	--	--	--	--	--	--
			Benzo(a)pyrene	--	--	8.52E-11	--	8.52E-11	--	--	--	--	--	--
			Benzo(b)fluoranthene	--	--	1.20E-08	--	1.20E-08	--	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	--	Kidney	--	--	1.55E-09	--	1.55E-09
			Benzo(k)fluoranthene	--	--	1.67E-11	--	1.67E-11	--	--	--	--	--	--
			Beryllium	--	--	2.62E-11	--	2.62E-11	Immune System/Lung	--	--	2.54E-06	--	2.54E-06
			Beta-BHC	--	--	4.33E-14	--	4.33E-14	Liver/Kidney	--	--	6.71E-10	--	6.71E-10

TABLE H3-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	bis(2-ethylhexyl)phthalate	--	--	8.63E-13	--	8.63E-13	Liver	--	--	2.39E-08	--	2.39E-08
			Cadmium	--	--	1.86E-09	--	1.86E-09	Kidney/Respiratory System	--	--	1.01E-04	--	1.01E-04
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.82E-07	--	1.82E-07
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	1.46E-05	--	1.46E-05
			Chromium	--	--	--	--	--	--	--	--	--	--	--
			Chrysene	--	--	4.22E-09	--	4.22E-09	--	--	--	--	--	--
			Cobalt	--	--	9.73E-10	--	9.73E-10	Respiratory System	--	--	8.09E-05	--	8.09E-05
			Copper	--	--	--	--	--	--	--	--	--	--	--
			Delta-BHC	--	--	1.09E-09	--	1.09E-09	Liver/Kidney	--	--	1.69E-05	--	1.69E-05
			Dibenzo(a,h)anthracene	--	--	1.71E-11	--	1.71E-11	--	--	--	--	--	--
			Dibenzofuran	--	--	--	--	--	Kidney	--	--	1.81E-03	--	1.81E-03
			Dieldrin	--	--	2.05E-08	--	2.05E-08	Liver	--	--	1.19E-04	--	1.19E-04
			Dimethylphthalate	--	--	--	--	--	Brain/Liver/Kidney/GI Tract	--	--	2.90E-12	--	2.90E-12
			di-n-Butylphthalate	--	--	--	--	--	Whole body	--	--	1.34E-09	--	1.34E-09
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	1.08E-06	--	1.08E-06
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	1.12E-06	--	1.12E-06
			Endosulfan Sulfate	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	2.02E-06	--	2.02E-06
			Endrin aldehyde	--	--	--	--	--	Liver	--	--	8.56E-09	--	8.56E-09
			Endrin Ketone	--	--	--	--	--	Liver	--	--	2.03E-09	--	2.03E-09
			Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	3.45E-05	--	3.45E-05
			Fluorene	--	--	--	--	--	Blood	--	--	3.44E-05	--	3.44E-05
			gamma-BHC (Lindane)	--	--	3.04E-10	--	3.04E-10	Liver/Kidney	--	--	4.28E-06	--	4.28E-06
			gamma-Chlordane	--	--	2.69E-10	--	2.69E-10	Liver	--	--	5.22E-06	--	5.22E-06
			Heptachlor	--	--	2.40E-08	--	2.40E-08	Liver	--	--	5.45E-05	--	5.45E-05
			Heptachlor Epoxide	--	--	8.04E-13	--	8.04E-13	Liver	--	--	5.24E-08	--	5.24E-08
			Indeno(1,2,3-cd)pyrene	--	--	4.46E-12	--	4.46E-12	--	--	--	--	--	--
			Iron	--	--	--	--	--	--	--	--	--	--	--
			Isophorone	--	--	--	--	--	--	--	--	--	--	--
			Lead	--	--	--	--	--	--	--	--	--	--	--
			Manganese	--	--	--	--	--	CNS	--	--	1.41E-03	--	1.41E-03
			Mercury	--	--	--	--	--	CNS	--	--	2.20E-07	--	2.20E-07
			Methoxychlor	--	--	--	--	--	Developmental	--	--	1.39E-06	--	1.39E-06
			Molybdenum	--	--	--	--	--	--	--	--	--	--	--
			Naphthalene	--	--	1.45E-06	--	1.45E-06	Nasal Epithelium	--	--	6.57E-02	--	6.57E-02
			Nickel	--	--	4.67E-10	--	4.67E-10	Respiratory System	--	--	1.71E-04	--	1.71E-04
			Phenanthrene	--	--	--	--	--	No Observed Effect	--	--	5.13E-05	--	5.13E-05
			Phenol	--	--	--	--	--	Liver/CNS	--	--	6.19E-10	--	6.19E-10
			p-Isopropyltoluene	--	--	--	--	--	Kidney	--	--	1.40E-04	--	1.40E-04
			Pyrene	--	--	--	--	--	Kidney	--	--	4.96E-05	--	4.96E-05
			sec-Butylbenzene	--	--	--	--	--	Liver/Kidney	--	--	5.65E-05	--	5.65E-05
Selenium	--	--	--	--	--	Liver/Blood/Skin/CNS	--	--	2.40E-09	--	2.40E-09			
Silver	--	--	--	--	--	--	--	--	--	--	--			

TABLE H3-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs) (continued)	Air (continued)	Outdoor Air (Particulates and VOCs) (continued)	Technical Chlordane	--	--	1.13E-08	--	1.13E-08	Liver	--	--	2.20E-04	--	2.20E-04
			Thallium	--	--	--	--	--	--	--	--	--	--	--
			Toluene	--	--	--	--	--	CNS	--	--	1.76E-08	--	1.76E-08
			Vanadium	--	--	--	--	--	--	--	--	--	--	--
			Zinc	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	2.62E-06	0.00E+00	2.62E-06		0.00E+00	0.00E+00	1.20E-01	0.00E+00	1.20E-01
			Exposure Point Total					2.62E-06						1.20E-01
			Exposure Medium Total					2.62E-06						1.20E-01
Medium Total								2.22E-05						1.82E+00
Groundwater	Outdoor Air	Inhalation (Volatiles)	1,1-Dichloroethane	--	--	4.18E-11	--	4.18E-11	No observed effect	--	--	2.44E-07	--	2.44E-07
			1,2,4-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	5.98E-06	--	5.98E-06
			1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.17E-06	--	1.17E-06
			1,2-Dichloroethane	--	--	7.42E-10	--	7.42E-10	Liver/Kidney/CNS	--	--	3.42E-05	--	3.42E-05
			1,2-Dichloropropane	--	--	1.39E-10	--	1.39E-10	Nasal	--	--	1.58E-05	--	1.58E-05
			1,3,5-Trimethylbenzene	--	--	--	--	--	CNS/Blood/Respiratory System	--	--	3.41E-06	--	3.41E-06
			1,4-Dichlorobenzene	--	--	1.95E-10	--	1.95E-10	Liver	--	--	9.86E-08	--	9.86E-08
			2-Hexanone	--	--	--	--	--	Developmental	--	--	6.14E-10	--	6.14E-10
			2-Methylnaphthalene	--	--	--	--	--	CNS/Body Weight	--	--	1.56E-09	--	1.56E-09
			4,4'-DDE	--	--	7.61E-12	--	7.61E-12	Liver	--	--	2.08E-07	--	2.08E-07
			4-Methyl-2-pentanone	--	--	--	--	--	Developmental	--	--	3.79E-10	--	3.79E-10
			Acenaphthene	--	--	--	--	--	Liver	--	--	5.20E-08	--	5.20E-08
			Acenaphthylene	--	--	--	--	--	Liver	--	--	2.22E-09	--	2.22E-09
			Aldrin	--	--	6.58E-10	--	6.58E-10	Liver	--	--	6.00E-06	--	6.00E-06
			alpha-BHC	--	--	1.32E-11	--	1.32E-11	Liver/Kidney	--	--	4.56E-08	--	4.56E-08
			alpha-Chlordane	--	--	1.39E-11	--	1.39E-11	Liver	--	--	2.70E-07	--	2.70E-07
			Anthracene	--	--	--	--	--	No Observed Effect	--	--	8.82E-10	--	8.82E-10
			Benzene	--	--	4.52E-10	--	4.52E-10	Blood	--	--	2.44E-06	--	2.44E-06
			Benzo(b)fluoranthene	--	--	3.28E-12	--	3.28E-12	--	--	--	--	--	--
			Bromoform	--	--	4.97E-13	--	4.97E-13	Liver	--	--	2.96E-08	--	2.96E-08
			Carbon disulfide	--	--	--	--	--	CNS	--	--	1.81E-06	--	1.81E-06
			Chlorobenzene	--	--	--	--	--	GI Tract/Kidney/Reproductive System	--	--	2.06E-08	--	2.06E-08
			Chloroform	--	--	6.80E-10	--	6.80E-10	GI Tract/ Kidney/ Developmental	--	--	1.94E-06	--	1.94E-06
			Chloromethane	--	--	--	--	--	CNS	--	--	2.32E-06	--	2.32E-06
			Chrysene	--	--	8.88E-13	--	8.88E-13	--	--	--	--	--	--
			cis-1,2-Dichloroethene	--	--	--	--	--	Blood	--	--	4.27E-06	--	4.27E-06
			Dieldrin	--	--	2.72E-10	--	2.72E-10	Liver	--	--	1.58E-06	--	1.58E-06
			Endosulfan I	--	--	--	--	--	Body Weight/Kidney/CNS	--	--	3.01E-09	--	3.01E-09
			Endosulfan II	--	--	--	--	--	Body weight/Kidney	--	--	4.94E-12	--	4.94E-12
			Ethylbenzene	--	--	--	--	--	Developmental	--	--	5.54E-08	--	5.54E-08
Fluoranthene	--	--	--	--	--	Kidney/Liver/Blood	--	--	1.02E-09	--	1.02E-09			
Fluorene	--	--	--	--	--	Blood	--	--	2.01E-09	--	2.01E-09			
gamma-BHC (Lindane)	--	--	2.37E-14	--	2.37E-14	Liver/Kidney	--	--	3.34E-10	--	3.34E-10			

TABLE H3-8.13

EPA RAGS PART D TABLE 9, SUMMARY OF CTE RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)

RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Recreational User
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Groundwater (continued)	Outdoor Air (continued)	Inhalation (Volatiles) (continued)	gamma-Chlordane	-	-	3.61E-11	-	3.61E-11	Liver	-	-	7.01E-07	-	7.01E-07	
			Heptachlor	-	-	1.27E-09	-	1.27E-09	Liver	-	-	2.88E-06	-	2.88E-06	
			Isopropylbenzene	-	-	-	-	-	Kidney	-	-	2.51E-05	-	2.51E-05	
			m,p-Xylene	-	-	-	-	-	CNS	-	-	1.93E-06	-	1.93E-06	
			Methoxychlor	-	-	-	-	-	Developmental	-	-	5.26E-08	-	5.26E-08	
			Naphthalene	-	-	1.13E-11	-	1.13E-11	Nasal Epithelium	-	-	5.10E-07	-	5.10E-07	
			n-Butylbenzene	-	-	-	-	-	Respiratory System	-	-	2.38E-05	-	2.38E-05	
			n-Propylbenzene	-	-	-	-	-	Liver/Kidney	-	-	5.67E-07	-	5.67E-07	
			Phenanthrene	-	-	-	-	-	No Observed Effect	-	-	7.03E-10	-	7.03E-10	
			p-isopropyltoluene	-	-	-	-	-	Kidney	-	-	2.51E-05	-	2.51E-05	
			Pyrene	-	-	-	-	-	Kidney	-	-	1.24E-09	-	1.24E-09	
			sec-Butylbenzene	-	-	-	-	-	Liver/Kidney	-	-	1.61E-06	-	1.61E-06	
			Tert-Butylbenzene	-	-	-	-	-	Organ weight	-	-	1.83E-06	-	1.83E-06	
			Toluene	-	-	-	-	-	CNS	-	-	2.14E-08	-	2.14E-08	
			trans-1,2-Dichloroethene	-	-	-	-	-	Blood	-	-	3.61E-06	-	3.61E-06	
			Trichloroethene	-	-	1.13E-10	-	1.13E-10	CNS/Eye	-	-	4.42E-07	-	4.42E-07	
			Vinyl chloride	-	-	9.01E-09	-	9.01E-09	Liver	-	-	5.44E-06	-	5.44E-06	
						Chemical Total	0.00E+00	0.00E+00	1.37E-08	0.00E+00	1.37E-08		0.00E+00	0.00E+00	1.76E-04
			Exposure Point Total												
			Exposure Medium Total					1.37E-08						1.76E-04	
Medium Total								1.37E-08						1.76E-04	
Receptor Total								Receptor Risk Total						Receptor HI Total	1.82E+00

- Notes:
- Not applicable or not available
  - CNS Central nervous system
  - COPC Chemicals of Potential Concern
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - GI Gastrointestinal
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H3-9.1  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient					
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	1.61E-06	6.36E-08	--	--	1.67E-06	Skin	8.81E-03	3.49E-04	--	--	9.15E-03
			--	--	--	--	--	--		--	--	--	--	--
			Chemical Total	2.88E-06	2.60E-07	0.00E+00	0.00E+00	3.14E-06		1.64E-01	9.59E-03	0.00E+00	0.00E+00	1.74E-01
	Exposure Point Total						3.14E-06						1.74E-01	
	Exposure Medium Total						3.14E-06						1.74E-01	
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	Kidney Liver Nasal Epithelium	--	--	--	--	--	--
			--	--	--	--	--		--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	8.66E-07	0.00E+00		8.66E-07	0.00E+00	0.00E+00	1.33E-01	0.00E+00	1.33E-01
		Exposure Point Total						8.66E-07						1.33E-01
		Exposure Medium Total						8.66E-07						1.33E-01
	Indoor Air (Vapor Intrusion)	1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney Liver Nasal Epithelium	--	--	1.10E+00	--	--	1.10E+00
		1,4-Dichlorobenzene	--	--	4.14E-06	--	4.14E-06		--	--	7.01E-03	--	--	7.01E-03
Naphthalene		--	--	1.75E-05	--	1.75E-05	--		--	2.65E+00	--	--	2.65E+00	
Chemical Total		0.00E+00	0.00E+00	2.17E-05	0.00E+00	2.17E-05	0.00E+00	0.00E+00	4.30E+00	0.00E+00		4.30E+00		
Exposure Point Total						2.17E-05						4.30E+00		
Exposure Medium Total						2.26E-05						4.43E+00		
Medium Total						2.57E-05						4.60E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--		--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	4.52E-09	0.00E+00		4.52E-09	0.00E+00	0.00E+00	1.94E-04	0.00E+00	1.94E-04
	Exposure Point Total						4.52E-09						1.94E-04	
Exposure Medium Total						4.52E-09						1.94E-04		
Groundwater Vapor Intrusion Indoor Air	Indoor Air (Inhalation)	--	--	--	--	--	--	--	--	--	--	--	--	
		--	--	--	--	--		--	--	--	--	--		
		Chemical Total	0.00E+00	0.00E+00	9.65E-08	0.00E+00		9.65E-08	0.00E+00	0.00E+00	3.94E-03	0.00E+00	3.94E-03	
Exposure Point Total						9.65E-08						3.94E-03		
Exposure Medium Total						9.65E-08						3.94E-03		
Medium Total						1.01E-07						4.13E-03		
Receptor Total							Receptor Risk Total	2.58E-05				Receptor HI Total	4.61E+00	

TABLE H3-9.1

EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

**TABLE H3-9.2**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	Arsenic	2.48E-06	9.83E-08	--	--	2.58E-06	Skin	1.36E-02	5.39E-04	--	--	1.42E-02	
			--	--	--	--	--	--		--	--	--	--	--	
			Chemical Total	3.58E-06	2.67E-07	0.00E+00	0.00E+00	3.85E-06		1.59E-01	9.51E-03	0.00E+00	0.00E+00	1.68E-01	
	Exposure Point Total						3.85E-06						1.68E-01		
	Exposure Medium Total						3.85E-06						1.68E-01		
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	8.65E-07	0.00E+00	8.65E-07	0.00E+00	0.00E+00	1.33E-01	0.00E+00	1.33E-01		
		Exposure Point Total						8.65E-07						1.33E-01	
		Indoor Air (Vapor Intrusion)	1,2,4-Trichlorobenzene	--	--	--	--	--	--	Kidney Liver Nasal Epithelium	--	--	1.10E+00	--	1.10E+00
			1,4-Dichlorobenzene	--	--	4.14E-06	--	4.14E-06	--		--	7.01E-03	--	7.01E-03	
	Naphthalene		--	--	1.75E-05	--	1.75E-05	--	--		2.65E+00	--	2.65E+00		
Exposure Point Total						2.17E-05			0.00E+00	0.00E+00	4.30E+00	0.00E+00	4.30E+00		
Exposure Medium Total						2.26E-05							4.43E+00		
Medium Total						2.64E-05							4.60E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--			
			Chemical Total	0.00E+00	0.00E+00	4.52E-09	0.00E+00	4.52E-09	0.00E+00	0.00E+00	1.94E-04	0.00E+00	1.94E-04		
	Exposure Point Total						4.52E-09						1.94E-04		
Exposure Medium Total						4.52E-09							1.94E-04		
Groundwater Vapor Intrusion Indoor Air	Indoor Air (Inhalation)	--	--	--	--	--	--	--	--	--	--	--	--		
		--	--	--	--	--	--	--	--	--	--	--			
		Chemical Total	0.00E+00	0.00E+00	9.65E-08	0.00E+00	9.65E-08	0.00E+00	0.00E+00	3.94E-03	0.00E+00	3.94E-03			
Exposure Point Total						9.65E-08							3.94E-03		
Exposure Medium Total						9.65E-08							3.94E-03		
Medium Total						1.01E-07							4.13E-03		
Receptor Total								Receptor Risk Total	2.65E-05				Receptor HI Total	4.60E+00	

TABLE H3-9.2

EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

TABLE H3-9.3  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Hypothetical Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs)	Soil	Site Soil	--	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	5.26E-07	1.19E-07	0.00E+00	0.00E+00	6.45E-07		1.35E-01	1.97E-02	0.00E+00	0.00E+00	1.55E-01		
			Exposure Point Total						6.45E-07						1.55E-01	
	Exposure Medium Total									6.45E-07						1.55E-01
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	7.93E-08	0.00E+00	7.93E-08		0.00E+00	0.00E+00	5.58E-02	0.00E+00	5.58E-02		
			Exposure Point Total						7.93E-08						5.58E-02	
	Exposure Medium Total									7.93E-08						5.58E-02
	Medium Total									7.24E-07						2.10E-01
	Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
Chemical Total				0.00E+00	0.00E+00	4.13E-10	0.00E+00	4.13E-10		0.00E+00	0.00E+00	7.98E-05	0.00E+00	7.98E-05		
Exposure Point Total									4.13E-10						7.98E-05	
Exposure Medium Total									4.13E-10						7.98E-05	
Medium Total									4.13E-10						7.98E-05	
Receptor Total				Receptor Risk Total					7.25E-07	Receptor HI Total					2.11E-01	

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard Index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H3-9.4  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	6.55E-07	1.22E-07	0.00E+00	0.00E+00	7.76E-07	--	1.30E-01	1.96E-02	0.00E+00	0.00E+00	1.50E-01	
			Exposure Point Total	7.76E-07					--	1.50E-01					
	Exposure Medium Total					7.76E-07					1.50E-01				
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	7.91E-08	0.00E+00	7.91E-08	--	0.00E+00	0.00E+00	5.57E-02	0.00E+00	5.57E-02	
			Exposure Point Total	7.91E-08					--	5.57E-02					
	Exposure Medium Total					7.91E-08					5.57E-02				
	Medium Total					8.55E-07					2.06E-01				
	Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	
Chemical Total				0.00E+00	0.00E+00	4.13E-10	0.00E+00	4.13E-10	--	0.00E+00	0.00E+00	7.98E-05	0.00E+00	7.98E-05	
Exposure Point Total				4.13E-10					--	7.98E-05					
Exposure Medium Total					4.13E-10					7.98E-05					
Medium Total					4.13E-10					7.98E-05					
Receptor Total					Receptor Risk Total					Receptor HI Total					
					8.56E-07					2.06E-01					

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H3-9.5  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	3.99E-06	1.36E-07	--	8.57E-06	1.27E-05	Skin	1.41E-02	4.81E-04	--	3.02E-02	4.48E-02		
			Benzo(a)pyrene	1.37E-06	2.03E-07	--	7.13E-08	1.64E-06		--	--	--	--	--	--	
			Cadmium	2.47E-07	2.81E-10	--	1.32E-05	1.35E-05		Kidney	1.30E-02	1.48E-05	--	6.97E-01	7.10E-01	
			Dieldrin	6.04E-08	6.89E-10	--	1.15E-05	1.15E-05		Liver	7.55E-04	8.61E-06	--	1.43E-01	1.44E-01	
			Heptachlor Epoxide	4.20E-09	4.79E-11	--	1.74E-06	1.74E-06		Liver	5.88E-04	6.70E-06	--	2.43E-01	2.43E-01	
	Chemical Total	7.16E-06	5.58E-07	0.00E+00	3.69E-05	4.46E-05		2.62E-01	1.32E-02	0.00E+00	2.81E+00	2.89E+00				
	Exposure Point Total					4.46E-05							2.89E+00			
	Exposure Medium Total					4.46E-05								2.89E+00		
	Air	Outdoor Air (Particulates and VOCs)		1,4-Dichlorobenzene	--	--	1.29E-06	--	1.29E-06	Liver	--	--	1.41E-03	--	1.41E-03	
				Naphthalene	--	--	1.74E-06	--	1.74E-06		Nasal Epithelium	--	--	1.69E-01	--	1.69E-01
				Chemical Total	0.00E+00	0.00E+00	3.13E-06	0.00E+00	3.13E-06		--	--	--	--	--	
				Exposure Point Total					3.13E-06			0.00E+00	0.00E+00	3.10E-01	0.00E+00	3.10E-01
				Exposure Medium Total					3.13E-06							
	Air	Indoor Air (Vapor Intrusion)		1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.66E+00	--	1.66E+00	
				1,2,4-Trichlorobenzene	--	--	--	--	--		Kidney	--	--	5.64E+00	--	5.64E+00
1,4-Dichlorobenzene				--	--	3.31E-05	--	3.31E-05	Liver		--	--	3.60E-02	--	3.60E-02	
Naphthalene				--	--	1.56E-04	--	1.56E-04	Nasal Epithelium		--	--	1.52E+01	--	1.52E+01	
Chemical Total				0.00E+00	0.00E+00	1.90E-04	0.00E+00	1.90E-04			0.00E+00	0.00E+00	2.37E+01	0.00E+00	2.37E+01	
Exposure Point Total					1.90E-04							2.37E+01				
Exposure Medium Total					1.93E-04								2.40E+01			
Medium Total					2.38E-04								2.69E+01			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.63E-08	0.00E+00	1.63E-08		0.00E+00	0.00E+00	4.51E-04	0.00E+00	4.51E-04		
			Exposure Point Total					1.63E-08							4.51E-04	
			Exposure Medium Total					1.63E-08							4.51E-04	
Groundwater Vapor Intrusion	Indoor Air (Inhalation)		--	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	8.21E-07	0.00E+00	8.21E-07		0.00E+00	0.00E+00	1.86E-02	0.00E+00	1.86E-02		
			Exposure Point Total					8.21E-07							1.86E-02	
			Exposure Medium Total					8.21E-07							1.86E-02	
Medium Total					8.38E-07								1.91E-02			
Receptor Total					2.38E-04								2.69E+01			

TABLE H3-9.5  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H3-9.6  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-4 ft bgs)	Soil	Site Soil	Arsenic	6.17E-06	2.11E-07	--	1.33E-05	1.96E-05	Skin	2.18E-02	7.44E-04	--	4.67E-02	6.93E-02		
			Benzo(a)pyrene	1.16E-06	1.71E-07	--	6.02E-08	1.39E-06		--	--	--	--	--	--	
			Cadmium	2.25E-07	2.57E-10	--	1.21E-05	1.23E-05		Kidney	1.18E-02	1.35E-05	--	6.36E-01	6.48E-01	
			Dieldrin	5.36E-08	6.11E-10	--	1.02E-05	1.02E-05		Liver	6.70E-04	7.64E-06	--	1.27E-01	1.28E-01	
			Heptachlor Epoxide	3.71E-09	4.23E-11	--	1.53E-06	1.54E-06		Liver	5.19E-04	5.92E-06	--	2.15E-01	2.15E-01	
	Chemical Total	8.91E-06	5.72E-07	0.00E+00	3.88E-05	4.82E-05		2.54E-01	1.31E-02	0.00E+00	2.37E+00	2.64E+00				
	Exposure Point Total					4.82E-05						2.64E+00				
	Exposure Medium Total					4.82E-05						2.64E+00				
	Air	Outdoor Air	Outdoor Air	1,4-Dichlorobenzene	--	--	1.29E-06	--	1.29E-06	Liver Nasal Epithelium	--	--	1.41E-03	--	1.41E-03	
				Naphthalene	--	--	1.74E-06	--	1.74E-06		--	--	1.69E-01	--	1.69E-01	
				Chemical Total	0.00E+00	0.00E+00	3.13E-06	0.00E+00	3.13E-06			0.00E+00	0.00E+00	3.09E-01	0.00E+00	3.09E-01
				Exposure Point Total					3.13E-06							3.09E-01
				Exposure Medium Total					3.13E-06							3.09E-01
		(Vapor Intrusion)	Indoor Air (Vapor Intrusion)	Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney Kidney Liver Liver Nasal Epithelium	--	--	1.66E+00	--	1.66E+00
					1,2,4-Trichlorobenzene	--	--	--	--	--		--	--	5.64E+00	--	5.64E+00
1,4-Dichlorobenzene					--	--	3.31E-05	--	3.31E-05	--		--	3.60E-02	--	3.60E-02	
Heptachlor					--	--	9.22E-09	--	9.22E-09	--		--	4.50E-05	--	4.50E-05	
Naphthalene					--	--	1.56E-04	--	1.56E-04	--		--	1.52E+01	--	1.52E+01	
Chemical Total	0.00E+00	0.00E+00	1.90E-04	0.00E+00	1.90E-04		0.00E+00	0.00E+00	2.37E+01	0.00E+00	2.37E+01					
Exposure Point Total					1.90E-04						2.37E+01					
Exposure Medium Total					1.93E-04						2.40E+01					
Medium Total					2.41E-04						2.68E+01					
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--			
			Chemical Total	0.00E+00	0.00E+00	1.63E-08	0.00E+00	1.63E-08		0.00E+00	0.00E+00	4.51E-04	0.00E+00	4.51E-04		
			Exposure Point Total					1.63E-08						4.51E-04		
	Exposure Medium Total					1.63E-08						4.51E-04				
	Groundwater Vapor Intrusion	Indoor Air (inhalation)	Indoor Air (inhalation)	--	--	--	--	--	--	--	--	--	--	--		
Chemical Total				0.00E+00	0.00E+00	8.21E-07	0.00E+00	8.21E-07		0.00E+00	0.00E+00	1.86E-02	0.00E+00	1.86E-02		
Exposure Point Total					8.21E-07							1.86E-02				
Exposure Medium Total					8.21E-07							1.86E-02				
Medium Total					8.38E-07							1.91E-02				
Receptor Total					2.42E-04							2.68E+01				

TABLE H3-9.6

EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

TABLE H3-9.7  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	1.06E-05	3.58E-07	--	2.13E-06	1.31E-05	Skin	1.31E-01	4.41E-03	--	2.63E-02	1.62E-01			
			Benzo(a)anthracene	1.10E-06	1.60E-07	--	9.40E-09	1.27E-06	--	--	--	--	--	--			
			Benzo(a)pyrene	3.65E-06	5.31E-07	--	1.78E-08	4.20E-06	--	--	--	--	--	--			
			Cadmium	6.58E-07	7.36E-10	--	3.29E-06	3.95E-06	Kidney	1.21E-01	1.36E-04	--	6.07E-01	7.28E-01			
			Dieldrin	1.61E-07	1.80E-09	--	2.85E-06	3.02E-06	Liver	7.05E-03	7.90E-05	--	1.25E-01	1.32E-01			
			Chemical Total	1.91E-05	1.46E-06	0.00E+00	9.18E-06	2.97E-05		2.45E+00	1.21E-01	0.00E+00	2.28E+00	4.85E+00			
			Exposure Point Total										2.97E-05	4.85E+00			
			Exposure Medium Total											2.97E-05	4.85E+00		
	Air	Outdoor Air (Particulates and VOCs)		Naphthalene	--	--	1.21E-06	--	1.21E-06	Nasal Epithelium	--	--	4.13E-01	--	4.13E-01		
				Chemical Total	0.00E+00	0.00E+00	2.19E-06	0.00E+00	2.19E-06		0.00E+00	0.00E+00	7.57E-01	0.00E+00	7.57E-01		
						Exposure Point Total										2.19E-06	7.57E-01
						Exposure Medium Total											2.19E-06
		Indoor Air (Vapor Intrusion)		1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00		
				1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01		
				1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.36E+00	--	1.36E+00		
				1,4-Dichlorobenzene	--	--	2.31E-05	--	2.31E-05	Liver	--	--	8.79E-02	--	8.79E-02		
				Naphthalene	--	--	1.09E-04	--	1.09E-04	Nasal Epithelium	--	--	3.72E+01	--	3.72E+01		
				Chemical Total	0.00E+00	0.00E+00	1.33E-04	0.00E+00	1.33E-04		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01		
			Exposure Point Total											1.33E-04	5.78E+01		
			Exposure Medium Total												1.33E-04	5.78E+01	
Medium Total														1.65E-04	6.34E+01		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--			
			Chemical Total	0.00E+00	0.00E+00	1.14E-08	0.00E+00	1.14E-08		0.00E+00	0.00E+00	1.10E-03	0.00E+00	1.10E-03			
			Exposure Point Total											1.14E-08	1.10E-03		
			Exposure Medium Total												1.14E-08	1.10E-03	
Groundwater Vapor Intrusion	Indoor Air (Inhalation)	--	--	--	--	--	--	--	--	--	--	--	--				
		Chemical Total	0.00E+00	0.00E+00	5.74E-07	0.00E+00	5.74E-07		0.00E+00	0.00E+00	4.55E-02	0.00E+00	4.55E-02				
		Exposure Point Total												5.74E-07	4.55E-02		
		Exposure Medium Total												5.74E-07	4.55E-02		
Medium Total														5.85E-07	4.67E-02		
Receptor Total														Receptor Risk Total	1.65E-04	Receptor HI Total	6.35E+01

**TABLE H3-9.7**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:**
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H3-9.8  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-4 ft bgs)	Soil	Site Soil	Arsenic	1.65E-05	5.53E-07	--	3.30E-06	2.03E-05	Skin	2.03E-01	6.83E-03	--	4.07E-02	2.51E-01	
			Benzo(a)anthracene	9.23E-07	1.34E-07	--	7.91E-09	1.07E-06		--	--	--	--	--	--
			Benzo(a)pyrene	3.08E-06	4.49E-07	--	1.50E-08	3.55E-06		--	--	--	--	--	--
			Cadmium	6.00E-07	6.72E-10	--	3.01E-06	3.61E-06		Kidney	1.11E-01	1.24E-04	--	5.54E-01	6.65E-01
			Dieldrin	1.43E-07	1.60E-09	--	2.53E-06	2.68E-06			Liver	6.26E-03	7.01E-05	--	1.11E-01
			Chemical Total	2.38E-05	1.50E-06	0.00E+00	9.64E-06	3.49E-05			2.37E+00	1.20E-01	0.00E+00	2.07E+00	4.56E+00
	Exposure Point Total					3.49E-05						4.56E+00			
	Exposure Medium Total					3.49E-05						4.56E+00			
	Air	Outdoor Air (Particulates and VOCs)		Naphthalene	--	--	1.21E-06	--	1.21E-06	Nasal Epithelium	--	--	4.13E-01	--	4.13E-01
				Chemical Total	0.00E+00	0.00E+00	2.18E-06	0.00E+00	2.18E-06		0.00E+00	0.00E+00	7.56E-01	0.00E+00	7.56E-01
				Exposure Point Total					2.18E-06						7.56E-01
				Exposure Medium Total					2.18E-06						7.56E-01
		Indoor Air (Vapor Intrusion)		1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00
				1,2,4-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	1.38E+01	--	1.38E+01
				1,2-Dichlorobenzene	--	--	--	--	--	Body weight	--	--	1.36E+00	--	1.36E+00
1,4-Dichlorobenzene				--	--	2.31E-05	--	2.31E-05	Liver	--	--	8.79E-02	--	8.79E-02	
Naphthalene				--	--	1.09E-04	--	1.09E-04	Nasal Epithelium	--	--	3.72E+01	--	3.72E+01	
Chemical Total				0.00E+00	0.00E+00	1.33E-04	0.00E+00	1.33E-04		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01	
Exposure Point Total					1.33E-04						5.78E+01				
Exposure Medium Total					1.35E-04						5.88E+01				
Medium Total					1.70E-04						6.31E+01				
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.14E-08	0.00E+00	1.14E-08	0.00E+00	0.00E+00	1.10E-03	0.00E+00	1.10E-03		
			Exposure Point Total					1.14E-08					1.10E-03		
	Exposure Medium Total					1.14E-08					1.10E-03				
	Groundwater Vapor Intrusion	Indoor Air (Inhalation)	--	--	--	--	--	--	--	--	--	--	--		
Chemical Total	0.00E+00	0.00E+00	5.74E-07	0.00E+00	5.74E-07		0.00E+00	0.00E+00	4.55E-02	0.00E+00	4.55E-02				
Exposure Point Total					5.74E-07						4.55E-02				
Exposure Medium Total					5.74E-07						4.55E-02				
Medium Total					5.85E-07						4.67E-02				
Receptor Total					1.70E-04						6.32E+01				

TABLE H3-9.8

EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

TABLE H3-9.9  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Hypothetical Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient							
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total		
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	1.46E-05	4.94E-07	--	1.07E-05	2.58E-05	Skin	1.31E-01	4.41E-03	--	2.63E-02	1.62E-01		
			Benzo(a)anthracene	1.51E-06	2.21E-07	--	4.72E-08	1.78E-06		--	--	--	--	--	--	
			Benzo(a)pyrene	5.02E-06	7.34E-07	--	8.91E-08	5.84E-06		--	--	--	--	--	--	
			Benzo(b)fluoranthene	8.25E-07	1.21E-07	--	1.47E-07	1.09E-06		--	--	--	--	--	--	
			Benzo(k)fluoranthene	9.83E-07	1.44E-07	--	1.74E-07	1.30E-06		--	--	--	--	--	--	
			Cadmium	9.04E-07	1.02E-09	--	1.65E-05	1.74E-05		Kidney	1.21E-01	1.36E-04	--	6.07E-01	7.28E-01	
			Dieldrin	2.22E-07	2.49E-09	--	1.43E-05	1.45E-05			Liver	7.05E-03	7.90E-05	--	1.25E-01	1.32E-01
			Chemical Total	2.63E-05	2.02E-06	0.00E+00	4.60E-05	7.43E-05		2.45E+00	1.21E-01	0.00E+00	2.28E+00	4.85E+00		
			Exposure Point Total					7.43E-05						4.85E+00		
			Exposure Medium Total					7.43E-05						4.85E+00		
	Air	Outdoor Air (Particulates and VOCs)		1,4-Dichlorobenzene	--	--	2.20E-06	--	2.20E-06	Liver Nasal Epithelium	--	--	3.44E-03	--	3.44E-03	
				Naphthalene	--	--	2.95E-06	--	2.95E-06		--	--	4.13E-01	--	4.13E-01	
					--	--	--	--	--		--	--	--	--	--	
				Chemical Total	0.00E+00	0.00E+00	5.32E-06	0.00E+00	5.32E-06			0.00E+00	0.00E+00	7.57E-01	0.00E+00	7.57E-01
				Exposure Point Total					5.32E-06						7.57E-01	
		Indoor Air (Vapor Intrusion)			1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney Kidney Body weight Liver Nasal Epithelium	--	--	4.05E+00	--	4.05E+00
					1,2,4-Trichlorobenzene	--	--	--	--	--		--	--	1.38E+01	--	1.38E+01
					1,2-Dichlorobenzene	--	--	--	--	--		--	--	1.36E+00	--	1.36E+00
					1,4-Dichlorobenzene	--	--	5.62E-05	--	5.62E-05		--	--	8.79E-02	--	8.79E-02
					Naphthalene	--	--	2.66E-04	--	2.66E-04		--	--	3.72E+01	--	3.72E+01
			Chemical Total	0.00E+00	0.00E+00	3.22E-04	0.00E+00	3.22E-04		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01		
			Exposure Point Total					3.22E-04						5.78E+01		
			Exposure Medium Total					3.22E-04						5.78E+01		
		Medium Total					4.02E-04						6.34E+01			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--			
			--	--	--	--	--	--	--	--	--	--				
			Chemical Total	0.00E+00	0.00E+00	2.78E-08	0.00E+00	2.78E-08		0.00E+00	0.00E+00	1.10E-03	0.00E+00	1.10E-03		
			Exposure Point Total					2.78E-08						1.10E-03		
			Exposure Medium Total					2.78E-08						1.10E-03		
	Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)		Vinyl chloride	--	--	1.23E-06	--	1.23E-06	Liver	--	--	2.30E-03	--	2.30E-03	
--				--	--	--	--	--	--		--	--	--			
Chemical Total				0.00E+00	0.00E+00	1.39E-06	0.00E+00	1.39E-06			0.00E+00	0.00E+00	4.55E-02	0.00E+00	4.55E-02	
		Exposure Point Total					1.39E-06						4.55E-02			
		Exposure Medium Total					1.39E-06						4.55E-02			
		Medium Total					1.42E-06						4.67E-02			
		Receptor Total					4.04E-04						6.35E+01			

**TABLE H3-9.9**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD + ADULT RESIDENT, SURFACE SOIL (0 TO 2 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Hypothetical Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

- Not applicable or not available
- CTE Central Tendency Exposure
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- VOC Volatile organic compound

**TABLE H3-9.10**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Hypothetical Future Redeveloped
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-8 ft bgs)	Soil	Site Soil	Arsenic	2.26E-05	7.64E-07	--	1.65E-05	3.99E-05	Skin	2.03E-01	6.83E-03	--	4.07E-02	2.51E-01	
			Benzo(a)anthracene	1.27E-06	1.86E-07	--	3.97E-08	1.50E-06		--	--	--	--	--	--
			Benzo(a)pyrene	4.24E-06	6.20E-07	--	7.52E-08	4.93E-06		--	--	--	--	--	--
			Benzo(k)fluoranthene	8.51E-07	1.25E-07	--	1.51E-07	1.13E-06		--	--	--	--	--	--
			Cadmium	8.25E-07	9.29E-10	--	1.51E-05	1.59E-05		Kidney	1.11E-01	1.24E-04	--	5.54E-01	6.65E-01
			Dieldrin	1.97E-07	2.21E-09	--	1.27E-05	1.29E-05			Liver	6.28E-03	7.01E-05	--	1.11E-01
	Chemical Total	3.27E-05	2.07E-06	0.00E+00	4.84E-05	8.31E-05		2.37E+00	1.20E-01	0.00E+00	2.07E+00	4.56E+00			
	Exposure Point Total					8.31E-05							4.56E+00		
	Exposure Medium Total					8.31E-05							4.56E+00		
	Air	Outdoor Air (Particulates and VOCs)	1,4-Dichlorobenzene	--	--	2.20E-06	--	2.20E-06	Liver	--	--	3.44E-03	--	3.44E-03	
			Naphthalene	--	--	2.95E-06	--	2.95E-06		Nasal Epithelium	--	--	4.13E-01	--	4.13E-01
			Chemical Total	0.00E+00	0.00E+00	5.31E-06	0.00E+00	5.31E-06			0.00E+00	0.00E+00	7.56E-01	0.00E+00	7.56E-01
		Exposure Point Total					5.31E-06							7.56E-01	
		Indoor Air (Vapor Intrusion)	1,2,3-Trichlorobenzene	--	--	--	--	--	Kidney	--	--	4.05E+00	--	4.05E+00	
			1,2,4-Trichlorobenzene	--	--	--	--	--		Kidney	--	--	1.38E+01	--	1.38E+01
1,2-Dichlorobenzene	--		--	--	--	--	Body weight	--		--	1.36E+00	--	1.36E+00		
1,4-Dichlorobenzene	--	--	5.62E-05	--	5.62E-05	Liver	--	--	8.79E-02	--	8.79E-02				
Naphthalene	--	--	2.66E-04	--	2.66E-04		Nasal Epithelium	--	--	3.72E+01	--	3.72E+01			
Chemical Total	0.00E+00	0.00E+00	3.22E-04	0.00E+00	3.22E-04		0.00E+00	0.00E+00	5.78E+01	0.00E+00	5.78E+01				
Exposure Point Total					3.22E-04							5.78E+01			
Exposure Medium Total					3.22E-04							5.78E+01			
Medium Total					4.11E-04							6.31E+01			
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--		--	--	--	--	--		
			--	--	--	--	--		--	--	--				
			Chemical Total	0.00E+00	0.00E+00	2.78E-08	0.00E+00		2.78E-08		0.00E+00	0.00E+00	1.10E-03	0.00E+00	1.10E-03
	Exposure Point Total					2.78E-08						1.10E-03			
Exposure Medium Total					2.78E-08							1.10E-03			
Groundwater Vapor Intrusion Indoor Air	Indoor Air (inhalation)	Vinyl chloride	--	--	1.23E-06	--	1.23E-06	Liver	--	--	2.30E-03	--	2.30E-03		
		--	--	--	--	--	--		--	--					
		Chemical Total	0.00E+00	0.00E+00	1.39E-06	0.00E+00	1.39E-06			0.00E+00	0.00E+00	4.55E-02	0.00E+00	4.55E-02	
Exposure Point Total					1.39E-06							4.55E-02			
Exposure Medium Total					1.39E-06							4.55E-02			
Medium Total					1.42E-06							4.67E-02			
Receptor Total					4.12E-04								6.32E+01		

**TABLE H3-9.10**  
**EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)**  
**CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Hypothetical Future Redeveloped
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

- Notes:**
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard Index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H3-9.11  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	2.93E-06	1.36E-07	--	--	3.07E-06	Skin	1.03E-02	4.81E-04	--	--	1.08E-02	
			Benzo(a)pyrene	1.01E-06	2.03E-07	--	--	1.21E-06		--	--	--	--	--	--
			Chemical Total	5.26E-06	5.58E-07	0.00E+00	0.00E+00	5.82E-06		--	1.93E-01	1.32E-02	0.00E+00	0.00E+00	2.06E-01
	Exposure Point Total						5.82E-06							2.06E-01	
	Exposure Medium Total						5.82E-06							2.06E-01	
	Air	Outdoor Air (Particulates and VOCs)	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	
			Chemical Total	0.00E+00	0.00E+00	2.27E-06	0.00E+00	2.27E-06	--	0.00E+00	0.00E+00	2.24E-01	0.00E+00	2.24E-01	
	Exposure Point Total						2.27E-06							2.24E-01	
	Exposure Medium Total						2.27E-06							2.24E-01	
Medium Total						8.09E-06							4.30E-01		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--		
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.18E-08	0.00E+00	1.18E-08	--	0.00E+00	0.00E+00	3.27E-04	0.00E+00	3.27E-04	
Exposure Point Total						1.18E-08							3.27E-04		
Exposure Medium Total						1.18E-08							3.27E-04		
Medium Total						1.18E-08							3.27E-04		
Receptor Total				Receptor Risk Total					Receptor HI Total						
				8.10E-06					4.31E-01						

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H3-9.12  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	6.84E-06	3.58E-07	--	--	7.20E-06	Skin	8.45E-02	4.41E-03	--	--	8.89E-02	
			Benzo(a)pyrene	2.35E-06	5.31E-07	--	--	2.88E-06		--	--	--	--	--	--
			Chemical Total	1.23E-05	1.46E-06	0.00E+00	0.00E+00	1.37E-05		1.57E+00	1.21E-01	0.00E+00	0.00E+00	0.00E+00	1.70E+00
			Exposure Point Total											1.70E+00	
			Exposure Medium Total											1.70E+00	
	Air	Outdoor Air (Particulates and VOCs)		--	--	--	--	--	--	--	--	--	--	--	--
				--	--	--	--	--	--	--	--	--	--	--	--
				--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	3.48E-07	0.00E+00	3.48E-07	0.00E+00	0.00E+00	0.00E+00	1.20E-01	0.00E+00	0.00E+00	1.20E-01
			Exposure Point Total											1.20E-01	
		Exposure Medium Total											1.20E-01		
Medium Total													1.41E-05		
													1.82E+00		
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--	--	--
			Chemical Total	0.00E+00	0.00E+00	1.82E-09	0.00E+00	1.82E-09	0.00E+00	0.00E+00	0.00E+00	1.76E-04	0.00E+00	0.00E+00	1.76E-04
		Exposure Point Total											1.76E-04		
		Exposure Medium Total											1.76E-04		
Medium Total													1.82E-09		
Receptor Total													1.41E-05		
														Receptor HI Total 1.82E+00	

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

TABLE H3-9.13  
 EPA RAGS PART D TABLE 10, CTE RISK ASSESSMENT SUMMARY USING TOXICITY DATA FROM DTSC-PREFERRED SOURCES (METHOD 2)  
 RECREATIONAL CHILD + ADULT, SURFACE SOIL (0 TO 2 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Hypothetical Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient						
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	
Soil (0-2 ft bgs)	Soil	Site Soil	Arsenic	9.77E-06	4.94E-07	--	--	1.03E-05	Skin	8.45E-02	4.41E-03	--	--	8.89E-02	
			Benzo(a)anthracene	1.01E-06	2.21E-07	--	--	1.23E-06		--	--	--	--	--	
			Benzo(a)pyrene	3.35E-06	7.34E-07	--	--	4.09E-06		--	--	--	--	--	
			Chemical Total	1.75E-05	2.02E-06	0.00E+00	0.00E+00	1.96E-05		--	1.57E+00	1.21E-01	0.00E+00	0.00E+00	1.70E+00
	Exposure Point Total									1.96E-05					
	Exposure Medium Total									1.96E-05					
	Medium Total									1.70E+00					
	Air	Outdoor Air (Particulates and VOCs)		--	--	--	--	--	--	--	--	--	--	--	--
				--	--	--	--	--	--	--	--	--	--	--	
				--	--	--	--	--	--	--	--	--	--	--	
Chemical Total				0.00E+00	0.00E+00	2.62E-06	0.00E+00	2.62E-06	--	0.00E+00	0.00E+00	1.20E-01	0.00E+00	1.20E-01	
Exposure Point Total									2.62E-06						
Exposure Medium Total									2.62E-06						
Medium Total									2.22E-05						
Groundwater	Outdoor Air	Inhalation (Volatiles)	--	--	--	--	--	--	--	--	--	--	--	--	
			--	--	--	--	--	--	--	--	--	--	--		
			Chemical Total	0.00E+00	0.00E+00	1.37E-08	0.00E+00	1.37E-08	--	0.00E+00	0.00E+00	1.76E-04	0.00E+00	1.76E-04	
Exposure Point Total									1.37E-08						
Exposure Medium Total									1.37E-08						
Medium Total									1.37E-08						
Receptor Total				Receptor Risk Total					2.22E-05						
									Receptor HI Total						
									1.82E+00						

- Notes:
- Not applicable or not available
  - CTE Central Tendency Exposure
  - EPA U.S. Environmental Protection Agency
  - ft bgs Feet below ground surface
  - HI Hazard index
  - RAGS Risk Assessment Guidelines for Superfund
  - RI Remedial Investigation
  - VOC Volatile organic compound

**ATTACHMENT H4**  
**CANCER RISK AND NONCANCER HAZARD ESTIMATES, INCREMENTAL RISK**

## **TABLES**

---

### **Summary of Total, Incremental, and Background Risks by Pathway, RME**

H4-1 Total, Incremental, and Background Risks by Pathway, Reasonable Maximum Exposure, Using EPA Toxicity Sources

### **Summaries of RME Receptor Risks and Hazards for COPCs**

H4-8.1 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Commercial/Industrial Worker, Surface and Subsurface Soil (0 to 4 feet bgs)

H4-8.2 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Construction Worker, Surface and Subsurface Soil (0 to 4 feet bgs)

H4-8.3 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)

H4-8.4 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Child Resident, Surface and Subsurface Soil (0 to 4 feet bgs)

H4-8.5 EPA RAGS Part D Table 9, Summary of RME Receptor Risk and Hazards for COPCs Using Toxicity Data from EPA Sources (Method 1), Child + Adult Resident, Surface and Subsurface Soil (0 to 4 feet bgs)

**TABLE H4-1: TOTAL, INCREMENTAL, AND BACKGROUND RISKS BY PATHWAY, REASONABLE MAXIMUM EXPOSURE, USING EPA TOXICITY SOURCES**

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Exposure Pathway	Total EPA Cancer Risk	Cancer Risk from Background Concentrations	Incremental Cancer Risk (total - background)	Total EPA Hazard Index	Hazard Index from Background Concentrations	Incremental Hazard Index (total - background)
<b>Residential Child + Adult (0-4 ft bgs)<sup>a</sup></b>						
Ingestion of soil	6E-05	9E-06	5E-05	5	1	3
Dermal contact with soil	2E-05	9E-07	2E-05	0.6	0.02	0.6
Ingestion of homegrown produce	6E-05	3E-06	5E-05	1.9	0.3	1.6
Inhalation of particulates	6E-06	2E-08	6E-06	1.0	0.01	0.9
Inhalation of indoor air from soil	1E-04	--	1E-04	74	--	74
Inhalation of outdoor air from groundwater	1E-07	--	1E-07	0.002	--	0.002
Inhalation of indoor air from groundwater	5E-06	--	5E-06	0.1	--	0.1
<b>TOTAL</b>	<b>3E-04</b>	<b>1E-05</b>	<b>3E-04</b>	<b>82</b>	<b>2</b>	<b>80</b>
<b>Commercial/Industrial (0-4 ft bgs)</b>						
Ingestion of soil	1E-05	2E-06	1E-05	0.4	0.1	0.3
Dermal contact with soil	1E-05	7E-07	1E-05	0.2	0.01	0.2
Inhalation of particulates	2E-06	6E-09	2E-06	0.20	0.01	0.20
Inhalation of indoor air from soil	2E-05	--	2E-05	7	--	7
Inhalation of outdoor air from groundwater	4E-08	--	4E-08	0.0003	--	0.0003
Inhalation of indoor air from groundwater	8E-07	--	8E-07	0.01	--	0.01
<b>TOTAL</b>	<b>5E-05</b>	<b>3E-06</b>	<b>5E-05</b>	<b>7</b>	<b>0.1</b>	<b>7</b>
<b>Construction (0-4 ft bgs)</b>						
Ingestion of soil	2E-06	3E-07	1E-06	1	0.3	1
Dermal contact with soil	2E-06	1E-07	2E-06	0.8	0.02	0.7
Inhalation of particulates	9E-07	5E-07	5E-07	6	4	2
Inhalation of outdoor air from groundwater	2E-09	--	2E-09	0.0005	--	0.0005
<b>TOTAL</b>	<b>5E-06</b>	<b>9E-07</b>	<b>4E-06</b>	<b>8</b>	<b>5</b>	<b>3</b>

**Notes:**

a The total cancer risks presented for the resident are the combined cancer risks of the child and the adult. The total hazard indices presented for the resident are the total hazard indices for the child only.

EPA U.S. Environmental Protection Agency  
 ft bgs Feet below ground surface

**RISKS FROM BACKGROUND CONCENTRATIONS**

---

TABLE H4-8.1  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient									
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total				
Soil (0-4 ft bgs)	Soil	Site Soil	Aluminum	-	-	-	-	-	2.84E-06	CNS	6.43E-03	7.33E-05	-	-	6.50E-03			
			Antimony	-	-	-	-	-		Whole body/Blood	5.07E-03	5.78E-05	-	-	5.13E-03			
			Arsenic	2.11E-06	7.22E-07	-	-	-		Skin	1.31E-02	4.50E-03	-	-	1.76E-02			
			Barium	-	-	-	-	-		Kidney	7.94E-04	9.05E-06	-	-	8.03E-04			
			Beryllium	-	-	-	-	-		GI Tract	2.95E-04	3.37E-06	-	-	2.99E-04			
			Cadmium	-	-	-	-	-		Kidney	7.82E-04	8.92E-06	-	-	7.91E-04			
			Chromium	-	-	-	-	-		No observed effect	2.12E-05	2.42E-07	-	-	2.15E-05			
			Cobalt	-	-	-	-	-		Blood	4.98E-04	5.67E-06	-	-	5.03E-04			
			Copper	-	-	-	-	-		GI Tract	3.99E-04	4.55E-06	-	-	4.03E-04			
			Iron	-	-	-	-	-		Liver	3.68E-02	4.20E-04	-	-	3.73E-02			
			Lead	-	-	-	-	-		-	-	-	-	-	-			
			Manganese	-	-	-	-	-		CNS	8.93E-03	1.02E-04	-	-	9.03E-03			
			Mercury	-	-	-	-	-		Immune System	7.05E-04	-	-	-	7.05E-04			
			Nickel	-	-	-	-	-		Whole Body	1.48E-03	1.68E-05	-	-	1.49E-03			
			Silver	-	-	-	-	-		Skin	1.45E-04	1.66E-06	-	-	1.47E-04			
			Vanadium	-	-	-	-	-		Kidney	2.41E-02	2.75E-04	-	-	2.44E-02			
			Zinc	-	-	-	-	-		Blood	1.37E-04	1.57E-06	-	-	1.39E-04			
						Chemical Total	2.11E-06	7.22E-07		0.00E+00	0.00E+00	2.84E-06		9.98E-02	5.48E-03	0.00E+00	0.00E+00	1.05E-01
						Exposure Point Total						2.84E-06						1.05E-01
						Exposure Medium Total						2.84E-06						1.05E-01
			Air	Outdoor Air (Particulates and VOCs)		Aluminum	-	-		-	-	-	6.22E-09	Respiratory System	-	-	4.77E-04	-
Antimony	-	-				-	-	-	-	-	-	-		-	-			
Arsenic	-	-				2.24E-09	-	-	-	-	-	-		-	-	-		
Barium	-	-				-	-	-	Developmental	-	-	4.21E-05		-	-	4.21E-05		
Beryllium	-	-				1.88E-10	-	-	Immune System/Lung	-	-	1.10E-05		-	-	1.10E-05		
Cadmium	-	-				9.33E-11	-	-	-	-	-	-		-	-	-		
Chromium	-	-				-	-	-	-	-	-	-		-	-	-		
Cobalt	-	-				3.70E-09	-	-	Respiratory System	-	-	1.85E-04		-	-	1.85E-04		
Copper	-	-				-	-	-	-	-	-	-		-	-	-		
Iron	-	-				-	-	-	-	-	-	-		-	-	-		
Lead	-	-				-	-	-	-	-	-	-		-	-	-		
Manganese	-	-				-	-	-	CNS	-	-	1.59E-03		-	-	1.59E-03		
Mercury	-	-				-	-	-	CNS	-	-	2.61E-07		-	-	2.61E-07		
Nickel	-	-				-	-	-	-	-	-	-		-	-	-		
Silver	-	-				-	-	-	-	-	-	-		-	-	-		
Vanadium	-	-				-	-	-	-	-	-	-		-	-	-		
Zinc	-	-				-	-	-	-	-	-	-		-	-	-		
						Chemical Total	0.00E+00	0.00E+00	6.22E-09	0.00E+00	6.22E-09			0.00E+00	0.00E+00	2.31E-03	0.00E+00	2.31E-03
						Exposure Point Total					6.22E-09							2.31E-03
						Exposure Medium Total					6.22E-09							2.31E-03
Medium Total											2.84E-06							1.08E-01
Receptor Total								2.84E-06						1.08E-01				
							Receptor Risk Total	2.84E-06					Receptor HI Total	1.08E-01				

**TABLE H4-8.1**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**COMMERCIAL/INDUSTRIAL WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
**Appendix H, HHRA for Site 34 Alameda Point, Alameda, California**

Scenario Timeframe:	Future
Receptor Population:	Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

**Notes:**

-	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard Index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	3.73E-02
Total Organ 2 (Kidney) HI Across All Media =	2.60E-02
Total Organ 3 (Reproductive System) HI Across All Media =	-
Total Organ 4 (Nervous System) HI Across All Media =	1.71E-02
Total Organ 5 (Endocrine) HI Across All Media =	-
Total Organ 6 (Blood) HI Across All Media =	5.77E-03
Total Organ 7 (Adrenal) HI Across All Media =	-
Total Organ 8 (No Observed Effect) HI Across All Media =	2.15E-05
Total Organ 9 (Skin) HI Across All Media =	1.78E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	7.02E-04
Total Organ 11 (Vision/Eye) HI Across All Media =	-
Total Organ 12 (Body Weight) HI Across All Media =	-
Total Organ 13 (Developmental) HI Across All Media =	4.21E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	6.73E-04
Total Organ 15 (Whole Body) HI Across All Media =	6.62E-03
Total Organ 16 (Immune System) HI Across All Media =	7.16E-04
Total Organ 17 (Organ Weight) HI Across All Media =	-
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	-
Total Organ 19 (Nasal Tissue) HI Across All Media =	-



**TABLE H4-8.2**  
**EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)**  
**CONSTRUCTION WORKER, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)**  
Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

--	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	1.23E-01
Total Organ 2 (Kidney) HI Across All Media =	8.61E-02
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	3.05E+00
Total Organ 5 (Endocrine) HI Across All Media =	--
Total Organ 6 (Blood) HI Across All Media =	1.91E-02
Total Organ 7 (Adrenal) HI Across All Media =	--
Total Organ 8 (No Observed Effect) HI Across All Media =	7.17E-05
Total Organ 9 (Skin) HI Across All Media =	6.18E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	2.32E-03
Total Organ 11 (Vision/Eye) HI Across All Media =	--
Total Organ 12 (Body Weight) HI Across All Media =	2.84E-06
Total Organ 13 (Developmental) HI Across All Media =	7.94E-02
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.27E+00
Total Organ 15 (Whole Body) HI Across All Media =	2.19E-02
Total Organ 16 (Immune System) HI Across All Media =	2.30E-02
Total Organ 17 (Organ Weight) HI Across All Media =	--
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	--
Total Organ 19 (Nasal Tissue) HI Across All Media =	3.83E-05

TABLE H4-8.3

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Soil (0-4 ft bgs)	Soil	Site Soil	Aluminum	--	--	--	--	--	CNS	9.00E-03	3.59E-05	--	8.26E-04	9.86E-03			
			Antimony	--	--	--	--	--	Whole body/Blood	7.10E-03	2.83E-05	--	3.01E-02	3.72E-02			
			Arsenic	2.84E-06	3.40E-07	--	2.41E-06	5.59E-06	Skin	1.84E-02	2.20E-03	--	1.56E-02	3.62E-02			
			Barium	--	--	--	--	--	Kidney	1.11E-03	4.43E-06	--	2.35E-03	3.47E-03			
			Beryllium	--	--	--	--	--	GI Tract	4.13E-04	1.65E-06	--	8.76E-05	5.02E-04			
			Cadmium	--	--	--	--	--	Kidney	1.10E-03	4.37E-06	--	2.32E-02	2.43E-02			
			Chromium	--	--	--	--	--	No observed effect	2.97E-05	1.19E-07	--	1.89E-05	4.88E-05			
			Cobalt	--	--	--	--	--	Blood	6.97E-04	2.78E-06	--	6.89E-04	1.39E-03			
			Copper	--	--	--	--	--	GI Tract	5.58E-04	2.23E-06	--	1.97E-02	2.03E-02			
			Iron	--	--	--	--	--	Liver	5.16E-02	2.06E-04	--	7.24E-03	5.90E-02			
			Lead	--	--	--	--	--	--	--	--	--	--	--			
			Manganese	--	--	--	--	--	CNS	1.25E-02	4.99E-05	--	8.83E-02	1.01E-01			
			Mercury	--	--	--	--	--	Immune System	9.86E-04	--	--	2.79E-02	2.89E-02			
			Nickel	--	--	--	--	--	Whole Body	2.07E-03	8.25E-06	--	1.75E-02	1.96E-02			
			Silver	--	--	--	--	--	Skin	2.04E-04	8.13E-07	--	2.86E-03	3.08E-03			
			Vanadium	--	--	--	--	--	Kidney	3.38E-02	1.35E-04	--	1.43E-02	4.82E-02			
			Zinc	--	--	--	--	--	Blood	1.92E-04	7.68E-07	--	2.45E-02	2.47E-02			
						Chemical Total	2.84E-06	3.40E-07	0.00E+00	2.41E-06	5.59E-06		1.40E-01	2.68E-03	0.00E+00	2.75E-01	4.18E-01
					Exposure Point Total						5.59E-06						4.18E-01
				Exposure Medium Total							5.59E-06						4.18E-01
Air	Outdoor Air (Particulates and VOCs)	Aluminum	--	--	--	--	--	Respiratory System	--	--	9.50E-04	--	9.50E-04				
		Antimony	--	--	--	--	--	--	--	--	--	--	--				
		Arsenic	--	--	4.28E-09	--	4.28E-09	--	--	--	--	--	--				
		Barium	--	--	--	--	--	Developmental	--	--	8.38E-05	--	8.38E-05				
		Beryllium	--	--	3.59E-10	--	3.59E-10	Immune System/Lung	--	--	2.18E-05	--	2.18E-05				
		Cadmium	--	--	1.79E-10	--	1.79E-10	--	--	--	--	--	--				
		Chromium	--	--	--	--	--	--	--	--	--	--	--				
		Cobalt	--	--	7.07E-09	--	7.07E-09	Respiratory System	--	--	3.68E-04	--	3.68E-04				
		Copper	--	--	--	--	--	--	--	--	--	--	--				
		Iron	--	--	--	--	--	--	--	--	--	--	--				
		Lead	--	--	--	--	--	--	--	--	--	--	--				
		Manganese	--	--	--	--	--	CNS	--	--	3.17E-03	--	3.17E-03				
		Mercury	--	--	--	--	--	CNS	--	--	5.19E-07	--	5.19E-07				
		Nickel	--	--	--	--	--	--	--	--	--	--	--				
		Silver	--	--	--	--	--	--	--	--	--	--	--				
		Vanadium	--	--	--	--	--	--	--	--	--	--	--				
		Zinc	--	--	--	--	--	--	--	--	--	--	--				
					Chemical Total	0.00E+00	0.00E+00	1.19E-08	0.00E+00	1.19E-08		0.00E+00	0.00E+00	4.59E-03	0.00E+00	4.59E-03	
				Exposure Point Total						1.19E-08						4.59E-03	
			Exposure Medium Total							1.19E-08						4.59E-03	
Medium Total								5.60E-06						4.22E-01			
Receptor Total								5.60E-06						4.22E-01			
														Receptor HI Total	4.22E-01		

TABLE H4-8.3

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:  
 - Not applicable or not available  
 COPC Chemicals of Potential Concern  
 CNS Central nervous system  
 EPA U.S. Environmental Protection Agency  
 ft bgs Feet below ground surface  
 GI Gastrointestinal  
 HI Hazard Index  
 RAGS Risk Assessment Guidelines for Superfund  
 RI Remedial Investigation  
 RME Reasonable maximum exposure  
 VOC Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	5.90E-02
Total Organ 2 (Kidney) HI Across All Media =	7.60E-02
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	1.14E-01
Total Organ 5 (Endocrine) HI Across All Media =	--
Total Organ 6 (Blood) HI Across All Media =	6.33E-02
Total Organ 7 (Adrenal) HI Across All Media =	--
Total Organ 8 (No Observed Effect) HI Across All Media =	4.88E-05
Total Organ 9 (Skin) HI Across All Media =	3.93E-02
Total Organ 10 (Gastrointestinal System) HI Across All Media =	2.08E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	--
Total Organ 12 (Body Weight) HI Across All Media =	--
Total Organ 13 (Developmental) HI Across All Media =	8.38E-05
Total Organ 14 (Respiratory/lung) HI Across All Media =	1.34E-03
Total Organ 15 (Whole Body) HI Across All Media =	5.68E-02
Total Organ 16 (Immune System) HI Across All Media =	2.89E-02
Total Organ 17 (Organ Weight) HI Across All Media =	--
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	--
Total Organ 19 (Nasal Tissue) HI Across All Media =	--

TABLE H4-8.4  
 EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient									
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total				
Soil (0-4 ft bgs)	Soil	Site Soil	Aluminum	--	--	--	--	--	CNS	8.40E-02	2.44E-04	--	8.26E-04	8.51E-02				
			Antimony	--	--	--	--	--	Whole body/Blood	6.63E-02	1.92E-04	--	3.01E-02	9.66E-02				
			Arsenic	6.62E-06	5.76E-07	--	6.02E-07	7.80E-06	Skin	1.72E-01	1.49E-02	--	1.56E-02	2.02E-01				
			Barium	--	--	--	--	--	Kidney	1.04E-02	3.01E-05	--	2.35E-03	1.28E-02				
			Beryllium	--	--	--	--	--	GI Tract	3.86E-03	1.12E-05	--	8.76E-05	3.96E-03				
			Cadmium	--	--	--	--	--	Kidney	1.02E-02	2.96E-05	--	2.32E-02	3.35E-02				
			Chromium	--	--	--	--	--	No observed effect	2.78E-04	8.05E-07	--	1.89E-05	2.97E-04				
			Cobalt	--	--	--	--	--	Blood	6.50E-03	1.89E-05	--	6.89E-04	7.21E-03				
			Copper	--	--	--	--	--	GI Tract	5.21E-03	1.51E-05	--	1.97E-02	2.49E-02				
			Iron	--	--	--	--	--	Liver	4.81E-01	1.40E-03	--	7.24E-03	4.90E-01				
			Lead	--	--	--	--	--	--	--	--	--	--	--				
			Manganese	--	--	--	--	--	CNS	1.17E-01	3.38E-04	--	8.83E-02	2.05E-01				
			Mercury	--	--	--	--	--	Immune System	9.21E-03	--	--	2.79E-02	3.71E-02				
			Nickel	--	--	--	--	--	Whole Body	1.93E-02	5.59E-05	--	1.75E-02	3.69E-02				
			Silver	--	--	--	--	--	Skin	1.90E-03	5.51E-06	--	2.88E-03	4.78E-03				
			Vanadium	--	--	--	--	--	Kidney	3.15E-01	9.14E-04	--	1.43E-02	3.30E-01				
			Zinc	--	--	--	--	--	Blood	1.80E-03	5.21E-06	--	2.45E-02	2.63E-02				
						Chemical Total	6.62E-06	5.76E-07	0.00E+00	6.02E-07	7.80E-06		1.30E+00	1.82E-02	0.00E+00	2.75E-01	1.60E+00	
						Exposure Point Total					7.80E-06						1.60E+00	
						Exposure Medium Total					7.80E-06						1.60E+00	
			Air	Outdoor Air (Particulates and VOCs)		Aluminum	--	--	--	--	--	Respiratory System	--	--	2.24E-03	--	2.24E-03	
						Antimony	--	--	--	--	--	--	--	--	--	--	--	
						Arsenic	--	--	2.53E-09	--	2.53E-09	--	--	--	--	--	--	
						Barium	--	--	--	--	--	Developmental	--	--	1.98E-04	--	1.98E-04	
						Beryllium	--	--	2.12E-10	--	2.12E-10	Immune System/Lung	--	--	5.15E-05	--	5.15E-05	
						Cadmium	--	--	1.05E-10	--	1.05E-10	--	--	--	--	--	--	
						Chromium	--	--	--	--	--	--	--	--	--	--	--	
Cobalt	--	--				4.17E-09	--	4.17E-09	Respiratory System	--	--	8.70E-04	--	8.70E-04				
Copper	--	--				--	--	--	--	--	--	--	--	--				
Iron	--	--				--	--	--	--	--	--	--	--	--				
Lead	--	--				--	--	--	--	--	--	--	--	--				
Manganese	--	--				--	--	--	CNS	--	--	7.49E-03	--	7.49E-03				
Mercury	--	--				--	--	--	CNS	--	--	1.23E-06	--	1.23E-06				
Nickel	--	--				--	--	--	--	--	--	--	--	--				
Silver	--	--				--	--	--	--	--	--	--	--	--				
Vanadium	--	--				--	--	--	--	--	--	--	--	--				
Zinc	--	--				--	--	--	--	--	--	--	--	--				
						Chemical Total	0.00E+00	0.00E+00	7.02E-09	0.00E+00	7.02E-09		0.00E+00	0.00E+00	1.08E-02	0.00E+00	1.08E-02	
						Exposure Point Total					7.02E-09						1.08E-02	
						Exposure Medium Total					7.02E-09						1.08E-02	
Medium Total											7.81E-06						1.61E+00	
Receptor Total											7.81E-06						1.61E+00	
																	Receptor HI Total	1.61E+00

TABLE H4-8.4

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

—	Not applicable or not available
COPC	Chemicals of Potential Concern
CNS	Central nervous system
EPA	U.S. Environmental Protection Agency
ft bgs	Feet below ground surface
GI	Gastrointestinal
HI	Hazard index
RAGS	Risk Assessment Guidelines for Superfund
RI	Remedial Investigation
RME	Reasonable maximum exposure
VOC	Volatile organic compound

Total Organ 1 (Liver) HI Across All Media =	4.90E-01
Total Organ 2 (Kidney) HI Across All Media =	3.77E-01
Total Organ 3 (Reproductive System) HI Across All Media =	--
Total Organ 4 (Nervous System) HI Across All Media =	2.98E-01
Total Organ 5 (Endocrine) HI Across All Media =	--
Total Organ 6 (Blood) HI Across All Media =	1.30E-01
Total Organ 7 (Adrenal) HI Across All Media =	--
Total Organ 8 (No Observed Effect) HI Across All Media =	2.97E-04
Total Organ 9 (Skin) HI Across All Media =	2.07E-01
Total Organ 10 (Gastrointestinal System) HI Across All Media =	2.89E-02
Total Organ 11 (Vision/Eye) HI Across All Media =	--
Total Organ 12 (Body Weight) HI Across All Media =	--
Total Organ 13 (Developmental) HI Across All Media =	1.98E-04
Total Organ 14 (Respiratory/lung) HI Across All Media =	3.16E-03
Total Organ 15 (Whole Body) HI Across All Media =	1.33E-01
Total Organ 16 (Immune System) HI Across All Media =	3.71E-02
Total Organ 17 (Organ Weight) HI Across All Media =	--
Total Organ 18 (Finger and Toe Nail) HI Across All Media =	--
Total Organ 19 (Nasal Tissue) HI Across All Media =	--

TABLE H4-8.5

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)

CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS)

Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient								
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total			
Soil (0-4 ft bgs)	Soil	Site Soil	Aluminum	--	--	--	--	--	CNS	8.40E-02	2.44E-04	--	8.26E-04	8.51E-02			
			Antimony	--	--	--	--	--	Whole body/Blood	6.63E-02	1.92E-04	--	3.01E-02	9.66E-02			
			Arsenic	9.46E-06	9.16E-07	--	3.01E-06	1.34E-05	Skin	1.72E-01	1.49E-02	--	1.56E-02	2.02E-01			
			Barium	--	--	--	--	--	Kidney	1.04E-02	3.01E-05	--	2.35E-03	1.28E-02			
			Beryllium	--	--	--	--	--	GI Tract	3.86E-03	1.12E-05	--	8.76E-05	3.96E-03			
			Cadmium	--	--	--	--	--	Kidney	1.02E-02	2.96E-05	--	2.32E-02	3.35E-02			
			Chromium	--	--	--	--	--	No observed effect	2.78E-04	8.05E-07	--	1.89E-05	2.97E-04			
			Cobalt	--	--	--	--	--	Blood	6.50E-03	1.89E-05	--	6.89E-04	7.21E-03			
			Copper	--	--	--	--	--	GI Tract	5.21E-03	1.51E-05	--	1.97E-02	2.49E-02			
			Iron	--	--	--	--	--	Liver	4.81E-01	1.40E-03	--	7.24E-03	4.90E-01			
			Lead	--	--	--	--	--	--	--	--	--	--	--			
			Manganese	--	--	--	--	--	CNS	1.17E-01	3.38E-04	--	8.83E-02	2.05E-01			
			Mercury	--	--	--	--	--	Immune System	9.21E-03	--	--	2.79E-02	3.71E-02			
			Nickel	--	--	--	--	--	Whole Body	1.93E-02	5.59E-05	--	1.75E-02	3.69E-02			
			Silver	--	--	--	--	--	Skin	1.90E-03	5.51E-06	--	2.88E-03	4.78E-03			
			Vanadium	--	--	--	--	--	Kidney	3.15E-01	9.14E-04	--	1.43E-02	3.30E-01			
			Zinc	--	--	--	--	--	Blood	1.80E-03	5.21E-06	--	2.45E-02	2.63E-02			
						Chemical Total	9.46E-06	9.16E-07	0.00E+00	3.01E-06	1.34E-05		1.30E+00	1.82E-02	0.00E+00	2.75E-01	1.60E+00
						Exposure Point Total					1.34E-05						1.60E+00
						Exposure Medium Total					1.34E-05						1.60E+00
			Air	Air	Outdoor Air (Particulates and VOCs)	Aluminum	--	--	--	--	--	Respiratory System	--	--	2.24E-03	--	2.24E-03
Antimony	--	--				--	--	--	--	--	--	--	--	--			
Arsenic	--	--				6.81E-09	--	6.81E-09	--	--	--	--	--	--			
Barium	--	--				--	--	--	Developmental	--	--	1.98E-04	--	1.98E-04			
Beryllium	--	--				5.71E-10	--	5.71E-10	Immune System/Lung	--	--	5.15E-05	--	5.15E-05			
Cadmium	--	--				2.84E-10	--	2.84E-10	--	--	--	--	--	--			
Chromium	--	--				--	--	--	--	--	--	--	--	--			
Cobalt	--	--				1.12E-08	--	1.12E-08	Respiratory System	--	--	8.70E-04	--	8.70E-04			
Copper	--	--				--	--	--	--	--	--	--	--	--			
Iron	--	--				--	--	--	--	--	--	--	--	--			
Lead	--	--				--	--	--	--	--	--	--	--	--			
Manganese	--	--				--	--	--	CNS	--	--	7.49E-03	--	7.49E-03			
Mercury	--	--				--	--	--	CNS	--	--	1.23E-06	--	1.23E-06			
Nickel	--	--				--	--	--	--	--	--	--	--	--			
Silver	--	--				--	--	--	--	--	--	--	--	--			
Vanadium	--	--				--	--	--	--	--	--	--	--	--			
Zinc	--	--				--	--	--	--	--	--	--	--	--			
						Chemical Total	0.00E+00	0.00E+00	1.89E-08	0.00E+00	1.89E-08		0.00E+00	0.00E+00	1.08E-02	1.08E-02	
						Exposure Point Total			1.89E-08		1.89E-08					1.08E-02	
						Exposure Medium Total			1.89E-08		1.89E-08					1.08E-02	
Medium Total										1.34E-05						1.61E+00	
Receptor Total							Receptor Risk Total	1.34E-05					Receptor HI Total	1.61E+00			

TABLE H4-8.5

EPA RAGS PART D TABLE 9, SUMMARY OF RME RECEPTOR RISKS AND HAZARDS FOR COPCS USING TOXICITY DATA FROM EPA SOURCES (METHOD 1)  
 CHILD + ADULT RESIDENT, SURFACE AND SUBSURFACE SOIL (0 TO 4 FEET BGS) (continued)  
 Appendix H, HHRA for Site 34 Alameda Point, Alameda, California

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child + Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Dermal	Inhalation	Ingestion of Home-Grown Produce

Notes:

- Not applicable or not available
- EPA U.S. Environmental Protection Agency
- ft bgs Feet below ground surface
- HI Hazard index
- RAGS Risk Assessment Guidelines for Superfund
- RI Remedial Investigation
- RME Reasonable maximum exposure
- VOC Volatile organic compound

**APPENDIX I**  
**SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT**

---

## TABLE OF CONTENTS

---

ACRONYMS AND ABBREVIATIONS .....	v
II INTRODUCTION .....	I-1
11.1 PURPOSE AND APPROACH OF THE SLERA AND STEP 3A RISK REFINEMENT .....	I-1
12.0 EXPOSURE EVALUATION .....	I-2
12.1 SITE LOCATION AND DESCRIPTION .....	I-2
12.2 ECOLOGICAL SETTING .....	I-3
12.2.1 Ecological Habitats at Installation Restoration Site 34.....	I-3
12.2.2 Rare, Threatened, or Endangered Species .....	I-5
12.3 SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN.....	I-6
12.4 CHEMICAL FATE AND TRANSPORT.....	I-7
12.5 ECOTOXICITY OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN.....	I-7
12.6 EXPOSURE PATHWAY ANALYSIS.....	I-7
12.6.1 Soil Pathways.....	I-8
12.6.2 Groundwater Pathways .....	I-8
12.7 CONCEPTUAL SITE MODEL .....	I-8
12.7.1 Soil Model.....	I-9
12.7.2 Groundwater Model.....	I-10
13.0 RISK CHARACTERIZATION .....	I-11
13.1 TOXICITY REFERENCE VALUES FOR MAMMALS AND BIRDS .....	I-11
13.2 DOSE ESTIMATION .....	I-12
13.3 RISK ESTIMATION .....	I-15
13.4 QUALITATIVE EVALUATION OF AQUATIC LIFE .....	I-16
14.0 UNCERTAINTY ANALYSIS .....	I-17
14.1 SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN.....	I-17
14.2 EXPOSURE PATHWAYS.....	I-17
14.3 ENDPOINT RECEPTOR SELECTION .....	I-18
14.4 EXPOSURE MODEL.....	I-18
14.5 EXPOSURE ESTIMATES.....	I-18
14.6 BIOAVAILABILITY .....	I-18
14.7 TOXICITY REFERENCE VALUE EXTRAPOLATIONS .....	I-19
14.8 UNCERTAINTY ANALYSES OF RISK CHARACTERIZATION.....	I-19
15.0 SUMMARY AND CONCLUSIONS OF STEPS 1 AND 2.....	I-19

**TABLE OF CONTENTS (Continued)**

---

I6.0 STEP 3A RISK REFINEMENT ..... I-20

    I6.1.1 Terrestrial Wildlife..... I-20

    I6.1.2 Aquatic Life ..... I-24

I6.2 CONCLUSIONS OF SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND  
STEP 3A RISK REFINEMENT..... I-27

    I6.2.1 Conclusions of the Screening-Level Ecological Risk Assessment..... I-27

    I6.2.2 Conclusions of the Step 3a Risk Refinement..... I-28

I7.0 REFERENCES ..... I-30

**Attachment**

I1 Deer Mouse Dose Calculations and Hazard Quotients

I2 California Ground Squirrel Dose Calculations and Hazard Quotients

I3 Alameda Song Sparrow Dose Calculations and Hazard Quotients

I4 American Robin Dose Calculations and Hazard Quotients

I5 Red-tailed Hawk Dose Calculations and Hazard Quotients

## FIGURES

---

- I-1 Site Location
- I-2 Diagram of SLERA Process
- I-3 Conceptual Site Model
- I-4 Ecological Habitat
- I-5 Wetlands in the Vicinity of IR Site 34

## TABLES

---

- I-1 Special-Status Species Previously Reported at Alameda Point
- I-2 Chemicals of Potential Ecological Concern in Soil at IR Site 34
- I-3 Chemicals of Potential Ecological Concern in Groundwater at IR Site 34
- I-4 TRVs for the Deer Mouse (*Peromyscus maniculatus*)
- I-5 TRVs for the California Ground Squirrel (*Spermophilus beecheyi*)
- I-6 TRVs for the Alameda Song Sparrow (*Melospiza melodia pusilla*)
- I-7 TRVs for the American Robin (*Turdus migratorius*)
- I-8 TRVs for the Red-Tailed Hawk (*Buteo jamaicensis*)
- I-9 Groundwater Threshold Criteria
- I-10 Summary of Bioaccumulation Models for Plants—Inorganic Chemicals
- I-11 Summary of Bioaccumulation Models for Plants—Organic Chemicals
- I-12 Summary of Bioaccumulation Models for Invertebrates—Inorganic Chemicals
- I-13 Summary of Bioaccumulation Models for Invertebrates – Organic Chemicals
- I-14 Summary of Bioaccumulation Models for Small Mammals—Inorganic Chemicals
- I-15 Summary of Bioaccumulation Models for Small Mammals—Organic Chemicals
- I-16 Dose Parameters for the Deer Mouse (*Peromyscus maniculatus*)
- I-17 Dose Parameters for the California Ground Squirrel (*Spermophilus beecheyi*)
- I-18 Dose Parameters for the Alameda Song Sparrow (*Melospiza melodia pusilla*)
- I-19 Dose Parameters for the American Robin (*Turdus migratorius*)
- I-20 Dose Parameters for the Red-Tailed Hawk (*Buteo jamaicensis*)
- I-21 HQs for Mammals and Birds (Step 2)
- I-22 HQs for Mammals and Birds (Step 3a)
- I-23 Results of Groundwater Screening

**TABLE OF CONTENTS (Continued)**

---

I-24 Final Risk Driver Determination for Groundwater

## **ACRONYMS AND ABBREVIATIONS**

---

µg/L	Microgram per liter
95UCL	95th percentile of the upper confidence limit of the arithmetic mean
BAF	Bioaccumulation factor
BCF	Bioconcentration factor
bgs	below ground surface
BHC	Benzene hexachloride
BTAG	Biological Technical Assistance Group
CCC	Continuous concentration criteria
CDFG	California Department of Fish and Game
CMC	Continuous maximum criteria
CNDDDB	California Natural Diversity Database
COPEC	Chemical of potential ecological concern
CSM	Conceptual site model
DDE	Dichlorodiphenyldichloroethene
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
EPC	Exposure point concentration
ERA	Ecological Risk Assessment
ESL	Ecological screening level
FWBZ	First-water bearing zone
HQ	Hazard quotient
IR	Installation Restoration
mg/kg	Milligram per kilogram
mg/kg-day	Milligram per kilogram per day
NAWQC	National Ambient Water Quality Criteria
NOAEL	No-observed-adverse-effects level
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation

**ACRONYMS AND ABBREVIATIONS (Continued)**

---

SLERA	Screening-Level Ecological Risk Assessment
SUF	Site use factor
SVOC	Semivolatile organic compound
SWBZ	Second water-bearing zone
TPH	Total petroleum hydrocarbon
TRV	Toxicity reference value
VOC	Volatile organic compound
Water Board	San Francisco Bay Regional Water Quality Control Board

## 11 INTRODUCTION

This appendix presents the results of the screening-level ecological risk assessment (SLERA) and Step 3a risk refinement performed as part of the Remedial Investigation (RI) being conducted at Installation Restoration (IR) Site 34 at Alameda Point, Alameda, California (see Figure I-1). The SLERA and the Step 3a risk refinement assess potential risks to terrestrial receptors and aquatic life associated with exposure to chemicals of potential ecological concern (COPEC) in soil and groundwater at IR Site 34.

The SLERA and refined exposure estimation were prepared in accordance with guidance from the U.S. Environmental Protection Agency (EPA) (1997, 1998, 1999a, 1999b, 2000b), Department of Toxic Substances Control (DTSC) (1996a, 1996b), and the U.S. Department of the Navy (Navy) (1999, 2004). The Navy guidance follows a three-tiered approach for conducting ecological risk assessments (ERA).

The approach and organization of the SLERA and refined exposure estimation are presented in the following sections.

### 11.1 PURPOSE AND APPROACH OF THE SLERA AND STEP 3A RISK REFINEMENT

The purpose of this SLERA and the Step 3a risk refinement is to evaluate potential ecological risks associated with IR Site 34 using existing site data and site assessment reports. The SLERA evaluates potential ecological risks from chemicals present in soils and groundwater at IR Site 34 to terrestrial species potentially using the site, as well as aquatic life in the adjacent Oakland Inner Harbor. The results of this evaluation will guide future risk management decisions for IR Site 34. Further details on the SLERA and the Step3a risk refinement approach are provided below.

A SLERA uses conservative assumptions and available scientific literature to evaluate potential risk to ecological receptors in an approach consistent with Steps 1 and 2 of the eight-step process described in the EPA guidance (EPA 1997, 1998, 1999a, 1999b, 2000b). The methods and assumptions used to complete the SLERA were selected or developed to be consistent with RI work plan (Sultech 2006), Navy policy for conducting Ecological Risk Assessments (ERA) (Navy 1999, 2004), which is parallel to the EPA guidelines for the eight-step ERA process for Superfund sites (EPA 1997b), and EPA guidance. The first two components of the DTSC process (scoping assessment and Phase I predictive assessment) (DTSC 1996a, 1996b) are consistent with the EPA and Navy approaches. Substantive elements of the guidance provided by all three agencies were considered in the development of this SLERA.

Tier 1, composed of two steps, employs existing data and conservative assumptions to evaluate risk at a site (see Figure I-2). In Step 1, Exposure Evaluation, potentially complete exposure pathways are examined to determine if links between site chemicals and ecological receptors exist at IR Site 34. Step 2, Risk Characterization, estimates risk based on the hazard quotient (HQ) approach. Risk is estimated for chemicals with complete exposure pathways identified in

Step 1. Once the Tier 1 process is complete, a scientific management decision point is made on the site's status and whether further evaluation is necessary (EPA 1997, 2001). EPA guidance on conducting ERAs recommends that the list of COPECs be reevaluated in the problem formulation step of the baseline ERA to account for site-specific and regional conditions (EPA 2001). In addition, Navy guidance (1999) indicates that an intermediate refinement step may be conducted (Step 3a risk refinement) if the SLERA indicates unacceptable or uncertain risk (see Figure I-2). If the data evaluated in Steps 1 and 2 indicate risk to receptors at IR Site 34, then the Navy initiated the risk refinement step (Step 3a) of the baseline ERA.

## **12.0 EXPOSURE EVALUATION**

The exposure evaluation begins with a problem formulation step, which identifies an ecological conceptual site model (CSM) that addresses:

- Environmental setting and COPECs
- Chemical fate and transport mechanisms (operational)
- Mechanisms of ecotoxicity (broad classes of COPECs)
- Potentially complete exposure pathways

The ecological CSM for IR Site 34 is shown on Figure I-3.

An assessment of site characteristics and ecological habitats, representative organisms, and threatened and endangered species that exist or have to the potential to exist at IR Site 34 was conducted. COPECs were identified and the fate and transport mechanisms of the COPECs were evaluated to determine if the chemicals have the potential to reach ecological receptors. The ecotoxicity of the COPECs also was examined to understand the potential adverse effects to ecological receptors. Finally, the potential exposure pathways between COPECs and ecological receptors were evaluated.

### **12.1 SITE LOCATION AND DESCRIPTION**

Alameda Point is located at the west end of Alameda Island, which is positioned along the eastern margin of San Francisco Bay and the western edge of the City of Oakland (see Figure I-1). The island is bordered by the Oakland Inner Harbor to the north and San Francisco Bay to the south. IR Site 34 is located on the northwestern portion of Alameda Point.

Alameda Point historically consisted of submerged lands, tideland, and dry land. The area was filled using hydraulically placed dredge materials from San Francisco Bay, Seaplane Lagoon, and Oakland Inner Harbor. Most recently, the land was occupied by the former Naval Air Station Alameda, now known as Alameda Point, but other former land uses included a city-

owned airport and a railroad. The land is currently owned by the City of Alameda, and future potential land uses include a recreational area and a golf course.

Evaluation of soil borings at IR Site 34 indicated surface soils at the site are composed of artificial fill. The artificial fill extends from the ground surface to 6 to 14 feet below ground surface (bgs). The Bay Sediment Unit is located beneath the layer of artificial fill. The fill material is primarily poorly graded, fine- to medium-grained sand, with interbedded clay and sandy clay. An in-depth discussion of the geology of Alameda Point can be found in Section 2.3 of the IR Site 34 RI Report.

Groundwater at IR Site 34 exists in three hydrogeologic units: (1) first water-bearing zone (FWBZ), (2) second water-bearing zone (SWBZ), and (3) the deep water aquifer. Depth to groundwater in the FWBZ ranges from 4 to 6 feet bgs. Based on site investigations, groundwater is flowing in the direction of the Oakland Inner Harbor (see Figure 2-5 in IR Site 34 RI Report).

Current land use at IR Site 34 is open space, although at the time of the site visit, the site was being used for temporary dredging work and the land use was primarily industrial. All of the site buildings have been demolished, and most of the site is paved. IR Site 34 also contains a small amount of disturbed open space and one seasonal wetland area. Land use within a 1-mile radius of the site is mostly urban, with open space, wetlands, and the Oakland Inner Harbor comprising the remaining areas.

## **12.2 ECOLOGICAL SETTING**

This section describes the habitats; representative organisms; and rare, threatened, or endangered species within a 1-mile radius of IR Site 34. The descriptions of site habitats were based on a site visit and were supplemented by information from the California Wildlife Habitat Relationships System (California Department of Fish and Game [CDFG] 2005). The California Natural Diversity Database (CNDDB) (CDFG 2007) was consulted to verify whether special-status species have been reported at IR Site 34 or within the vicinity of the site.

### **12.2.1 Ecological Habitats at Installation Restoration Site 34**

Alameda Point contains the following six major terrestrial and aquatic wildlife habitats identified for an Environmental Impact Statement for the facility (Navy 1999a), and descriptions of the habitat are supplemented by a site visit and information from the California Wildlife Habitat Relationships System (California Department of Fish and Game [CDFG] 2005):

:

- Open Water Area
- Grassland
- Landscaped or Developed

- Intensively Developed
- Airfield (Paved) Area
- Rock Breakwaters and Rip Rap

IR Site 34 is considered an Intensively Developed area and is bordered by Open Water Area and RipRap to the north, Grassland to the south, and Intensively Developed areas to the east and west. Intensively Developed areas have little vegetation and typical urban wildlife, such as California ground squirrel, scrub jays, and American robins, may be observed in these areas but to a lesser extent than in the landscaped/developed areas, because less foraging habitat is available in these areas (Navy 1999a). Feral cats also are found in the intensively developed area.

Dominant plant species in the nonnative grassland habitat to the south include ryegrass (*Lolium perenne*), yellow sweet clover (*Melilotus officinalis*), and common plantain (*Plantago major*). Blacktailed jackrabbits (*Lepus californicus*), Canada geese (*Branta canadensis*); and European starlings (*Sturnus vulgaris*) are the dominant animal species in this habitat (Navy 1999a). Species composition and density vary depending on the amount and type of vegetation present. This habitat supports wildlife that have adapted to disturbed environments.

Riprap and a potential saline emergent wetland area line the northern boundary of IR Site 34 along the shoreline of the Oakland Inner Harbor, and an additional potential seasonal wetland occurs in the southwest corner of the site (see Figure I-5). These potential wetlands have not been formally delineated. In 2001, a wetland delineation was conducted on the northern edge of Site 15, which is located to the east of Site 34, and about 1 acre of the site is classified as wetlands (Tetra Tech 2001a). Dominant plant species in that wetland area include pickleweed (*Salicornia virginica*), Carolina geranium (*Geranium carolinum*), and prickly lettuce (*Lactuca serriola*). Feral cats have been observed in the riprap near the potential wetland. During the site visit, a small area of geraniums (*Geranium carolinum*) and prickly lettuce (*Lactuca serriola*), as well as other unidentified wetland plants, were observed in the potential seasonal wetland in the southwest corner of Site 34.

Although wetland habitat has the potential to support various species, it is unlikely that the wetlands located on or near IR Site 34 would support large populations of wildlife. The potential wetlands provide minimal habitat to support plant and invertebrate populations, and the potential wetland to the north is tidally inundated at such a frequency as to not provide suitable habitat for small mammals. In addition, because of high marine vessel activity in the Oakland Inner Harbor it is unlikely that this area will be used by nesting birds. The wetlands are also isolated by intensively developed area. The saline emergent wetland is subject to fast-moving currents and is adjacent to a deep, riprap-lined channel. This wetland is unlikely to meet the habitat requirements of much wetland wildlife because of the turbulent nature of the neighboring waters and the lack of refuge from flooding.

## 12.2.2 Rare, Threatened, or Endangered Species

Special-status species that have been reported at IR Site 34 or within the vicinity of the site were identified through the CNDDDB (CDFG 2007). Table I-1 lists the special-status species that have been reported at or within the vicinity of Alameda Point. The California Wildlife Habitat Relationships System (CDFG 2005) was consulted to assess the suitability of the habitats at IR Site 34 for each special-status species. Special-status species are unlikely to occur at IR Site 34 because of the dominance of barren or disturbed habitat. Although wetland habitat is present at the site and within a 1-mile radius of the site, these areas do not meet the habitat requirements of special-status species.

Several special-status plants have been reported in Alameda Point (CNDDDB 2007). Robust spineflower (*Chorizanthe robusta* var. *robusta*), Santa Cruz tarplant (*Holocarpha macradenia*), beach layia (*Layia carnosa*), and adobe sanicle (*Sanicula maritima*) are all extirpated or possibly extirpated from Alameda Point. Due to extirpation, as well as the lack of suitable habitat (CDFG 2007), these special-status plants are not expected to occur at IR Site 34.

The tidewater goby (*Eucyclogobius newberryi*), a federally listed endangered fish, occurs in brackish water habitats along the California coast. This species requires shallow lagoons and still water (CDFG 2007). Since the Oakland Inner Harbor is a deep, riprap-lined channel, the habitat requirements for the tidewater goby are not met. This species is not expected to occur at IR Site 34 because of the lack of suitable habitat.

The California tiger salamander (*Ambystoma californiense*) is primarily found in annual grassland habitats and lays eggs in vernal pools or other temporary water sources. This species requires underground mammal burrows for breeding (CDFG 2007). Grasslands do not exist at or within the vicinity of IR Site 34; therefore, the habitat requirements for tiger salamanders are not met. In addition, this species is extirpated at Alameda Point.

The special-status birds that have been reported at Alameda Point include the California black rail (*Laterallus jamaicensis coturniculus*), California clapper rail (*Rallus longirostris obsoletus*), and the California least tern (*Sterna antillarum browni*). The California black rail is associated with salt marshes bordering large bays, primarily in areas with dense pickleweed growth. Although an area of saline emergent wetlands exists at IR Site 34 (see Figure I-5), the area covers only approximately 700 square feet. The black rail prefers extensive tidal marshes (Spautz and Nur 2002), so the wetlands at IR Site 34 would not be large enough to support the black rail. One of the wetlands areas (approximately 5,000 square feet) located in the vicinity of IR Site 34 may be large enough to support the black rail, but this wetland is not tidally inundated. Therefore, this wetland does not meet the habitat requirements for black rails. The California clapper rail occurs in salt and brackish marshes traversed by tidal sloughs. No tidal sloughs are located along the Oakland Inner Harbor in the vicinity of IR Site 34 (see Figure I-5), thus IR Site 34 does not contain suitable habitat to support the clapper rail. As a result, the California black rail and the California clapper rail are not expected to occur at IR Site 34. The California least tern nests in a specific location at Alameda Point. IR Site 34 does not provide the nesting habitat

preferred by the least tern. The least tern has not been observed using the area known as IR Site 34.

The salt marsh harvest mouse (*Reithrodontomys raviventris*), federally and state-listed as endangered, resides only in saline emergent wetlands. Although the wetlands area north of IR Site 34 is classified as saline emergent wetlands, the salt marsh harvest mouse requires higher areas for flood escape (CDFG 2007). The wetlands within the vicinity of IR Site 34 do not fit these criteria, thus this species is not expected to occur at the site.

### **12.3 SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN**

Soil and groundwater investigations were conducted to characterize the nature and extent of contamination at IR Site 34. Results from these investigations indicated the presence of inorganic and organic chemicals in both media. Soil and groundwater samples were analyzed for metals, volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polycyclic aromatic hydrocarbons (PAH), pesticides, polychlorinated biphenyls (PCB), and total petroleum hydrocarbons (TPH). This analytical data were used to select COPECs.

Soil COPECs were identified from analytical data collected from 0 to 4 feet bgs. Soil COPECs were identified from analytical data collected from 0 to 4 feet bgs. Although groundwater will undergo dilution upon entering the Bay, the SLERA uses the monitoring well concentration data as a conservative (protective) estimate. Groundwater COPECs were identified from analytical data collected from wells located at IR Site 34. COPECs include all chemicals detected above the detection limit at least once. Any chemical not detected above the quantitation limit was eliminated as a COPEC. Per EPA guidance (1989), essential nutrients (calcium, magnesium, potassium, and sodium) were excluded as COPECs. Although essential nutrients may be present at concentrations above naturally occurring levels, they are eliminated as COPECs because they are only toxic at levels higher than those found at the site. In accordance with Navy policy (2001b, 2004), data for IR Site 34 are not screened against background (ambient) concentrations until the COPEC refinement process in Step 3a of the baseline ERA, if Step 3a is necessary. As a result, 20 metals, 16 VOCs, 12 SVOCs, 17 PAHs, 20 pesticides, and 4 TPHs in soil were retained for further evaluation. For groundwater, 24 metals, 29 VOCs, 3 SVOCs, 20 PAHs, 15 pesticides, and 3 TPHs were retained. Descriptive statistics are provided for these initial COPECs for soil and groundwater and the 95UCLs were calculated (see Tables I-2 and I-3).

Retaining each chemical detected at least once as a COPEC likely leads to an overestimation of risk. Many of the chemicals detected at IR Site 34 were detected at relatively low concentrations, but were evaluated as COPECs to preserve the conservative nature of the SLERA. Additionally, the list of groundwater COPECs is conservatively developed, and does not take into account any attenuation or dilution which may occur between the point of detection and reaching ecological receptors at or near the point of entry to surface water. This approach likely overstates the risk to ecological receptors from groundwater.

## **12.4 CHEMICAL FATE AND TRANSPORT**

Residual soil contamination at IR Site 34 appears to be confined to several specific areas (see Section 4.1 of the IR Site 34 RI Report). Based on site-specific investigations, groundwater contamination is present throughout the site. The mechanisms of chemical fate and transport are evaluated to understand how a chemical may reach an ecological receptor. Fate and transport mechanisms of site chemicals determine how the chemicals degrade and where they travel through the environment. Site chemicals can move through environmental media, as well as change in the presence of other chemicals and particles.

Potential routes of migration differ for chemicals in soil and groundwater. Chemicals in soil may migrate via physical processes such as erosion. Migration routes for groundwater chemicals include flow of groundwater (advection) or movement of a chemical in groundwater from an area of greater concentration to a less concentrated area (diffusion). In addition, if groundwater discharges to surface water, chemicals in groundwater may migrate via surface water flow.

Chemicals may also undergo various chemical processes that affect fate and transport. Acid-base reactions, precipitation reactions, and oxidation-reduction reactions may affect the form of the chemical. Volatilization, hydrolysis, and photolysis can affect the persistence and properties of the site chemicals.

The fate and transport of site chemicals may be affected by biological processes. Chemicals that enter site receptors may undergo biotransformation. Bioaccumulation may aid the transfer of chemicals to biota from the air, soil, sediment, and water.

## **12.5 ECOTOXICITY OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN**

Several classes of chemicals are included in the list of COPECs for IR Site 34. These classes may affect site receptors in different ways. Metals, VOCs, and SVOCs can adversely affect the central nervous system, as well as the lungs, hearts, livers, and kidneys of wildlife. PAHs may adversely affect several systems within an organism, including the cardiovascular, reproductive, and respiratory systems. Pesticides target several systems within an organism. They may negatively affect the liver, kidneys, and blood, as well as the cardiovascular, neurological, developmental, and reproductive systems. PCBs may have negative reproductive, developmental, and endocrine effects.

## **12.6 EXPOSURE PATHWAY ANALYSIS**

One of the primary tasks of the SLERA is the evaluation of potentially complete exposure pathways. Evaluation of exposure pathways identifies the potential for contact between site-related chemicals in soil and groundwater and the potential ecological receptors at IR Site 34. Identification of complete exposure pathways allows the SLERA to focus only on the chemicals that can reach the receptors.

### **12.6.1 Soil Pathways**

Site soils represent the primary source of chemicals. Chemicals leached into soil from site-related activities. Terrestrial flora and fauna are potential receptors of soil chemicals. A potential exposure route for plants is root uptake of soil chemicals. Potential exposure routes for animals include direct contact, inhalation, incidental soil ingestion, and ingestion of food that have absorbed site-related chemicals. Direct contact (such as dermal absorption) and inhalation are considered to be relatively insignificant pathways and are not easily evaluated. Therefore, these pathways were not assessed. Incidental ingestion of soils and ingestion of contaminated food represent likely exposure routes and were assessed in this SLERA.

No soil pathways for VOCs were quantitatively evaluated in this SLERA for several reasons. Toxicity reference values (TRV) are not typically available to evaluate the risk of dietary ingestion, so assessing risk related to VOCs is difficult. Since VOCs volatilize rapidly and do not bioaccumulate, risk from VOCs in soil is generally insignificant. Although inhalation modeling may be used to evaluate inhalation risk; VOCs were not considered to pose a significant threat since the detection frequency of these chemicals is low.

Future land use may make the soil pathways incomplete by changing the types and character of exposure.

### **12.6.2 Groundwater Pathways**

Groundwater represents a secondary source of chemicals. Chemicals most likely leached from site soils into the underlying groundwater. Terrestrial animals are not likely to burrow below the water table or otherwise come into contact with groundwater. Therefore, the groundwater-to-terrestrial animal pathway is incomplete. The only complete exposure pathway for groundwater is for groundwater to migrate to Oakland Inner Harbor and expose aquatic life to chemicals present in groundwater.

## **12.7 CONCEPTUAL SITE MODEL**

The ecological CSM for IR Site 34 was developed by evaluating receptor exposure pathways associated with site media known to be affected by site-related chemicals (see Figure I-3). The ecological CSM identifies sources of chemicals, fate and transport mechanisms, exposure pathways, and ecological receptors. Investigations at IR Site 34 indicated the presence of metals, VOCs, SVOCs, PAHs, pesticides, PCBs, and petroleum hydrocarbons. These chemicals have the potential to adversely affect the ecological habitats and receptors at and within the vicinity of IR Site 34.

Receptors were selected based on their ability to reside in the habitats at or within the vicinity of IR Site 34. Since barren and urban habitats dominate the area, receptors include species adapted to living in sparsely vegetated and disturbed environments. Exposure pathways evaluated above

were incorporated into the ecological CSM to demonstrate how COPECs may reach ecological receptors.

The selection of assessment endpoints helps to define the adverse effects of site-related chemicals on ecological receptors, including plant and animal populations and communities, habitats, and sensitive environments (EPA 1998). An assessment endpoint represents a specific ecosystem characteristic defined using an ecological entity and selected attributes. The selection of assessment endpoints for IR Site 34 considered the ecological relevance of the entity and attribute, as well as the sensitivity and susceptibility to site chemicals. Since there is relatively little information about adverse effects on specific ecological receptors, a generic assessment endpoint was formulated for the SLERA, as follows:

- Sufficient rates of survival, growth, and reproduction to sustain wildlife populations typical to the area

Although assessment endpoints are useful for identifying general population goals, they do not provide a means for direct measurement or quantification of effects. Therefore measurement endpoints, defined as measurable ecological characteristics that are related to the characteristic chosen as the assessment endpoint and that are measures of biological effects (such as mortality, reproduction, and growth) (EPA 1997), were developed for IR Site 34 as follows:

- Reproductive or physiological effects to the California ground squirrel
- Reproductive or physiological effects to the Alameda song sparrow
- Reproductive or physiological effects to the red-tailed hawk
- Reproductive or physiological effects to aquatic life within the Oakland Inner Harbor

Soil and groundwater models were developed to evaluate complete exposure pathways.

### **12.7.1 Soil Model**

Soil COPECs may migrate to groundwater, surface water, and sediments via leaching, runoff, and erosion processes. In addition, soil chemicals may be transferred directly to organisms via incidental soil ingestion or to plants via root uptake. Several of the site-related chemicals have the potential to bioconcentrate and/or bioaccumulate in plant and animal tissue. Bioaccumulation factors (BAF), expressed as the ratio of the chemical concentration in biota to the concentration of the chemical in soil, were used to estimate the transfer of soil COPECs to lower trophic levels (such as vegetation, invertebrates, and small mammals). Receptor-specific exposure factors were used to estimate transfer of soil COPECs to higher trophic levels (such as ingestion rate of invertebrates or small mammals for which BAFs were calculated).

Ecological receptors for IR Site 34 were selected based on current and future land use. Currently, IR Site 34 is used primarily for industrial work, such as dredge activity, and potential habitat at the site under current land use conditions is limited. The proposed future reuse of IR Site 34 includes construction of a golf course. This reuse would incorporate urban vegetation (grass and ornamental trees and shrubs), introducing potential habitat to the site. This SLERA considered the future reuse plans for Alameda Point to ensure that potential ecological risks were not overlooked.

Terrestrial receptors chosen as representative ecological receptors at IR Site 34 were selected to include the various feeding guilds potentially present at or within the vicinity of the site. Mammals include the deer mouse (omnivorous mammal) and the California ground squirrel (herbivorous mammal). Higher trophic level mammals were not included in the ecological CSM because they are not expected to inhabit IR Site 34. The American robin represents birds that feed primarily on terrestrial invertebrates, while the Alameda song sparrow represents birds that feed on a mix of invertebrates and plant material. The red-tailed hawk was selected to represent a higher trophic level bird predator that feeds on small mammals.

## **12.7.2 Groundwater Model**

Empirical evidence indicates that groundwater at IR Site 34 flows toward the Oakland Inner Harbor. The assessment of aquatic receptors is only addressed qualitatively in this SLERA. For the purposes of the SLERA, COPECs in groundwater were assumed to have no dilution, retardation, or degradation between the location where the COPEC was detected and the Oakland Inner Harbor. This is a conservative assumption that likely overestimates the risk from chemicals in groundwater at IR Site 34.

Ingestion of surface water by terrestrial receptors was not considered a complete exposure pathway since surface water at the site is saline and would not be used as a drinking water source. However, indirect exposure of aquatic life to groundwater through groundwater migration to the Oakland Inner Harbor was considered potentially complete and was addressed qualitatively. The direct contact pathway was considered insignificant for terrestrial mammals and birds.

Groundwater at IR Site 34 and surrounding sites generally flows from the center of the Alameda Point toward the shoreline. The low-flow velocities of groundwater, low concentrations of chemicals in groundwater, high potential for retardation along the groundwater flow path, and tidal action and surface water flow that create a mixing zone at the interface with the Oakland Inner Harbor suggest that chemicals will not discharge to the Inner Harbor at concentrations of concern. Even though chemicals are not expected to discharge into the Oakland Inner Harbor, groundwater COPECs were qualitatively evaluated to generate conservative estimates of the potential effects on aquatic life.

### 13.0 RISK CHARACTERIZATION

The second part of the SLERA is the preliminary risk characterization, Step 2. Effects of COPECs on aquatic life were qualitatively evaluated (see Section 13.4), and risk calculations for each terrestrial receptor were prepared, which allowed for a quantitative estimation of risk based on exposure assumptions for the individual receptor. Risk calculations for each terrestrial receptor and soil COPEC consisted of dividing the media-specific concentration by the appropriate estimated dose for birds and mammals. The risk is evaluated using a HQ. The HQ is calculated using the formula below:

$$HQ = Dose / TRV \quad (I-1)$$

If the HQ is greater than 1, then significant risk is assumed. However, if the HQ is less than or equal to 1, the risk is considered to be minimal. HQs are calculated using a dose assessment and a TRV. For this SLERA, both a low TRV and a high TRV were used wherever possible.

#### 13.1 TOXICITY REFERENCE VALUES FOR MAMMALS AND BIRDS

COPECs identified in soil and groundwater at IR Site 34 are known or suspected to have adverse effects on wildlife. TRVs, originally prepared by the Navy and EPA Biological Technical Assistance Group (BTAG) (Navy 1998), were used as guidelines in the evaluation of soil COPECs (DTSC 2000, 2002). TRVs are provided as both an upper estimate and a lower estimate of effects thresholds. The low TRV is based on no-observed-adverse-effects-level (NOAEL) data, while the high TRV is based on the approximate midpoint of the range of effects levels. Adverse effects are likely to occur at the high TRV. No adverse effects are expected to occur at the low TRV; therefore, the TRVs used in this SLERA represent low TRVs unless otherwise noted.

Navy-BTAG TRVs were used whenever available. If a Navy-BTAG TRV was unavailable for a COPEC, an appropriate TRV was selected from scientific literature. Data from chronic studies also were preferentially selected. If values selected from the literature did not represent chronic NOAELs, a factor of 0.1 was used to convert to a chronic value, and a value of 0.1 was used to convert to a NOAEL, where necessary. If a TRV for birds was unavailable for a COPEC, an adjustment factor of 0.1 was applied to a TRV for mammals. TRVs for mammals are provided in Tables I-4 and I-5, and TRVs for birds are provided in Tables I-6, I-7, and I-8.

Differences in body weight exceeding two orders of magnitude required an adjustment to account for differences in sensitivity between test species and the ecological receptors selected for IR Site 34 (see Tables I-4 through I-8). An allometric adjustment, based on the body weights of the test species described in the scientific literature, was used for both mammals and birds (Sample and Arenal 1999). Scaling factors indicate that mammalian sensitivity increases with increased body weight, whereas bird sensitivity increased with decreased body weight.

TRVs for mammals were calculated using the following formula:

$$TRV_{wildlife} = NOAEL_{test} * (BW_{test}/BW_{wildlife})^{[1-0.94]} \quad (I-2)$$

TRVs for birds were calculated using the following formula:

$$TRV_{wildlife} = NOAEL_{test} * (BW_{test}/BW_{wildlife})^{[1-1.2]} \quad (I-3)$$

where:

- $TRV_{wildlife}$  = Toxicity reference value for wildlife species
- $NOAEL_{test}$  = No-observed-adverse-effects level for test species
- $BW_{test}$  = Body weight for test species
- $BW_{wildlife}$  = Body weight for wildlife species

### 13.2 DOSE ESTIMATION

It is important that risk is conservatively estimated with a SLERA to ensure the assessment does not indicate insignificant risk when a significant risk exists. The following assumptions were used for the exposure assessment to calculate a conservative dose for each receptor. The dose of each COPEC that a receptor receives was calculated using several exposure factors. These exposure factors are discussed further below.

**Site Use Factors (SUF).** This factor measures how much time the receptor uses the site. All species considered in this SLERA were assumed to live and feed within the site at all times.

**Bioavailability.** This factor measures how available the COPECs are to the receptor. All ecological COPECs were assumed to be 100 percent bioavailable for all trophic levels and species.

**Body Weight and Food Ingestion.** The amount of food a receptor ingests relates to the potential uptake of COPECs. The body weight of a receptor influences the toxicity of a COPEC because many chemicals are toxic only once they reach a certain concentration relative to body weight. The average body weight indicated in the literature (EPA 1993, 2003; Office of Environmental Health Hazard Assessment 2003) was used to calculate an ingestion rate based on the formulas presented in Nagy 2001.

**Bioconcentration Factors (BCF) and BAFs.** Soil-to-plant and soil-to-soil invertebrate BAFs were obtained from various sources or calculated based on guidance from primary literature (RAIS 2007). Table I-10 through Table I-15 summarize the bioaccumulation models used for plants, invertebrates, and small mammals.

**Dietary Composition.** This factor is used to determine the source of COPECs in the diet. Some dietary sources may have low concentrations of chemicals, while other dietary sources may

contain high concentrations of chemicals. The diet of each of the receptors was based on the percentages of dietary items, as reported in the literature (Zeiner and others 1990; CDFG 2005).

**Ecological COPEC Concentration.** The EPC used in the evaluation was based on the maximum detection of each COPEC. Exposure was assessed in the context of the following linear food chains:

Soil→Invertebrates and Plants→California ground squirrel→Red-tailed hawk

Soil→Invertebrates and Plants→Alameda song sparrow or American robin

These food chains were used in this SLERA to evaluate potential ecological effects on small mammals, passerines, and raptors. The assumed food web for Alameda Point is presented in Figure I-3.

The model presented in the following equations is adequate to estimate daily doses to various receptors in a SLERA.

Deer mouse dose (milligrams per kilogram per day [mg/kg-day]) =

$$(SUF) \frac{[(C_{soil})(IR_{soil}) + (C_{invert})(IR_{invert}) + (C_{plant})(IR_{plant})]}{BW} \quad (I-4)$$

Ground squirrel dose (mg/kg-day) =

$$(SUF) \frac{[(C_{soil})(IR_{soil}) + (C_{invert})(IR_{invert}) + (C_{plant})(IR_{plant})]}{BW} \quad (I-5)$$

Alameda song sparrow dose (mg/kg-day) =

$$(SUF) \frac{[(C_{soil})(IR_{soil}) + (C_{invert})(IR_{invert}) + (C_{plant})(IR_{plant})]}{BW} \quad (I-6)$$

American robin dose (mg/kg-day) =

$$(SUF) \frac{[(C_{soil})(IR_{soil}) + (C_{invert})(IR_{invert}) + (C_{plant})(IR_{plant})]}{BW} \quad (I-7)$$

Red-tailed hawk dose (mg/kg-day) =

$$(SUF) \frac{[(C_{ground\ squirrel})(IR_{ground\ squirrel}) + (C_{soil})(IR_{soil})]}{BW} \quad (I-8)$$

where

BW	=	Body weight
$C_{\text{soil}}$	=	EPC of chemical in soil (milligram per kilogram [mg/kg])
$C_{\text{invert}}$	=	$(C_{\text{soil}})(\text{BAF}_{\text{soil-to-invert}})$ (mg/kg) (EPA 1999b)
$C_{\text{plant}}$	=	$(C_{\text{soil}})(\text{BAF}_{\text{soil-to-plant}})$ (0.12) (mg/kg) (EPA 1999b) (0.12 is a default value to convert the plant concentration from dry weight to fresh weight and is presented by EPA [1999b]. This value is an average based on 80 to 95 percent water content in herbaceous plants and nonwoody plant parts.)
$C_{\text{ground squirrel}}$	=	Concentrations in ground squirrels were estimated using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for small mammals.
SUF	=	Site use factor

Values for the exposure factors for each ecological receptor are presented in Tables I-16 through I-20. The following overall procedures and assumptions are associated with the exposure estimates for each receptor.

### Small Mammal and Passerine Receptors

Small mammals and passerines were assumed to have a diet consisting of a mixture of plants and invertebrates. For deer mice, diet consisted of 60 percent vegetation and 40 percent invertebrates; for ground squirrels, diet consisted of 100 percent plants; for the song sparrow, diet consisted of 50 percent vegetation and 50 percent invertebrates; and for robins, diet consisted of 25 percent vegetation and 75 percent invertebrates. The primary source of the dietary information was collected from CDFG (2005).

The EPC is the concentration of the COPEC in soil used in risk calculations. Multiplying the EPC by the appropriate plant and invertebrate BAF and natural history information on ingestion rates and body weights for the receptors derived the dose for each COPEC. The dose was calculated in mg/kg-day for each COPEC.

### Raptor Endpoints

Raptors at each site were assumed to have a diet consisting exclusively of the California ground squirrel, which is considered to be the most conservative diet for the raptor. This diet was selected based on the selection of the red-tailed hawk as a receptor. In general, passerines are not a significant component of the red-tailed hawk diet (EPA 1993).

The EPC is the concentrations of the COPEC in soil used in risk calculations. Multiplying the EPC by the soil and ground squirrel concentrations and natural history information on ingestion

rates and body weights for raptors derived the dose for each COPC (see Equation I-8). The dose was calculated in mg/kg-day for each COPEC.

Multiplying the EPC by the appropriate plant and invertebrate BCF and natural history information on ingestion rates and body weights for raptors derived the dose for each COPEC. The dose was calculated in mg/kg-day for each COPEC.

### 13.3 RISK ESTIMATION

Risk estimations were prepared for each terrestrial receptor based on exposure assumptions for the individual receptor (see Attachment I1 through I5). Risk estimations for terrestrial receptors consisted of dividing the calculated dose by the appropriate TRV for each receptor and COPEC, deriving a HQ.

$$HQ = DOSE/TRV \quad (I-9)$$

where

<i>HQ</i>	=	Hazard quotient
<i>DOSE</i>	=	Daily exposure dose for a COPEC (mg/kg-day)
<i>TRV</i>	=	Toxicity reference value (mg/kg-day)

HQs greater than 1 indicate potential risk to the assessment endpoint being evaluated. The risk estimations were made based on the following assumptions.

#### Small Mammal Endpoint

No specific TRV was identified for the metal iron; therefore, this chemical was qualitatively evaluated.

No specific TRVs were identified for the SVOCs 2,4-dimethylphenol, 4-methylphenol, 4-nitroaniline, 4-nitrophenol, butylbenzylphthalate, dibenzofuran, dimethylphthalate, isophorone, and phenol. Therefore, these chemicals were qualitatively evaluated.

Surrogate TRVs were used for pesticides. The TRV for benzene hexachloride (BHC) mixed isomers was used as a surrogate for alpha-, beta-, and delta-BHC. The TRV for chlordane was used as a surrogate for heptachlor and heptachlor epoxide because heptachlor and heptachlor epoxide are breakdown products of chlordane. The TRV for chlordane also was used for alpha-chlordane, gamma-chlordane, and technical chlordane. The TRV for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The TRV for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The TRV for dieldrin was used as a

surrogate for aldrin because dieldrin is a metabolic breakdown product of aldrin. The TRV for PCBs was used for Aroclor-1248, Aroclor-1260, and Aroclor-1268.

### **Passerine and Raptor Endpoints**

No specific TRVs were identified for the metals antimony, beryllium, iron, or thallium; therefore, these chemicals were qualitatively evaluated.

No specific TRVs were identified for the SVOCs 2-4-dimethylphenol, 2-methylphenol, 4-methylphenol, 4-nitroaniline, 4-nitrophenol, butylbenzylphthalate, dibenzofuran, dimethylphthalate, isophorone, or phenol; therefore, these chemicals were qualitatively evaluated.

No specific TRVs were identified for the PAHs; therefore, these chemicals were qualitatively evaluated.

Surrogate TRVs were used for pesticides and PCBs were the same as those used for mammals.

Table I-21 lists the HQs for each soil COPEC and representative ecological receptor for IR Site 34. Most of the organic chemicals did not yield HQs greater than 1, indicating those COPECs are unlikely to represent ecological risk to receptors at IR Site 34. Metals, some SVOCs and PAHs, pesticides, and PCBs yielded HQs greater than 1, indicating the potential for unacceptable ecological risk. The COPECs with the highest HQ values are lead (61,000), Aroclor-1254 (4,780), Aroclor-1248 (1,200), and Aroclor-1260 (853).

Most of the COPECs only exceeded the low TRV. Seven metals, 2 SVOCs, 4 pesticides, and 4 PCBs exceeded both the low and high TRVs, but the exceedances of the high TRV were never more than 2 orders of magnitude. The only two chemicals to greatly exceed both the low and high TRVs were lead and Aroclor-1248.

If a TRV was unavailable for a soil COPEC, it was retained for qualitative evaluation in the Step 3a risk refinement. Groundwater COPECs were qualitatively addressed and are discussed in the Step 3a risk refinement (see Section I6.0).

### **13.4 QUALITATIVE EVALUATION OF AQUATIC LIFE**

Although the COPECs at IR Site 34 are not expected to reach ecological receptors, this SLERA qualitatively evaluated the effects of COPECs on aquatic life. This conservative approach was taken to address any potential effects on aquatic life from site-related chemicals.

Initially, the EPCs for groundwater COPECs at IR Site 34 (the lower of the maximum concentration and the 95 UCL), were compared to four sets of primary aquatic comparison criteria potentially applicable to the site (threshold criteria) (see Table I-9). Values were selected

from the California Toxics Rule (EPA 2003), the National Recommended Water Quality Criteria for Priority Toxic Pollutants (EPA 2006), the San Francisco Bay Water Quality Control Plan (Water Board 2006), and the "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater" (Water Board 2005). Because of the location of the site adjacent to Oakland Inner Harbor, comparisons were made to saltwater criteria. Where multiple criteria, such as CMC and CCC, or 1-hour; 24-hour; and 4-day criteria were available, the comparison was performed against all of the criteria. A summary of this comparison is presented in Table I-23.

Receptor-specific HQs were not calculated in this assessment. Aquatic threshold values are presented in Table I-9 and the results of the groundwater screening are presented in Table I-23.

## **14.0 UNCERTAINTY ANALYSIS**

Wherever possible, assumptions required to complete the SLERA were biased toward overestimating risk (that is, conservative assumptions). However, uncertainty is inherent to the SLERA process, and this leads to potential limitations in evaluating the accuracy and precision of estimated risks. It is important to identify both the sources and the effects of uncertainty in order to provide a thorough and valid assessment of the hazards presented by site-related chemicals. The major assumptions in this SLERA are discussed in the following sections.

### **14.1 SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN**

The selection of site-specific COPECs generates some uncertainty. Sampling procedures and analytical methods adhered to standard protocols, so the COPECs for IR Site 34 were likely reported appropriately. Data from 199 soil samples were included in this assessment. These data are adequate to estimate the number of COPECs in soil. Data from 31 groundwater samples were included in this assessment. Since several wells are located near the shoreline, it is likely the number of groundwater COPECs potentially discharging to the Oakland Inner Harbor are not underestimated. This SLERA assumed the maximum detected concentration of a chemical represented sitewide exposure. The representation of site exposure by a chemical or concentration detected only once most likely overestimates risk associated with site soils and groundwater. In addition, exposure to chemicals in groundwater is likely overestimated because concentrations would be reduced via dilution by surface water.

### **14.2 EXPOSURE PATHWAYS**

The exposure pathways included in this SLERA do not include all potential exposure pathways for the selected ecological receptors. Although dermal contact and inhalation both represent potentially complete exposure pathways, data for these pathways are not readily available. These pathways may be significant for the selected receptors at IR Site 34, so risk may have been underestimated. Soil exposure pathways may become incomplete because of future land uses.

### **14.3 ENDPOINT RECEPTOR SELECTION**

Selecting representative species as endpoint receptors leads to uncertainty in the risk assessment. Since it is not feasible to evaluate all species and communities potentially at risk, it is possible that risk may be underestimated for wildlife at IR Site 34. However, a wide range of ecological receptors were selected so it is unlikely that risk was underestimated.

### **14.4 EXPOSURE MODEL**

The exposure model included in this SLERA assumed that terrestrial receptors would only be in contact with soils at IR Site 34. Exposure to groundwater was not considered for terrestrial receptors because contact with groundwater is highly unlikely. Since groundwater at IR Site 34 discharges to San Francisco Bay and has the potential to reach organisms living in the bay, exposure to chemicals in groundwater was qualitatively evaluated in this SLERA. This comparison was completed to determine the need for further characterization of groundwater contamination, and its potential impacts on ecological receptors within Oakland Inner Harbor.

### **14.5 EXPOSURE ESTIMATES**

Estimating exposures generates a great deal of uncertainty because many assumptions must be made during the process. Wherever possible, the most conservative assumptions were made in order to overestimate risk.

In the initial risk estimation, EPCs were based on the maximum detection of each COPEC and were assumed to represent site-wide concentrations of COPECs. This approach likely overestimated risk at the site. Exposure parameters were selected from various sources. Receptor body weights, food composition, and ingestion rates were based on values from the *Wildlife Exposure Factors Handbook* (EPA 1993) and from primary literature. BAFs were taken from EPA guidance (EPA 1995), primary literature, or calculated using formulas from ORNL (RAIS 2007). Although these values may overestimate or underestimate the risk to wildlife at IR Site 34, they must be used in the absence of site-specific data. SUFs were set to 1 in the initial risk estimation. This conservative assumption likely overestimated risk because wildlife at the site may have home ranges larger than the area of IR Site 34.

In the refined risk estimation, the lower of the 95UCL and the maximum detected concentration was used as the EPC for each COPEC. Receptor-specific SUFs were generated for each of the selected receptors. The red-tailed hawk was the only receptor with a home range larger than the area of IR Site 34.

### **14.6 BIOAVAILABILITY**

Risks associated with the COPECs at IR Site 34 may have been overestimated since each COPEC was assumed to be 100 percent bioavailable.

## **14.7 TOXICITY REFERENCE VALUE EXTRAPOLATIONS**

Although a common practice in ERAs, extrapolation and scaling of available toxicity data is a major limitation of this analysis. Since most available wildlife toxicity data pertain to mammals, data must be extrapolated for birds. There is a great deal of uncertainty involved in this process because it is unknown whether the toxic mechanisms in birds and mammals are similar (Duke and Taggart 2000). Allometric scaling factors also generate uncertainty. The use of data generated in a laboratory setting also introduces uncertainty to the assessment. The bioavailability, assimilation, and relative toxicity of chemicals used in toxicity testing may differ from the chemical forms in nature. In general, the use of extrapolation and scaling factors leads to uncertainties in the estimation of exposure or dose.

## **14.8 UNCERTAINTY ANALYSES OF RISK CHARACTERIZATION**

The methodology of the SLERA tends to overestimate the risk at a site. It is likely that risk at IR Site 34 was overestimated because of the highly conservative nature of the assumptions used in both the SLERA and the Step 3a risk refinement. Uncertainty surrounds the risk estimation regardless of whether risk was under- or overestimated. Since uncertainty was introduced at several points throughout the SLERA, uncertainty is inevitably associated with the risk characterization.

COPECs with exposure estimates less than the toxicity benchmark values do not likely pose an ecological risk to wildlife at IR Site 34. Although COPECs with exposure estimates exceeding the toxicity benchmark values cannot be eliminated from consideration, marginal exceedances of the benchmark values suggest that risk to wildlife at the population or community level would be minimal.

Qualitative evaluation was necessary for soil COPECs when TRVs were unavailable. Groundwater COPECs were also qualitatively evaluated since the groundwater pathway was not considered fully complete. Qualitative evaluation introduces uncertainty to the risk characterization, since risk for these COPECs cannot be put into the form of an HQ.

## **15.0 SUMMARY AND CONCLUSIONS OF STEPS 1 AND 2**

Based on the evaluation of risk conducted in Steps 1 and 2 of this SLERA, chemicals in soil and groundwater at IR Site 34 may pose unacceptable risk to ecological receptors. At this point in the ERA process, COPECs may be further evaluated in a Step 3a risk refinement. The decision to proceed to a baseline ERA may also be made. Since this evaluation used extremely conservative measures, ecological risk was likely overestimated. In order to generate a slightly more realistic estimate of risk, while maintaining the conservative nature of the SLERA, a Step 3a risk refinement was conducted for any COPEC with an HQ greater than 1, soil COPECs without TRVs, and groundwater COPECs that exceeded the four sets of aquatic threshold criteria. Based on the results of the SLERA, the following chemicals were retained for further evaluation in the Step 3a risk refinement:

- Metals: Aluminum, antimony, arsenic, barium, cadmium, copper, chromium, iron, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc
- SVOCs: 2,4-Dimethylphenol, 4-methylphenol, 4-nitrophenol, butylbenzylphthalate, dimethylphthalate, 2-methylphenol, 4-nitroaniline, bis(2-ethylhexyl)phthalate, dibenzofuran, di-n-butylphthalate, isophorone, and phenol
- PAHs: 2-Methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene
- Pesticides: 4,4'-dichlorodiphenyldichloroethane [DDD], 4,4'-dichlorodiphenyldichloroethene [DDE], 4,4'-dichlorodiphenyltrichloroethane [DDT], aldrin, delta-BHC, dielrin, endosulfan II, endosulfan sulfate, endrin aldehyde, endrin ketone, methoxychlor, and technical chlordane
- PCBs: Aroclor-1248, Aroclor-1254, Aroclor-1260, and Aroclor-1268

## 16.0 STEP 3A RISK REFINEMENT

A Step 3a risk refinement was initiated to further evaluate the COPECs identified in the SLERA with HQs greater than 1 and a frequency of detection of 5 percent or greater, COPECs without TRVs, and groundwater COPECs that exceeded the four sets of aquatic threshold criteria.

### 16.1.1 Terrestrial Wildlife

Refined risk estimations were prepared for all soil COPECs yielding HQs greater than 1 and with a frequency of detection of 5 percent or greater. Refined risk estimates were not prepared for the following chemicals with HQs greater than 1 because their frequency of detection is less than 5 percent: pesticides (4,4'-DDD, aldrin, delta-BHC, dielrin, endosulfan II, endosulfan sulfate, endrin aldehyde, endrin ketone, and technical chlordane) and PCBs (Aroclor-1248). HQs were also not prepared for the following chemicals because there were no TRVs: metals (iron); SVOCs (2,4-dimethylphenol, 4-methylphenol, 4-nitrophenol, 4-nitroaniline, dibenzofuran, di-n-butylphthalate, isophorone, and phenol); and pesticides (methoxychlor). All but dibenzofuran, di-n-butylphthalate, isophorone, and phenol had a frequency of detection of less than 5 percent.

The EPC for each soil COPEC was estimated as the lower of the 95UCL and the maximum detected concentration. Exposure factors were modified to reflect more realistic values for each receptor. This process was completed for any COPEC that yielded an HQ greater than 1 in the SLERA. Changes in the SUF only affected the red-tailed hawk because the home ranges of all other receptors were smaller than the area of IR Site 34. All other exposure factors remained unchanged, maintaining the conservative nature of the screening-level exposure estimates.

Table I-22 lists the refined HQs for each soil COPEC and terrestrial receptor pair. Several chemicals yielded refined HQs less than 1 (4 metals, 4 PAHs), indicating that ecological risk for these chemicals is minimal.

Several chemicals yielded refined HQs greater than 1 (11 metals, 2 SVOCs, 2 PAHs, 2 pesticides, and 3 PCBs). Therefore, these chemicals may pose an unacceptable risk to ecological receptors at IR Site 34. The COPECs with the highest refined HQ values are cadmium (140), lead (8,590), di-n-butylphthalate (103), and Aroclor-1254 (174).

### ***Small Mammals***

Although HQs calculated for mammals indicated the potential for risk, only the low TRVs for eight metals (antimony, copper, lead, molybdenum, nickel, selenium, vanadium, and zinc) and two PAHs (fluoranthene and pyrene) yielded HQs greater than 1. Although the metals concentrations were greater than background levels at Alameda Point, only lead and nickel yielded HQs significantly greater than 1. The refined risk estimate for lead was based on the 95 UCL of 2,390 mg/kg, rather than the maximum concentration of 21,000 mg/kg used in Step 2. However, the arithmetic mean for lead is 520 mg/kg. Using the arithmetic mean, the refined deer mouse risk estimates for the high and low TRVs would be 1 and 417, respectively. Using the arithmetic mean, the refined ground squirrel risk estimates for the high and low TRVs would be 0.02 and 7, respectively.

Although fluoranthene and pyrene were detected at high concentrations, the mean detection of these COPECs is significantly lower. Therefore, it is likely that the HQs overestimated the risk associated with these COPECs. The pesticides that only yielded HQs greater than 1 for the low TRV were detected at low frequencies. Based on the frequency of detection and the concentrations, these COPECs were determined to pose limited potential for risk to small mammals.

Aluminum, cadmium, Aroclor-1254, and Aroclor-1260 yielded HQs greater than 1 for both the low and high TRV for the deer mouse. Aluminum was detected in all 82 samples collected at IR Site 34; 8 of the samples exhibited concentrations above background (13,960 mg/kg) (see Section 4.0, Table 4-1 in the RI Report). The average of detected concentrations and 95UCL (8,750 and 11,581 mg/kg, respectively) are both below background. The samples with exceedances were collected in the northern portion of the site near the former buildings and railroad tracks. The highest detected aluminum concentration was 37,000 mg/kg collected from DP15 at a depth of 7 feet bgs. As discussed in Section 4.1 of the RI Report, soil contaminated with cadmium appears to be limited to the northwest corner of IR Site 34 near the former railroad tracks.

PCB contamination is limited to the ground surface at individual locations or small clusters around the site, primarily along the western boundary and near former buildings in the northeast portion of the site (see Figures 4-13 and 4-14 of the RI Report).

No COPECs significantly exceeded the HQs for the California ground squirrel (see Table I-22).

### **Birds**

Only the low TRVs for four metals (aluminum, cadmium, copper, and nickel), 2 pesticides (4,4'-dichlorodiphenyldichloroethene [DDE], 4,4'-dichlorodiphenyltrichloroethane [DDT]) and 1 PCB (Aroclor-1268) yielded HQs greater than 1 for passerine receptors (see Table I-22). Concentrations of metals were greater than background, but the low TRV was not exceeded significantly for aluminum, copper, and nickel. Although the low TRV for cadmium was exceeded significantly, the HQs based on the high TRV were below 1. Therefore, risk from this chemical is expected to be minimal. The pesticides were detected infrequently (see Table 4-1 of the RI Report), so the HQs for these COPECs likely overestimated risk from pesticides. Based on the frequency of detection and the concentrations, these COPECs were determined to pose limited potential for risk to bird populations and were not considered risk drivers in soil.

Three metals (chromium, lead, and zinc), two SVOCs [bis(2-ethylhexyl)phthalate and di-n-butylphthalate], and two PCBs (Aroclor-1254 and Aroclor-1260) yielded HQs greater than 1 for both the low and high TRV (see Table I-19). The high HQs for chromium and zinc were only slightly higher than 1 (chromium HQ = 2.52; zinc high HQ = 12); therefore, these metals were not considered to be risk drivers for soil. The high HQ for lead exceeded 1 by an order of magnitude; therefore, lead was considered a risk driver for soil. The high HQs for SVOCs did not greatly exceed 1 (bis(2-ethylhexyl)phthalate high HQ = 2.00; di-n-butylphthalate high HQ = 10.3). Therefore, SVOCs were not considered to be risk drivers for birds in soil. The high HQs for PCBs did not greatly exceed 1 (Aroclor-1254 high HQ = 1.74; Aroclor-1260 high HQ = 3.54). Therefore, these PCBs were not considered to be risk drivers for birds for soil.

As discussed in Section 4.1 of the RI Report, chromium-contaminated soil appears to be limited to the northeast portion of the site near former Building 343 and the storm sewer and in an isolated location near the southwest corner of the site (see Figure 4-2 of the RI Report). Lead-contaminated soil appears to be present in several clusters near the former railroad track at the northwest corner of the site, around former Buildings 331, 343, 344, and 475, above the storm sewer, and isolated locations in the southwest corner of the site. Zinc was detected in 101 of 105 soil samples collected at IR Site 34 for the purposes of the nature and extent examination; 51 of these samples had concentrations above background (66.6 mg/kg), which were detected in the northern portion of the site near the former buildings and former railroad tracks and at an isolated location in the southwestern portion of the site. The highest detected concentration of zinc was 14,000 mg/kg in a surface soil sample collected from location PW18. Since zinc and chromium did not significantly exceed the high TRV, these chemicals were not considered to be risk drivers in soil. As mentioned above, lead was considered to be a risk driver in soil based on the significant exceedance of the high TRV.

Bis(2-ethylhexyl)phthalate was detected in 5 of 38 soil samples collected at IR Site 34 (see Section 4.0 and Table 4-1 in the RI Report). The highest detected concentration of bis(2-ethylhexyl)phthalate was 25 mg/kg in a sediment sample collected above the storm sewer line in the northern portion of the site. The next highest detected concentration was 14 mg/kg in

a surface soil sample collected from location 018-004-020, in the southwest portion of the site. The remaining detected concentrations of bis(2-ethylhexyl)phthalate ranged from 0.031 to 0.078 mg/kg from samples collected in the southwest corner of the site. Di-n-butylphthalate was detected in 4 of 38 soil samples collected at IR Site 34 (see Section 4.0 and Table 4-1 in the RI Report). The highest detected concentrations were 2.2 and 2.3 mg/kg (surface soil and 4 feet bgs, respectively) collected from location 018-007-035 in the central portion of the site. The remaining detected concentrations ranged from 0.15 to 0.51 mg/kg at two isolated samples at IR Site 34. Because SVOCs were detected infrequently in soil, they were not considered to be risk drivers in soil.

PCB contamination is limited to ground surface at individual locations or small clusters around the site, primarily along the western boundary and near former buildings in the northeast portion of the site (see Figures 4-12, 4-13, and 4-14 of the RI Report).

### ***Qualitative Evaluations***

A few metals were qualitatively evaluated for mammals and birds. Bioaccumulation of site-related metals is relatively insignificant, so the qualitative evaluation did not indicate a potential for risk.

When a TRV was unavailable for a COPEC/receptor pair, the COPEC was evaluated qualitatively. TRVs were unavailable for PAHs for all bird receptors. A review of the BAFs associated with PAHs reveals that this class of chemicals has a lower relative bioaccumulation potential than other site chemicals. Minor bioaccumulation of PAHs may occur from soil to invertebrates, so PAHs may be a concern for birds that consume invertebrates. Therefore, PAHs are a slight concern for the American robin and the Alameda song sparrow. TRVs were unavailable for several SVOCs. Bioaccumulation is only significant for the soil-to-invertebrate pathway, so risk for the herbivorous (California ground squirrel) and carnivorous (red-tailed hawk) receptors would be minimal. SVOCs may pose a risk for the American robin, the Alameda song sparrow, and the deer mouse.

TRVs were not available for all birds for the pesticide methoxychlor. Bioaccumulation for this pesticide is only significant for the soil-to-invertebrate pathway. Therefore, methoxychlor may pose a risk to the American robin and the Alameda song sparrow; risk to the red-tailed hawk is unlikely, since this receptor is carnivorous.

The qualitative evaluation of chemicals without readily available TRVs likely overstates the risk to ecological receptors at IR Site 34. In order to maintain the conservative nature of the SLERA, this assessment assumed that any chemical with a slightly significant bioaccumulation potential would pose a risk to ecological receptors. This most likely leads to an overestimation of risk because several other factors (such as variable dietary composition) may influence the risk. Also, the future land use (as a golf course and park) would most likely eliminate contact with site soils, thus the soil pathway would be incomplete.

## 16.1.2 Aquatic Life

This SLERA qualitatively evaluated the effects of COPECs on aquatic life. The qualitative evaluation included an initial groundwater screening using aquatic comparison criteria (Step 2), then further evaluation of those chemicals retained from the initial screening was conducted in Step 3a. This conservative approach was taken to address any potential effects on aquatic wildlife from site-related chemicals. Risk to ecological receptors at IR Site 34 from chemicals was likely overestimated because concentrations of chemicals would be significantly reduced following dilution at the groundwater-to-surface water interface. A total of 8 metals, 12 VOCs, 5 PAHs, and 7 pesticides were retained for further evaluation.

Groundwater COPECs retained for further evaluation in Step 3a were evaluated individually based upon the maximum and 95UCL concentrations compared to the four sets of threshold criteria; a supplemental literature search for additional criteria; the sample location and date; and the groundwater data set (see Table I-24). The results of the evaluation for each chemical are discussed below.

### **Aluminum**

Aluminum was detected in 17 of 19 samples (see Table I-3). The EPC for aluminum is 23.8 micrograms per liter ( $\mu\text{g/L}$ ). Aluminum was retained for further analysis because no primary comparison criterion was available from the four sources used. In 1988, EPA established NAWQC for aluminum of 87  $\mu\text{g/L}$  (4-day) and 750  $\mu\text{g/L}$  (1-hour). Because the EPC for aluminum is less than the 1988 NAWQC, aluminum is not considered to be a risk driver.

### **Arsenic**

Arsenic was detected in 19 of 19 samples (see Table I-3). The maximum concentration of arsenic (110  $\mu\text{g/L}$ ), which occurred in DP-15 (see Figure I-5), exceeded the California Toxics Rule, National Recommended Water Quality Criteria, and Water Board Bay Plan criteria. The maximum concentration is also an order of magnitude greater than any other arsenic concentration in groundwater at IR Site 34. The next highest concentration for arsenic was 15  $\mu\text{g/L}$ . Therefore, the maximum concentration appears to be an outlier. Additionally, the 95UCL value, including the maximum concentration, is 36.7  $\mu\text{g/L}$ , which is barely above the lowest of the criteria (the CCC from both CTR and National Recommended Water Quality Criteria) value of 36  $\mu\text{g/L}$ . Arsenic is therefore not considered to be a risk driver.

### **Copper**

Copper was detected in 13 of 19 samples (see Table I-3), with an average concentration of 3.29  $\mu\text{g/L}$  and a 95UCL of 5.5  $\mu\text{g/L}$ . The maximum concentration of copper detected was 12  $\mu\text{g/L}$ . All of these concentrations exceed the California Toxics Rule and NRWQC CCC criteria for copper. The background value for copper in groundwater at Alameda Point is 6.6  $\mu\text{g/l}$ . With

both the 95 UCL and average concentrations below the background concentration, copper is attributed to background. Therefore, copper is not retained as a risk driver.

### **Cobalt**

Cobalt was detected in 19 of 19 samples (see Table I-3), with an average concentration of 3.8 µg/L and a 95UCL of 24.3 µg/L. There are no California Toxics Rule, NRWQC, or Bay Plan values for cobalt. The comparison value used was 3.0 µg/L from the Water Board's Surface Water Screening Levels from the document "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater (Water Board, 2005). The 95UCL and average concentration values are driven by two detections, at DP17 and DP18. Both DP17 and DP18 were collected within the SWBZ. The cobalt results for DP17 and DP18 are representative of groundwater concentrations within the SWBZ, but not the FWBZ. Cobalt is not a risk driver in the FWBZ, and is not retained as a risk driver in the second water bearing zone because it is likely that a minimum dilution/attenuation factor of 10 will occur between the point of measurement and the ultimate discharge into the Oakland Inner Harbor, if such a discharge exists.

### **Magnesium**

Magnesium was detected in 19 of 19 samples (see Table I-3). The EPC for magnesium was calculated to be 1,912,997 µg/L. Magnesium naturally occurs in seawater; therefore, it is not retained as a risk driver in groundwater at IR Site 34.

### **Manganese**

Manganese was detected in 19 of 19 samples (see Table I-3). The EPC for manganese was calculated to be 21,500 µg/L. Manganese naturally occurs in seawater; therefore, it is not retained as a risk driver in groundwater at IR Site 34.

### **Mercury**

Mercury was detected in 1 of 19 samples at an estimated concentration of 0.17 µg/L in a sample from location DP-5 (see Table I-3). Mercury was not detected in all of the other samples, with a reporting limit of 0.2 µg/L. Mercury has not been detected in any groundwater samples from monitoring wells; however, the one detection from a direct-push boring was above the comparison level. The lowest comparison criteria is 0.025; however, this is below commonly available reporting limits. Because of the low frequency of detection (< 5%) mercury is not retained as a risk driver.

### **Nickel**

Nickel was detected in 18 of 19 samples (see Table I-3). The average concentration of nickel was 7.27 µg/L, the 95UCL concentration was 17.6 µg/L, and the maximum concentration was 46

µg/L. The California Toxics Rule and NAWQC CCC value is 8.2 µg/L. Because nickel was detected in two different monitoring wells on two different dates at concentration above the comparison criteria (MW-20 in March 2007 and MW-24 in September 2006), and both of these wells have samples below the criteria, the detections of nickel are believed to be intermittent and not representative of a continuing discharge to surface water. Nickel is therefore not retained as a risk driver.

### **Zinc**

Zinc was detected in 18 of 19 samples (see Table I-3). The average concentration was 44.5 µg/L, the 95UCL was 292 µg/L, and the maximum concentration was 600 µg/L. The comparison criteria for both the California Toxics Rule and the NAWQC CCC is 81 µg/L. The two highest concentrations were from locations (DP-17 and DP-18) are samples from the SWBZ. Zinc is therefore not a risk driver within the FWBZ, and is not retained as a risk driver within the SWBZ because of the likelihood of an attenuation factor of at least 10 occurring before ultimate discharge to the Oakland inner harbor or San Francisco bay, if such a connection exists. The attenuation/dilution factor is based on guidance from the US Fish and Wildlife service.

### **VOCs**

Twelve VOCs were retained for further evaluation in the Step 3a risk refinement because no primary comparison criteria were available. An additional literature search was performed to identify other ecological comparison values for these VOCs. The literature search identified two supplemental sources of criteria; 1) the EPA Region 5 RCRA Ecological Screening Levels (EPA 2003) and 2) a document titled "Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota, 1996; prepared for the Department of Energy / Oak Ridge National Laboratory (ORNL Criteria) (Suter and Tsao, 1996). Comparison values for four of the VOCs (2-hexanone, 4-methyl-2-pentanone, carbon disulfide, and trans-1,2-dichloroethene) were identified from the EPA Region 5 RCRA Ecological Screening Levels (EPA 2003) and Oak Ridge National Laboratory (Suter and Tsao, 1996). The EPCs for these four VOCs were below the comparison values; therefore, they are not considered to be risk drivers.

The remaining eight VOCs (1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene, isopropylbenzene, tert-butylbenzene, n-butylbenzene, n-propylbenzene, p-Isopropyltoluene, and sec-butylbenzene) were all detected in only one or two samples. None of the detections were from adjacent sample locations. All of the detections were below the reporting limits for the chemical and were identified as estimated values. Residual VOCs were also detected in shallow soils near the facility fence lines in one or two samples but are unlikely to migrate from soil to groundwater because VOCs have a high tendency to volatilize if exposed to air. Thus, VOCs present in soils near the ground surface are expected to volatilize to the atmosphere. Because of the low frequency of detection, the low concentrations, and nonadjacent locations of detections, these eight VOCs are not considered to be risk drivers.

## **PAHs**

Five PAHs [benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, and indeno(1,2,3-c,d)pyrene] were retained for further evaluation because they exceeded one of the comparison criteria. All five PAHs were detected in only 1 of 28 samples, with all of the detections occurring in DP-5. Because of the low frequency of detection, and recent samples from monitoring wells being non-detect for these five PAHs, these five PAHs are not retained as risk drivers.

## **Pesticides**

Six pesticides (4,4'-DDE, aldrin, alpha-BHC, alpha-chlordane, beta-BHC, and heptachlor epoxide) were retained for further evaluation as risk drivers. Four of the pesticides were retained because they exceeded at least one of the comparison criteria. These four pesticides (4,4'-DDE, aldrin, alpha-chlordane, and heptachlor epoxide) are retained for further evaluation because they exceeded one or more of the comparison criteria. However, because there are only one or two detections which exceed the Water Boards screening level, and no detections which exceed the CTR criteria, none of these is retained as a risk driver. The other two pesticides, alpha-BHC and beta-BHC, were retained because no criteria were available for comparison. A literature search identified two supplemental comparison criteria, the EPA Region 5 RCRA Ecological Screening Levels (EPA 2003) and ORNL criteria (Suter and Tsao, 1996). The EPCs and maximum concentrations for alpha-BHC and beta-BHC were below both the EPA Region 5 RCRA ESL and the ORNL screening level; therefore, alpha-BHC and beta-BHC are not retained as risk drivers.

## **16.2 CONCLUSIONS OF SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A RISK REFINEMENT**

The SLERA intentionally incorporates conservative assumptions in order to capture any potential risk from site-related chemicals to ecological receptors. Therefore, this assessment likely overestimates the risk associated with the risk drivers at IR Site 34. The Step 3a risk refinement conducted also likely overestimated risk because many of the assumptions used in the initial risk estimation remained unchanged in the refined risk estimation.

### **16.2.1 Conclusions of the Screening-Level Ecological Risk Assessment**

Based on the results of the SLERA, the following chemicals were identified as requiring further evaluation in the refined risk estimation:

- Metals: Aluminum, antimony, arsenic, barium, cadmium, copper, chromium, iron, lead, manganese, molybdenum, nickel, selenium, thallium, vanadium, and zinc

- SVOCs: 2,4-Dimethylphenol, 4-methylphenol, 4-nitrophenol, butylbenzylphthalate, dimethylphthalate, 2-methylphenol, 4-nitroaniline, bis(2-ethylhexyl)phthalate, dibenzofuran, di-n-butylphthalate, isophorone, and phenol
- PAHs: 2-Methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene
- Pesticides: 4,4'-dichlorodiphenyldichloroethane [DDD], 4,4'-dichlorodiphenyldichloroethene [DDE], 4,4'-dichlorodiphenyltrichloroethane [DDT], aldrin, delta-BHC, dieldrin, endosulfan II, endosulfan sulfate, endrin aldehyde, endrin ketone, methoxychlor, and technical chlordane
- PCBs: Aroclor-1248, Aroclor-1254, Aroclor-1260, and Aroclor-1268

## 16.2.2 Conclusions of the Step 3a Risk Refinement

Based on the results of the Step 3a risk refinement, the following chemical was identified as a risk driver in soil at IR Site 34:

- Lead

No risk drivers were identified in groundwater at Site 34.

Although lead may contribute to ecological risk at IR Site 34, based on the SLERA, a baseline ERA is not recommended because the SLERA likely overestimated risk, there is a lack of current suitable habitat, and future land use would not generate much ideal habitat for wildlife. IR Site 34 currently consists of predominantly Intensively Developed area and two potential wetland areas. Intensively Developed areas have little vegetation and typical urban wildlife, such as California ground squirrel, scrub jays, and American robins, may be observed in these areas but to a lesser extent than in the landscaped/developed areas, because less foraging habitat is available in these areas. The potential wetland areas provide minimal habitat to support plant and invertebrate populations and do not provide suitable habitat for small mammals. In addition, because of high marine vessel activity in the Oakland Inner Harbor it is unlikely that this area will be used by nesting birds.

Site-related chemicals in soil and groundwater at IR Site 34 are not expected to affect the potential wetland areas or the Oakland Inner Harbor for the following reasons. It is unlikely that groundwater or surface water runoff from IR Site 34 would affect the potential seasonal wetland located within the southwest corner of the site because the site topography would prevent it from reaching this potential wetland. Although surface water generally flows towards the wetland located to the north of the site, precipitation typically evaporates into the atmosphere, infiltrates to groundwater, or runs off into the storm drain system. The potential wetland is also not likely to be affected by site-related chemicals in groundwater because it lies between a series of parallel

rock riprap walls that together form a terrace of land that is the shoreline and is tidally inundated at such a frequency as to not present suitable habitat for small mammals, dilution would occur as groundwater mixes with surface water (Oakland Inner Harbor), and groundwater COPECs were identified based on the assumption that no dilution, retardation, or degradation will occur between the location where the groundwater risk drivers were detected and the Oakland Inner Harbor/wetland. In addition, the low-flow velocities of groundwater, low concentrations of VOCs in groundwater, high potential for retardation along the groundwater flow path, and tidal action and surface water flow that create a mixing zone at the interface with the Oakland Inner Harbor suggest that chemicals will not discharge to the Oakland Inner Harbor at concentrations of concern.

Future land use plans include a golf course and park; this plan would not generate much ideal habitat for wildlife. Therefore, the presence of terrestrial ecological receptors at IR Site 34 would be limited under future land use conditions. The creation of a golf course and park may diminish the risk from chemicals in soil.

Following further evaluation of the COPECs, this assessment was determined to likely overestimate risk to terrestrial and aquatic receptors (including the wetland); therefore, further investigation or assessment of ecological risk from soils and groundwater at IR Site 34 is not recommended.

## 17.0 REFERENCES

- Baes, C.F., III, R.D. Sharp, A.L. Sjoreen, and R.W. Shor. 1984. "A Review and Analysis of Parameters for Assessing Transport of Environmentally Released Radionuclides through Agriculture." ORNL-5786. Health and Safety Research Division, Oak Ridge National Laboratory. Oak Ridge, Tennessee. 150 Pages.
- Bechtel-Jacobs Company LLC. 1998. "Empirical Models for the Uptake of Inorganic Chemicals from Soil by Plants." BJC/OR-133. Oak Ridge, Tennessee.
- Beyer, W.N., E.E. Connor, and S. Gerould. 1994. "Estimates of Soil Ingestion by Wildlife." *Journal of Wildlife Management*. Volume 58, No. 2. Pages 375-382.
- Department of Toxic Substances Control (DTSC). 1996a. "Guidance for Ecological Risk Assessment at Hazardous Waste Sites and Permitted Facilities, Part A: Overview." State of California, California Environmental Protection Agency. July 4.
- DTSC. 1996b. "Guidance for Ecological Risk Assessment at Hazardous Waste Sites and Permitted Facilities, Part B: Scoping Assessment." State of California, California Environmental Protection Agency. July 4.
- DTSC. 2000. HERD ERA Note Number 4: Use of Navy/U.S. Environmental Protection Agency Region 9 Biological Technical Assistance Group (BTAG) Toxicity Reference Values for Ecological Risk Assessment. State of California, California Environmental Protection Agency, Human and Ecological Risk Division. December 8.
- DTSC. 2002. HERD ERA Note Number 5: Revised U.S. Environmental Protection Agency Region 9 Biological Technical Assistance Group (BTAG) Mammalian Toxicity Reference Value for Lead: Justification and Rationale. State of California, California Environmental Protection Agency, Human and Ecological Risk Division. November 21.
- California Department of Fish and Game (CDFG). 2005. California Wildlife Habitat Relationships Version 8.1, personal computer program. , California Interagency Wildlife Task Group. Sacramento, California.
- CDFG. 2007. California Natural Diversity Database (CNDDDB). Biogeographic Data Branch. February. Available Online at: <http://www.dfg.ca.gov/bdb/html/cnddb.html>
- Duke, L.D., and M. Taggart. 2000. "Uncertainty Factors in Screening Ecological Risk Assessments." *Environmental Toxicology and Chemistry*. Volume 19, No. 6. Pages 1,668-1,680.
- Nagy, K.A. 2001. "Food Requirements of Wild Animals: Predictive Equations for Free-Living Mammals, Reptiles, and Birds." *Nutrition Abstracts and Reviews, Series B*. Volume 71. Pages 21R-31R.

- Office of Environmental Health Hazard Assessment. 2003. "California Wildlife Exposure Factor and Toxicity Database." Ecotoxicology Unit. Sacramento, California. Available Online at: [www.oehha.org/cal\\_ecotox/default.htm](http://www.oehha.org/cal_ecotox/default.htm)
- Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.
- Sample, B.E., J.J. Beauchamp, R.A. Efroymson, G.W. Suter II, and T.L. Ashwood. 1998. "Development and Validation of Bioaccumulation Models for Small Mammals." ES/ER/TM-219. Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- Sample, B.E., and C.A. Arenal. 1999. "Allometric Models for Interspecies Extrapolation of Wildlife Toxicity Data." *Bulletin of Environmental and Contamination Toxicology*. Volume 62. Pages 653-663.
- San Francisco Bay Regional Water Quality Control Board (Water Board). 2005. "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater." Interim Final. February.
- SulTech. 2006. "Final Remedial Investigation Work Plan, Installation Restoration Site 34, Alameda Point, Alameda, California." January.
- Suter, G. W. II and C. L. Tsao. 1996. "Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 revision. Prepared by Risk Assessment Program, Health Sciences Research Division, Oak Ridge National Laboratory. June.
- Water Board. 2006. "Water Quality Control Plan for the San Francisco Basin." December 22. Available Online at: <http://www/swrcb.ca.gov/rwqcb2/basinplan.htm>
- Spautz, H., and N. Nur. 2002. "Distribution and Abundance in Relation to Habitat and Landscape Features and Nest Site Characteristics of the California Black Rail (*Laterallus jamaicensis coturniculus*) in the San Francisco Bay Estuary." Final Report to U.S. Fish and Wildlife Service. March.
- U.S. Air Force. 2003. "Toxicity Profiles for the Ecological Risk Assessments at Vandenberg Air Force Base, California." Prepared by Tetra Tech, Inc. Lafayette, California.
- U.S. Department of Energy. 2007. Risk Assessment Information System. Office of Environmental Management, Oak Ridge Operations Office. Available Online at: <http://risk.lsd.ornl.gov/>. May.
- U.S. Department of the Navy (Navy). 1998. "Development of Toxicity Reference Values for Conducting Ecological Risk Assessments at Naval Facilities in California, Interim Final." Prepared by Naval Facilities Engineering Command, Engineering Field Activity West. San Bruno, California.

- Navy. 1999. Memorandum regarding Navy Policy for Conducting Ecological Risk Assessments. From Chief of Naval Operations. To Commander, Naval Facilities Engineering Command. April 5. Available Online at: [https://portal.navfac.navy.mil/pls/portal/docs/page/navfac/navfac\\_ww\\_pp/navfac\\_nfesc\\_pp/environmental/erb/gpr/cno-era-policy.pdf](https://portal.navfac.navy.mil/pls/portal/docs/page/navfac/navfac_ww_pp/navfac_nfesc_pp/environmental/erb/gpr/cno-era-policy.pdf)
- Navy. 2004. "Navy Guidance for Conducting Ecological Risk Assessments." Last updated on May 4. Available Online at: <http://web.ead.anl.gov/ecorisk/index.cfm>
- U.S. Environmental Protection Agency (EPA). 1986. "Quality Criteria for Water 1986." Office of Water Regulations and Standards. EPA 440/5-86-001. May 1. Available Online at: <http://www.epa.gov/waterscience/criteria/goldbook.pdf>
- EPA. 1993. "Wildlife Exposure Factors Handbook". Volumes 1 and 2. Office of Research and Development. EPA/600/R-93/187. December.
- EPA. 1995. "Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors." EPA-820-B-95-005.
- EPA. 1997. "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments." Interim Final. EPA 540-R-97-006. June 5. Available Online at: <http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.htm>
- EPA. 1998. "Guidelines for Ecological Risk Assessment." Final. EPA 630-R-95-002F. April. Available Online at: <http://oaspub.epa.gov/eims/eimsapi.dispdetail?deid=12460>
- EPA. 1999a. "Screening Level Ecological Risk Assessment Protocol." Region 6, Office of Solid Waste, Center for Combustion Science and Engineering. August.
- EPA. 1999b. "Issuance of Final Guidance: Ecological Risk Assessment and Risk Management Principles for Superfund Sites." Directive 9285.7-28 P. Office of Solid Waste and Emergency Response. Washington, D.C. October.
- EPA. 2000a. 40 *Code of Federal Regulations* Part 131. "Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California." Rule [FRL-6587-9] RIN 2040-AC44. May 18.
- EPA. 2000b. "Risk Characterization Handbook." EPA 100-B-00-002. December.
- EPA. 2001. "The Role of Screening-level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments." ECO Update. EPA Publication 9345.0-14. Office of Solid Waste and Emergency Response. EPA 540/F-01/014. June.
- EPA. 2003. "Region 5 RCRA Ecological Screening Levels." August 22. Available Online at: <http://www.epa.gov/reg5rcra/ca/edql.htm>
- EPA. 2005. "Guidance for Developing Ecological Soil Screening Levels." February.

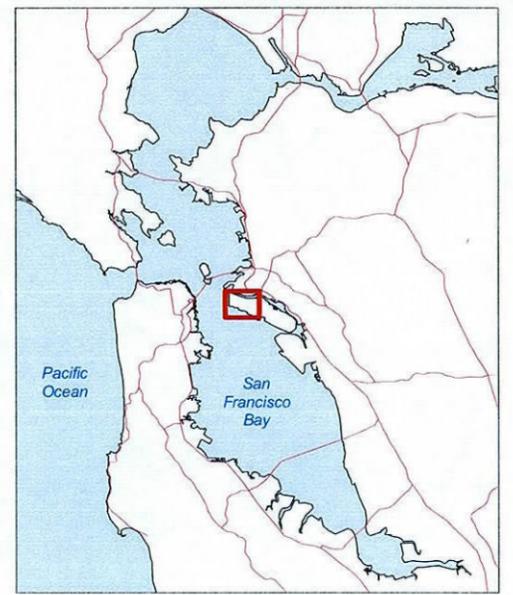
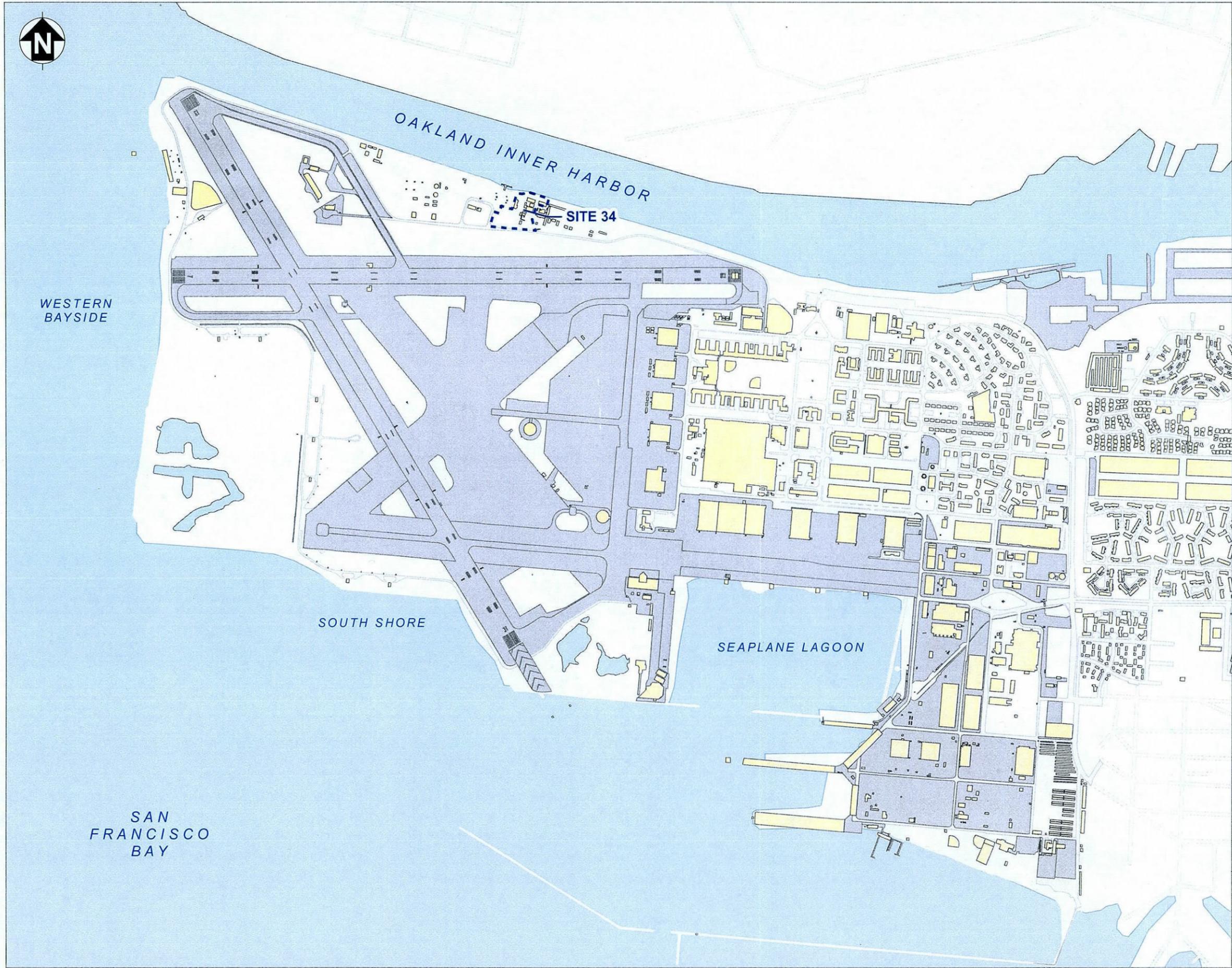
EPA. 2006. National Recommended Water Quality Criteria. Available online at <http://www.epa.gov/waterscience/criteria/wqcriteria.html>

EPA. 2007. Interim Ecological Soil Screening Levels. May. Available on-line at: <http://www.epa.gov/ecotox/ecossl/>

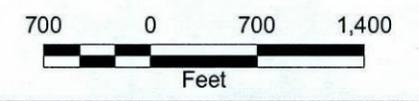
Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. "California's Wildlife: Volume III, Mammals." California Wildlife Habitat Relationships System. State of California, the Resource Agency, CDFG. Sacramento, California.

**FIGURES**

---



-  Installation Restoration Site 34 Boundary
-  Paved Area
-  Road
-  Structure
-  Water
-  Road



Alameda Point, Alameda, CA  
 U.S. Department of the Navy, BRAC PMO West, San Diego, CA

**FIGURE I-1**  
**SITE LOCATION**

RI Report for IR Site 34

**Tier 1. Screening Risk Assessment (SRA):** Identify pathways and compare exposure point concentrations to benchmarks.  
**Step 1:** Site Visit; Pathway Identification / Problem Formulation; Toxicity Evaluation  
**Step 2:** Exposure Estimate; Risk Calculation

Pass  
 No further evaluation is warranted.

Fail

Pass  
 Acceptable risk determination site exits the ecological risk assessment process.

**Tier 2. Baseline Ecological Risk Assessment (BERA):** Detailed assessment of exposure and hazard to "assessment endpoints" (ecological qualities to be protected)  
**Step 3a:** Refinement of Conservative Exposure Assumptions<sup>1</sup> (SRA) -- **Proceed to Exit Criteria for Step 3a**

Fail

Not an acceptable risk determination; the site continues in the BERA process. **Proceed to Step 3b**

Pass  
 The site poses acceptable risk and no further evaluation or remediation is warranted

**Tier 2. Baseline Ecological Risk Assessment (BERA) (continued):**  
**Step 3b:** Problem Formulation – Toxicity Evaluation; Assessment Endpoints; Conceptual Model; Risk Hypothesis  
**Step 4:** Study Design / DQO  
**Step 5:** Verification of Field Sampling Design  
**Step 6:** Site Investigation and Data Analysis  
**Step 7:** Risk Characterization

Fail

**Tier 3. Evaluation of Remedial Alternatives (RAGs C):**  
 a. Develop site specific risk based cleanup values; and b. Qualitatively evaluate risk posed to the environment by implementation of each alternative (short term) impacts and estimate risk reduction provided by each (long-term) impacts; provide quantitative evaluation where appropriate. Weigh alternative using the remaining CERCLA 9 Evaluation Criteria. Plan for monitoring and site closeout.

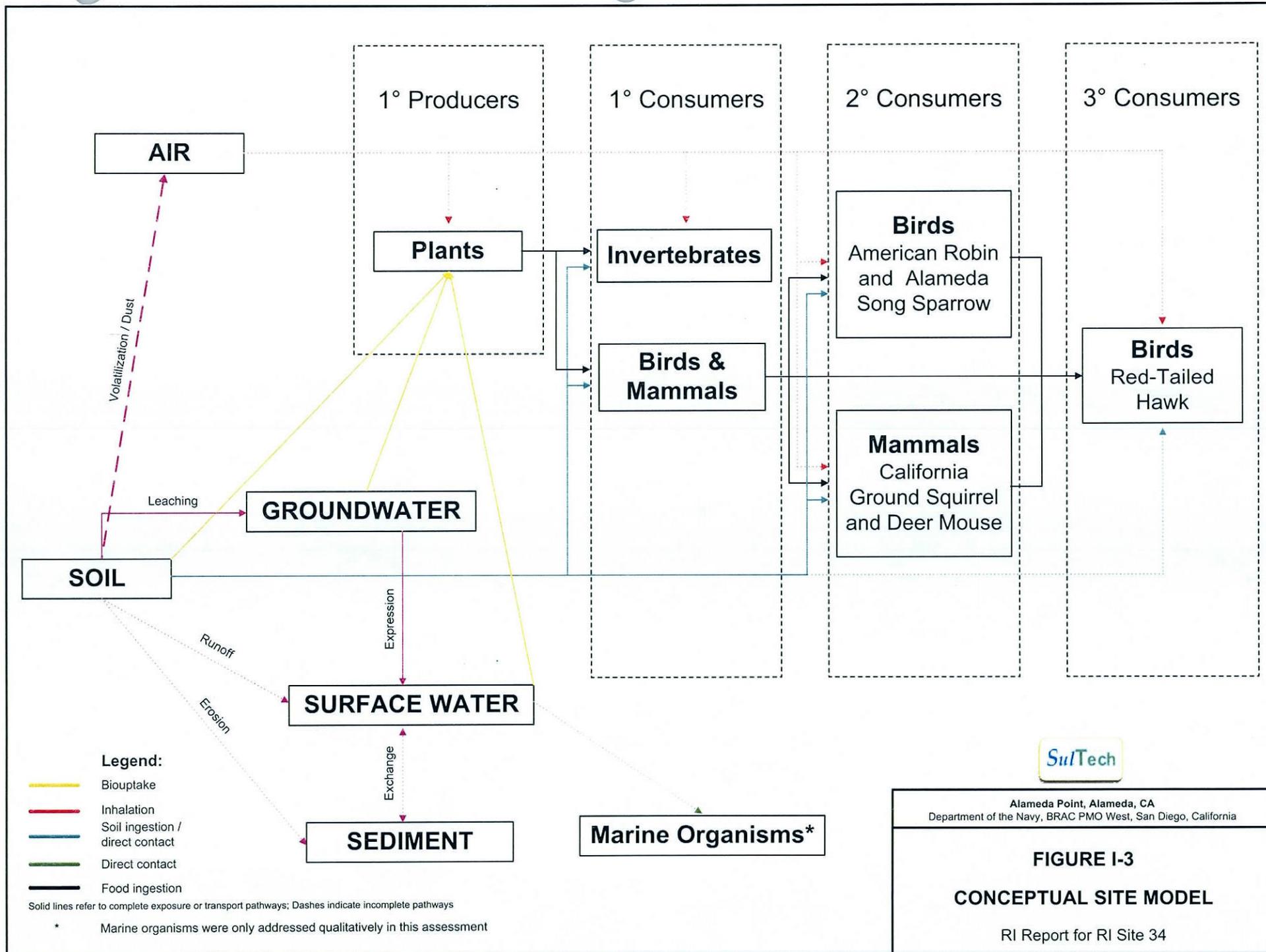
SuTech

Notes:  
 1) Refinement includes but is not limited to background, bioavailability, detection frequency, etc.

- Definitions:
- BERA Baseline Ecological Risk Assessment
  - BRAC Base Realignment and Closure
  - CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
  - DQO Data Quality Objective
  - PMO Project Management Office
  - RAGs Risk Assessment Guidelines
  - SRA Screening Risk Assessment

Alameda Point, Alameda, CA  
 Department of the Navy, BRAC PMO West, San Diego, California

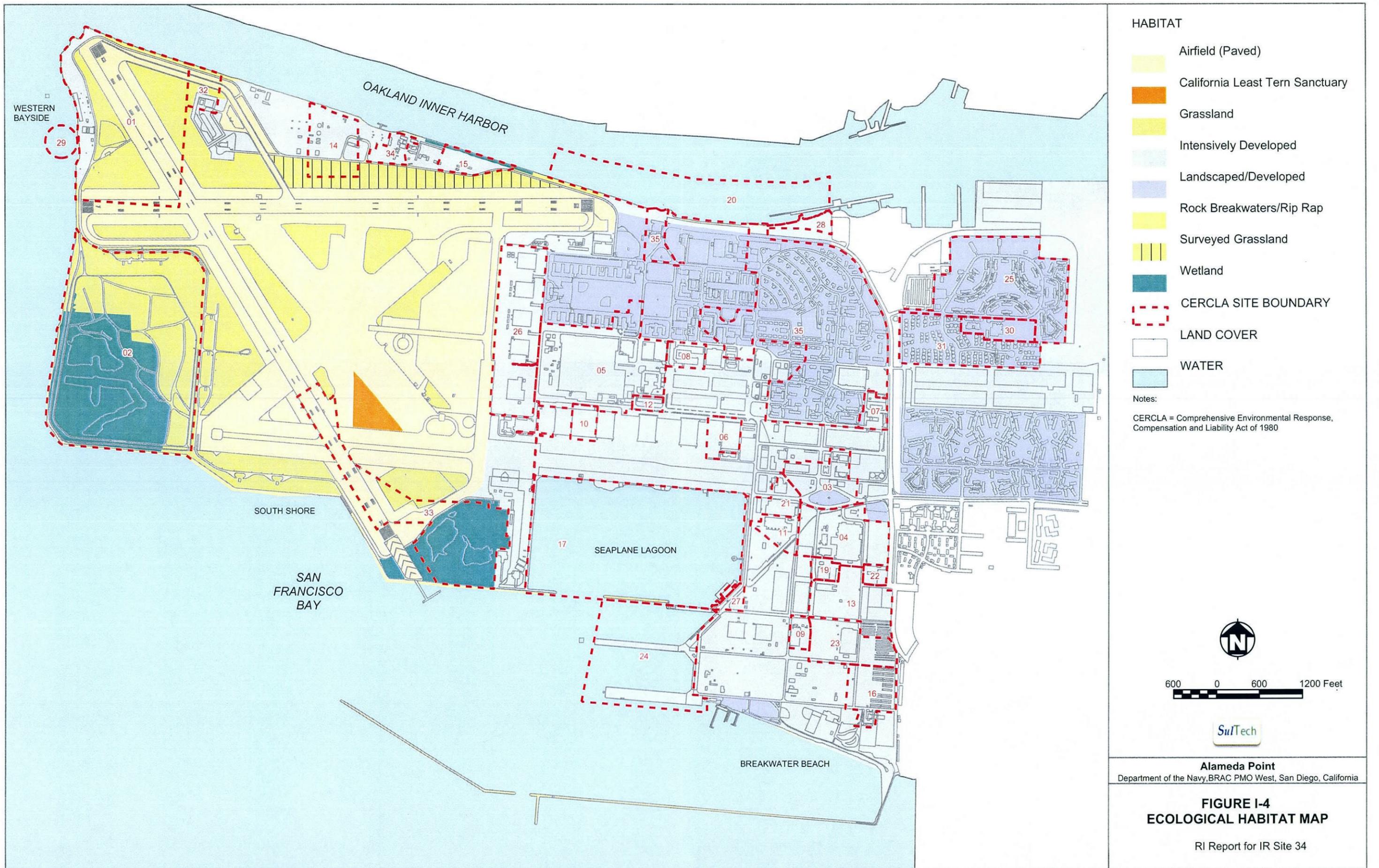
**FIGURE I-2**  
**DIAGRAM OF SLERA PROCESS**  
 RI Report for IR Site 34

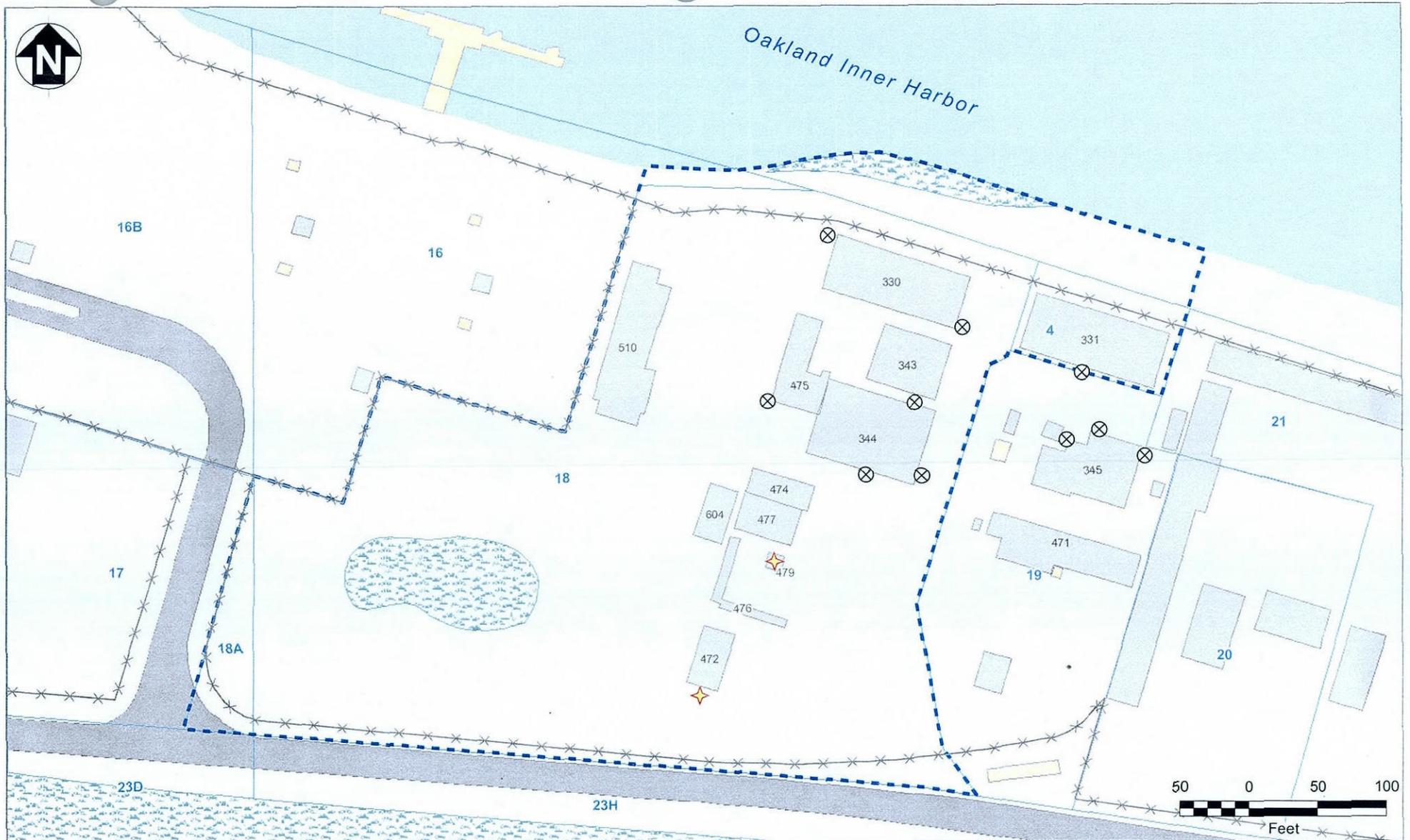


Alameda Point, Alameda, CA  
 Department of the Navy, BRAC PMO West, San Diego, California

**FIGURE I-3**  
**CONCEPTUAL SITE MODEL**

RI Report for RI Site 34





- Generator Accumulation Point (Removed)
- Aboveground Storage Tank (Removed)
- Approximate Location of Wetlands
- Installation Restoration Site 34 Boundary
- Building (Present)
- Building (Removed)
- Environmental Baseline Survey Parcel
- Road
- Water
- Fence



**Alameda Point, Alameda CA**  
 Department of the Navy, BRAC PMO West, San Diego, California

**FIGURE I-5**  
**WETLANDS IN THE VICINITY**  
**OF IR SITE 34**

RI Report for IR Site 34

**TABLE**

---

**TABLE I-1: SPECIAL-STATUS SPECIES PREVIOUSLY REPORTED AT ALAMEDA POINT**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Scientific Name	Common Name	Status
<i>Chorizanthe robusta var. robusta</i>	Robust spineflower	FE
<i>Holocarpha macradenia</i>	Santa Cruz tarplant	FT/SE
<i>Layia carnosa</i>	Beach layia	FE/SE
<i>Sanicula maritima</i>	Adobe sanicle	SR
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE/CSC
<i>Ambystoma californiense</i>	California tiger salamander	FT/CSC
<i>Laterallus jamaicensis coturniculus</i>	California black rail	ST
<i>Rallus longirostris obsoletus</i>	California clapper rail	FE/SE
<i>Sterna antillarum browni</i>	California least tern	FE/SE
<i>Reithrodontomys raviventris</i>	Salt-marsh harvest mouse	FE/SE

Acronyms/Abbreviations:

- CSC – California Department of Fish and Game Listed Special Concern
- FE – Federally listed – endangered
- FT – Federally listed – threatened
- SE – California state listed – endangered
- SR – California state-listed - rare
- ST – California state listed – threatened

**TABLE I-2: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL AT IR SITE 34**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Sample Size			Detected Data				
	Detected	Total	Detection Frequency (Percent)	Range of Detected Concentrations	Median	Mean	Comparison to Background	95UCL of Detected Values
<b>Metals</b>								
Aluminum	81	81	100	3,300 to 37,000	7,340	8,750	>bkgd	9050
Antimony	58	104	56	0.11 to 16	1.3	3.04	>bkgd	2.61
Arsenic	97	104	93	0.7 to 120	2.95	6.5	>bkgd	8.82
Barium	104	104	100	12 to 200	55	63.4	>bkgd	69.4
Beryllium	90	104	87	0.048 to 0.880	0.19	0.234	<bkgd	0.236
Cadmium	91	104	88	0.036 to 45.8	0.69	4.26	>bkgd	8.65
Chromium	104	104	100	9.400 to 550	42	67.6	>bkgd	100
Cobalt	104	104	100	2.4 to 23	6.1	7.27	>bkgd	7.44
Copper	102	104	98	2.400 to 254	18	37.6	>bkgd	60.1
Iron	81	81	100	6,400 to 180,000	16,000	23,500	>bkgd	36800
Lead	102	104	98	1.1 to 21,000	23.7	520	>bkgd	2390
Manganese	81	81	100	63 to 1,300	219.5	265	>bkgd	304
Mercury	74	96	77	0.0091 to 1.9	0.063	0.16	<bkgd	0.265
Molybdenum	72	104	69	0.1 to 13.7	0.74	1.9	NA	2.18
Nickel	104	104	100	4.3 to 122	34.4	38.1	>bkgd	38.9
Selenium	18	104	17	0.072 to 1.1	0.345	0.529	NA	0.223
Silver	11	104	11	0.27 to 9.5	1.55	2.87	<bkgd	0.86
Thallium	50	104	48	0.039 to 3.5	0.34	0.648	NA	0.459
Vanadium	104	104	100	13.3 to 130	28.4	32.3	>bkgd	33.7
Zinc	100	104	96	12 to 1,400	69	195	>bkgd	332
<b>Volatile Organic Compounds</b>								
1,2-Dichlorobenzene	1	47	2	26	NC	NA	NA	26
1,2-Dichloropropane	1	32	3	0.0036	NC	NA	NA	0.0036
1,2,3-Trichlorobenzene	1	32	3	1.5	NC	NA	NA	1.5
1,2,4-Trichlorobenzene	1	47	2	5.1	NC	NA	NA	5.1
1,2,4-Trimethylbenzene	1	32	3	0.5	NC	NA	NA	0.5
1,3,5-Trimethylbenzene	1	32	3	0.16	NC	NA	NA	0.16
1,3-Dichlorobenzene	1	47	2	1.1	NC	NA	NA	1.1

**TABLE I-2: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL AT IR SITE 34**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

	Sample Size			Detected Data				
1,4-Dichlorobenzene	1	47	2	6.8	6.8	NA	NA	6.8
<b>Volatile Organic Compounds (Continued)</b>								
2-Butanone	1	33	3	0.01	NC	NA	NA	NA
Carbon disulfide	1	32	3	0.00024	0.00112	0.00112	NA	0.00024
Chlorobenzene	1	32	3	0.11	NC	NA	NA	0.11
cis-1,2-Dichloroethene	1	32	3	0.0057	NC	NA	NA	NA
Methylene chloride	1	32	3	0.0024	NC	NA	NA	0.0024
p-Isopropyltoluene	1	32	3	0.11	NC	NA	NA	0.11
sec-Butylbenzene	1	32	3	0.071	NC	NA	NA	0.071
Toluene	3	33	9	0.00029	0.00038	0.000367	NA	0.00043
<b>Semivolatile Organic Compounds</b>								
2,4-Dimethylphenol	1	37	3	0.21	NC	NA	NA	0.21
2-Methylphenol	1	37	3	0.081	NC	NA	NA	0.081
4-Methylphenol	1	37	3	0.27	NC	NA	NA	0.27
4-Nitroaniline	1	37	3	0.62	NC	NA	NA	0.62
4-Nitrophenol	1	37	3	0.42	NC	NA	NA	0.42
Bis(2-ethylhexyl)phthalate	5	37	14	0.031 to 14	0.214	6.59	NA	5.3
Butylbenzylphthalate	1	38	3	0.63	NC	NA	NA	NA
Dibenzofuran	2	37	5	0.13 to 13	6.565	6.57	NA	13
Dimethylphthalate	1	37	3	0.038	NC	NA	NA	0.038
di-n-Butylphthalate	3	37	8	0.51 to 2.3	1.355	1.29	NA	2.3
Isophorone	1	37	3	0.2	NC	NA	NA	0.2
Phenol	1	37	3	0.58	NC	NA	NA	0.58
<b>Polycyclic Aromatic Hydrocarbons</b>								
2-Methylnaphthalene	7	38	18	0.0019 to 8.5	0.0042	1.24	NA	2.67
Acenaphthene	5	39	13	0.0017 to 22	0.038	4.42	NA	6.94
Acenaphthylene	12	39	31	0.001 to 0.031	0.02	0.0826	NA	0.0475
Anthracene	15	39	38	0.00081 to 3.6	0.028	0.395	NA	0.338
Benzo(a)anthracene	25	40	63	0.0012 to 14	0.023	0.853	NA	4.32
Benzo(a)pyrene	26	40	65	0.0017 to 4.6	0.03	0.409	NA	1.58
Benzo(b)fluoranthene	28	38	74	0.0012 to 7.6	0.029	0.468	NA	2.42
<b>Polycyclic Aromatic Hydrocarbons (Continued)</b>								
Benzo(g,h,i)perylene	33	40	83	0.00087 to 2.1	0.0425	0.15	NA	0.728

**TABLE I-2: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL AT IR SITE 34**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

	Sample Size			Detected Data				
Benzo(k)fluoranthene	21	39	54	0.0018 to 9.2	0.066	0.664	NA	2.87
Chrysene	33	40	83	0.00082 to 16	0.038	0.784	NA	4.97
Dibenzo(a,h)anthracene	16	38	42	0.0019 to 1.3	0.015	0.128	NA	0.294
Fluoranthene	22	40	55	0.0023 to 74	0.03	4.2	NA	22.5
Fluorene	5	38	13	0.0013 to 13	0.0255	2.21	NA	4.14
Indeno(1,2,3-cd)pyrene	21	39	54	0.0011 to 2.4	0.033	0.214	NA	0.793
Naphthalene	9	46	20	0.002 to 13	0.0054	1.52	NA	4.06
Phenanthrene	23	40	58	0.0016 to 47	0.01	2.26	NA	13.8
Pyrene	29	40	73	0.0038 to 68	0.0465	3.1	NA	20.6
<b>Pesticides</b>								
4,4'-DDD	1	94	1	0.0012	0.0486	0.0486	NA	0.0012
4,4'-DDE	5	94	5	0.017 to 0.71	0.053	0.251	NA	0.132
4,4'-DDT	18	94	19	0.0055 to 0.47	0.046	0.0965	NA	0.0396
Aldrin	1	94	1	0.013	NC	NA	NA	0.013
alpha-BHC	1	94	1	0.00073	NC	NA	NA	0.00073
alpha-Chlordane	14	94	15	0.0021 to 0.048	0.00885	0.0152	NA	0.00711
Beta-BHC	1	94	1	0.0022	NC	NA	NA	0.0022
Delta-BHC	2	94	2	0.0067 to 0.0084	0.00755	0.00755	NA	0.0084
Dieldrin	14	94	15	0.0024 to 0.5	0.014	0.0817	NA	0.0489
Endosulfan I	1	94	1	0.023	NC	NA	NA	0.023
Endosulfan II	4	94	4	0.021 to 0.05	0.036	0.0358	NA	0.0234
Endosulfan sulfate	2	94	2	0.0039 to 0.043	0.02345	0.0235	NA	0.043
Endrin ketone	2	94	2	0.0023 to 0.01	0.041	0.00615	NA	0.01
Endrin aldehyde	5	94	5	0.0081 to 0.074	0.00615	0.0408	NA	0.0423
gamma-BHC (Lindane)	2	94	2	0.0025 to 0.0026	0.00255	0.00255	NA	0.0026
gamma-Chlordane	16	94	17	0.0016 to 0.015	0.024	0.0319	NA	0.0119
Heptachlor	1	94	1	0.0069	NC	NA	NA	0.0069
Heptachlor epoxide	14	94	15	0.00077 to 0.11	0.016	0.028	NA	0.00986
<b>Pesticides (Continued)</b>								
Methoxychlor	2	94	2	0.084 to 0.12	0.102	0.102	NA	0.12
Technical chlordane	4	94	4	0.046 to 0.6	0.55	0.437	NA	0.542
<b>Polychlorinated Biphenyls</b>								
Aroclor-1248	3	142	2	0.056 to 1.2	0.28	0.512	NA	1.2

**TABLE I-2: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN SOIL AT IR SITE 34**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

	Sample Size			Detected Data				
Aroclor-1254	39	142	27	0.024 to 11	0.18	0.783	NA	0.401
Aroclor-1260	77	142	54	0.0058 to 9.7	0.115	0.304	NA	0.488
Aroclor-1268	26	127	20	0.0083 to 0.300	0.0395	0.064	NA	0.0269
<b>Total Petroleum Hydrocarbons</b>								
Diesel Range	33	55	60	0.48 to 18,000	20	1030	NA	NA
Gasoline Range	7	61	11	0.550 to 90	20	34.7	NA	NA
Motor Oil Range	34	47	72	3 to 47,000	150	3,220	NA	NA
Oil & Grease	1	1	100	1,280	NC	NA	NA	NA

Notes:

- BHC
- DDD
- DDE
- DDT
- EPC
- NA
- NC

**TABLE I-3: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN GROUNDWATER AT IR SITE 34**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Sample Size			Detected Data Only					
	Detected	Total	Detection Frequency (Percent)	Minimum Concentration	Qualifier	Maximum Concentration	Qualifier	Average of Detected Values <sup>1</sup>	95UCL of Detected Values <sup>2</sup>
<b>Metals (Dissolved)</b>									
Aluminum	17	19	89	5.2	J	74		17.05	23.80
Antimony	18	19	95	0.17	J	2		0.65	0.92
Arsenic	19	19	100	2.5		110		12.93	36.71
Barium	19	19	100	26		240		111.11	183.98
Beryllium	5	19	26	0.071	J	0.091	J	0.08	0.09
Cadmium	3	19	16	0.5	J	1.5		0.87	NA
Chromium	17	19	89	0.58	J	2.9		1.35	1.67
Cobalt	19	19	100	0.15	J	45		4.99	32.79
Copper	13	19	68	0.61	J	12		3.29	7.11
Iron	19	19	100	54		22,000		3,184	16,001
Lead	9	19	47	0.25	J	4.1		1.50	4.04
Manganese	19	19	100	30		26,000		3,106	21,545
Mercury	1	19	5	0.17	J	0.17	J	NA	NA
Molybdenum	19	19	100	1.5		47		8.24	11.36
Nickel	18	19	95	1.2		46		7.27	39.94
Selenium	6	19	32	3.3		34		14.58	34.94
Silver	8	19	42	0.047	J	0.098	J	0.07	0.08
Thallium	10	19	53	0.076	J	0.94	J	0.28	0.71
Vanadium	19	19	100	0.66	J	14		2.67	3.71
Zinc	18	19	95	4		600		57	384

**TABLE I-3: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN GROUNDWATER AT IR SITE 34**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Sample Size			Detected Data Only					
	Detected	Total	Detection Frequency (Percent)	Minimum Concentration	Qualifier	Maximum Concentration	Qualifier	Average of Detected Values <sup>1</sup>	95UCL of Detected Values <sup>2</sup>
<b>Metals (Total)</b>									
Aluminum	5	11	45	130	J	1300	J	513	1,399
Arsenic	10	11	91	3.4		15		8	10
Barium	11	11	100	18		210		96	133
Calcium	11	11	100	8,000		1,200,000		258,545	1,759,438
Chromium	2	11	18	4.5		8.5		7	NA
Cobalt	7	11	64	0.18	J	1.2		0.6	1
Copper	5	11	45	1.5	J	7.3		5	9
Iron	8	11	73	53		3,600		1,214	4,267
Lead	4	11	36	0.088	J	1.1		0.6	3
Magnesium	11	11	100	9,600		2,000,000		397,900	2,709,181
Manganese	11	11	100	48		3,000		966	6,866
Molybdenum	6	11	55	3.3		11		6	8
Nickel	7	11	64	2.2		17		7	15
Potassium	11	11	100	17,000		150,000		54,273	102,234
Selenium	5	11	45	0.71	J	2.7		1	3
Sodium	9	9	100	330,000		11,000,000		1,760,444	13,319,518
Thallium	3	11	27	0.04	J	0.08	J	0.1	NA
Vanadium	5	11	45	2.2		12		5	13
Zinc	6	11	55	2.3	J	21		7	20
<b>Volatile Organic Compounds</b>									
1,1-Dichloroethane	2	30	7	0.1	J	0.3	J	0.20	NA
1,2,4-Trimethylbenzene	1	30	3	0.1	J	0.1	J	NA	NA
1,2-Dichlorobenzene	2	30	7	0.2	J	1.3		0.75	NA
1,2-Dichloroethane	2	30	7	0.3	J	1.7		1.00	NA
1,2-Dichloropropane	1	30	3	0.2	J	0.2	J	NA	NA

**TABLE I-3: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN GROUNDWATER AT IR SITE 34**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Sample Size			Detected Data Only					
	Detected	Total	Detection Frequency (Percent)	Minimum Concentration	Qualifier	Maximum Concentration	Qualifier	Average of Detected Values <sup>1</sup>	95UCL of Detected Values <sup>2</sup>
<b>Volatile Organic Compounds (Continued)</b>									
1,3,5-Trimethylbenzene	1	30	3	0.06	J	0.06	J	NA	NA
1,4-Dichlorobenzene	1	30	3	0.3	J	0.3	J	NA	NA
2-Hexanone	3	29	10	0.2	J	0.5	J	0.33	NA
4-Methyl-2-pentanone	1	30	3	0.1	J	0.1	J	NA	NA
Benzene	5	31	16	0.06	J	0.2	J	0.11	0.16
Bromoform	2	30	7	0.1	J	0.2	J	0.15	NA
Carbon disulfide	21	30	70	0.08	J	1.1		0.38	0.50
Chloroform	1	30	3	1.6		1.6		NA	NA
Chloromethane	1	30	3	0.2	J	0.2	J	NA	NA
Ethylbenzene	3	31	10	0.07	J	1.2		0.46	NA
Isopropylbenzene	1	30	3	0.07	J	0.07	J	NA	NA
Naphthalene	2	30	7	0.09	J	1	J	0.55	NA
tert-Butylbenzene	1	30	3	0.4	J	0.4	J	NA	NA
Toluene	17	31	55	0.07	J	0.6		0.18	0.24
Trichloroethene	8	30	27	0.2	J	0.6		0.34	0.46
Vinyl chloride	1	30	3	0.2	J	0.2	J	NA	NA
Xylene (Total)	1	2	50	4.5	J	4.5	J	NA	NA
cis-1,2-Dichloroethene	14	30	47	0.1	J	1.7		0.54	0.83
m,p-Xylene	3	29	10	0.2	J	0.4	J	0.30	NA
n-Butylbenzene	1	30	3	0.1	J	0.1	J	NA	NA
n-Propylbenzene	2	30	7	0.04	J	0.06	J	0.05	NA
p-Isopropyltoluene	1	30	3	0.07	J	0.07	J	NA	NA
sec-Butylbenzene	2	30	7	0.05	J	0.3	J	0.18	NA
trans-1,2-Dichloroethene	2	30	7	0.4	J	0.4	J	0.40	NA

**TABLE I-3: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN GROUNDWATER AT IR SITE 34**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Sample Size			Detected Data Only					
	Detected	Total	Detection Frequency (Percent)	Minimum Concentration	Qualifier	Maximum Concentration	Qualifier	Average of Detected Values <sup>1</sup>	95UCL of Detected Values <sup>2</sup>
<b>Semivolatile Organic Compounds</b>									
Acenaphthene	2	35	6	1.4	J	2.4	J	1.90	NA
Phenol	3	35	9	0.62	J	31		10.97	NA
bis(2-ethylhexyl)phthalate	1	35	3	3	J	3	J	NA	NA
<b>Polycyclic Aromatic Hydrocarbons</b>									
2-Methylnaphthalene	2	28	7	0.008	J	0.01	J	0.01	NA
Acenaphthene	5	28	18	0.01	J	0.89		0.23	1.90
Acenaphthylene	5	28	18	0.005	J	0.096	J	0.04	0.24
Anthracene	5	28	18	0.01	J	0.12		0.04	0.13
Benzo(a)anthracene	1	28	4	0.077	J	0.077	J	NA	NA
Benzo(a)pyrene	1	28	4	0.08	J	0.08	J	NA	NA
Benzo(b)fluoranthene	1	28	4	0.04	J	0.04	J	NA	NA
Benzo(g,h,i)perylene	1	28	4	0.058	J	0.058	J	NA	NA
Benzo(k)fluoranthene	1	28	4	0.042	J	0.042	J	NA	NA
Chrysene	1	28	4	0.11		0.11		NA	NA
Dibenzo(a,h)anthracene	1	28	4	0.014	J	0.014	J	NA	NA
Fluoranthene	6	28	21	0.007	J	0.24		0.05	0.43
Fluorene	5	28	18	0.024	J	0.24		0.09	0.26
Indeno(1,2,3-cd)pyrene	1	28	4	0.038	J	0.038	J	NA	NA
Naphthalene	6	28	21	0.023	J	0.2	J	0.07	0.20
Phenanthrene	9	28	32	0.008	J	0.77		0.10	0.93
Pyrene	15	28	54	0.008	J	0.43		0.05	0.33
<i>Total PAH's (Calculated)</i>						3.445	<i>calculated from sum of max detects</i>		
<b>Pesticides</b>									
4,4'-DDD	2	28	7	0.00038	J	0.00038	J	0.00	NA
4,4'-DDE	3	28	11	0.00041	J	0.00085	J	0.00	NA
<i>Total DDT and metabolites (calculated)</i>						0.00123	<i>calculated from sum of max detects</i>		

**TABLE I-3: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN GROUNDWATER AT IR SITE 34**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Sample Size			Detected Data Only					
	Detected	Total	Detection Frequency (Percent)	Minimum Concentration	Qualifier	Maximum Concentration	Qualifier	Average of Detected Values <sup>1</sup>	95UCL of Detected Values <sup>2</sup>
<b>Pesticides (Continued)</b>									
Aldrin	8	29	28	0.00011	J	0.0011	J	0.00	0.00
beta-BHC	1	28	4	0.0005		0.0005		NA	NA
Dieldrin	1	28	4	0.00046	J	0.00046	J	NA	NA
Endosulfan I	9	29	31	0.00012	J	0.002		0.00	0.00
Endosulfan II	1	28	4	0.00023	J	0.00023	J	NA	NA
Endrin	2	28	7	0.00011	J	0.00026	J	0.00	NA
Endrin aldehyde	4	28	14	0.0002	J	0.0032		0.00	0.01
Heptachlor epoxide	2	28	7	0.00026	J	0.0019	J	0.00	NA
Methoxychlor	2	28	7	0.00091	J	0.0013		0.00	NA
alpha-BHC	4	28	14	0.0001	J	0.0023		0.00	0.01
alpha-Chlordane	5	28	18	0.00023	J	0.0048	J	0.00	0.01
gamma-BHC (Lindane)	5	29	17	0.00019	J	0.0017	J	0.00	0.00
gamma-Chlordane	1	28	4	0.00041	J	0.00041	J	NA	NA
<b>Total Petroelum Hydrocarbons</b>									
Diesel Range	26	37	70	0.087		54	HL	2.46	22.98
Gasoline Range	7	35	20	0.028	J	1.1	J	0.21	1.69
Motor Oil Range	25	37	68	0.037	J	7.1	LM	0.81	1.59

Notes: All concentrations are reported in micrograms per liter for all chemicals except for TPH, which are reported in milligrams per liter

- 1 Arithmetic mean, calculated for all chemicals with at least two detections
- 2 Calculated for all chemicals with at least four detections following EPA (2002, 2007a, 2007b)

BHC Benzene hexachloride  
 CAS Chemical abstract service  
 DDD Dichlorodiphenyldichloroethane  
 DDE Dichlorodiphenyldichloroethene

**TABLE I-3: CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN IN GROUNDWATER AT IR SITE 34**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Sample Size			Detected Data Only					
	Detected	Total	Detection Frequency (Percent)	Minimum Concentration	Qualifier	Maximum Concentration	Qualifier	Average of Detected Values <sup>1</sup>	95UCL of Detected Values <sup>2</sup>

Notes (Continued):

DDT                   Dichlorodiphenyltrichloroethane  
 EPA                 U.S. Environmental Protection Agency  
 NA                  Not available  
 PRG                Preliminary remedial goal  
 TPH                Total petroleum hydrocarbons  
 95UCL             95th percentile upper confidence limit of the arithmetic mean

Sources:

EPA. 2002. "Calculating Exposure Point Concentrations at Hazardous Waste Sites." OSWER 9285.6-10. Office of Emergency and Remedial Response. Washington, DC. December  
 EPA. 2007a. "ProUCL Version 4.0 Technical Guide." Prepared by Singh, A. and A.K. Singh. EPA/600/R-07/041. April.  
 EPA. 2007b. "ProUCL Version 4.0 User Guide." Prepared by Singh, A., Maichle, R., Singh, A.K., and S.E. Lee. EPA/600/R-07/038. April.

**TABLE I-4: TRVs FOR THE DEER MOUSE (*PEROMYSUS MANICULATUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>ALUMINUM</b>				
Dose/High TRV	19.3	0.03	17.67	Sample and others 1996
Dose/Low TRV	1.93	0.03	1.77	Sample and others 1996
<b>ANTIMONY</b>				
Dose/High TRV	1.25	0.03	1.14	Sample and others 1996
Dose/Low TRV	0.125	0.03	0.11	Sample and others 1996
<b>ARSENIC</b>				
Dose/High TRV	4.7	0.11	3.32	Navy 1998
Dose/Low TRV	0.32	0.332	0.18	Navy 1998
<b>BARIUM</b>				
Dose/High TRV	19.8	0.35	11.09	Sample and others 1996
Dose/Low TRV	5.1	0.435	2.74	Sample and others 1996
<b>BERYLLIUM</b>				
Dose/High TRV	6.6	0.35	3.70	Calculated <sup>3</sup>
Dose/Low TRV	0.66	0.35	0.37	Sample and others 1996
<b>CADMIUM</b>				
Dose/High TRV	2.64	0.03141	2.39	Navy 1998
Dose/Low TRV	0.06	0.0322	0.05	Navy 1998
<b>CHROMIUM</b>				
Dose/High TRV	27,370	0.35	15,331	Sample and others 1996
Dose/Low TRV	2737	0.35	1,533	Sample and others 1996
<b>COBALT</b>				
Dose/High TRV	20	0.2	12.53	Navy 1998
Dose/Low TRV	1.2	0.275	0.71	Navy 1998
<b>COPPER</b>				
Dose/High TRV	631.58	0.0247	601.17	Navy 1998
Dose/Low TRV	2.67	0.03	2.44	Navy 1998

**TABLE I-4: TRVs FOR THE DEER MOUSE (*PEROMYSUS MANICULATUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>IRON</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>LEAD</b>				
Dose/High TRV	240.64	0.0187	242.16	Navy 1998
Dose/Low TRV	1	0.208	0.62	Navy 1998
<b>MANGANESE</b>				
Dose/High TRV	159.09	0.0297	145.95	Navy 1998
Dose/Low TRV	13.7	0.0346	12.19	Navy 1998
<b>MERCURY</b>				
Dose/High TRV	4	0.428	2.15	Navy 1998
Dose/Low TRV	0.25	0.1875	0.16	Navy 1998
<b>MOLYBDENUM</b>				
Dose/High TRV	2.6	0.03	2.38	Sample and others 1996
Dose/Low TRV	0.26	0.03	0.24	Sample and others 1996
<b>NICKEL</b>				
Dose/High TRV	31.6	0.2486	18.95	Navy 1998
Dose/Low TRV	0.133	0.2486	0.08	Navy 1998
<b>SELENIUM</b>				
Dose/High TRV	1.21	0.0246	1.15	Navy 1998
Dose/Low TRV	0.05	0.1865	0.03	Navy 1998
<b>SILVER</b>				
Dose/High TRV	60.2	8.86	17.67	EPA 2007c
Dose/Low TRV	6.02	8.86	1.77	EPA 2007c
<b>THALLIUM</b>				
Dose/High TRV	1.43	0.065	1.12	Navy 1998
Dose/Low TRV	0.48	0.065	0.38	Navy 1998

**TABLE I-4: TRVs FOR THE DEER MOUSE (*PEROMYSUS MANICULATUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>VANADIUM</b>				
Dose/High TRV	2.1	0.26	1.25	Sample and others 1996
Dose/Low TRV	0.21	0.26	0.12	Sample and others 1996
<b>ZINC</b>				
Dose/High TRV	411.43	0.175	264.73	Navy 1998
Dose/Low TRV	9.6	0.0255	9.08	Navy 1998
<b>2,4-DIMETHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>2-METHYLPHENOL</b>				
Dose/High TRV	2192	1	995.30	Sample and others 1996
Dose/Low TRV	219.2	1	99.53	Sample and others 1996
<b>4-METHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-NITROANILINE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-NITROPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ETHYLHEXYL)PHTHALATE</b>				
Dose/High TRV	183	0.03	167.55	Sample and others 1996
Dose/Low TRV	18.3	0.03	16.75	Sample and others 1996
<b>BUTYLBENZYLPHTHALATE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-4: TRVs FOR THE DEER MOUSE (*PEROMYSUS MANICULATUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>DIBENZOFURAN</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DIMETHYLPHTHALATE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DI-N-BUTYLPHTHALATE</b>				
Dose/High TRV	1,833	0.03	1,678.22	Sample and others 1996
Dose/Low TRV	550	0.03	503.56	Sample and others 1996
<b>ISOPHORONE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>2-METHYLNAPHTHALENE</b>				
Dose/High TRV	150	0.2702	88.48	Navy 1998
Dose/Low TRV	50	0.2765	29.36	Navy 1998
<b>ACENAPHTHENE</b>				
Dose/High TRV	150	0.2702	88.48	Navy 1998
Dose/Low TRV	50	0.2765	29.36	Navy 1998
<b>ACENAPHTHYLENE</b>				
Dose/High TRV	150	0.2702	88.48	Navy 1998
Dose/Low TRV	50	0.2765	29.36	Navy 1998
<b>ANTHRACENE</b>				
Dose/High TRV	150	0.2702	88.48	Navy 1998
Dose/Low TRV	50	0.2765	29.36	Navy 1998

**TABLE I-4: TRVs FOR THE DEER MOUSE (*PEROMYSUS MANICULATUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>BENZO(a)ANTHRACENE</b>				
Dose/High TRV	32.79	0.0305	29.92	Navy 1998
Dose/Low TRV	1.31	0.0305	1.20	Navy 1998
<b>BENZO(a)PYRENE</b>				
Dose/High TRV	32.79	0.0305	29.92	Navy 1998
Dose/Low TRV	1.31	0.0305	1.20	Navy 1998
<b>BENZO(b)FLUORANTHENE</b>				
Dose/High TRV	32.79	0.0305	29.92	Navy 1998
Dose/Low TRV	1.31	0.0305	1.20	Navy 1998
<b>BENZO(g,h,i)PERYLENE</b>				
Dose/High TRV	32.79	0.0305	29.92	Navy 1998
Dose/Low TRV	1.31	0.0305	1.20	Navy 1998
<b>BENZO(k)FLUORANTHENE</b>				
Dose/High TRV	32.79	0.0305	29.92	Navy 1998
Dose/Low TRV	1.31	0.0305	1.20	Navy 1998
<b>CHRYSENE</b>				
Dose/High TRV	32.79	0.0305	29.92	Navy 1998
Dose/Low TRV	1.31	0.0305	1.20	Navy 1998
<b>DIBENZO(a,h)ANTHRACENE</b>				
Dose/High TRV	32.79	0.0305	29.92	Navy 1998
Dose/Low TRV	1.31	0.0305	1.20	Navy 1998
<b>FLUORANTHENE</b>				
Dose/High TRV	32.79	0.0305	29.92	Navy 1998
Dose/Low TRV	1.31	0.0305	1.20	Navy 1998
<b>FLUORENE</b>				
Dose/High TRV	150	0.2702	88.48	Navy 1998
Dose/Low TRV	50	0.2765	29.36	Navy 1998

**TABLE I-4: TRVs FOR THE DEER MOUSE (*PEROMYSUS MANICULATUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>INDENO(1,2,3-cd)PYRENE</b>				
Dose/High TRV	32.79	0.0305	29.92	Navy 1998
Dose/Low TRV	1.31	0.0305	1.20	Navy 1998
<b>NAPHTHALENE</b>				
Dose/High TRV	150	0.2702	88.48	Navy 1998
Dose/Low TRV	50	0.2765	29.36	Navy 1998
<b>PHENANTHRENE</b>				
Dose/High TRV	150	0.2702	88.48	Navy 1998
Dose/Low TRV	50	0.2765	29.36	Navy 1998
<b>PYRENE</b>				
Dose/High TRV	32.79	0.0305	29.92	Navy 1998
Dose/Low TRV	1.31	0.0305	1.20	Navy 1998
<b>4,4'-DDD</b>				
Dose/High TRV	16	0.32	9.12	Navy 1998
Dose/Low TRV	0.8	0.32	0.46	Navy 1998
<b>4,4'-DDE</b>				
Dose/High TRV	16	0.32	9.12	Navy 1998
Dose/Low TRV	0.8	0.32	0.46	Navy 1998
<b>4,4'-DDT</b>				
Dose/High TRV	16	0.32	9.12	Navy 1998
Dose/Low TRV	0.8	0.32	0.46	Navy 1998
<b>ALDRIN</b>				
Dose/High TRV	1	0.065	0.78	Navy 1998
Dose/Low TRV	0.01	0.065	0.01	Navy 1998
<b>ALPHA-BHC</b>				
Dose/High TRV	0.14	1	0.06	Sample and others 1996
Dose/Low TRV	0.014	1	0.01	Sample and others 1996

**TABLE I-4: TRVs FOR THE DEER MOUSE (*PEROMYSUS MANICULATUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>ALPHA-CHLORDANE</b>				
Dose/High TRV	9.2	0.03	8.42	Sample and others 1996
Dose/Low TRV	4.6	0.03	4.21	Sample and others 1996
<b>BETA-BHC</b>				
Dose/High TRV	2	0.35	1.12	Sample and others 1996
Dose/Low TRV	0.4	0.35	0.22	Sample and others 1996
<b>DELTA-BHC</b>				
Dose/High TRV	0.14	1	0.06	Sample and others 1996
Dose/Low TRV	0.014	1	0.01	Sample and others 1996
<b>DIELDRIN</b>				
Dose/High TRV	0.2	0.35	0.11	Sample and others 1996
Dose/Low TRV	0.02	0.35	0.01	Sample and others 1996
<b>ENDOSULFAN I</b>				
Dose/High TRV	1.5	0.35	0.84	Calculated <sup>3</sup>
Dose/Low TRV	0.15	0.35	0.08	Sample and others 1996
<b>ENDOSULFAN II</b>				
Dose/High TRV	1.5	0.35	0.84	Calculated <sup>3</sup>
Dose/Low TRV	0.15	0.35	0.08	Sample and others 1996
<b>ENDOSULFAN SULFATE</b>				
Dose/High TRV	1.5	0.35	0.84	Calculated <sup>3</sup>
Dose/Low TRV	0.15	0.35	0.08	Sample and others 1996
<b>ENDRIN KETONE</b>				
Dose/High TRV	0.92	0.03	0.84	Sample and others 1996
Dose/Low TRV	0.092	0.03	0.08	Sample and others 1996
<b>ENDRIN ALDEHYDE</b>				
Dose/High TRV	0.92	0.03	0.84	Sample and others 1996
Dose/Low TRV	0.092	0.03	0.08	Sample and others 1996

**TABLE I-4: TRVs FOR THE DEER MOUSE (*PEROMYSUS MANICULATUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>GAMMA-BHC (LINDANE)</b>				
Dose/High TRV	3.75	0.024	3.59	Navy 1998
Dose/Low TRV	0.05	0.176	0.03	Navy 1998
<b>GAMMA-CHLORDANE</b>				
Dose/High TRV	9.2	0.03	8.42	Sample and others 1996
Dose/Low TRV	4.6	0.03	4.21	Sample and others 1996
<b>HEPTACHLOR</b>				
Dose/High TRV	6.8	0.204	4.24	Navy 1998
Dose/Low TRV	0.13	0.1	0.09	Navy 1998
<b>HEPTACHLOR EPOXIDE</b>				
Dose/High TRV	6.8	0.204	4.24	Navy 1998
Dose/Low TRV	0.13	0.1	0.09	Navy 1998
<b>METHOXYCHLOR</b>				
Dose/High TRV	50	0.332	28.30	Navy 1998
Dose/Low TRV	2.5	0.332	1.42	Navy 1998
<b>TECHNICAL CHLORDANE</b>				
Dose/High TRV	9.2	0.03	8.42	Sample and others 1996
Dose/Low TRV	4.6	0.03	4.21	Sample and others 1996
<b>AROCLOR-1248</b>				
Dose/High TRV	0.1	5.0	0.03	Sample and others 1996
Dose/Low TRV	0.01	5.0	0.00	Sample and others 1996
<b>AROCLOR-1254</b>				
Dose/High TRV	0.68	0.014	0.73	Sample and others 1996
Dose/Low TRV	0.068	0.014	0.07	Sample and others 1996
<b>AROCLOR-1260</b>				
Dose/High TRV	1.28	0.02285	1.24	Navy 1998
Dose/Low TRV	0.36	0.02062	0.36	Navy 1998

**TABLE I-4: TRVs FOR THE DEER MOUSE (*P EROMYSUS MANICULATUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>AROCLOR-1268</b>				
Dose/High TRV	1.28	0.02285	1.24	Navy 1998
Dose/Low TRV	0.36	0.02062	0.36	Navy 1998

Notes:

- 1 The derivation of TRVs is described in Navy (1998) and Sample and others (1996).
- 2 The following surrogate TRVs were used: The TRV for BHC mixed isomers was used as a surrogate for alpha- and delta-BHC. The TRV for heptachlor was used as a surrogate for heptachlor epoxide. The TRV for chlordane was used for alpha-chlordane, gamma-chlordane, and technical chlordane. The TRV for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The TRV for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The TRV for PCBs was used for Aroclor-1260 and -1268. The TRV for benzo(a)pyrene was used as a surrogate for all high-molecular-weight PAHs including benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene. The TRV for naphthalene was used as a surrogate for low-molecular-weight PAHs, including 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, fluorene, and phenanthrene.
- 3 Allometrically adjusted TRVs were calculated using the following equation: receptor species TRV = (test species TRV) x (test species body weight / receptor species body weight)<sup>(1-1.2)</sup>.

Definitions:

BAF	Bioaccumulation facto	kg/day	Kilogram per day
BHC	Benzene hexachloride	mg/day	Milligram per day
COPEC	Chemical of potential ecological concern	mg/kg	Milligram per kilogram
DDD	Dichlorodiphenyldichloroethane	mg/kg/day	Milligram per kilogram per day
DDE	Dichlorodiphenyldichloroethene	NA	Not applicable
DDT	Dichlorodiphenyltrichloroethane	PAH	Polycyclic aromatic hydrocarbon
EPA	U.S. Environmental Protection Agency	R	Regression equation
Navy	Department of the Navy	SUF	Site use factor
HQ	Hazard quotient	TRV	Toxicity reference value
kg	Kilogram		

**TABLE I-4: TRVs FOR THE DEER MOUSE (*PEROMYSUS MANICULATUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
-------	-----------------------------------	---	---	---------------

Sources:

EPA. 2007. Interim Ecological Soil Screening Levels. May. Available on-line at: <http://www.epa.gov/ecotox/ecoss/>

U.S. Department of the Navy (Navy). 1998. "Development of Toxicity Reference Values for Conducting Ecological Risk Assessments at Naval Facilities in California, Interim Final." Prepared by Naval Facilities Engineering Command, Engineering Field Activity West. San Bruno, California.

Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

**TABLE I-5: TRV FOR CALIFORNIA GROUND SQUIRREL (*S PERMOPHILUS BEECHEYI*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>ALUMINUM</b>				
Dose/High TRV	19.30	0.03	34.09	Sample and others 1996
Dose/Low TRV	1.93	0.03	3.41	Sample and others 1996
<b>ANTIMONY</b>				
Dose/High TRV	1.25	0.03	2.21	Sample and others 1996
Dose/Low TRV	0.13	0.03	0.22	Sample and others 1996
<b>ARSENIC</b>				
Dose/High TRV	4.70	0.11	6.40	Navy 1998
Dose/Low TRV	0.32	0.33	0.35	Navy 1998
<b>BARIUM</b>				
Dose/High TRV	19.80	0.35	21.40	Sample and others 1996
Dose/Low TRV	5.10	0.44	5.28	Sample and others 1996
<b>BERYLLIUM</b>				
Dose/High TRV	6.60	0.35	7.13	Calculated <sup>3</sup>
Dose/Low TRV	0.66	0.35	0.71	Sample and others 1996
<b>CADMIUM</b>				
Dose/High TRV	2.64	0.03	4.62	Navy 1998
Dose/Low TRV	0.06	0.03	0.10	Navy 1998
<b>CHROMIUM</b>				
Dose/High TRV	27,370	0.35	29,580	Sample and others 1996
Dose/Low TRV	2,737	0.35	2,958	Sample and others 1996
<b>COBALT</b>				
Dose/High TRV	20.00	0.20	24.17	Navy 1998
Dose/Low TRV	1.20	0.28	1.36	Navy 1998
<b>COPPER</b>				
Dose/High TRV	631.58	0.02	1,160	Navy 1998
Dose/Low TRV	2.67	0.03	4.72	Navy 1998

**TABLE I-5: TRV FOR CALIFORNIA GROUND SQUIRREL (*S PERMOPHILUS BEECHEYI*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>IRON</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>LEAD</b>				
Dose/High TRV	240.64	0.02	467.23	Navy 1998
Dose/Low TRV	1.00	0.21	1.20	Navy 1998
<b>MANGANESE</b>				
Dose/High TRV	159.09	0.03	281.59	Navy 1998
Dose/Low TRV	13.70	0.03	23.52	Navy 1998
<b>MERCURY</b>				
Dose/High TRV	4.00	0.43	4.15	Navy 1998
Dose/Low TRV	0.25	0.19	0.31	Navy 1998
<b>MOLYBDENUM</b>				
Dose/High TRV	2.60	0.03	4.59	Sample and others 1996
Dose/Low TRV	0.26	0.03	0.46	Sample and others 1996
<b>NICKEL</b>				
Dose/High TRV	31.60	0.25	36.57	Navy 1998
Dose/Low TRV	0.13	0.25	0.15	Navy 1998
<b>SELENIUM</b>				
Dose/High TRV	1.21	0.02	2.22	Navy 1998
Dose/Low TRV	0.05	0.19	0.06	Navy 1998
<b>SILVER</b>				
Dose/High TRV	60.20	8.86	34.09	EPA 2007c
Dose/Low TRV	6.02	8.86	3.41	EPA 2007c
<b>THALLIUM</b>				
Dose/High TRV	1.43	0.07	2.16	Navy 1998
Dose/Low TRV	0.48	0.07	0.73	Navy 1998

**TABLE I-5: TRV FOR CALIFORNIA GROUND SQUIRREL (*S PERMOPHILUS BEECHEYI*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>VANADIUM</b>				
Dose/High TRV	2.10	0.26	2.41	Sample and others 1996
Dose/Low TRV	0.21	0.26	0.24	Sample and others 1996
<b>ZINC</b>				
Dose/High TRV	411.43	0.18	510.76	Navy 1998
Dose/Low TRV	9.60	0.03	17.52	Navy 1998
<b>2,4-DIMETHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>2-METHYLPHENOL</b>				
Dose/High TRV	2,192	1.00	1,920	Sample and others 1996
Dose/Low TRV	219	1.00	192	Sample and others 1996
<b>4-METHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-NITROANILINE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-NITROPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>				
Dose/High TRV	183.00	0.03	323.26	Sample and others 1996
Dose/Low TRV	18.30	0.03	32.33	Sample and others 1996
<b>BUTYLBENZYLPHTHALATE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-5: TRV FOR CALIFORNIA GROUND SQUIRREL (*S PERMOPHILUS BEECHEYI*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>DIBENZOFURAN</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DIMETHYLPHTHALATE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DI-N-BUTYLPHTHALATE</b>				
Dose/High TRV	1,833.00	0.03	3,237.94	Sample and others 1996
Dose/Low TRV	550.00	0.03	971.56	Sample and others 1996
<b>ISOPHORONE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>2-METHYLNAPHTHALENE</b>				
Dose/High TRV	150.00	0.27	170.72	Navy 1998
Dose/Low TRV	50.00	0.28	56.64	Navy 1998
<b>ACENAPHTHENE</b>				
Dose/High TRV	150.00	0.27	170.72	Navy 1998
Dose/Low TRV	50.00	0.28	56.64	Navy 1998
<b>ACENAPHTHYLENE</b>				
Dose/High TRV	150.00	0.27	170.72	Navy 1998
Dose/Low TRV	50.00	0.28	56.64	Navy 1998
<b>ANTHRACENE</b>				
Dose/High TRV	150.00	0.27	170.72	Navy 1998
Dose/Low TRV	50.00	0.28	56.64	Navy 1998

**TABLE I-5: TRV FOR CALIFORNIA GROUND SQUIRREL (*S PERMOPHILUS BEECHEYI*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>BENZO(a)ANTHRACENE</b>				
Dose/High TRV	32.79	0.03	57.73	Navy 1998
Dose/Low TRV	1.31	0.03	2.31	Navy 1998
<b>BENZO(a)PYRENE</b>				
Dose/High TRV	32.79	0.03	57.73	Navy 1998
Dose/Low TRV	1.31	0.03	2.31	Navy 1998
<b>BENZO(b)FLUORANTHENE</b>				
Dose/High TRV	32.79	0.03	57.73	Navy 1998
Dose/Low TRV	1.31	0.03	2.31	Navy 1998
<b>BENZO(g,h,i)PERYLENE</b>				
Dose/High TRV	32.79	0.03	57.73	Navy 1998
Dose/Low TRV	1.31	0.03	2.31	Navy 1998
<b>BENZO(k)FLUORANTHENE</b>				
Dose/High TRV	32.79	0.03	57.73	Navy 1998
Dose/Low TRV	1.31	0.03	2.31	Navy 1998
<b>CHRYSENE</b>				
Dose/High TRV	32.79	0.03	57.73	Navy 1998
Dose/Low TRV	1.31	0.03	2.31	Navy 1998
<b>DIBENZO(a,h)ANTHRACENE</b>				
Dose/High TRV	32.79	0.03	57.73	Navy 1998
Dose/Low TRV	1.31	0.03	2.31	Navy 1998
<b>FLUORANTHENE</b>				
Dose/High TRV	32.79	0.03	57.73	Navy 1998
Dose/Low TRV	1.31	0.03	2.31	Navy 1998
<b>FLUORENE</b>				
Dose/High TRV	150.00	0.27	170.72	Navy 1998
Dose/Low TRV	50.00	0.28	56.64	Navy 1998

**TABLE I-5: TRV FOR CALIFORNIA GROUND SQUIRREL (*S PERMOPHILUS BEECHEYI*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>INDENO(1,2,3-cd)PYRENE</b>				
Dose/High TRV	32.79	0.03	57.73	Navy 1998
Dose/Low TRV	1.31	0.03	2.31	Navy 1998
<b>NAPHTHALENE</b>				
Dose/High TRV	150.00	0.27	170.72	Navy 1998
Dose/Low TRV	50.00	0.28	56.64	Navy 1998
<b>PHENANTHRENE</b>				
Dose/High TRV	150.00	0.27	170.72	Navy 1998
Dose/Low TRV	50.00	0.28	56.64	Navy 1998
<b>PYRENE</b>				
Dose/High TRV	32.79	0.03	57.73	Navy 1998
Dose/Low TRV	1.31	0.03	2.31	Navy 1998
<b>4,4'-DDD</b>				
Dose/High TRV	16.00	0.32	17.60	Navy 1998
Dose/Low TRV	0.80	0.32	0.88	Navy 1998
<b>4,4'-DDE</b>				
Dose/High TRV	16.00	0.32	17.60	Navy 1998
Dose/Low TRV	0.80	0.32	0.88	Navy 1998
<b>4,4'-DDT</b>				
Dose/High TRV	16.00	0.32	17.60	Navy 1998
Dose/Low TRV	0.80	0.32	0.88	Navy 1998
<b>ALDRIN</b>				
Dose/High TRV	1.00	0.07	1.51	Navy 1998
Dose/Low TRV	0.01	0.07	0.02	Navy 1998
<b>ALPHA-BHC</b>				
Dose/High TRV	0.14	1.00	0.12	Sample and others 1996
Dose/Low TRV	0.01	1.00	0.01	Sample and others 1996

**TABLE I-5: TRV FOR CALIFORNIA GROUND SQUIRREL (*S PERMOPHILUS BEECHEYI*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>ALPHA-CHLORDANE</b>				
Dose/High TRV	9.20	0.03	16.25	Sample and others 1996
Dose/Low TRV	4.60	0.03	8.13	Sample and others 1996
<b>BETA-BHC</b>				
Dose/High TRV	2.00	0.35	2.16	Sample and others 1996
Dose/Low TRV	0.40	0.35	0.43	Sample and others 1996
<b>DELTA-BHC</b>				
Dose/High TRV	0.14	1.00	0.12	Sample and others 1996
Dose/Low TRV	0.01	1.00	0.01	Sample and others 1996
<b>DIELDRIN</b>				
Dose/High TRV	0.20	0.35	0.22	Sample and others 1996
Dose/Low TRV	0.02	0.35	0.02	Sample and others 1996
<b>ENDOSULFAN I</b>				
Dose/High TRV	1.50	0.35	1.62	Calculated <sup>3</sup>
Dose/Low TRV	0.15	0.35	0.16	Sample and others 1996
<b>ENDOSULFAN II</b>				
Dose/High TRV	1.50	0.35	1.62	Calculated <sup>3</sup>
Dose/Low TRV	0.15	0.35	0.16	Sample and others 1996
<b>ENDOSULFAN SULFATE</b>				
Dose/High TRV	1.50	0.35	1.62	Calculated <sup>3</sup>
Dose/Low TRV	0.15	0.35	0.16	Sample and others 1996
<b>ENDRIN KETONE</b>				
Dose/High TRV	0.92	0.03	1.63	Sample and others 1996
Dose/Low TRV	0.09	0.03	0.16	Sample and others 1996
<b>ENDRIN ALDEHYDE</b>				
Dose/High TRV	0.92	0.03	1.63	Sample and others 1996
Dose/Low TRV	0.09	0.03	0.16	Sample and others 1996

**TABLE I-5: TRV FOR CALIFORNIA GROUND SQUIRREL (*S PERMOPHILUS BEECHEYI*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>GAMMA-BHC (LINDANE)</b>				
Dose/High TRV	3.75	0.02	6.93	Navy 1998
Dose/Low TRV	0.05	0.18	0.06	Navy 1998
<b>GAMMA-CHLORDANE</b>				
Dose/High TRV	9.20	0.03	16.25	Sample and others 1996
Dose/Low TRV	4.60	0.03	8.13	Sample and others 1996
<b>HEPTACHLOR</b>				
Dose/High TRV	6.80	0.20	8.19	Navy 1998
Dose/Low TRV	0.13	0.10	0.18	Navy 1998
<b>HEPTACHLOR EPOXIDE</b>				
Dose/High TRV	6.80	0.20	8.19	Navy 1998
Dose/Low TRV	0.13	0.10	0.18	Navy 1998
<b>METHOXYCHLOR</b>				
Dose/High TRV	50.00	0.33	54.61	Navy 1998
Dose/Low TRV	2.50	0.33	2.73	Navy 1998
<b>TECHNICAL CHLORDANE</b>				
Dose/High TRV	9.20	0.03	16.25	Sample and others 1996
Dose/Low TRV	4.60	0.03	8.13	Sample and others 1996
<b>AROCLOR-1248</b>				
Dose/High TRV	0.10	5.00	0.06	Sample and others 1996
Dose/Low TRV	0.01	5.00	0.01	Sample and others 1996
<b>AROCLOR-1254</b>				
Dose/High TRV	0.68	0.01	1.40	Sample and others 1996
Dose/Low TRV	0.07	0.01	0.14	Sample and others 1996
<b>AROCLOR-1260</b>				
Dose/High TRV	1.28	0.02	2.39	Navy 1998
Dose/Low TRV	0.36	0.02	0.69	Navy 1998

**TABLE I-5: TRV FOR CALIFORNIA GROUND SQUIRREL (*S PERMOPHILUS BEECHEYI*)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>AROCLOR-1268</b>				
Dose/High TRV	1.28	0.02	2.39	Navy 1998
Dose/Low TRV	0.36	0.02	0.69	Navy 1998

Notes

1 The derivation of TRVs is described in Navy (1998) and Sample (1996).  
 2

3 The following surrogate TRVs were used: The TRV for BHC mixed isomers was used as a surrogate for alpha- and delta-BHC. The TRV for heptachlor was used as a surrogate for heptachlor epoxide. The TRV for chlordane was used for alpha-chlordane, gamma-chlordane, and technical chlordane. The TRV for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The TRV for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The TRV for PCBs was used for Aroclor-1260 and -1268. The TRV for benzo(a)pyrene was used as a surrogate for all high molecular weigh PAHs including benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene. The TRV for naphthalene was used as a surrogate for low molecular weight PAHs, including 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, fluorene, and phenanthrene. Allometrically adjusted TRVs were calculated using the following equation: receptor species TRV = (test species TRV) x (test species body weight / receptor species body weight)<sup>(1-1.2)</sup>.

Definitions:

BAF	Bioaccumulation facto	kg/day	Kilogram per day
BHC	Benzene hexachloride	mg/day	Milligram per day
COPEC	Chemical of potential ecological concern	mg/kg	Milligram per kilogram
DDD	Dichlorodiphenyldichloroethane	mg/kg/day	Milligram per kilogram per day
DDE	Dichlorodiphenyldichloroethylene	NA	Not applicable
DDT	Dichlorodiphenyltrichloroethane	PAH	Polycyclic aromatic hydrocarbon
EPA	U.S. Environmental Protection Agency	R	Regression equation
EFA West	Department of the Navy, Engineering Field Activity West	SUF	Site use factor
HQ	Hazard Quotient	TRV	Toxicity reference value
kg	Kilogram		

**TABLE I-5: TRV FOR CALIFORNIA GROUND SQUIRREL (*S PERMOPHILUS BEECHEYI*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
-------	-----------------------------------	---	---	---------------

Sources:

EPA. 2007. Interim Ecological Soil Screening Levels. May. Available on-line at: <http://www.epa.gov/ecotox/ecoss/>

U.S. Department of the Navy (Navy). 1998. "Development of Toxicity Reference Values for Conducting Ecological Risk Assessments at Naval Facilities in California, Interim Final." Prepared by Naval Facilities Engineering Command, Engineering Field Activity West. San Bruno, California.

Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

**TABLE I-6: TRVs FOR ALAMEDA SONG SPARROW (*MELOSPIZA MELOIDA PUSILLA*)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>ALUMINUM</b>				
Dose/High TRV	1,097	0.16	761.60	Calculated <sup>3</sup>
Dose/Low TRV	109.70	0.16	76.16	Sample and others 1996
<b>ANTIMONY</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ARSENIC</b>				
Dose/High TRV	22.01	1.17	10.20	Navy 1998
Dose/Low TRV	5.50	1.17	2.55	Navy 1998
<b>BARIUM</b>				
Dose/High TRV	41.70	0.12	30.42	Sample and others 1996
Dose/Low TRV	20.80	0.12	15.17	Sample and others 1996
<b>BERYLLIUM</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>CADMIUM</b>				
Dose/High TRV	10.43	0.08	8.18	Navy 1998
Dose/Low TRV	0.08	0.80	0.04	Navy 1998
<b>CHROMIUM</b>				
Dose/High TRV	5.00	1.25	2.29	Sample and others 1996
Dose/Low TRV	1.00	1.25	0.46	Sample and others 1996
<b>COBALT</b>				
Dose/High TRV	76.10	0.29	46.55	Calculated <sup>3</sup>
Dose/Low TRV	7.61	0.29	4.66	EPA 2007
<b>COPPER</b>				
Dose/High TRV	52.26	0.41	29.88	Navy 1998
Dose/Low TRV	2.30	0.64	1.20	Navy 1998

**TABLE I-6: TRVs FOR ALAMEDA SONG SPARROW (*MELOSPIZA MELOIDA PUSILLA*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>IRON</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>LEAD</b>				
Dose/High TRV	8.75	0.80	4.38	Navy 1998
Dose/Low TRV	0.01	0.08	0.01	Navy 1998
<b>MANGANESE</b>				
Dose/High TRV	776.00	0.20	513.78	Navy 1998
Dose/Low TRV	77.60	0.20	51.38	Navy 1998
<b>MERCURY</b>				
Dose/High TRV	0.18	1.00	0.09	Navy 1998
Dose/Low TRV	0.04	1.00	0.02	Navy 1998
<b>MOLYBDENUM</b>				
Dose/High TRV	35.30	1.50	15.56	Sample and others 1996
Dose/Low TRV	3.50	1.50	1.54	Sample and others 1996
<b>NICKEL</b>				
Dose/High TRV	55.26	0.58	29.47	Navy 1998
Dose/Low TRV	1.38	0.61	0.73	Navy 1998
<b>SELENIUM</b>				
Dose/High TRV	0.93	1.11	0.44	Navy 1998
Dose/Low TRV	0.23	1.11	0.11	Navy 1998
<b>SILVER</b>				
Dose/High TRV	20.20	0.66	10.49	EPA 2007c
Dose/Low TRV	2.02	0.66	1.05	EPA 2007c
<b>THALLIUM</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-6: TRVs FOR ALAMEDA SONG SPARROW (*MELOSPIZA MELOIDA PUSILLA*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>VANADIUM</b>				
Dose/High TRV	114.00	1.17	52.83	Calculated <sup>3</sup>
Dose/Low TRV	11.40	1.17	5.28	Sample and others 1996
<b>ZINC</b>				
Dose/High TRV	172.00	0.96	83.01	Navy 1998
Dose/Low TRV	17.20	0.96	8.30	Navy 1998
<b>2,4-DIMETHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>2-METHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-METHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-NITROANILINE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-NITROPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>				
Dose/High TRV	11.00	0.16	7.64	Calculated <sup>3</sup>
Dose/Low TRV	1.10	0.16	0.76	Sample and others 1996
<b>BUTYLBENZYLPHTHALATE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-6: TRVs FOR ALAMEDA SONG SPARROW (*MELOSPIZA MELOIDA PUSILLA*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>DIBENZOFURAN</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DIMETHYLPHthalate</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DI-N-BUTYLPHthalate</b>				
Dose/High TRV	1.10	0.16	0.76	Sample and others 1996
Dose/Low TRV	0.11	0.16	0.08	Sample and others 1996
<b>ISOPHORONE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>2-METHYLNAPHTHALENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ACENAPHTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ACENAPHTHYLENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ANTHRACENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-6: TRVs FOR ALAMEDA SONG SPARROW (*MELOSPIZA MELOIDA PUSILLA*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>BENZO(a)ANTHRACENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(a)PYRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(b)FLUORANTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(g,h,i)PERYLENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(k)FLUORANTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>CHRYSENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DIBENZO(a,h)ANTHRACENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>FLUORANTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>FLUORENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-6: TRVs FOR ALAMEDA SONG SPARROW (*MELOSPIZA MELOIDA PUSILLA*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>INDENO(1,2,3-cd)PYRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>NAPHTHALENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PHENANTHRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PYRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4,4'-DDD</b>				
Dose/High TRV	1.50	1.00	0.72	Navy 1998
Dose/Low TRV	0.01	3.50	0.00	Navy 1998
<b>4,4'-DDE</b>				
Dose/High TRV	0.60	1.00	0.29	Navy 1998
Dose/Low TRV	0.01	3.50	0.00	Navy 1998
<b>4,4'-DDT</b>				
Dose/High TRV	1.50	1.00	0.72	Navy 1998
Dose/Low TRV	0.01	3.50	0.00	Navy 1998
<b>ALDRIN</b>				
Dose/High TRV	0.77	0.47	0.43	Calculated <sup>3</sup>
Dose/Low TRV	0.08	0.47	0.04	Sample and others 1996
<b>ALPHA-BHC</b>				
Dose/High TRV	2.25	0.15	1.57	Sample and others 1996
Dose/Low TRV	0.56	0.15	0.39	Sample and others 1996

**TABLE I-6: TRVs FOR ALAMEDA SONG SPARROW (*M ELOSPIZA MELOIDA PUSILLA*)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>ALPHA-CHLORDANE</b>				
Dose/High TRV	10.70	0.06	8.87	Sample and others 1996
Dose/Low TRV	2.14	0.06	1.77	Sample and others 1996
<b>BETA-BHC</b>				
Dose/High TRV	2.25	0.15	1.57	Sample and others 1996
Dose/Low TRV	0.56	0.15	0.39	Sample and others 1996
<b>DELTA-BHC</b>				
Dose/High TRV	2.25	0.15	1.57	Sample and others 1996
Dose/Low TRV	0.56	0.15	0.39	Sample and others 1996
<b>DIELDRIN</b>				
Dose/High TRV	0.77	0.47	0.43	Calculated <sup>3</sup>
Dose/Low TRV	0.08	0.47	0.04	Sample and others 1996
<b>ENDOSULFAN I</b>				
Dose/High TRV	100.00	0.40	57.43	Calculated <sup>3</sup>
Dose/Low TRV	10.00	0.40	5.74	Sample and others 1996
<b>ENDOSULFAN II</b>				
Dose/High TRV	100.00	0.40	57.43	Calculated <sup>3</sup>
Dose/Low TRV	10.00	0.40	5.74	Sample and others 1996
<b>ENDOSULFAN SULFATE</b>				
Dose/High TRV	100.00	0.40	57.43	Calculated <sup>3</sup>
Dose/Low TRV	10.00	0.40	5.74	Sample and others 1996
<b>ENDRIN ALDEHYDE</b>				
Dose/High TRV	0.10	0.18	0.07	Sample and others 1996
Dose/Low TRV	0.01	0.18	0.01	Sample and others 1996
<b>ENDRIN KETONE</b>				
Dose/High TRV	0.10	0.18	0.07	Sample and others 1996
Dose/Low TRV	0.01	0.18	0.01	Sample and others 1996

**TABLE I-6: TRVs FOR ALAMEDA SONG SPARROW (*MELOSPIZA MELOIDA PUSILLA*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>GAMMA-BHC (LINDANE)</b>				
Dose/High TRV	20.00	1.00	9.56	Sample and others 1996
Dose/Low TRV	2.00	1.00	0.96	Sample and others 1996
<b>GAMMA-CHLORDANE</b>				
Dose/High TRV	10.70	0.06	8.87	Sample and others 1996
Dose/Low TRV	2.14	0.06	1.77	Sample and others 1996
<b>HEPTACHLOR</b>				
Dose/High TRV	10.70	0.06	8.87	Sample and others 1996
Dose/Low TRV	2.14	0.06	1.77	Sample and others 1996
<b>HEPTACHLOR EPOXIDE</b>				
Dose/High TRV	10.70	0.06	8.87	Sample and others 1996
Dose/Low TRV	2.14	0.06	1.77	Sample and others 1996
<b>METHOXYCHLOR</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>TECHNICAL CHLORDANE</b>				
Dose/High TRV	10.70	0.06	8.87	Sample and others 1996
Dose/Low TRV	2.14	0.06	1.77	Sample and others 1996
<b>AROCLOR-1248</b>				
Dose/High TRV	1.27	1.72	0.55	Navy 1998
Dose/Low TRV	0.09	0.80	0.05	Navy 1998
<b>AROCLOR-1254</b>				
Dose/High TRV	1.80	1.00	0.86	Sample and others 1996
Dose/Low TRV	0.02	1.00	0.01	Sample and others 1996
<b>AROCLOR-1260</b>				
Dose/High TRV	1.27	1.72	0.55	Navy 1998
Dose/Low TRV	0.09	0.80	0.05	Navy 1998

**TABLE I-6: TRVs FOR ALAMEDA SONG SPARROW (*MELOSPIZA MELOIDA PUSILLA*)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>AROCLOR-1268</b>				
Dose/High TRV	1.27	1.72	0.55	Navy 1998
Dose/Low TRV	0.09	0.80	0.05	Navy 1998

Notes:

- 1 The derivation of TRVs is described in Navy (1998) and Sample (1996).
- 2 The following surrogate TRVs were used: The TRV for BHC mixed isomers was used as a surrogate for alpha-, beta-, and delta-BHC. The TRV for chlordane was used as a surrogate for heptachlor and heptachlor epoxide because heptachlor and heptachlor epoxide are breakdown products of chlordane. The TRV for chlordane was also used for alpha-chlordane, gamma-chlordane, and technical chlordane. The TRV for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The TRV for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The TRV for dieldrin was used as a surrogate for aldrin because dieldrin is a metabolic breakdown product of aldrin. The TRV for PCBs was used for Aroclor-1248, -1260, and -1268.
- 3 Allometrically adjusted TRVs were calculated using the following equation: receptor species TRV = (test species TRV) x (test species body weight / receptor species body weight)<sup>(1-1.2)</sup>.

Definitions:

BAF	Bioaccumulation facto	kg/day	Kilogram per day
BHC	Benzene hexachloride	mg/day	Milligram per day
COPEC	Chemical of potential ecological concern	mg/kg	Milligram per kilogram
DDD	Dichlorodiphenyldichloroethane	mg/kg/day	Milligram per kilogram per day
DDE	Dichlorodiphenyldichloroethylene	NA	Not applicable
DDT	Dichlorodiphenyltrichloroethane	PAH	Polycyclic aromatic hydrocarbon
EPA	U.S. Environmental Protection Agency	R	Regression equation
EFA West	Department of the Navy, Engineering Field Activity West	SUF	Site use factor
HQ	Hazard Quotient	TRV	Toxicity reference value
kg	Kilogram		

**TABLE I-6: TRVs FOR ALAMEDA SONG SPARROW (*MELOSPIZA MELOIDA PUSILLA*)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
-------	-----------------------------------	--	--	---------------

Sources:

EPA. 2007. Interim Ecological Soil Screening Levels. May. Available on-line at: <http://www.epa.gov/ecotox/ecossl/>

U.S. Department of the Navy (Navy). 1998. "Development of Toxicity Reference Values for Conducting Ecological Risk Assessments at Naval Facilities in California, Interim Final." Prepared by Naval Facilities Engineering Command, Engineering Field Activity West. San Bruno, California.

Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

**TABLE I-7: TRVs FOR THE AMERICAN ROBIN (*TURDUS MIGRATORIUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>ALUMINUM</b>				
Dose/High TRV	1,097	0.16	954.50	Calculated <sup>3</sup>
Dose/Low TRV	109.70	0.16	95.45	Sample and others 1996
<b>ANTIMONY</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ARSENIC</b>				
Dose/High TRV	22.01	1.17	12.78	Navy 1998
Dose/Low TRV	5.50	1.17	3.19	Navy 1998
<b>BARIUM</b>				
Dose/High TRV	41.70	0.12	38.13	Sample and others 1996
Dose/Low TRV	20.80	0.12	19.02	Sample and others 1996
<b>BERYLLIUM</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>CADMIUM</b>				
Dose/High TRV	10.43	0.08	10.26	Navy 1998
Dose/Low TRV	0.08	0.80	0.05	Navy 1998
<b>CHROMIUM</b>				
Dose/High TRV	5.00	1.25	2.87	Sample and others 1996
Dose/Low TRV	1.00	1.25	0.57	Sample and others 1996
<b>COBALT</b>				
Dose/High TRV	76.10	0.29	58.35	Calculated <sup>3</sup>
Dose/Low TRV	7.61	0.29	5.83	EPA 2007
<b>COPPER</b>				
Dose/High TRV	52.26	0.41	37.45	Navy 1998
Dose/Low TRV	2.30	0.64	1.51	Navy 1998

**TABLE I-7: TRVs FOR THE AMERICAN ROBIN (*TURDUS MIGRATORIUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>IRON</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>LEAD</b>				
Dose/High TRV	8.75	0.80	5.48	Navy 1998
Dose/Low TRV	0.01	0.08	0.01	Navy 1998
<b>MANGANESE</b>				
Dose/High TRV	776.00	0.20	643.91	Navy 1998
Dose/Low TRV	77.60	0.20	64.39	Navy 1998
<b>MERCURY</b>				
Dose/High TRV	0.18	1.00	0.11	Navy 1998
Dose/Low TRV	0.04	1.00	0.02	Navy 1998
<b>MOLYBDENUM</b>				
Dose/High TRV	35.30	1.50	19.51	Sample and others 1996
Dose/Low TRV	3.50	1.50	1.93	Sample and others 1996
<b>NICKEL</b>				
Dose/High TRV	55.26	0.58	36.93	Navy 1998
Dose/Low TRV	1.38	0.61	0.91	Navy 1998
<b>SELENIUM</b>				
Dose/High TRV	0.93	1.11	0.55	Navy 1998
Dose/Low TRV	0.23	1.11	0.13	Navy 1998
<b>SILVER</b>				
Dose/High TRV	20.20	0.66	13.15	EPA 2007
Dose/Low TRV	2.02	0.66	1.31	EPA 2007
<b>THALLIUM</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-7: TRVs FOR THE AMERICAN ROBIN (*TURDUS MIGRATORIUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>VANADIUM</b>				
Dose/High TRV	114.00	1.17	66.21	Calculated <sup>3</sup>
Dose/Low TRV	11.40	1.17	6.62	Sample and others 1996
<b>ZINC</b>				
Dose/High TRV	172.00	0.96	104.03	Navy 1998
Dose/Low TRV	17.20	0.96	10.40	Navy 1998
<b>2,4-DIMETHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>2-METHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-METHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-NITROANILINE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-NITROPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>				
Dose/High TRV	11.00	0.16	9.57	Calculated <sup>3</sup>
Dose/Low TRV	1.10	0.16	0.96	Sample and others 1996
<b>BUTYLBENZYLPHTHALATE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-7: TRVs FOR THE AMERICAN ROBIN (*TURDUS MIGRATORIUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>DIBENZOFURAN</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DIMETHYLPHTHALATE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DI-N-BUTYLPHTHALATE</b>				
Dose/High TRV	1.10	0.16	0.96	Sample and others 1996
Dose/Low TRV	0.11	0.16	0.10	Sample and others 1996
<b>ISOPHORONE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>2-METHYLNAPHTHALENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ACENAPHTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ACENAPHTHYLENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ANTHRACENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-7: TRVs FOR THE AMERICAN ROBIN (*TURDUS MIGRATORIUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>BENZO(a)ANTHRACENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(a)PYRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(b)FLUORANTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(g,h,i)PERYLENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(k)FLUORANTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>CHRYSENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DIBENZO(a,h)ANTHRACENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>FLUORANTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>FLUORENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-7: TRVs FOR THE AMERICAN ROBIN (*TURDUS MIGRATORIUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>INDENO(1,2,3-cd)PYRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>NAPHTHALENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PHENANTHRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PYRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4,4'-DDD</b>				
Dose/High TRV	1.50	1.00	0.90	Navy 1998
Dose/Low TRV	0.01	3.50	0.00	Navy 1998
<b>4,4'-DDE</b>				
Dose/High TRV	0.60	1.00	0.36	Navy 1998
Dose/Low TRV	0.01	3.50	0.00	Navy 1998
<b>4,4'-DDT</b>				
Dose/High TRV	1.50	1.00	0.90	Navy 1998
Dose/Low TRV	0.01	3.50	0.00	Navy 1998
<b>ALDRIN</b>				
Dose/High TRV	0.77	0.47	0.54	Calculated <sup>3</sup>
Dose/Low TRV	0.08	0.47	0.05	Sample and others 1996
<b>ALPHA-BHC</b>				
Dose/High TRV	2.25	0.15	1.97	Sample and others 1996
Dose/Low TRV	0.56	0.15	0.49	Sample and others 1996

**TABLE I-7: TRVs FOR THE AMERICAN ROBIN (*TURDUS MIGRATORIUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>ALPHA-CHLORDANE</b>				
Dose/High TRV	10.70	0.06	11.11	Sample and others 1996
Dose/Low TRV	2.14	0.06	2.22	Sample and others 1996
<b>BETA-BHC</b>				
Dose/High TRV	2.25	0.15	1.97	Sample and others 1996
Dose/Low TRV	0.56	0.15	0.49	Sample and others 1996
<b>DELTA-BHC</b>				
Dose/High TRV	2.25	0.15	1.97	Sample and others 1996
Dose/Low TRV	0.56	0.15	0.49	Sample and others 1996
<b>DIELDRIN</b>				
Dose/High TRV	0.77	0.47	0.54	Calculated <sup>3</sup>
Dose/Low TRV	0.08	0.47	0.05	Sample and others 1996
<b>ENDOSULFAN I</b>				
Dose/High TRV	100.00	0.40	71.98	Calculated <sup>3</sup>
Dose/Low TRV	10.00	0.40	7.20	Sample and others 1996
<b>ENDOSULFAN II</b>				
Dose/High TRV	100.00	0.40	71.98	Calculated <sup>3</sup>
Dose/Low TRV	10.00	0.40	7.20	Sample and others 1996
<b>ENDOSULFAN SULFATE</b>				
Dose/High TRV	100.00	0.40	71.98	Calculated <sup>3</sup>
Dose/Low TRV	10.00	0.40	7.20	Sample and others 1996
<b>ENDRIN KETONE</b>				
Dose/High TRV	0.10	0.18	0.08	Sample and others 1996
Dose/Low TRV	0.01	0.18	0.01	Sample and others 1996
<b>ENDRIN ALDEHYDE</b>				
Dose/High TRV	0.10	0.18	0.08	Sample and others 1996
Dose/Low TRV	0.01	0.18	0.01	Sample and others 1996

**TABLE I-7: TRVs FOR THE AMERICAN ROBIN (*TURDUS MIGRATORIUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>GAMMA-BHC (LINDANE)</b>				
Dose/High TRV	20.00	1.00	11.99	Sample and others 1996
Dose/Low TRV	2.00	1.00	1.20	Sample and others 1996
<b>GAMMA-CHLORDANE</b>				
Dose/High TRV	10.70	0.06	11.11	Sample and others 1996
Dose/Low TRV	2.14	0.06	2.22	Sample and others 1996
<b>HEPTACHLOR</b>				
Dose/High TRV	10.70	0.06	11.11	Sample and others 1996
Dose/Low TRV	2.14	0.06	2.22	Sample and others 1996
<b>HEPTACHLOR EPOXIDE</b>				
Dose/High TRV	10.70	0.06	11.11	Sample and others 1996
Dose/Low TRV	2.14	0.06	2.22	Sample and others 1996
<b>METHOXYCHLOR</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>TECHNICAL CHLORDANE</b>				
Dose/High TRV	10.70	0.06	11.11	Sample and others 1996
Dose/Low TRV	2.14	0.06	2.22	Sample and others 1996
<b>AROCLOR-1248</b>				
Dose/High TRV	1.27	1.72	0.68	Navy 1998
Dose/Low TRV	0.09	0.80	0.06	Navy 1998
<b>AROCLOR-1254</b>				
Dose/High TRV	1.80	1.00	1.08	Sample and others 1996
Dose/Low TRV	0.02	1.00	0.01	Sample and others 1996
<b>AROCLOR-1260</b>				
Dose/High TRV	1.27	1.72	0.68	Navy 1998
Dose/Low TRV	0.09	0.80	0.06	Navy 1998

**TABLE I-7: TRVs FOR THE AMERICAN ROBIN (*TURDUS MIGRATORIUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>AROCLOR-1268</b>				
Dose/High TRV	1.27	1.72	0.68	Navy 1998
Dose/Low TRV	0.09	0.80	0.06	Navy 1998

Notes:

1

The derivation of TRVs is described in Navy (1998) and Sample (1996).

2

The following surrogate TRVs were used: The TRV for BHC mixed isomers was used as a surrogate for alpha-, beta-, and delta-BHC. The TRV for chlordane was used as a surrogate for heptachlor and heptachlor epoxide because heptachlor and heptachlor epoxide are breakdown products of chlordane. The TRV for chlordane was also used for alpha-chlordane, gamma-chlordane, and technical chlordane. The TRV for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The TRV for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The TRV for dieldrin was used as a surrogate for aldrin because dieldrin is a metabolic breakdown product of aldrin. The TRV for PCBs was used for Aroclor-1248, -1260, and -1268.

3

Allometrically adjusted TRVs were calculated using the following equation: receptor species TRV = (test species TRV) x (test species body weight / receptor species body weight)<sup>(1-1.2)</sup>.

Definitions:

BAF	Bioaccumulation factor	kg/day	Kilogram per day
BHC	Benzene hexachloride	mg/day	Milligram per day
COPEC	Chemical of potential ecological concern	mg/kg	Milligram per kilogram
DDD	Dichlorodiphenyldichloroethane	mg/kg/day	Milligram per kilogram per day
DDE	Dichlorodiphenyldichloroethylene	NA	Not applicable
DDT	Dichlorodiphenyltrichloroethane	PAH	Polycyclic aromatic hydrocarbon
EPA	U.S. Environmental Protection Agency	R	Regression equation
EFA West	Department of the Navy, Engineering Field Activity West	SUF	Site use factor
HQ	Hazard Quotient	TRV	Toxicity reference value
kg	Kilogram		

**TABLE I-7: TRVs FOR THE AMERICAN ROBIN (*TURDUS MIGRATORIUS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

<b>COPEC</b>	<b>TRV<sup>1,2</sup> (mg/kg/day)</b>	<b>Test Species Body Weight<sup>1,2</sup>(kg)</b>	<b>Allometrically Adjusted TRV<sup>3</sup> (mg/kg/day)</b>	<b>Source of TRV</b>
--------------	--	---	--	----------------------

Sources:

EPA. 2007. Interim Ecological Soil Screening Levels. May. Available on-line at: <http://www.epa.gov/ecotox/ecoss/>

U.S. Department of the Navy (Navy). 1998. "Development of Toxicity Reference Values for Conducting Ecological Risk Assessments at Naval Facilities in California, Interim Final." Prepared by Naval Facilities Engineering Command, Engineering Field Activity West. San Bruno, California.

Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

**TABLE I-8: TRVs FOR RED-TAILED HAWK (*B UTEO JAMAICENSIS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>ALUMINUM</b>				
Dose/High TRV	1,097	0.155	1580	Calculated <sup>3</sup>
Dose/Low TRV	109.7	0.155	158	Sample and others 1996
<b>ANTIMONY</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ARSENIC</b>				
Dose/High TRV	22.01	1.172	21.1	Navy 1998
Dose/Low TRV	5.5	1.172	5.28	Navy 1998
<b>BARIUM</b>				
Dose/High TRV	41.7	0.121	63.1	Sample and others 1996
Dose/Low TRV	20.8	0.121	31.5	Sample and others 1996
<b>BERYLLIUM</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>CADMIUM</b>				
Dose/High TRV	10.43	0.084	17	Navy 1998
Dose/Low TRV	0.08	0.798	0.083	Navy 1998
<b>CHROMIUM</b>				
Dose/High TRV	5	1.25	4.74	Sample and others 1996
Dose/Low TRV	1	1.25	0.948	Sample and others 1996
<b>COBALT</b>				
Dose/High TRV	76.1	0.292	96.5	Calculated <sup>3</sup>
Dose/Low TRV	7.61	0.292	9.65	EPA 2007
<b>COPPER</b>				
Dose/High TRV	52.26	0.409	61.9	Navy 1998
Dose/Low TRV	2.3	0.639	2.49	Navy 1998

**TABLE I-8: TRVs FOR RED-TAILED HAWK (*BUTEO JAMAICENSIS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>IRON</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>LEAD</b>				
Dose/High TRV	8.75	0.8	9.07	Navy 1998
Dose/Low TRV	0.014	0.084	0.0228	Navy 1998
<b>MANGANESE</b>				
Dose/High TRV	776	0.197	1070	Navy 1998
Dose/Low TRV	77.6	0.197	107	Navy 1998
<b>MERCURY</b>				
Dose/High TRV	0.18	1	0.178	Navy 1998
Dose/Low TRV	0.039	1	0.0387	Navy 1998
<b>MOLYBDENUM</b>				
Dose/High TRV	35.3	1.5	32.3	Sample and others 1996
Dose/Low TRV	3.5	1.5	3.2	Sample and others 1996
<b>NICKEL</b>				
Dose/High TRV	55.26	0.58	61.1	Navy 1998
Dose/Low TRV	1.38	0.613	1.51	Navy 1998
<b>SELENIUM</b>				
Dose/High TRV	0.93	1.11	0.903	Navy 1998
Dose/Low TRV	0.23	1.11	0.223	Navy 1998
<b>SILVER</b>				
Dose/High TRV	20.2	0.662	21.7	EPA 2007
Dose/Low TRV	2.02	0.662	2.17	EPA 2007
<b>THALLIUM</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-8: TRVs FOR RED-TAILED HAWK (*B UTEO JAMAICENSIS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>VANADIUM</b>				
Dose/High TRV	114	1.17	110	Calculated <sup>3</sup>
Dose/Low TRV	11.4	1.17	11	Sample and others 1996
<b>ZINC</b>				
Dose/High TRV	172	0.955	172	Navy 1998
Dose/Low TRV	17.2	0.955	17.2	Navy 1998
<b>2,4-DIMETHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>2-METHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-METHYLPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-NITROANILINE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4-NITROPHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ETHYLHEXYL)PHTHALATE</b>				
Dose/High TRV	11	0.155	15.8	Calculated <sup>3</sup>
Dose/Low TRV	1.1	0.155	1.58	Sample and others 1996
<b>BUTYLBENZYLPHTHALATE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-8: TRVs FOR RED-TAILED HAWK (*BUTEO JAMAICENSIS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>DIBENZOFURAN</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DIMETHYLPHTHALATE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DI-N-BUTYLPHTHALATE</b>				
Dose/High TRV	1.1	0.155	1.58	Sample and others 1996
Dose/Low TRV	0.11	0.155	0.158	Sample and others 1996
<b>ISOPHORONE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PHENOL</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>2-METHYLNAPHTHALENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ACENAPHTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ACENAPHTHYLENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>ANTHRACENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-8: TRVs FOR RED-TAILED HAWK (*B UTEO JAMAICENSIS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>BENZO(a)ANTHRACENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(a)PYRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(b)FLUORANTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(g,h,i)PERYLENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>BENZO(k)FLUORANTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>CHRYSENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>DIBENZO(a,h)ANTHRACENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>FLUORANTHENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>FLUORENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA

**TABLE I-8: TRVs FOR RED-TAILED HAWK (*BUTEO JAMAICENSIS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>INDENO(1,2,3-cd)PYRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>NAPHTHALENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PHENANTHRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>PYRENE</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>4,4'-DDD</b>				
Dose/High TRV	1.5	1	1.49	Navy 1998
Dose/Low TRV	0.009	3.5	0.00694	Navy 1998
<b>4,4'-DDE</b>				
Dose/High TRV	0.6	1	0.595	Navy 1998
Dose/Low TRV	0.009	3.5	0.00694	Navy 1998
<b>4,4'-DDT</b>				
Dose/High TRV	1.5	1	1.49	Navy 1998
Dose/Low TRV	0.009	3.5	0.00694	Navy 1998
<b>ALDRIN</b>				
Dose/High TRV	0.77	0.466	0.889	Calculated <sup>3</sup>
Dose/Low TRV	0.077	0.466	0.0889	Sample and others 1996
<b>ALPHA-BHC</b>				
Dose/High TRV	2.25	0.15	3.26	Sample and others 1996
Dose/Low TRV	0.56	0.15	0.811	Sample and others 1996

**TABLE I-8: TRVs FOR RED-TAILED HAWK (*B UTEO JAMAICENSIS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>ALPHA-CHLORDANE</b>				
Dose/High TRV	10.7	0.064	18.4	Sample and others 1996
Dose/Low TRV	2.14	0.064	3.68	Sample and others 1996
<b>BETA-BHC</b>				
Dose/High TRV	2.25	0.15	3.26	Sample and others 1996
Dose/Low TRV	0.56	0.15	0.811	Sample and others 1996
<b>DELTA-BHC</b>				
Dose/High TRV	2.25	0.15	3.26	Sample and others 1996
Dose/Low TRV	0.56	0.15	0.811	Sample and others 1996
<b>DIELDRIN</b>				
Dose/High TRV	0.77	0.466	0.889	Calculated <sup>3</sup>
Dose/Low TRV	0.077	0.466	0.0889	Sample and others 1996
<b>ENDOSULFAN I</b>				
Dose/High TRV	100	0.4	119	Calculated <sup>3</sup>
Dose/Low TRV	10	0.4	11.9	Sample and others 1996
<b>ENDOSULFAN II</b>				
Dose/High TRV	100	0.4	119	Calculated <sup>3</sup>
Dose/Low TRV	10	0.4	11.9	Sample and others 1996
<b>ENDOSULFAN SULFATE</b>				
Dose/High TRV	100	0.4	119	Calculated <sup>3</sup>
Dose/Low TRV	10	0.4	11.9	Sample and others 1996
<b>ENDRIN KETONE</b>				
Dose/High TRV	0.1	0.181	0.14	Sample and others 1996
Dose/Low TRV	0.01	0.181	0.014	Sample and others 1996
<b>ENDRIN ALDEHYDE</b>				
Dose/High TRV	0.1	0.181	0.14	Sample and others 1996
Dose/Low TRV	0.01	0.181	0.014	Sample and others 1996

**TABLE I-8: TRVs FOR RED-TAILED HAWK (*BUTEO JAMAICENSIS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>GAMMA-BHC (LINDANE)</b>				
Dose/High TRV	20	1	19.8	Sample and others 1996
Dose/Low TRV	2	1	1.98	Sample and others 1996
<b>GAMMA-CHLORDANE</b>				
Dose/High TRV	10.7	0.064	18.4	Sample and others 1996
Dose/Low TRV	2.14	0.064	3.68	Sample and others 1996
<b>HEPTACHLOR</b>				
Dose/High TRV	10.7	0.064	18.4	Sample and others 1996
Dose/Low TRV	2.14	0.064	3.68	Sample and others 1996
<b>HEPTACHLOR EPOXIDE</b>				
Dose/High TRV	10.7	0.064	18.4	Sample and others 1996
Dose/Low TRV	2.14	0.064	3.68	Sample and others 1996
<b>METHOXYCHLOR</b>				
Dose/High TRV	NA	NA	No TRV	NA
Dose/Low TRV	NA	NA	No TRV	NA
<b>TECHNICAL CHLORDANE</b>				
Dose/High TRV	10.7	0.064	18.4	Sample and others 1996
Dose/Low TRV	2.14	0.064	3.68	Sample and others 1996
<b>AROCLOR-1248</b>				
Dose/High TRV	1.27	1.7154	1.13	Navy 1998
Dose/Low TRV	0.09	0.8	0.0933	Navy 1998
<b>AROCLOR-1254</b>				
Dose/High TRV	1.8	1	1.78	Sample and others 1996
Dose/Low TRV	0.018	1	0.0178	Sample and others 1996
<b>AROCLOR-1260</b>				
Dose/High TRV	1.27	1.72	1.13	Navy 1998
Dose/Low TRV	0.09	0.8	0.0933	Navy 1998

**TABLE I-8: TRVs FOR RED-TAILED HAWK (*BUTEO JAMAICENSIS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	TRV <sup>1,2</sup> (mg/kg/day)	Test Species Body Weight <sup>1,2</sup> (kg)	Allometrically Adjusted TRV <sup>3</sup> (mg/kg/day)	Source of TRV
<b>AROCLOR-1268</b>				
Dose/High TRV	1.27	1.72	1.13	Navy 1998
Dose/Low TRV	0.09	0.8	0.0933	Navy 1998

Notes:

- 1 The derivation of TRVs is described in Navy (1998) and Sample (1996).
- 2 The following surrogate TRVs were used: The TRV for BHC mixed isomers was used as a surrogate for alpha-, beta-, and delta-BHC. The TRV for chlordane was used as a surrogate for heptachlor and heptachlor epoxide because heptachlor and heptachlor epoxide
- 3 Allometrically adjusted TRVs were calculated using the following equation: receptor species TRV = (test species TRV) x (test species body weight / receptor species body weight)<sup>(1-0.94)</sup>.

Definitions:

BAF	Bioaccumulation factor	kg/day	Kilogram per day
BHC	Benzene hexachloride	mg/day	Milligram per day
COPEC	Chemical of potential ecological concern	mg/kg	Milligram per kilogram
DDD	Dichlorodiphenyldichloroethane	mg/kg/day	Milligram per kilogram per day
DDE	Dichlorodiphenyldichloroethylene	NA	Not applicable
DDT	Dichlorodiphenyltrichloroethane	R	Regression equation
EPA	U.S. Environmental Protection Agency	SUF	Site use factor
EPA West	Department of the Navy, Engineering Field Activity West	TRV	Toxicity reference value
HQ	Hazard Quotient		
kg	Kilogram		

**TABLE I-8: TRVs FOR RED-TAILED HAWK (*BUTEO JAMAICENSIS*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

<b>COPEC</b>	<b>TRV<sup>1,2</sup> (mg/kg/day)</b>	<b>Test Species Body Weight<sup>1,2</sup>(kg)</b>	<b>Allometrically Adjusted TRV<sup>3</sup> (mg/kg/day)</b>	<b>Source of TRV</b>
--------------	--	---	--	----------------------

Sources:

EPA. 2007. Interim Ecological Soil Screening Levels. May. Available on-line at: <http://www.epa.gov/ecotox/ecoss/>

U.S. Department of the Navy (Navy). 1998. "Development of Toxicity Reference Values for Conducting Ecological Risk Assessments at Naval Facilities in California, Interim Final." Prepared by Naval Facilities Engineering Command, Engineering Field Activity West. San Bruno, California.

Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

**TABLE I-9: GROUNDWATER THRESHOLD CRITERIA**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Water Board Surface Water Screening Levels - Marine Habitats	National Recommended Water Quality Criteria (Saltwater)		California Toxics Rule Criteria (Saltwater)		Water Board - Bay Plan (saltwater)		
	Water Board Table F-2b (µg/L)	CMC	CCC	CMC	CCC	4-Day Average	1-Hour Average	24-Hour Average
<b>Metals</b>								
Aluminum	None	None	None	None	None	None	None	None
Antimony	500	None	None	None	None	None	None	None
Arsenic	0.14	69	36	69	36	36	69	None
Barium	1,000	None	None	None	None	None	None	None
Beryllium	2.70	None	None	None	None	None	None	None
Cadmium	9.30	40	8.8	42	9.3	9.3	42	None
Calcium	None	None	None	None	None	None	None	None
Chromium	180	1,100	50	1,100	50	50	1,100	None
Cobalt	3.00	None	None	None	None	None	None	None
Copper	3.10	4.8	3.1	4.8	3.1	None	None	None
Iron	None	None	None	None	None	None	None	None
Lead	8.10	210	8.1	210	8.1	8.1	220	None
Magnesium	None	None	None	None	None	None	None	None
Manganese	None	None	None	None	None	None	None	None
Mercury	0.03	1.8	0.94	reserved	reserved	0.025	2.1	None
Molybdenum	240	None	None	None	None	None	None	None
Nickel	8.20	74	8.2	74	8.2	8.2	74	None
Potassium	None	None	None	None	None	None	None	None
Selenium	71	290	71	290	71	None	None	None
Silver	0.19	1.9	None	1.9	None	None	1.9	None
Sodium	None	None	None	None	None	None	None	None
Thallium	6.30	None	None	None	None	None	None	None
Vanadium	19	None	None	None	None	None	None	None
Zinc	81	90	81	90	81	81	90	None
<b>Volatile Organic Compounds</b>								
1,1-Dichloroethane	47	None	None	None	None	None	None	None
1,2,4-Trimethylbenzene	None	None	None	None	None	None	None	None

**TABLE I-9: GROUNDWATER THRESHOLD CRITERIA**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Water Board Surface Water Screening Levels - Marine Habitats Water Board Table F-2b (µg/L)	National Recommended Water Quality Criteria (Saltwater)		California Toxics Rule Criteria (Saltwater)		Water Board - Bay Plan (saltwater)		
		CMC	CCC	CMC	CCC	4-Day Average	1-Hour Average	24-Hour Average
<b>Volatile Organic Compounds (Continued)</b>								
1,2-Dichlorobenzene	10	None	None	None	None	None	None	None
1,2-Dichloroethane	99	None	None	None	None	None	None	None
1,2-Dichloropropane	10	None	None	None	None	None	None	None
1,3,5-Trimethylbenzene	None	None	None	None	None	None	None	None
1,4-Dichlorobenzene	11	None	None	None	None	None	None	None
2-HexaNone	None	None	None	None	None	None	None	None
4-Methyl-2-pentaNone	None	None	None	None	None	None	None	None
Benzene	71	None	None	None	None	None	None	None
Bromoform	360	None	None	None	None	None	None	None
Carbon disulfide	None	None	None	None	None	None	None	None
Chloroform	470	None	None	None	None	None	None	None
Chloromethane	3,200	None	None	None	None	None	None	None
Ethylbenzene	30	None	None	None	None	None	None	None
Isopropylbenzene	None	None	None	None	None	None	None	None
Naphthalene	21	None	None	None	None	None	None	None
Tert-Butylbenzene	None	None	None	None	None	None	None	None
Toluene	40	None	None	None	None	None	None	None
Trichloroethene	81	None	None	None	None	None	None	None
Vinyl chloride	530	None	None	None	None	None	None	None
Xylene (Total)	100	None	None	None	None	None	None	None
cis-1,2-Dichloroethene	590	None	None	None	None	None	None	None
m,p-Xylene	100	None	None	None	None	None	None	None
n-Butylbenzene	None	None	None	None	None	None	None	None
n-Propylbenzene	None	None	None	None	None	None	None	None
p-Isopropyltoluene	None	None	None	None	None	None	None	None
sec-Butylbenzene	None	None	None	None	None	None	None	None
trans-1,2-Dichloroethene	None	None	None	None	None	None	None	None

**TABLE I-9: GROUNDWATER THRESHOLD CRITERIA**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Water Board Surface Water Screening Levels - Marine Habitats	National Recommended Water Quality Criteria (Saltwater)		California Toxics Rule Criteria (Saltwater)		Water Board - Bay Plan (saltwater)		
	Water Board Table F-2b (µg/L)	CMC	CCC	CMC	CCC	4-Day Average	1-Hour Average	24-Hour Average
<b>Semivolatile Organic Compounds</b>								
Acenaphthene	20	None	None	None	None	None	None	None
Phenol	1,300	None	None	None	None	None	None	None
bis(2-ethylhexyl)phthalate	5.90	None	None	None	None	None	None	None
2-Methylnaphthalene	2.10	None	None	None	None	None	None	None
<b>Polycyclic Aromatic Hydrocarbons</b>								
Acenaphthene	20	None	None	None	None	None	None	None
Acenaphthylene	30	None	None	None	None	None	None	None
Anthracene	0.73	None	None	None	None	None	None	None
Benzo(a)anthracene	0.03	None	None	None	None	None	None	None
Benzo(a)pyrene	0.01	None	None	None	None	None	None	None
Benzo(b)fluoranthene	0.03	None	None	None	None	None	None	None
Benzo(g,h,i)perylene	0.10	None	None	None	None	None	None	None
Benzo(k)fluoranthene	0.05	None	None	None	None	None	None	None
Chrysene	0.05	None	None	None	None	None	None	None
Dibenzo(a,h)anthracene	0.05	None	None	None	None	None	None	None
Fluoranthene	8	None	None	None	None	None	None	None
Fluorene	3.90	None	None	None	None	None	None	None
Indeno(1,2,3-cd)pyrene	0.03	None	None	None	None	None	None	None
Naphthalene	21	None	None	None	None	None	None	None
Phenanthrene	4.60	None	None	None	None	None	None	None
Pyrene	2.0	None	None	None	None	None	None	None
<i>Total PAH's (Calculated)</i>		<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>15</i>
<b>Pesticides</b>								
4,4'-DDD	0.0008	None	None	None	None	None	None	None
4,4'-DDE	0.0006	None	None	None	None	None	None	None
<i>Total DDT and metabolites (calculated)</i>		<i>0.13</i>	<i>0.001</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>
Aldrin	0.0001	1.3	None	1.3	None	None	None	None

**TABLE I-9: GROUNDWATER THRESHOLD CRITERIA**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Water Board Surface Water Screening Levels - Marine Habitats	National Recommended Water Quality Criteria (Saltwater)		California Toxics Rule Criteria (Saltwater)		Water Board - Bay Plan (saltwater)		
	Water Board Table F-2b (µg/L)	CMC	CCC	CMC	CCC	4-Day Average	1-Hour Average	24-Hour Average
<b>Pesticides (Continued)</b>								
Beta-BHC	None	None	None	None	None	None	None	None
Dieldrin	0.002	0.71	0.0019	0.71	0.0019	None	None	None
Endosulfan I	0.01	0.034	0.0087	0.034	0.0087	None	None	None
Endosulfan II	0.01	0.034	0.0087	0.034	0.0087	None	None	None
Endrin	0.002	0.037	0.0023	0.037	0.0023	None	None	None
Endrin aldehyde	None	None	None	0.053	0.0036	None	None	None
Heptachlor Epoxide	0.0001	0.053	0.0036	0.053	0.0036	None	None	None
Methoxychlor	0.02	None	0.03	None	None	None	None	None
alpha-BHC	None	None	None	None	None	None	None	None
alpha-Chlordane	0.0006	0.09	0.004	0.09	0.004	None	None	None
gamma-BHC (Lindane)	None	0.16	None	0.16	None	None	None	None
gamma-Chlordane	0.0006	None	None	0.09	0.004	None	None	None
<b>Total Petroleum Hydrocarbons</b>								
Diesel Range	640	None	None	None	None	None	None	None
Gasoline Range	3,700	None	None	None	None	None	None	None
Motor Oil Range	640.00	None	None	None	None	None	None	None

All units in micrograms per liter except total petroleum hydrocarbons, which are in milligrams per liter.

Definitions:

- µg/L                      Micrograms per liter
- BHC                      Benzene hexachloride
- DDD                      Dichlorodiphenyldichloroethane
- DDE                      Dichlorodiphenyldichloroethylene
- DDT                      Dichlorodiphenyltrichloroethane

**TABLE I-9: GROUNDWATER THRESHOLD CRITERIA**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Water Board Surface Water Screening Levels - Marine Habitats	National Recommended Water Quality Criteria (Saltwater)		California Toxics Rule Criteria (Saltwater)		Water Board - Bay Plan (saltwater)		
	Water Board Table F-2b (µg/L)	CMC	CCC	CMC	CCC	4-Day Average	1-Hour Average	24-Hour Average

References:

EPA. 2006. National Recommended Water Quality Criteria. Available online at <http://www.epa.gov/waterscience/criteria/wqcriteria.html>

EPA, 2001a. 40 CFR Part 131. Water Quality Standards, Establishment of Criteria for Priority Toxic Pollutants for the State of California . Rule FRL-6587-9 RW 2040-AC44. May 18.  
 San Francisco Bay Regional Water Quality Control Board (Water Board). 2005. "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater." Interim Final. February.

Water Board. 2006. "Water Quality Control Plan for the San Francisco Basin." December 22. Available Online at: <http://www/swrcb.ca.gov/rwqcb2/basinplan.htm>.

**TABLE I-10: SUMMARY OF BIOACCUMULATION MODELS FOR PLANTS – INORGANIC CHEMICALS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Taxa	Chemical	Transfer Type	Summary Statistics for BAFs				Parameters for Log-Linear Uptake Model					Reference
			N	Minimum	Median	Maximum	N	Slope	Intercept	R-square	p (model)	
Plants	Aluminum	Soil-to-biota	28	0.00058	0.00287	0.0112	na	na	na	na	na	Sample and others 1998
Plants	Antimony	Soil-to-biota	17	0.003	0.037	0.22	17	0.938	-3.233	0.79	0.0001	EPA 2005
Plants	Arsenic	Soil-to-biota	122	0.00006	0.03752	9.0741	na	na	na	na	na	Bechtel-Jacobs 1998
Plants	Barium	Soil-to-biota	28	0.036	0.156	0.92	na	na	na	na	na	Bechtel-Jacobs 1998
Plants	Beryllium	Soil-to-biota	na	na	na	na	18	0.7345	-0.5361	0.7311	<0.0001	EPA 2005
Plants	Cadmium	Soil-to-biota	17	0.003	0.037	0.22	na	0.546	-0.475	na	na	EPA 2005
Plants	Chromium	Soil-to-biota	28	0.021	0.041	0.48	na	na	na	na	na	Bechtel-Jacobs 1998
Plants	Cobalt	Soil-to-biota	28	0.0019	0.0075	0.045	na	na	na	na	na	Bechtel-Jacobs 1998
Plants	Copper	Soil-to-biota	180	0.0011	0.12432	7.4	180	0.394	0.668	0.31	0.0001	Bechtel-Jacobs 1998
Plants	Lead	Soil-to-biota	na	na	na	na	na	0.561	-1.328	na	na	EPA 2005
Plants	Manganese	Soil-to-biota	28	0.0199	0.079	0.433	na	na	na	na	na	Bechtel-Jacobs 1998
Plants	Mercury	Soil-to-biota	142	0.00145	0.663	12.23	na	na	na	na	na	Sample and others 1998
Plants	Nickel	Soil-to-biota	111	0.00217	0.01786	22.2143	111	0.748	-2.223	0.37	0.0001	Bechtel-Jacobs 1998
Plants	Selenium	Soil-to-biota	158	0.02	0.67189	77	158	1.104	-0.677	0.63	0.0001	Bechtel-Jacobs 1998
Plants	Silver	Soil-to-biota	10	0.0029	0.014	0.04	na	na	na	na	na	Bechtel-Jacobs 1998
Plants	Vanadium	Soil-to-biota	21	0.00173	0.00485	0.0097	na	na	na	na	na	Sample and others 1998
Plants	Zinc	Soil-to-biota	na	na	na	na	na	0.554	1.575	na	na	EPA 2005

Notes: Regression Formula:  $\ln(\text{tissue concentration}) = Y\text{-intercept} + \text{slope} * (\ln[\text{soil concentration}])$ .  
 A default BAF of 1 will be used for all chemicals not listed above.  
 Highlighted data represent recommended bioaccumulation data.  
 BAFs reported in dry weight.

Definitions:  
 BAF factor Bioaccumulation factor  
 EPA U.S. Environmental Protection Agency  
 ln Natural log  
 N Number of studies or observations  
 na Not available  
 p Probability

References:  
 Bechtel-Jacobs Company LLC. 1998. "Empirical Models for the Uptake of Inorganic Chemicals from Soil by Plants." BJC/OR-133. Oak Ridge, Tennessee.  
 EPA. 2005. "Guidance for Developing Ecological Soil Screening Levels." February.  
 Sample, B.E., J.J. Beauchamp, R.A. Efromson, G.W. Suter II, and T.L. Ashwood. 1998. "Development and Validation of Bioaccumulation Models for Small Mammals." ES/ER/TM-219, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

**TABLE I-11 SUMMARY OF BIOACCUMULATION MODELS FOR PLANTS – ORGANIC CHEMICALS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Taxa	Chemical	Transfer Type	Summary Statistics for BAFs				Parameters for Log-Linear Uptake Model					Soil to Plant BAF	Selected Reference
			N	Minimum	Median	Maximum	N	Slope	Intercept	R-square	p (model)		
Plants	2,4-Dimethylphenol	soil-to-biota	na	na	na	na	na	na	na	na	na	1.80E+00	DOE 2007 (see footnote 1)
Plants	2-Methylphenol	soil-to-biota	na	na	na	na	na	na	na	na	na	3.00E+00	DOE 2007 (see footnote 1)
Plants	4-Methylphenol	soil-to-biota	na	na	na	na	na	na	na	na	na	3.00E+00	DOE 2007 (see footnote 1)
Plants	4-Nitrophenol	soil-to-biota	na	na	na	na	na	na	na	na	na	3.00E+00	DOE 2007 (see footnote 1)
Plants	Bis(2-ethylhexyl)phthalate	soil-to-biota	na	na	na	na	na	na	na	na	na	5.50E-02	DOE 2007 (see footnote 1)
Plants	Butylbenzylphthalate	soil-to-biota	na	na	na	na	na	na	na	na	na	5.50E-02	DOE 2007 (see footnote 1)
Plants	Dibenzofuran	soil-to-biota	na	na	na	na	na	na	na	na	na	1.50E-01	DOE 2007 (see footnote 1)
Plants	Dimethyl phthalate	soil-to-biota	na	na	na	na	na	na	na	na	na	4.50E+00	DOE 2007 (see footnote 1)
Plants	di-n-butyl phthalate	soil-to-biota	na	na	na	na	na	na	na	na	na	5.50E-02	DOE 2007 (see footnote 1)
Plants	Isophorone	soil-to-biota	na	na	na	na	na	na	na	na	na	3.90E+00	DOE 2007 (see footnote 1)
Plants	Phenol	soil-to-biota	na	na	na	na	na	na	na	na	na	5.10E+00	DOE 2007 (see footnote 1)
Plants	2-Methylnaphthalene	soil-to-biota	na	na	na	na	na	na	na	na	na	2.10E-01	DOE 2007 (see footnote 1)
Plants	Acenaphthene	soil-to-biota	na	na	na	na	17	-0.8556	-5.662	0.3	<0.05	na	EPA 2005 (see footnote 2)
Plants	Acenaphthylene	soil-to-biota	na	na	na	na	na	-1.144	0.791	na	na	na	EPA 2005 (see footnote 2)
Plants	Anthracene	soil-to-biota	na	na	na	na	18	0.7784	-0.9887	0.5188	<0.001	na	EPA 2005 (see footnote 2)
Plants	Benzo(a)anthracene	soil-to-biota	1	0.53704	0.537	0.54	15	0.5944	-2.7078	0.7007	<0.0001	na	EPA 2005 (see footnote 2)
Plants	Benzo(a)pyrene	soil-to-biota	7	0.01964	0.066	0.2	15	0.9750	-2.0615	0.7954	<0.0001	na	EPA 2005 (see footnote 2)
Plants	Benzo(b)fluoranthene	soil-to-biota	4	0.08	0.31	0.48	na	na	na	na	na	na	EPA 2005
Plants	Benzo(ghi)perylene	soil-to-biota	7	0.05278	0.131	1.31	17	1.1829	-0.9313	0.8693	<0.0001	na	EPA 2005 (see footnote 2)
Plants	Benzo(k)fluoranthene	soil-to-biota	4	0.08	0.255	0.36	17	0.8595	-2.1579	0.8146	<0.0001	na	EPA 2005 (see footnote 2)
Plants	Chrysene	soil-to-biota	4	0.16216	0.784	1.05	15	0.5944	-2.7078	0.7007	<0.0001	na	EPA 2005 (see footnote 2)
Plants	Dibenzo(ah)anthracene	soil-to-biota	4	0.070	0.13	0.23	na	na	na	na	na	na	EPA 2005
Plants	Fluoranthene	soil-to-biota	11	0.031	0.50	6.0	na	na	na	na	na	na	EPA 2005
Plants	Fluorene	soil-to-biota	4	0.011	0.041	0.057	17	-0.8556	-5.562	0.3	<0.05	na	EPA 2005 (see footnote 3)
Plants	Indeno(123 cd)pyrene	soil-to-biota	2	0.071	0.11	0.15	na	na	na	na	na	na	EPA 2005
Plants	Naphthalene	soil-to-biota	14	0.29	12.2	70	na	na	na	na	na	na	EPA 2005
Plants	Phenanthrene	soil-to-biota	17	0.063	2.1	6.7	17	0.6203	-0.1665	0.4642	<0.01	na	EPA 2005 (see footnote 2)
Plants	Pyrene	soil-to-biota	na	na	na	na	na	na	na	na	na	5.50E-02	DOE 2007 (see footnote 1)
Plants	DDD	soil-to-biota	na	na	na	na	9	0.7524	-2.5119	0.5334	<0.05	na	EPA 2005 (see footnote 2)
Plants	DDE	soil-to-biota	3	0.075	0.136	0.62	9	0.7524	-2.5119	0.5334	<0.05	na	EPA 2005 (see footnote 2)
Plants	DDT	soil-to-biota	6	0.016	0.037	0.079	9	0.7524	-2.5119	0.5334	<0.05	na	EPA 2005 (see footnote 2)
Plants	Aldrin	soil-to-biota	na	na	na	na	na	na	na	na	na	6.90E-01	DOE 2007 (see footnote 1)
Plants	Alpha BHC	soil-to-biota	na	na	na	na	na	na	na	na	na	2.10E-01	DOE 2007 (see footnote 1)
Plants	Alpha-chlordane	soil-to-biota	na	na	na	na	na	na	na	na	na	2.50E-02	DOE 2007 (see footnote 1)
Plants	Beta BHC	soil-to-biota	na	na	na	na	na	na	na	na	na	1.80E-01	DOE 2007 (see footnote 1)
Plants	Delta BHC	soil-to-biota	na	na	na	na	na	na	na	na	na	9.00E-01	DOE 2007 (see footnote 1)
Plants	Dieldrin	soil-to-biota	9	0.05	0.41	2.222	na	na	na	na	na	na	EPA 2005
Plants	Endosulfan I	soil-to-biota	na	na	na	na	na	na	na	na	na	3.30E-01	DOE 2007 (see footnote 1)
Plants	Endosulfan II	soil-to-biota	na	na	na	na	na	na	na	na	na	3.30E-01	DOE 2007 (see footnote 1)
Plants	Endosulfan sulfate	soil-to-biota	na	na	na	na	na	na	na	na	na	3.30E-01	DOE 2007 (see footnote 1)
Plants	Endrin aldehyde	soil-to-biota	na	na	na	na	na	na	na	na	na	8.20E-02	DOE 2007 (see footnote 1)
Plants	Endrin ketone	soil-to-biota	na	na	na	na	na	na	na	na	na	8.20E-02	DOE 2007 (see footnote 1)
Plants	gamma BHC	soil-to-biota	na	na	na	na	na	na	na	na	na	2.70E-01	DOE 2007 (see footnote 1)
Plants	gamma-chlordane	soil-to-biota	na	na	na	na	na	na	na	na	na	2.50E-02	DOE 2007 (see footnote 1)
Plants	Heptachlor	soil-to-biota	na	na	na	na	na	na	na	na	na	1.20E-01	DOE 2007 (see footnote 1)
Plants	Heptachlor epoxide	soil-to-biota	na	na	na	na	na	na	na	na	na	2.80E-02	DOE 2007 (see footnote 1)
Plants	Methoxychlor	soil-to-biota	na	na	na	na	na	na	na	na	na	1.10E-01	DOE 2007 (see footnote 1)
Plants	Technical chlordane	soil-to-biota	na	na	na	na	na	na	na	na	na	1.30E-01	DOE 2007 (see footnote 1)
Plants	Aroclor-1248	soil-to-biota	na	na	na	na	na	na	na	na	na	1.60E-02	DOE 2007 (see footnote 1)
Plants	Aroclor-1254	soil-to-biota	na	na	na	na	na	na	na	na	na	1.30E-02	DOE 2007 (see footnote 1)
Plants	Aroclor-1260	soil-to-biota	na	na	na	na	na	na	na	na	na	2.90E-03	DOE 2007 (see footnote 1)
Plants	Aroclor-1268	soil-to-biota	na	na	na	na	na	na	na	na	na	2.90E-03	Default (see footnote 3)

## TABLE I-11 SUMMARY OF BIOACCUMULATION MODELS FOR PLANTS -- ORGANIC CHEMICALS

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

### Notes:

- 1 BAFs were calculated by ORNL and downloaded from RAIS database using the Kow and the following equation from (McKone 1994):  $BAF = 38 * Kow^{-0.58}$
- 2 Regression Formula:  $\ln(\text{tissue concentration}) = Y\text{-intercept} + \text{slope} * (\ln[\text{soil concentration}])$ . The BAF for chlordane was used as a surrogate for alpha- and gamma-chlordane. The BAF for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The BAF for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The BAF for Aroclor-1260 was used as a surrogate for Aroclor-1268. A default BAF of 1 will be used for all chemical not listed above. Highlighted data represent recommended bioaccumulation data. BAFs reported in dry weight.
- 3 A default BAF of 1 will be used for all chemical not listed above. Highlighted data represent recommended bioaccumulation data. BAFs reported in dry weight.

### Definitions:

BAF	Bioaccumulation factor
BHC	Benzene hexachloride
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
EPA	U.S. Environmental Protection Agency
<i>ln</i>	Natural log
$\log_{kw}$	Log octanol/water partition coefficient
N	Number of studies or observations
na	Not available
p	Probability

### References

- EPA. 2005. "Guidance for Developing Ecological Soil Screening Levels." February.
- U.S. Department of Energy (DOE). 2007. Risk Assessment Information System. Office of Environmental Management, Oak Ridge Operations Office. On-line at <http://risk.lsd.ornl.gov/>. May.

**TABLE I-12 SUMMARY OF BIOACCUMULATION MODELS FOR INVERTEBRATES – INORGANIC CHEMICALS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Taxa	Chemical	Transfer Type	Summary Statistics for BAFs				Parameters for Log-Linear Uptake Model					Assumed BAFs	Reference
			N	Minimum	Median	Maximum	N	Slope	Intercept	R-square	p (model)		
Earthworms	Aluminum	soil-to-biota	20	0.008	0.043	0.197	na	na	na	na	na	NA	Sample and others 1998 (see footnotes 1 and 2)
Earthworms	Antimony	soil-to-biota	na	na	na	na	na	na	na	na	na	1	EPA 2005 (see footnote 1)
Earthworms	Arsenic	soil-to-biota	53	0.006	0.224	0.925	na	0.706	-1.421	na	na	NA	Sample and others 1999 (see footnote 1)
Earthworms	Barium	soil-to-biota	20	0.005	0.091	0.31	na	na	na	na	na	NA	Sample and others 1998 (see footnotes 1 and 2)
Earthworms	Beryllium	soil-to-biota	12	0	0.045	1.429	na	na	na	na	na	NA	Sample and others 1999 (see footnotes 1 and 2)
Earthworms	Cadmium	soil-to-biota	na	na	na	na	na	0.795	2.114	na	na	NA	EPA 2005 (see footnote 1)
Earthworms	Chromium	soil-to-biota	67	0.021	0.306	11.416	67	0.067	2.481	0.0026	0.68	NA	Sample and others 1999 (see footnotes 1 and 2)
Earthworms	Cobalt	soil-to-biota	17	0.031	0.122	0.321	na	na	na	na	na	NA	Sample and others 1999 (see footnotes 1 and 2)
Earthworms	Copper	soil-to-biota	197	0.002	0.515	5.492	197	0.264	1.675	0.18	0.0001	NA	Sample and others 1999 (see footnotes 1 and 2)
Earthworms	Lead	soil-to-biota	na	na	na	na	na	0.807	-0.218	na	na	NA	EPA 2005 (see footnote 1)
Earthworms	Manganese	soil-to-biota	36	0.012	0.054	0.228	36	0.682	-0.809	0.34	0.0002	NA	Sample and others 1999 (see footnotes 1 and 3)
Earthworms	Mercury	soil-to-biota	30	0.03	1.693	33	29	-0.15	4.17	0.02	0.42	NA	Sample and others 1999 (see footnotes 1 and 2)
Terrestrial Invert	Molybdenum	soil-to-biota	na	na	na	na	40	0.296	-0.02771	0.21	0.003	NA	U.S. Air Force 2003 (see footnote 1)
Earthworms	Nickel	soil-to-biota	31	0.033	1.059	7.802	31	-0.26	3.677	0.06	0.19	NA	Sample and others 1999 (see footnotes 1 and 2)
Earthworms	Selenium	soil-to-biota	14	0.3	0.985	13.733	13	0.733	-0.075	0.43	0.016	NA	Sample and others 1999 (see footnote 1)
Earthworms	Silver	soil-to-biota	10	0.001	2.045	19.5	na	na	na	na	na	NA	Sample and others 1998 (see footnotes 1 and 2)
Earthworms	Vanadium	soil-to-biota	na	na	0.042	na	39	0.6049	-1.9224	0.2	na	NA	EPA 2005 (see footnote 1)
Earthworms	Zinc	soil-to-biota	244	0.025	3.201	49.51	244	0.328	4.449	0.45	0.0001	NA	Sample and others 1999 (see footnote 1)

Notes:

- 1 Regression Formula:  $\ln(\text{tissue concentration}) = \text{Y-intercept} + \text{slope} * (\ln[\text{soil concentration}])$ .
- 2 A default BAF of 1 will be used for all chemicals not listed above.  
Highlighted data represent recommended bioaccumulation data.  
BAFs reported in dry weight.

Definitions:

- BAF Bioaccumulation factor
- EPA U.S. Environmental Protection Agency
- ln Natural log
- N Number of studies or observations
- na Not available
- NA Not applicable
- p Probability

**TABLE I-12 SUMMARY OF BIOACCUMULATION MODELS FOR INVERTEBRATES – INORGANIC CHEMICALS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

References:

EPA. 2005. "Guidance for Developing Ecological Soil Screening Levels." February.

Sample, B.E., J.J. Beauchamp, R.A. Efrogmson, G.W. Suter,II, and T.L. Ashwood. 1998. Development and Validation of Bioaccumulation Models for Earthworms. Oak Ridge National Laboratory, Oak Ridge TN. 93 pp, ES/ER/TM-220

Sample, B.E., J.J. Beauchamp, R.A. Efrogmson, G.W. Suter,II. 1999. Literature-derived bioaccumulation models for earthworms: development and validation. Environ. Toxicol. Chem. 18:2110-2120.

U.S. Air Force. 2003. "Toxicity Profiles for the Ecological Risk Assessments at Vandenberg Air Force Base, California." Prepared by: Tetra Tech, Inc. Lafayette, California.

**TABLE I-13 SUMMARY OF BIOACCUMULATION MODELS FOR INVERTEBRATES – ORGANIC CHEMICALS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Taxa	Chemical	Transfer Type	Summary Statistics for BAFs				Parameters for Log-Linear Uptake Model					Soil to Invertebrate BAF	Selected Reference
			N	Minimum	Median	Maximum	N	Slope	Intercept	R-square	p (model)		
Earthworms	2,4-Dimethylphenol	soil-to-biota	na	na	na	na	na	na	na	na	na	27.5	EPA 2005 (see footnote 2)
Earthworms	2-Methylphenol	soil-to-biota	na	na	na	na	na	na	na	na	na	27.1	EPA 2005 (see footnote 2)
Earthworms	4-Methylphenol	soil-to-biota	na	na	na	na	na	na	na	na	na	27.1	EPA 2005 (see footnote 2)
Earthworms	4-Nitroaniline	soil-to-biota	na	na	na	na	na	na	na	na	na	28.5	EPA 2005 (see footnote 2)
Earthworms	4-Nitrophenol	soil-to-biota	na	na	na	na	na	na	na	na	na	27.1	EPA 2005 (see footnote 2)
Earthworms	Bis (2-ethylhexyl)phthalate	soil-to-biota	na	na	na	na	na	na	na	na	na	25.2	EPA 2005 (see footnote 2)
Earthworms	Butylbenzylphthalate	soil-to-biota	na	na	na	na	na	na	na	na	na	25.2	EPA 2005 (see footnote 2)
Earthworms	Dibenzofuran	soil-to-biota	na	na	na	na	na	na	na	na	na	29.5	EPA 2005 (see footnote 2)
Earthworms	Dimethylphthalate	soil-to-biota	na	na	na	na	na	na	na	na	na	26.7	EPA 2005 (see footnote 2)
Earthworms	Di-n-butylphthalate	soil-to-biota	na	na	na	na	na	na	na	na	na	29.9	EPA 2005 (see footnote 2)
Earthworms	Isophorone	soil-to-biota	na	na	na	na	na	na	na	na	na	26.8	EPA 2005 (see footnote 2)
Earthworms	Phenol	soil-to-biota	na	na	na	na	na	na	na	na	na	26.6	EPA 2005 (see footnote 2)
Earthworms	2-Methylnaphthalene	soil-to-biota	na	na	na	na	na	na	na	na	na	29.2	EPA 2005 (see footnote 2)
Earthworms	Acenaphthene	soil-to-biota	na	na	na	na	na	na	na	na	na	1.47	EPA 2005 (see footnote 1)
Earthworms	Acenaphthylene	soil-to-biota	na	na	na	na	na	na	na	na	na	22.9	EPA 2005 (see footnote 1)
Earthworms	Anthracene	soil-to-biota	na	na	na	na	na	na	na	na	na	2.42	EPA 2005 (see footnote 1)
Earthworms	Benzo(a)anthracene	soil-to-biota	na	na	na	na	na	na	na	na	na	1.59	EPA 2005 (see footnote 1)
Earthworms	Benzo(a)pyrene	soil-to-biota	na	na	na	na	na	na	na	na	na	1.33	EPA 2005 (see footnote 1)
Earthworms	Benzo(b)fluoranthene	soil-to-biota	na	na	na	na	na	na	na	na	na	2.6	EPA 2005 (see footnote 1)
Earthworms	Benzo(g)perylene	soil-to-biota	na	na	na	na	na	na	na	na	na	2.94	EPA 2005 (see footnote 1)
Earthworms	Benzo(k)fluoranthene	soil-to-biota	na	na	na	na	na	na	na	na	na	2.60	EPA 2005 (see footnote 1)
Earthworms	Chrysene	soil-to-biota	na	na	na	na	na	na	na	na	na	2.29	EPA 2005 (see footnote 1)
Earthworms	Dibenzo(ah)anthracene	soil-to-biota	na	na	na	na	na	na	na	na	na	2.31	EPA 2005 (see footnote 1)
Earthworms	Fluoranthene	soil-to-biota	na	na	na	na	na	na	na	na	na	3.04	EPA 2005 (see footnote 1)
Earthworms	Fluorene	soil-to-biota	na	na	na	na	na	na	na	na	na	0.67	EPA 2005 (see footnote 1)
Earthworms	Indeno (1,2,3-cd)pyrene	soil-to-biota	na	na	na	na	na	na	na	na	na	2.86	EPA 2005 (see footnote 1)
Earthworms	Naphthalene	soil-to-biota	na	na	na	na	na	na	na	na	na	4.4	EPA 2005 (see footnote 1)
Earthworms	Phenanthrene	soil-to-biota	na	na	na	na	na	na	na	na	na	1.72	EPA 2005 (see footnote 1)
Earthworms	Pyrene	soil-to-biota	na	na	na	na	na	na	na	na	na	1.75	EPA 2005 (see footnote 1)
Earthworms/slugs	DDD	soil-to-biota	na	na	na	na	na	0.6975	1.1613	na	na	na	EPA 2005 (see footnote 1)
Earthworms/slugs	DDE	soil-to-biota	na	na	na	na	na	0.8804	2.4771	na	na	na	EPA 2005 (see footnote 1)
Earthworms/slugs	DDT	soil-to-biota	na	na	na	na	na	0.8659	2.1247	na	na	na	EPA 2005 (see footnote 1)
Earthworms	Aldrin	soil-to-biota	na	na	na	na	na	na	na	na	na	32.4	EPA 2005 (see footnote 2)
Earthworms	alpha-BHC	soil-to-biota	na	na	na	na	na	na	na	na	na	29.5	EPA 2005 (see footnote 2)
Earthworms	Alpha-chlordane	soil-to-biota	na	na	na	na	na	na	na	na	na	32.0	Default (see footnote 3)
Earthworms	Beta-BHC	soil-to-biota	na	na	na	na	na	na	na	na	na	29.5	Default (see footnote 3)
Earthworms	Delta-BHC	soil-to-biota	na	na	na	na	na	na	na	na	na	29.5	EPA 2005 (see footnote 2)
Earthworms	Dieldrin	soil-to-biota	6300	1.73	267.08	7.70E+05	na	0.8756	2.2757	>0.2	na	na	EPA 2005 (see footnote 1)
Earthworms	Endosulfan I	soil-to-biota	na	na	na	na	na	na	na	na	na	29.1	Default (see footnote 3)
Earthworms	Endosulfan II	soil-to-biota	na	na	na	na	na	na	na	na	na	29.1	Default (see footnote 3)
Earthworms	Endosulfan sulfate	soil-to-biota	na	na	na	na	na	na	na	na	na	29.1	Default (see footnote 3)
Earthworms	Endrin ketone	soil-to-biota	na	na	na	na	na	na	na	na	na	30.8	Default (see footnote 3)
Earthworms	Endrin aldehyde	soil-to-biota	na	na	na	na	na	na	na	na	na	30.8	Default (see footnote 3)
Earthworms	Gamma-BHC (Lindane)	soil-to-biota	na	na	na	na	na	na	na	na	na	29.5	EPA 2005 (see footnote 2)
Earthworms	Gamma-chlordane	soil-to-biota	na	na	na	na	na	na	na	na	na	32.0	Default (see footnote 3)
Earthworms	Heptachlor	soil-to-biota	na	na	na	na	na	na	na	na	na	31.9	EPA 2005 (see footnote 2)
Earthworms	Heptachlor epoxide	soil-to-biota	na	na	na	na	na	na	na	na	na	30.5	EPA 2005 (see footnote 2)
Earthworms	Methoxychlor	soil-to-biota	na	na	na	na	na	na	na	na	na	30.6	EPA 2005 (see footnote 2)
Earthworms	Total Chlordane	soil-to-biota	na	na	na	na	na	na	na	na	na	32.0	EPA 2005 (see footnote 2)
Earthworms	Aroclor-1248	soil-to-biota	na	na	na	na	na	na	na	na	na	32.2	EPA 2005 (see footnote 2)
Earthworms	Aroclor-1254	soil-to-biota	na	na	na	na	na	na	na	na	na	32.7	EPA 2005 (see footnote 2)
Earthworms	Aroclor-1260	soil-to-biota	na	na	na	na	na	na	na	na	na	34.7	EPA 2005 (see footnote 2)
Earthworms	Aroclor-1268	soil-to-biota	na	na	na	na	na	na	na	na	na	34.7	Default (see footnote 3)

## TABLE I-13 SUMMARY OF BIOACCUMULATION MODELS FOR INVERTEBRATES – ORGANIC CHEMICALS

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

### Notes:

- 1 Eco-SSL BAF modeled from Kow based on Jager (1998),  $BAF = K_{ow} (L/kg \text{ worm } dw) / K_d (L/kg \text{ soil } dw)$  (EPA 2003). Regression Formula:  $\ln(\text{tissue concentration}) = Y\text{-intercept} + \text{slope} * (\ln[\text{soil concentration}])$ .
- 2 When BAFs are unavailable, a BAF will be estimated based on the log Kow using the following equation from EPA 2003:  $BAF = 10^{(\log Kow - 0.6) / [foc \times 10^{(0.983 \log Kow + 0.00028)}]}$ ; foc will be set to 1% (0.01) per EPA 2005. Chemical specific log Kows are from RAIS on-line at <http://risk.lsd.ornl.gov/>. The BAF for chlordane was used as a surrogate for alpha- and gamma-chlordane. The BAF for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The BAF for endrin was used as a surrogate for endrin ketone and endrin aldehyde.
- 3 the BAF for Aroclor-1260 was used as a surrogate for Aroclor-1258.  
A default BAF of 1 will be used for all chemicals not listed above.  
Highlighted data represent recommended bioaccumulation data.  
BAFs reported in dry weight.

### Definitions:

BAF	Bioaccumulation factor
BHC	Benzene hexachloride
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
dw	Dry weight
EPA	U.S. Environmental Protection Agency
foc	Fraction of organic carbon in soil
L/kg	Liter per kilogram
ln	Natural log
log <sub>kw</sub>	Log octanol water partition coefficient
N	Number of studies or observations
na	Not available
p	Probability

### References:

EPA. 2005. "Guidance for Developing Ecological Soil Screening Levels." February.

**TABLE I-14 SUMMARY OF BIOACCUMULATION MODELS FOR SMALL MAMMALS – INORGANIC CHEMICALS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Taxa	Chemical	Trophic Group	Transfer Type	Summary Statistics for BAFs				Parameters for Log-Linear Uptake Model					Other Uptake Models	Reference
				N	Minimum	Median	Maximum	N	Slope	Intercept	R-square	p (model)		
Small Mammals	Aluminum	General	soil-to-biota	7	0.0064	0.0171	0.031	na	na	na	na	na	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Antimony	na	diet-to-biota	na	na	na	na	na	na	na	na	na	$C_m=0.001*50*C_d$	Baes and others 1984 (see footnote 2)
Small Mammals	Arsenic	General	soil-to-biota	72	0	0.0025	0.071	60	0.8188	-4.8471	0.52	0.0001	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Barium	na	diet-to-biota	14	0.0144	0.0566	0.25	na	na	na	na	na	$C_m=0.00015*50*C_d$	Baes and others 1984 (see footnote 2)
Small Mammals	Beryllium	na	diet-to-biota	na	na	na	na	na	na	na	na	na	$C_m=0.001*50*C_d$	Baes and others 1984 (see footnote 2)
Small Mammals	Cadmium	Herbivore	soil-to-biota	28	0.0153	0.1258	1	28	0.4723	-1.2571	0.64	0.0001	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Chromium	General	soil-to-biota	38	0.0314	0.0846	0.8	38	0.7338	-1.4599	0.42	0.0001	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Cobalt	General	soil-to-biota	15	0.0101	0.0205	0.18	15	1.307	-4.4669	0.41	0.01	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Copper	General	soil-to-biota	76	0.0044	0.1963	1.398	76	0.1444	2.042	0.26	0.0001	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Lead	General	soil-to-biota	138	0.0031	0.1054	2.659	138	0.4422	0.0761	0.37	0.0001	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Manganese	General	soil-to-biota	12	0.0114	0.0205	0.079	na	na	na	na	na	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Mercury	General	soil-to-biota	18	0.0183	0.0543	1.046	na	na	na	na	na	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Nickel	General	soil-to-biota	43	0	0.2488	1.143	36	0.4658	-0.2462	0.55	0.0001	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Selenium	General	soil-to-biota	35	0	0.1619	1.754	27	0.3764	-0.4158	0.31	0.0028	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Silver	General	soil-to-biota	10	0	0.004	0.81	na	na	na	na	na	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Vanadium	Herbivore	soil-to-biota	7	0.0083	0.129	0.019	na	na	na	na	na	NA	Sample and others 1998 (see footnote 1)
Small Mammals	Zinc	Herbivore	soil-to-biota	30	0.00511	0.504	16.3636	30	0.0706	4.3632	0.31	0.0013	NA	Sample and others 1998 (see footnote 1)

Notes:

- 1 Regression Formula:  $\ln(\text{tissue concentration}) = Y\text{-intercept} + \text{slope} * (\ln[\text{soil concentration}])$ .
  - 2 A default BAF of 1 will be used for all chemicals not listed above.
- Highlighted data represent recommended bioaccumulation data.  
 BAFs reported in dry weight.

Definitions:

- BAF Bioaccumulation factor  
 $C_m$  Concentration in mammal tissue  
 $C_d$  Concentration in prey tissue  
 $\ln$  Natural log  
 N Number of studies or observations  
 na Not available  
 p Probability

References:

- Baes, C.F., III, R.D. Sharp, A.L. Sjoreen, and R.W. Shor. 1984. "A Review and Analysis of Parameters for Assessing Transport of Environmentally Released Radionuclides through Agriculture". ORNL-5786, Health and Safety Research Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee. 150 pages.
- Sample, B.E., J.J. Beauchamp, R.A. Efroymsen, G.W. Suter II, and T.L. Ashwood. 1998. Development and Validation of Bioaccumulation Models for Small Mammals, ES/ER/TM-219, Oak Ridge National Laboratory, Oak Ridge, TN.

**TABLE 1-15 SUMMARY OF BIOACCUMULATION MODELS FOR SMALL MAMMALS – ORGANIC CHEMICALS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Taxa	Chemical	Trophic Group	Transfer Type	Summary Statistics for BAFs				Parameters for Log-Linear Uptake Model					Eco-SSL BAF	Selected Reference
				N	Minimum	Median	Maximum	N	Slope	Intercept	R-square	p (model)		
Small Mammals	Acenaphthene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Acenaphthylene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Anthracene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Benzo(a)anthracene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Benzo(a)pyrene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Benzo(b)fluoranthene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Benzo(g,h,i)perylene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Benzo(k)fluoranthene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Chrysene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Dibenzo(a,h)anthracene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Fluoranthene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Fluorene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Indeno(1,2,3-cd)pyrene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Naphthalene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Phenanthrene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	Pyrene	na	diet-to-biota	na	na	na	na	na	na	na	na	na	0	EPA 2005
Small Mammals	DDD	na	diet-to-biota	na	na	na	na	na	0.6630	2.3833	0.4810	<0.0001	na	EPA 2005
Small Mammals	DDE	na	diet-to-biota	na	na	na	na	na	0.6410	2.3833	0.4810	na	na	EPA 2005
Small Mammals	DDT	na	diet-to-biota	na	na	na	na	na	0.7254	1.1788	na	na	na	EPA 2005
Small Mammals	Dieldrin	na	diet-to-biota	na	na	na	na	na	0.6076	1.9582	0.5119	<0.0001	na	EPA 2005

Notes:

Regression Formula:  $\ln(\text{tissue concentration}) = Y\text{-intercept} + \text{slope} * (\ln[\text{soil concentration}])$ .  
 Highlighted data represent recommended bioaccumulation data.  
 BAFs reported in dry weight.

Definitions:

- BAF Bioaccumulation factor
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethylene
- DDT Dichlorodiphenyltrichloroethane
- EPA U.S. Environmental Protection Agency
- ln Natural log
- N Number of studies or observations
- na Not available
- p Probability

References:

EPA. 2005. "Guidance for Developing Ecological Soil Screening Levels." February.

**TABLE I-16 DOSE PARAMETERS FOR THE DEER MOUSE (*Peromyscus maniculatus*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Parameter	Average Adult	Units	Reference/Notes
Ingestion Rate <sub>food</sub>	0.003	kg/day	Calculated with body weight of 19.3 grams using the equation for the food requirement for intake of dry matter for rodents (food ingestion rate = $[0.332[BW(\text{grams})]^{0.774}]/1000$ ) (Nagy 2001).
Ingestion Rate <sub>plant</sub>	0.001	kg/day	Based on 40 percent of food ingestion rate.
Ingestion	0.002	kg/day	Based on 60 percent of food ingestion rate.
Ingestion Rate <sub>soil</sub>	0.00008	kg/day	2.4 percent of food ingestion rate from meadow vole (Beyer and others 1994).
Soil Concentrations	Maximum Concentration	mg/kg	Based on conservative use of the maximum concentration of each chemical in soil collected from the site (0-4 feet below ground surface) per EPA Screening Level ERA guidance (1997).
Food Concentrations	Food Chain Model	mg/kg	Food concentrations were estimated using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for plants and invertebrates.
Diet Composition	40%	Plant Tissue	Food will consist of 40 percent plant tissue and 60 percent invertebrate tissue because the deer mouse was selected as a surrogate species for omnivorous mammals.
	60%	Invertebrates	
Site Use Factor	1	Unitless	Based on conservative estimate of 100 percent site use as per EPA Screening Level ERA guidance
Body Weight	0.019	kg	Based on mean adult weight (EPA 1993).

**Notes:**

a Deer mice are omnivorous and highly opportunistic. The deer mouse consumes a wide variety of food items, including seeds, fruits, leaves, fungi, insects, and other animal matter (Zeiner 1990).

**Definitions:**

BAF Bioaccumulation factor  
 BW Body weight  
 EPA U.S. Environmental Protection Agency  
 ERA Ecological risk assessment  
 kg Kilogram  
 kg/day Kilogram per day  
 mg/kg Milligram per kilogram

**References:**

Beyer, W. N., E.E. Connor, and S. Gerould. 1994. "Estimates of Soil Ingestion by Wildlife." *Journal of Wildlife Management*. Volume 58. No. 2. Pages 375-382.

Nagy, K.A. 2001. "Food Requirements of Wild Animals: Predictive Equations for Free-Living Mammals, Reptiles, and Birds." *Nutrition Abstracts and Reviews, Series B. Volume 71. Pages 21R-31R*

EPA. 1993. "Wildlife Exposure Factors Handbook." December.

EPA. 1997. "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final." Environmental Response Team, Edison, New Jersey.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. "California's Wildlife: Volume III, Mammals." CWHR System. State of California, the Resource Agency, CDFG. Sacramento, California.

**TABLE I-17 DOSE PARAMETERS FOR THE CALIFORNIA GROUND SQUIRREL (*Spermophilus beecheyi*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Parameter	Average Adult	Units	Reference/Notes
Ingestion Rate <sub>food</sub>	0.042	kg/day	Calculated with body weight of 516 grams using the equation for the food requirement for intake of dry matter for rodents (food ingestion rate = $[0.332[BW(\text{grams})]^{0.774}]/1000$ ) (Nagy 2001).
Ingestion Rate <sub>plant</sub>	0.042	kg/day	Based on 100 percent of food ingestion rate.
Ingestion Rate <sub>soil</sub>	0.001	kg/day	2.4 percent of food ingestion rate based on the meadow vole from EPA (1993).
Soil Concentrations	Maximum Concentration	mg/kg	Based on conservative use of the maximum concentration of each chemical in soil collected from the site (0-4 feet below ground surface) per EPA Screening Level ERA guidance (1997).
Food Concentrations	Food Chain Model	mg/kg	Food concentrations were estimated using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for plants.
Diet Composition <sup>a</sup>	100%	Plant Tissue	Food will consist of 100 percent plant tissue because the California ground squirrel was selected as representative species for herbivorous mammals.
Site Use Factor	1	Unitless	Based on conservative estimate of 100 percent site use as per EPA Screening Level ERA
Body Weight	0.52	kg	Lowest mean weight for adults from Cal/EPA 2003.

Notes:

a The California ground squirrel eats seeds, nuts, fruits, bulbs, fungi, and stems and leaves of greasses and forbs. They also eat some insects, bird eggs, and carrion. (DFG 2005).

Definitions:

BAF Bioaccumulation factor  
 BW Body weight  
 CDFG California Department of Fish and Game  
 DTSC Department of Toxic Substances Control  
 EPA U.S. Environmental Protection Agency  
 ERA Ecological risk assessment  
 kg Kilogram  
 kg/day Kilogram per day  
 mg/kg Milligram per kilogram

References:

CDFG. 2005. California Interagency Wildlife Task Group. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.  
 DTSC. 2003. California Wildlife Exposure Factor and Toxicity Database. Office of Environmental Health and Hazard Assessment. Ecotoxicology Unit. Sacramento, California. [www.oehha.org/cal\\_ecotox/default.htm](http://www.oehha.org/cal_ecotox/default.htm)  
 Nagy, K.A. 2001. "Food requirements of wild animals: predictive equations for free-living mammals, reptiles, and birds." Nutrition Abstracts and Reviews, Series B. Volume 71. Number 10. Pages 2R-12R.  
 EPA. 1993. "Wildlife Exposure Factors Handbook." December.  
 EPA. 1997. "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final." Environmental Response Team, Edison, New Jersey.

**TABLE I-18: DOSE PARAMETERS FOR THE ALAMEDA SONG SPARROW (*Melospiza melodia pusilla*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Parameter	Average Adult	Units	Reference/Notes
Ingestion Rate <sub>food</sub>	0.01	kg/day	Calculated with body weight of 25 grams using the equation for the food requirement for dry matter intake for passerines (food ingestion rate = $[0.630(BW[\text{grams}])^{0.683}]/1000$ ) (Nagy 2001).
Ingestion Rate <sub>plant</sub>	0.0028	kg/day	Based on 50 percent of food ingestion rate.
Ingestion Rate <sub>invertebrate</sub>	0.0028	kg/day	Based on 50 percent of food ingestion rate.
Ingestion Rate <sub>soil</sub>	0.0005	kg/day	8 percent of food ingestion rate for sparrows (dry weight), from Williams (1987).
Soil Concentrations	Maximum	mg/kg	Based on conservative use of the maximum concentration of each chemical in soil collected from the site (0-4 feet below ground surface) per EPA Screening Level ERA guidance (1997).
Food Concentrations	Food Chain Model	mg/kg	Food concentrations were estimated using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for plants and invertebrates.
Diet Composition <sup>a</sup>	50%	Plant Tissue	Food will consist of 50 percent plant tissue and 50 percent invertebrate tissue because the Alameda song sparrow was selected as a surrogate species for omnivorous birds.
	50%	Invertebrates	
Site Use Factor	1.00	Unitless	Based on conservative estimate of 100 percent site use as per EPA Screening Level ERA guidance (1997).
Body Weight	0.025	kg	Based on average of adult and juvenile male and female Song Sparrows at Mandarte Island, Canada, from Smith and others (1986), as cited in EPA 2003. No statistical differences in body weight were observed between hatching years or yearling and adult birds.

Notes:

- a Seeds are the most important foods in the annual diet of the Song Sparrow; however, during the nesting season, insects, spiders, and other small invertebrates make up almost half of the diet (Martin and others 1961, as cited in Zeiner and others 1990).

Definitions:

BAF	Bioaccumulation factor
BW	Body weight
EPA	U.S. Environmental Protection Agency
ERA	Ecological risk assessment
kg	Kilogram
kg/day	Kilogram per day
mg/kg	Milligram per kilogram
NA	Not applicable

**TABLE I-18: DOSE PARAMETERS FOR THE ALAMEDA SONG SPARROW (*Melospiza melodia pusilla*)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

References:

EPA. 1993. "Wildlife Exposure Factors Handbook." December. 1993

EPA. 1997. "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final."  
Environmental Response Team, Edison, New Jersey.

EPA. 2003. "Guidance for Developing Ecological Soil Screening Levels." November. Revised February 2005

Nagy, K.A. 2001. "Food requirements of wild animals: predictive equations for free-living mammals, reptiles, and birds." Nutrition Abstracts and Reviews, Series B.  
Volume 71. Number 10. Pages 2R-12R.

Williams, J.B. 1987. "Field Metabolism and Food Consumption of Savannah Sparrows During the Breeding Season." *The Auk*. Volume 104. Pages 277-289.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. "California's Wildlife: Volume II, Birds." CWHR System. State of California, the Resource Agency, CDFG.  
Sacramento, California.

**TABLE I-19 DOSE PARAMETERS FOR THE AMERICAN ROBIN (*Turdus migratorius*)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Parameter	Average Adult	Units	Reference/Notes
Ingestion Rate <sub>food</sub>	0.012	kg/day	Calculated with body weight of 77.3 grams using the equation for the food requirement for intake of dry matter for passerines (food ingestion rate = $[0.630[BW(\text{grams})]^0.683]/1000$ ) (Nagy 2001).
Ingestion Rate <sub>plant</sub>	0.003	kg/day	Based on 25 percent of food ingestion rate.
Ingestion	0.009	kg/day	Based on 75 percent of food ingestion rate.
Ingestion Rate <sub>soil</sub>	0.001	kg/day	10% of total ingestion based on the turkey and woodcock (Beyer and others 1994).
Soil Concentrations	Maximum	mg/kg	Based on conservative use of the maximum concentration of each chemical in soil collected from the site (0-4 feet below ground surface) per EPA Screening Level ERA guidance (1997).
Food Concentrations	Food Chain Model	mg/kg	Food concentrations were estimated using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for plants and invertebrates.
Diet Composition <sup>a</sup>	25% 75%	Plant Tissue Invertebrates	Food will consist of 25 percent plant tissue and 75 percent invertebrate tissue because the American robin was selected as a surrogate species for omnivorous birds.
Site Use Factor	1	Unitless	Based on conservative estimate of 100 percent site use as per EPA Screening Level ERA guidance
Body Weight	0.08	kg	Mean body weight of adults throughout the United States (Clench and Leberman 1978 as cited in EPA

Notes:

a Animal matter predominates in the American robin's breeding season diet while in the nonbreeding season robins eat more berries and other fruits, seeds, seedlings and sprouts (Bent 1949 and Martin and others 1961, both as cited in Zeiner and others 1990).

Definitions:

BAF Bioaccumulation factor  
 BW Body weight  
 EPA U.S. Environmental Protection Agency  
 ERA Ecological risk assessment  
 kg Kilogram  
 kg/day Kilogram per day  
 mg/kg Milligram per kilogram

References:

Beyer, W. N., E.E. Connor, and S. Gerould. 1994. "Estimates of Soil Ingestion by Wildlife." *Journal of Wildlife Management*. Volume 58(2). Pages 375-382.  
 EPA. 1993. "Wildlife Exposure Factors Handbook." December. 1993  
 EPA. 1997. "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final." Environmental Response Team, Edison, New Jersey.  
 Nagy, K.A. 2001. "Food requirements of wild animals: predictive equations for free-living mammals, reptiles, and birds." *Nutrition Abstracts and Reviews, Series B*. Volume 71, No. 6. Pages 2-R  
 Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. "California's Wildlife: Volume II, Birds." CWHR System. State of California, the Resource Agency, CDFG. Sacramento, California.

**TABLE I-20 DOSE PARAMETERS FOR THE RED-TAILED HAWK (*Buteo jamaicensis*)**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Parameter	Average Adult	Units	Reference/Notes
Ingestion Rate <sub>food</sub>	0.08	kg/day	Calculated with body weight of 957 grams using the equation for the food requirement for intake of dry matter for carnivorous birds (food ingestion rate = $[0.849[BW(\text{grams})]^{0.663}]/1000$ ) (Nagy 2001).
Ingestion Rate <sub>mammal</sub>	0.08	kg/day	Based on 100 percent food ingestion rate.
Ingestion Rate <sub>soil</sub>	0.0006	kg/day	0.7 percent of total ingestion rate, based on the bald eagle (Pascoe and others 1996).
Soil Concentrations	Maximum Concentration	mg/kg	Based on conservative use of the maximum concentration of each chemical in soil collected from the site (0-4 feet below ground surface) per EPA Screening Level ERA guidance (1997).
Food Concentrations	Food Chain Model	mg/kg	Food concentrations were estimated using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for small mammals.
Diet Composition <sup>a</sup>	100%	Small Mammals	Food will consist of 100 percent small mammal tissue because the red-tailed hawk was selected as representative species for carnivorous birds.
Site Use Factor	1	Unitless	Based on conservative estimate of 100 percent site use as per EPA screening-level ERA guidance
Body Weight	0.96	kg	Average of adult males throughout the United States (Steenhof 1983, as cited in EPA 1993).

Notes:

a Red-tailed hawks are swooping, pouncing carnivores with a diet that consists of small mammals, insects, earthworms, reptiles, and amphibians (Ehrlich and others 1988; Zeiner and others 1990).

Definitions:

BAF Bioaccumulation factor  
 BW Body weight  
 EPA U.S. Environmental Protection Agency  
 ERA Ecological risk assessment  
 kg Kilogram  
 kg/day Kilogram per day  
 mg/kg Milligram per kilogram  
 NA Not applicable

References:

Ehrlich, P.R., D.S. Doobkin, and D. Wheye. 1988. *The Birder's Handbook, A Field Guide to the Natural History of North American Birds*. Simon and Schuster, Inc. New York., New York.  
 Nagy, K.A. 2001. "Food requirements of wild animals: predictive equations for free-living mammals, reptiles, and birds." *Nutrition Abstracts and Reviews, Series B. Volume 71, No. 6. Pages 2-R*  
 Pascoe, G.A., R.J. Blanchet, and G. Linder. 1996. "Food-Chain Analysis of Exposures and Risks to Wildlife at a Metals-Contaminated Wetland." *Archives of Environmental Contamination and Toxicology. Vol. 30. Pages 306-318.*  
 EPA. 1993. "Wildlife Exposure Factors Handbook." December. 1993  
 EPA. 1997. "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final." Environmental Response Team, Edison, New Jersey.  
 Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. "California's Wildlife: Volume II, Birds." CWHR System. State of California, the Resource Agency, CDFG. Sacramento, California.

**TABLE I-21: HQS FOR MAMMALS AND BIRDS (STEP 2)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>ALUMINUM</b>					
Dose/High TRV	18.14	2.36	4.49	0.82	0.05
Dose/Low TRV	181	23.60	44.92	8.18	0.47
<b>ANTIMONY</b>					
Dose/High TRV	1.52	0.02	No TRV	No TRV	No TRV
Dose/Low TRV	15.15	0.21	No TRV	No TRV	No TRV
<b>ARSENIC</b>					
Dose/High TRV	0.46	0.06	0.34	0.23	0.005
Dose/Low TRV	8.39	1.09	1.37	0.92	0.02
<b>BARIUM</b>					
Dose/High TRV	0.43	0.12	0.30	0.17	0.002
Dose/Low TRV	1.75	0.48	0.61	0.35	0.005
<b>BERYLLIUM</b>					
Dose/High TRV	0.01	0.005	No TRV	No TRV	No TRV
Dose/Low TRV	0.09	0.05	No TRV	No TRV	No TRV
<b>CADMIUM</b>					
Dose/High TRV	7.60	0.09	2.57	2.10	0.01
Dose/Low TRV	336	3.95	526	430	2.08
<b>CHROMIUM</b>					
Dose/High TRV	0.001	0.0001	13.85	10.35	0.49
Dose/Low TRV	0.01	0.001	69.24	51.77	2.45
<b>COBALT</b>					
Dose/High TRV	0.03	0.001	0.02	0.01	0.001
Dose/Low TRV	0.52	0.01	0.15	0.11	0.01
<b>COPPER</b>					
Dose/High TRV	0.03	0.001	0.72	0.54	0.03
Dose/Low TRV	6.37	0.30	17.82	13.46	0.64

**TABLE I-21: HQS FOR MAMMALS AND BIRDS (STEP 2)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>IRON</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>LEAD</b>					
Dose/High TRV	1.42	0.02	153	115	2.18
Dose/Low TRV	552	7.43	61019	45813	867
<b>MANGANESE</b>					
Dose/High TRV	0.13	0.03	0.08	0.05	0.003
Dose/Low TRV	1.50	0.36	0.82	0.49	0.03
<b>MERCURY</b>					
Dose/High TRV	0.20	0.02	6.31	4.29	0.05
Dose/Low TRV	2.66	0.33	29.11	19.82	0.25
<b>MOLYBDENUM</b>					
Dose/High TRV	0.51	0.24	0.13	0.05	0.04
Dose/Low TRV	5.05	2.42	1.32	0.52	0.36
<b>NICKEL</b>					
Dose/High TRV	0.74	0.01	0.59	0.47	0.01
Dose/Low TRV	175	2.19	23.82	19.16	0.46
<b>SELENIUM</b>					
Dose/High TRV	0.13	0.02	0.45	0.29	0.06
Dose/Low TRV	4.55	0.75	1.83	1.17	0.26
<b>SILVER</b>					
Dose/High TRV	0.11	0.0004	0.23	0.19	0.0004
Dose/Low TRV	1.15	0.004	2.28	1.88	0.004
<b>THALLIUM</b>					
Dose/High TRV	0.54	0.13	No TRV	No TRV	No TRV
Dose/Low TRV	1.62	0.39	No TRV	No TRV	No TRV

**TABLE I-21: HQS FOR MAMMALS AND BIRDS (STEP 2)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>VANADIUM</b>					
Dose/High TRV	0.91	0.03	0.06	0.04	0.01
Dose/Low TRV	<b>9.06</b>	0.29	0.58	0.41	0.14
<b>ZINC</b>					
Dose/High TRV	0.45	0.04	<b>1.93</b>	<b>1.37</b>	0.07
Dose/Low TRV	<b>12.98</b>	<b>1.25</b>	<b>19.31</b>	<b>13.70</b>	0.69
<b>2,4-DIMETHYLPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>2-METHYLPHENOL</b>					
Dose/High TRV	0.0002	0.00001	No TRV	No TRV	No TRV
Dose/Low TRV	0.002	0.0001	No TRV	No TRV	No TRV
<b>4-METHYLPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>4-NITROANILINE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>4-NITROPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>					
Dose/High TRV	0.22	0.0002	<b>5.28</b>	<b>4.41</b>	0.07
Dose/Low TRV	<b>2.15</b>	0.002	<b>52.81</b>	<b>44.08</b>	0.75
<b>BUTYLBENZYLPHTHALATE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV

**TABLE I-21: HQS FOR MAMMALS AND BIRDS (STEP 2)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>DIBENZOFURAN</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DIMETHYLPHTHALATE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DI-N-BUTYLPHTHALATE</b>					
Dose/High TRV	0.004	0.00000	10.31	8.61	0.12
Dose/Low TRV	0.01	0.00001	103.11	86.11	1.23
<b>ISOPHORONE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>PHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>2-METHYLNAPHTHALENE</b>					
Dose/High TRV	0.16	0.0005	No TRV	No TRV	No TRV
Dose/Low TRV	0.47	0.001	No TRV	No TRV	No TRV
<b>ACENAPHTHENE</b>					
Dose/High TRV	0.02	0.00001	No TRV	No TRV	No TRV
Dose/Low TRV	0.06	0.00003	No TRV	No TRV	No TRV
<b>ACENAPHTHYLENE</b>					
Dose/High TRV	0.01	0.004	No TRV	No TRV	No TRV
Dose/Low TRV	0.04	0.01	No TRV	No TRV	No TRV
<b>ANTHRACENE</b>					
Dose/High TRV	0.01	0.0004	No TRV	No TRV	No TRV
Dose/Low TRV	0.02	0.001	No TRV	No TRV	No TRV

**TABLE I-21: HQS FOR MAMMALS AND BIRDS (STEP 2)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>BENZO(a)ANTHRACENE</b>					
Dose/High TRV	0.08	0.0005	No TRV	No TRV	No TRV
Dose/Low TRV	1.97	0.01	No TRV	No TRV	No TRV
<b>BENZO(a)PYRENE</b>					
Dose/High TRV	0.02	0.001	No TRV	No TRV	No TRV
Dose/Low TRV	0.57	0.02	No TRV	No TRV	No TRV
<b>BENZO(b)FLUORANTHENE</b>					
Dose/High TRV	0.07	0.003	No TRV	No TRV	No TRV
Dose/Low TRV	1.85	0.08	No TRV	No TRV	No TRV
<b>BENZO(g,h,i)PERYLENE</b>					
Dose/High TRV	0.02	0.001	No TRV	No TRV	No TRV
Dose/Low TRV	0.59	0.03	No TRV	No TRV	No TRV
<b>BENZO(k)FLUORANTHENE</b>					
Dose/High TRV	0.08	0.001	No TRV	No TRV	No TRV
Dose/Low TRV	2.12	0.03	No TRV	No TRV	No TRV
<b>CHRYSENE</b>					
Dose/High TRV	0.13	0.001	No TRV	No TRV	No TRV
Dose/Low TRV	3.20	0.01	No TRV	No TRV	No TRV
<b>DIBENZO(a,h)ANTHRACENE</b>					
Dose/High TRV	0.01	0.0002	No TRV	No TRV	No TRV
Dose/Low TRV	0.27	0.01	No TRV	No TRV	No TRV
<b>FLUORANTHENE</b>					
Dose/High TRV	0.86	0.05	No TRV	No TRV	No TRV
Dose/Low TRV	21.56	1.30	No TRV	No TRV	No TRV
<b>FLUORENE</b>					
Dose/High TRV	0.09	0.00001	No TRV	No TRV	No TRV
Dose/Low TRV	0.26	0.00002	No TRV	No TRV	No TRV

**TABLE I-21: HQS FOR MAMMALS AND BIRDS (STEP 2)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>INDENO(1,2,3-cd)PYRENE</b>					
Dose/High TRV	0.02	0.0004	No TRV	No TRV	No TRV
Dose/Low TRV	0.61	0.01	No TRV	No TRV	No TRV
<b>NAPHTHALENE</b>					
Dose/High TRV	0.0001	0.00003	No TRV	No TRV	No TRV
Dose/Low TRV	0.000	0.0001	No TRV	No TRV	No TRV
<b>PHENANTHRENE</b>					
Dose/High TRV	0.09	0.004	No TRV	No TRV	No TRV
Dose/Low TRV	0.26	0.01	No TRV	No TRV	No TRV
<b>PYRENE</b>					
Dose/High TRV	0.42	0.01	No TRV	No TRV	No TRV
Dose/Low TRV	<b>10.60</b>	0.14	No TRV	No TRV	No TRV
<b>4,4'-DDD</b>					
Dose/High TRV	0.0003	0.000002	0.005	0.004	0.01
Dose/Low TRV	0.01	0.00005	<b>1.02</b>	0.84	<b>1.52</b>
<b>4,4'-DDE</b>					
Dose/High TRV	0.10	0.0003	<b>3.56</b>	<b>2.96</b>	<b>1.23</b>
Dose/Low TRV	<b>1.99</b>	0.01	<b>304.50</b>	<b>253.10</b>	<b>105.36</b>
<b>4,4'-DDT</b>					
Dose/High TRV	0.05	0.0002	0.71	0.59	0.11
Dose/Low TRV	0.98	0.004	<b>151.33</b>	<b>125.41</b>	<b>22.78</b>
<b>ALDRIN</b>					
Dose/High TRV	0.06	0.0005	0.11	0.09	0.001
Dose/Low TRV	<b>5.56</b>	0.05	<b>1.14</b>	0.94	0.01
<b>ALPHA-BHC</b>					
Dose/High TRV	0.03	0.0001	0.002	0.001	0.00002
Dose/Low TRV	0.35	0.001	0.01	0.01	0.0001

**TABLE I-21: HQS FOR MAMMALS AND BIRDS (STEP 2)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>ALPHA-CHLORDANE</b>					
Dose/High TRV	0.02	0.00001	0.02	0.02	0.0002
Dose/Low TRV	0.04	0.00001	0.10	0.08	0.001
<b>BETA-BHC</b>					
Dose/High TRV	0.01	0.00001	0.005	0.004	0.0001
Dose/Low TRV	0.03	0.0001	0.02	0.02	0.0002
<b>DELTA-BHC</b>					
Dose/High TRV	0.41	0.005	0.02	0.02	0.0002
Dose/Low TRV	<b>4.07</b>	0.05	0.07	0.06	0.001
<b>DIELDRIN</b>					
Dose/High TRV	<b>4.98</b>	0.08	<b>1.48</b>	1.21	0.44
Dose/Low TRV	<b>49.75</b>	0.77	<b>14.80</b>	<b>12.05</b>	<b>4.40</b>
<b>ENDOSULFAN I</b>					
Dose/High TRV	0.08	0.0004	0.001	0.001	0.00002
Dose/Low TRV	0.82	0.004	0.01	0.01	0.0002
<b>ENDOSULFAN II</b>					
Dose/High TRV	0.18	0.001	0.003	0.002	0.00004
Dose/Low TRV	<b>1.78</b>	0.01	0.03	0.02	0.0004
<b>ENDOSULFAN SULFATE</b>					
Dose/High TRV	0.15	0.001	0.003	0.002	0.00003
Dose/Low TRV	<b>1.53</b>	0.01	0.03	0.02	0.0003
<b>ENDRIN KETONE</b>					
Dose/High TRV	0.04	0.00004	<b>3.87</b>	0.44	0.01
Dose/Low TRV	0.37	0.0004	<b>38.71</b>	<b>4.37</b>	0.06
<b>ENDRIN ALDEHYDE</b>					
Dose/High TRV	0.28	0.0003	0.52	<b>3.23</b>	0.04
Dose/Low TRV	<b>2.77</b>	0.003	<b>5.23</b>	<b>32.31</b>	0.45

**TABLE I-21: HQS FOR MAMMALS AND BIRDS (STEP 2)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>GAMMA-BHC (LINDANE)</b>					
Dose/High TRV	0.002	0.00001	0.001	0.001	0.00001
Dose/Low TRV	0.25	0.001	0.01	0.01	0.0001
<b>GAMMA-CHLORDANE</b>					
Dose/High TRV	0.06	0.00002	0.06	0.05	0.001
Dose/Low TRV	0.12	0.00004	0.31	0.26	0.003
<b>HEPTACHLOR</b>					
Dose/High TRV	0.01	0.00001	0.003	0.002	0.00003
Dose/Low TRV	0.24	0.0004	0.01	0.01	0.0002
<b>HEPTACHLOR EPOXIDE</b>					
Dose/High TRV	0.08	0.00003	0.04	0.04	0.001
Dose/Low TRV	3.67	0.001	0.22	0.18	0.003
<b>METHOXYCHLOR</b>					
Dose/High TRV	0.01	0.00002	No TRV	No TRV	No TRV
Dose/Low TRV	0.27	0.0004	No TRV	No TRV	No TRV
<b>TECHNICAL CHLORDANE</b>					
Dose/High TRV	0.23	0.0004	0.25	0.21	0.003
Dose/Low TRV	0.47	0.001	1.24	1.04	0.01
<b>AROCLOR-1248</b>					
Dose/High TRV	119.89	0.03	8.09	6.76	0.09
Dose/Low TRV	1,198.95	0.27	97.95	81.87	1.09
<b>AROCLOR-1254</b>					
Dose/High TRV	50.76	0.01	47.77	39.93	0.52
Dose/Low TRV	507.63	0.09	4,776.77	3,993.05	52.16

**TABLE I-21: HQS FOR MAMMALS AND BIRDS (STEP 2)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>AROCLOR-1260</b>					
Dose/High TRV	<b>27.79</b>	0.002	<b>70.43</b>	<b>58.89</b>	0.73
Dose/Low TRV	<b>96.78</b>	0.01	<b>853.23</b>	<b>713.42</b>	<b>8.80</b>
<b>AROCLOR-1268</b>					
Dose/High TRV	0.86	0.00005	<b>2.18</b>	<b>1.82</b>	0.02
Dose/Low TRV	<b>2.99</b>	0.0002	<b>26.39</b>	<b>22.06</b>	0.27

Notes: **Bold values indicate HQ greater than 1.**

- BHC Benzene hexachloride
- COPEC Chemical of potential ecological concern
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethylene
- DDT Dichlorodiphenyltrichloroethane
- HQ Hazard quotient
- TRV Toxicity reference value

**TABLE I-22: HQS FOR MAMMALS AND BIRDS (STEP 3A)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>ALUMINUM</b>					
Dose/High TRV	4.44	0.58	0.28	0.20	NA
Dose/Low TRV	44.37	5.77	2.78	2.00	NA
<b>ANTIMONY</b>					
Dose/High TRV	0.26	NA	No TRV	No TRV	No TRV
Dose/Low TRV	2.59	NA	No TRV	No TRV	No TRV
<b>ARSENIC</b>					
Dose/High TRV	0.06	0.005	0.03	NA	NA
Dose/Low TRV	1.02	0.09	0.14	NA	NA
<b>BARIUM</b>					
Dose/High TRV	0.15	NA	NA	NA	NA
Dose/Low TRV	0.61	NA	NA	NA	NA
<b>CADMIUM</b>					
Dose/High TRV	2.03	0.04	0.69	0.56	0.00001
Dose/Low TRV	89.88	1.58	140.22	113.60	0.003
<b>CHROMIUM</b>					
Dose/High TRV	NA	NA	2.52	1.88	0.0004
Dose/Low TRV	NA	NA	12.59	9.41	0.002
<b>COPPER</b>					
Dose/High TRV	0.01	NA	0.19	0.13	NA
Dose/Low TRV	1.66	NA	4.75	3.34	NA
<b>IRON</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>LEAD</b>					
Dose/High TRV	0.23	0.004	21.58	16.37	0.001
Dose/Low TRV	88.27	1.71	8593.06	6519.68	0.59

**TABLE I-22: HQS FOR MAMMALS AND BIRDS (STEP 3A)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>MANGANESE</b>					
Dose/High TRV	0.04	NA	NA	NA	NA
Dose/Low TRV	0.42	NA	NA	NA	NA
<b>MOLYBDENUM</b>					
Dose/High TRV	0.12	0.04	0.03	NA	NA
Dose/Low TRV	1.19	0.38	0.28	NA	NA
<b>NICKEL</b>					
Dose/High TRV	0.24	0.004	0.19	0.15	NA
Dose/Low TRV	56.11	0.92	7.66	6.13	NA
<b>SELENIUM</b>					
Dose/High TRV	0.04	NA	0.14	0.10	NA
Dose/Low TRV	1.49	NA	0.57	0.40	NA
<b>THALLIUM</b>					
Dose/High TRV	0.07	NA	No TRV	No TRV	No TRV
Dose/Low TRV	0.22	NA	No TRV	No TRV	No TRV
<b>VANADIUM</b>					
Dose/High TRV	0.23	NA	NA	NA	NA
Dose/Low TRV	2.35	NA	NA	NA	NA
<b>ZINC</b>					
Dose/High TRV	0.26	0.02	1.02	0.75	NA
Dose/Low TRV	7.50	0.56	10.23	7.54	NA
<b>2,4-DIMETHYLPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>2-METHYLPHENOL</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV

**TABLE I-22: HQS FOR MAMMALS AND BIRDS (STEP 3A)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>4-METHYLPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>4-NITROANILINE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>4-NITROPHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>					
Dose/High TRV	0.08	NA	2.00	1.67	NA
Dose/Low TRV	0.81	NA	19.99	16.69	NA
<b>BUTYLBENZYLPHTHALATE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DIBENZOFURAN</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DIMETHYLPHTHALATE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>DI-N-BUTYLPHTHALATE</b>					
Dose/High TRV	NA	NA	10.31	8.61	0.0004
Dose/Low TRV	NA	NA	103.11	86.11	0.004
<b>ISOPHORONE</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV

**TABLE I-22: HQS FOR MAMMALS AND BIRDS (STEP 3A)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>PHENOL</b>					
Dose/High TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Dose/Low TRV	No TRV	No TRV	No TRV	No TRV	No TRV
<b>2-METHYLNAPHTHALENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>ACENAPHTHENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>ACENAPHTHYLENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>ANTHRACENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>BENZO(a)ANTHRACENE</b>					
Dose/High TRV	0.02	NA	No TRV	No TRV	No TRV
Dose/Low TRV	0.60	NA	No TRV	No TRV	No TRV
<b>BENZO(a)PYRENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>BENZO(b)FLUORANTHENE</b>					
Dose/High TRV	0.02	NA	No TRV	No TRV	No TRV
Dose/Low TRV	0.58	NA	No TRV	No TRV	No TRV
<b>BENZO(g,h,i)PERYLENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV

**TABLE I-22: HQS FOR MAMMALS AND BIRDS (STEP 3A)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
<b>BENZO(k)FLUORANTHENE</b>					
Dose/High TRV	0.03	NA	No TRV	No TRV	No TRV
Dose/Low TRV	0.65	NA	No TRV	No TRV	No TRV
<b>CHRYSENE</b>					
Dose/High TRV	0.04	NA	No TRV	No TRV	No TRV
Dose/Low TRV	0.96	NA	No TRV	No TRV	No TRV
<b>DIBENZO(a,h)ANTHRACENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>FLUORANTHENE</b>					
Dose/High TRV	0.26	0.02	No TRV	No TRV	No TRV
Dose/Low TRV	<b>6.48</b>	0.39	No TRV	No TRV	No TRV
<b>FLUORENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>INDENO(1,2,3-cd)PYRENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>NAPHTHALENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>PHENANTHRENE</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>PYRENE</b>					
Dose/High TRV	0.13	NA	No TRV	No TRV	No TRV
Dose/Low TRV	<b>3.17</b>	NA	No TRV	No TRV	No TRV
<b>4,4'-DDE</b>					
Dose/High TRV	0.02	NA	0.81	0.67	0.001

**TABLE I-22: HQS FOR MAMMALS AND BIRDS (STEP 3A)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
Dose/Low TRV	0.45	NA	69.19	57.46	0.11
<b>4,4'-DDT</b>					
Dose/High TRV	NA	NA	0.08	0.07	0.0001
Dose/Low TRV	NA	NA	17.61	14.57	0.01
<b>METHOXYCHLOR</b>					
Dose/High TRV	NA	NA	No TRV	No TRV	No TRV
Dose/Low TRV	NA	NA	No TRV	No TRV	No TRV
<b>AROCLOR-1254</b>					
Dose/High TRV	1.85	NA	1.74	1.46	0.0001
Dose/Low TRV	18.51	NA	174.13	145.56	0.01
<b>AROCLOR-1260</b>					
Dose/High TRV	1.40	NA	3.54	2.96	0.0001
Dose/Low TRV	4.87	NA	42.93	35.89	0.001
<b>AROCLOR-1268</b>					
Dose/High TRV	0.08	NA	0.20	0.16	NA
Dose/Low TRV	0.27	NA	2.37	1.98	NA

**TABLE I-22: HQS FOR MAMMALS AND BIRDS (STEP 3A)**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Deer Mouse	California Ground Squirrel	Alameda Song Sparrow	American Robin	Red-tailed Hawk
-------	------------	----------------------------	----------------------	----------------	-----------------

Notes:

Bold values indicate hazard quotient greater than 1.

- BHC Benzene hexachloride
- COPEC Chemical of potential ecological concern
- DDD Dichlorodiphenyldichloroethane
- DDE Dichlorodiphenyldichloroethylene
- DDT Dichlorodiphenyltrichloroethane
- NA Not applicable
- TRV Toxicity reference value

**TABLE I-23: RESULTS OF GROUNDWATER SCREENING**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Screening Result and Rationale					
	Retained for Further Evaluation?	Above Criteria	Below Criteria	No Criteria	Essential Nutrient	Frequency of Detection < 5%
<b>Metals</b>						
Aluminum	YES			X		
Antimony	No		X			
Arsenic	YES	X				
Barium	No		X			
Beryllium	No		X			
Cadmium	No		X			
Calcium	No			X	E	
Chromium	No		X			
Cobalt	YES	X				
Copper	YES	X				
Iron	No			X	E	
Lead	No		X			
Magnesium	YES			X		
Manganese	YES			X		
Mercury	YES	X				X
Molybdenum	No		X			
Nickel	YES	X				
Potassium	No			X	E	
Selenium	No		X			
Silver	No		X			
Sodium	No			X	E	
Thallium	No		X			
Vanadium	No		X			
Zinc	YES	X				
<b>VOCs</b>						
1,1-Dichloroethane	No		X			
1,2,4-Trimethylbenzene	YES			X		
1,2-Dichlorobenzene	No		X			

**TABLE I-23: RESULTS OF GROUNDWATER SCREENING**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Screening Result and Rationale					Frequency of Detection < 5%
	Retained for Further Evaluation?	Above Criteria	Below Criteria	No Criteria	Essential Nutrient	
<b>VOCs (continued)</b>						
1,2-Dichloroethane	No		X			
1,2-Dichloropropane	No		X			
1,3,5-Trimethylbenzene	YES			X		X
1,4-Dichlorobenzene	No		X			
2-Hexanone	YES			X		
4-Methyl-2-pentanone	YES			X		X
Benzene	No		X			
Bromoform	No		X			
Carbon disulfide	YES			X		
Chloroform	No		X			X
Chloromethane	No		X			X
Ethylbenzene	No		X			
Isopropylbenzene	YES			X		X
Naphthalene	No		X			
Tert-Butylbenzene	YES			X		X
Toluene	No		X			
Trichloroethene	No		X			
Vinyl chloride	No		X			X
Xylene (Total)	No		X			
cis-1,2-Dichloroethene	No		X			
m,p-Xylene	No		X			
n-Butylbenzene	YES			X		X
n-Propylbenzene	YES			X		
p-Isopropyltoluene	YES			X		X
sec-Butylbenzene	YES			X		
trans-1,2-Dichloroethene	YES			X		

**TABLE I-23: RESULTS OF GROUNDWATER SCREENING**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Screening Result and Rationale					
	Retained for Further Evaluation?	Above Criteria	Below Criteria	No Criteria	Essential Nutrient	Frequency of Detection < 5%
<b>SVOCs</b>						
Acenaphthene	No		X			
Phenol	No		X			
bis(2-ethylhexyl)phthalate	No		X			X
<b>Polycyclic Aromatic Hydrocarbons</b>						
2-Methylnaphthalene	No		X			
Acenaphthene	No		X			
Acenaphthylene	No		X			
Anthracene	No		X			
Benzo(a)anthracene	YES	X				X
Benzo(a)pyrene	YES	X				X
Benzo(b)fluoranthene	YES	X				X
Benzo(g,h,i)perylene	No					X
Benzo(k)fluoranthene	No					X
Chrysene	YES	X				X
Dibenzo(a,h)anthracene	No		X			X
Fluoranthene	No		X			
Fluorene	No		X			
Indeno(1,2,3-cd)pyrene	YES	X				X
Naphthalene	No		X			
Phenanthrene	No		X			
Pyrene	No		X			
<i>Total PAH's (Calculated)</i>	No		X			
<b>Pesticides</b>						
4,4'-DDD	No		X			
4,4'-DDE	YES	X				
<i>Total DDT and metabolites (calculated)</i>			X			
Aldrin	YES	X				

**TABLE I-23: RESULTS OF GROUNDWATER SCREENING**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical	Screening Result and Rationale					
	Retained for Further Evaluation?	Above Criteria	Below Criteria	No Criteria	Essential Nutrient	Frequency of Detection < 5%
<b>Pesticides (continued)</b>						
alpha-BHC	YES			X		
alpha-Chlordane	YES	X				
Beta-BHC	YES			X		X
Dieldrin	No		X			X
Endosulfan I	No		X			
Endosulfan II	No		X			X
Endrin	No		X			
Endrin aldehyde	YES	X				
gamma-BHC (Lindane)	No		X			
gamma-Chlordane	No		X			X
Heptachlor Epoxide	YES	X				
Methoxychlor	No		X			
<b>Total Petroleum Hydrocarbons</b>						
Diesel Range	No		X			
Gasoline Range	No		X			
Motor Oil Range	No		X			

Notes:

BHC	Benzene hexachloride
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
PAH	Polyaromatic hydrocarbons
SVOC	Semi-volatile organic compounds
VOC	Volatile organic compounds



**TABLE I-24: FINAL RISK DRIVER DETERMINATION FOR GROUNDWATER**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical Name	Identified as Risk Driver	Rationale
<b>Metals</b>		
Aluminum	No	EPC below 1988 NAWQC
Arsenic	No	EPC driven by outlier. Second highest concentration is below screening level. EPC is slightly above comparison value.
Copper	No	Attributed to background
Cobalt	No	Highest detections within the SWBZ. Likely that a minimum dilution/attenuation factor of 10 will occur between the point of measurement and the ultimate discharge into the Oakland Inner Harbor, if such a discharge exists.
Magnesium	No	Naturally occurring in sea water
Manganese	No	Naturally occurring in sea water
Mercury	No	Low frequency of detection. One estimated detection from a direct-push boring.
Nickel	Yes	High detection frequency. EPC exceeds comparison value.
Zinc	Yes	High detection frequency. EPC exceeds comparison value.
<b>Volatile Organic Compounds</b>		
1,2,4-Trimethylbenzene	No	Low detection frequency. Detection below reporting level. Low concentration.
1,3,5-Trimethylbenzene	No	Low detection frequency. Detection below reporting level. Low concentration.
2-Hexanone	No	Only 1 detection, detection below ORNL Ecological comparison value.
4-Methyl-2-pentanone	No	Only 1 detection; detection below EPA Region 5 RCRA Ecological Screening Level
Carbon disulfide	No	21 detections, all below the EPA Region 5 RCRA Ecological Screening Level
Isopropylbenzene	No	Low detection frequency. Detection below reporting level. Low concentration.
tert-Butylbenzene	No	Low detection frequency. Detection below reporting level. Low concentration.
n-Butylbenzene	No	Low detection frequency. Detection below reporting level. Low concentration.

**TABLE I-24: FINAL RISK DRIVER DETERMINATION FOR GROUNDWATER**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical Name	Identified as Risk Driver	Rationale
n-Propylbenzene	No	Low detection frequency. Detection below reporting level. Low concentration.
p-Isopropylbenzene	No	Low detection frequency. Detection below reporting level. Low concentration.
sec-Butylbenzene	No	Low detection frequency. Detection below reporting level. Low concentration.
trans-1,2-Dichloroethene	No	Two detections, both below the ORNL Aquatic Screening Level
<b>Polycyclic Aromatic Hydrocarbons</b>		
Benzo(a)anthracene	No	Low detection frequency. Detection below reporting level. Low concentration.
Benzo(a)pyrene	No	Low detection frequency. Detection below reporting level. Low concentration.
Benzo(b)fluoranthene	No	Low detection frequency. Detection below reporting level. Low concentration.
Chrysene	No	Low detection frequency. Detection below reporting level. Low concentration.
Indeno(1,2,3-cd)pyrene	No	Low detection frequency. Detection below reporting level. Low concentration.
<b>Pesticides</b>		
4,4'-DDE	No	Only one or two detections which exceed the Water Boards screening level and no detections which exceed the CTR criteria.
Aldrin	No	Only one or two detections which exceed the Water Boards screening level and no detections which exceed the CTR criteria.
beta-BHC	No	Low frequency of detection and below EPA Region 5 RCRA ESL and ORNL screening level.
Heptachlor epoxide	No	Only one or two detections which exceed the Water Boards screening level and no detections which exceed the CTR criteria.
alpha-BHC	No	Moderate frequency of detection and below EPA Region 5 RCRA ESL and ORNL screening level.
alpha-Chlordane	No	Only one or two detections which exceed the Water Boards screening level and no detections which exceed the CTR criteria.
Endrin Aldehyde	No	Moderate frequency of detection with EPC exceeding comparison value.

**TABLE I-24: FINAL RISK DRIVER DETERMINATION FOR GROUNDWATER**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

Chemical Name	Identified as Risk Driver	Rationale
Notes:		
BHC	Benzene hexachloride	
COPEC	Chemical of potential ecological concern	
DDE	Dichlorodiphenyldichloroethylene	
EPA	U.S. Environmental Protection Agency	
EPC	Exposure point concentration	
ESL	Ecological screening level	
NAWQC	National Ambient Water Quality Criteria	
ORNL	Oak Ridge National Laboratory	
RCRA	Resource Conservation and Recovery Act	

**References:**

EPA 1988. "National Water Quality Criteria for Aluminum - 1988". EPA 440/5-86-008. August.

May 18.

EPA. 2003. "Region 5 RCRA Ecological Screening Levels." August 22. Available Online at: <http://www.epa.gov/reg5rcra/ca/edql.htm>EPA. 2006. National Recommended Water Quality Criteria. Available online at <http://www.epa.gov/waterscience/criteria/wqcriteria.html>

Risk Assessment Program, Health Sciences Research Division, Oak Ridge National Laboratory. June.

Interim Final. February.

Water Board. 2006. "Water Quality Control Plan for the San Francisco Basin." December 22. Available Online at: <http://www/swrcb.ca.gov/rwqcb2/basinplan.htm>.

**ATTACHMENT I1 DEER MOUSE DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>ALUMINIUM</b>																				
Dose/High TRV	3.28E-03	1.31E-03	2.87E-03	1.06E+02	1.39E-01	1.97E-03	4.30E-02	1.59E+03	3.13E+00	7.88E-05	3.70E+04	2.91E+00	1.00E+00	1.93E-02	3.21E+02	1.93E+01	3.00E-02	1.77E+01	1.81E+01	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	2.87E-03	1.06E+02	1.39E-01	1.97E-03	4.30E-02	1.59E+03	3.13E+00	7.88E-05	3.70E+04	2.91E+00	1.00E+00	1.93E-02	3.21E+02	1.93E+00	3.00E-02	1.77E+00	1.81E+02	Sample and others 1996
<b>ANTIMONY</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	5.31E-01	6.98E-04	1.97E-03	1.00E+00	1.60E+01	3.15E-02	7.88E-05	1.60E+01	1.26E-03	1.00E+00	1.93E-02	1.73E+00	1.25E+00	3.00E-02	1.14E+00	1.52E+00	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	R	5.31E-01	6.98E-04	1.97E-03	1.00E+00	1.60E+01	3.15E-02	7.88E-05	1.60E+01	1.26E-03	1.00E+00	1.93E-02	1.73E+00	1.25E-01	3.00E-02	1.14E-01	1.52E+01	Sample and others 1996
<b>ARSENIC</b>																				
Dose/High TRV	3.28E-03	1.31E-03	3.75E-02	4.50E+00	5.91E-03	1.97E-03	R	7.09E+00	1.40E-02	7.88E-05	1.20E+02	9.45E-03	1.00E+00	1.93E-02	1.52E+00	4.70E+00	1.10E-01	3.32E+00	4.58E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	3.75E-02	4.50E+00	5.91E-03	1.97E-03	R	7.09E+00	1.40E-02	7.88E-05	1.20E+02	9.45E-03	1.00E+00	1.93E-02	1.52E+00	3.20E-01	3.32E-01	1.81E-01	8.39E+00	Navy 1998
<b>BARIUM</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.56E-01	3.12E+01	4.10E-02	1.97E-03	9.10E-02	1.82E+01	3.58E-02	7.88E-05	2.00E+02	1.58E-02	1.00E+00	1.93E-02	4.80E+00	1.98E+01	3.50E-01	1.11E+01	4.32E-01	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	1.56E-01	3.12E+01	4.10E-02	1.97E-03	9.10E-02	1.82E+01	3.58E-02	7.88E-05	2.00E+02	1.58E-02	1.00E+00	1.93E-02	4.80E+00	5.10E+00	4.35E-01	2.74E+00	1.75E+00	Sample and others 1996
<b>BERYLLIUM</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	4.07E-01	5.34E-04	1.97E-03	4.50E-02	2.75E-02	5.41E-05	7.88E-05	6.10E-01	4.81E-05	1.00E+00	1.93E-02	3.30E-02	6.60E+00	3.50E-01	3.70E+00	8.92E-03	Calculated <sup>16</sup>
Dose/Low TRV	3.28E-03	1.31E-03	R	4.07E-01	5.34E-04	1.97E-03	4.50E-02	2.75E-02	5.41E-05	7.88E-05	6.10E-01	4.81E-05	1.00E+00	1.93E-02	3.30E-02	6.60E-01	3.50E-01	3.70E-01	8.92E-02	Sample and others 1996
<b>CADMIUM</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	5.02E+00	6.59E-03	1.97E-03	R	1.73E+02	3.41E-01	7.88E-05	4.58E+01	3.61E-03	1.00E+00	1.93E-02	1.82E+01	2.64E+00	3.14E-02	2.39E+00	7.60E+00	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	5.02E+00	6.59E-03	1.97E-03	R	1.73E+02	3.41E-01	7.88E-05	4.58E+01	3.61E-03	1.00E+00	1.93E-02	1.82E+01	6.00E-02	3.22E-02	5.42E-02	3.36E+02	Navy 1998
<b>CHROMIUM</b>																				
Dose/High TRV	3.28E-03	1.31E-03	4.10E-02	2.26E+01	2.96E-02	1.97E-03	3.06E-01	1.68E+02	3.31E-01	7.88E-05	5.50E+02	4.33E-02	1.00E+00	1.93E-02	2.10E+01	2.74E+04	3.50E-01	1.53E+04	1.37E-03	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	4.10E-02	2.26E+01	2.96E-02	1.97E-03	3.06E-01	1.68E+02	3.31E-01	7.88E-05	5.50E+02	4.33E-02	1.00E+00	1.93E-02	2.10E+01	2.74E+03	3.50E-01	1.53E+03	1.37E-02	Sample and others 1996
<b>COBALT</b>																				
Dose/High TRV	3.28E-03	1.31E-03	7.50E-03	1.63E-01	2.14E-04	1.97E-03	1.22E-01	2.65E+00	5.21E-03	7.88E-05	2.17E+01	1.71E-03	1.00E+00	1.93E-02	3.70E-01	2.00E+01	2.00E-01	1.25E+01	2.95E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	7.50E-03	1.63E-01	2.14E-04	1.97E-03	1.22E-01	2.65E+00	5.21E-03	7.88E-05	2.17E+01	1.71E-03	1.00E+00	1.93E-02	3.70E-01	1.20E+00	2.75E-01	7.05E-01	5.24E-01	Navy 1998
<b>COPPER</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	1.73E+01	2.27E-02	1.97E-03	5.15E-01	1.31E+02	2.58E-01	7.88E-05	2.54E+02	2.00E-02	1.00E+00	1.93E-02	1.56E+01	6.32E+02	2.47E-02	6.01E+02	2.59E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	1.73E+01	2.27E-02	1.97E-03	5.15E-01	1.31E+02	2.58E-01	7.88E-05	2.54E+02	2.00E-02	1.00E+00	1.93E-02	1.56E+01	2.67E+00	3.00E-02	2.44E+00	6.37E+00	Navy 1998
<b>IRON</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.00E+00	1.80E+05	2.36E+02	1.97E-03	1.00E+00	1.80E+05	3.54E+02	7.88E-05	1.80E+05	1.42E+01	1.00E+00	1.93E-02	3.13E+04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	3.28E-03	1.31E-03	1.00E+00	1.80E+05	2.36E+02	1.97E-03	1.00E+00	1.80E+05	3.54E+02	7.88E-05	1.80E+05	1.42E+01	1.00E+00	1.93E-02	3.13E+04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>LEAD</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	7.05E+01	9.25E-02	1.97E-03	R	2.47E+03	4.87E+00	7.88E-05	2.10E+02	1.65E+00	1.00E+00	1.93E-02	3.43E+02	2.41E+02	1.87E-02	2.42E+02	1.42E+00	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	7.05E+01	9.25E-02	1.97E-03	R	2.47E+03	4.87E+00	7.88E-05	2.10E+02	1.65E+00	1.00E+00	1.93E-02	3.43E+02	1.00E+00	2.08E-01	6.22E-01	5.52E+02	Navy 1998
<b>MANGANESE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	7.90E-02	1.03E+02	1.35E-01	1.97E-03	R	5.92E+01	1.17E-01	7.88E-05	1.30E+03	1.02E-01	1.00E+00	1.93E-02	1.83E+01	1.59E+02	2.97E-02	1.46E+02	1.26E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	7.90E-02	1.03E+02	1.35E-01	1.97E-03	R	5.92E+01	1.17E-01	7.88E-05	1.30E+03	1.02E-01	1.00E+00	1.93E-02	1.83E+01	1.37E+01	3.46E-02	1.22E+01	1.50E+00	Navy 1998
<b>MERCURY</b>																				
Dose/High TRV	3.28E-03	1.31E-03	6.63E-01	1.26E+00	1.65E-03	1.97E-03	1.69E+00	3.22E+00	6.33E-03	7.88E-05	1.90E+00	1.50E-04	1.00E+00	1.93E-02	4.22E-01	4.00E+00	4.28E-01	2.15E+00	1.96E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	6.63E-01	1.26E+00	1.65E-03	1.97E-03	1.69E+00	3.22E+00	6.33E-03	7.88E-05	1.90E+00	1.50E-04	1.00E+00	1.93E-02	4.22E-01	2.50E-01	1.88E-01	1.59E-01	2.66E+00	Navy 1998
<b>MOLYBDENUM</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.00E+00	1.37E+01	1.80E-02	1.97E-03	R	2.11E+00	4.16E-03	7.88E-05	1.37E+01	1.08E-03	1.00E+00	1.93E-02	1.20E+00	2.60E+00	3.00E-02	2.38E+00	5.05E-01	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	1.00E+00	1.37E+01	1.80E-02	1.97E-03	R	2.11E+00	4.16E-03	7.88E-05	1.37E+01	1.08E-03	1.00E+00	1.93E-02	1.20E+00	2.60E-01	3.00E-02	2.38E-01	5.05E+00	Sample and others 1996
<b>NICKEL</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	3.94E+00	5.17E-03	1.97E-03	1.06E+00	1.29E+02	2.54E-01	7.88E-05	1.22E+02	9.61E-03	1.00E+00	1.93E-02	1.39E+01	3.16E+01	2.49E-01	1.90E+01	7.36E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	3.94E+00	5.17E-03	1.97E-03	1.06E+00	1.29E+02	2.54E-01	7.88E-05	1.22E+02	9.61E-03	1.00E+00	1.93E-02	1.39E+01	1.33E-01	2.49E-01	7.98E-02	1.75E+02	Navy 1998
<b>SELENIUM</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	5.65E-01	7.41E-04	1.97E-03	R	9.95E-01	1.96E-03	7.88E-05	1.10E+00	8.66E-05	1.00E+00	1.93E-02	1.44E-01	1.21E+00	2.46E-02	1.15E+00	1.25E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	5.65E-01	7.41E-04	1.97E-03	R	9.95E-01	1.96E-03	7.88E-05	1.10E+00	8.66E-05	1.00E+00	1.93E-02	1.44E-01	5.00E-02	1.87E-01	3.18E-02	4.55E+00	Navy 1998
<b>SILVER</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.40E-02	1.33E-01	1.75E-04	1.97E-03	2.05E+00	1.94E+01	3.83E-02	7.88E-05	9.50E+00	7.48E-04	1.00E+00	1.93E-02	2.03E+00	6.02E+01	8.86E+00	1.77E+01	1.15E-01	EPA 2007
Dose/Low TRV	3.28E-03	1.31E-03	1.40E-02	1.33E-01	1.75E-04	1.97E-03	2.05E+00	1.94E+01	3.83E-02	7.88E-05	9.50E+00	7.48E-04	1.00E+00	1.93E-02	2.03E+00	6.02E+00	8.86E+00	1.77E+00	1.15E+00	EPA 2007

**ATTACHMENT H1 DEER MOUSE DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>THALLIUM</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.00E+00	3.50E+00	4.60E-03	1.97E-03	1.00E+00	3.50E+00	6.89E-03	7.88E-05	3.50E+00	2.76E-04	1.00E+00	1.93E-02	6.09E-01	1.43E+00	6.50E-02	1.12E+00	5.43E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	1.00E+00	3.50E+00	4.60E-03	1.97E-03	1.00E+00	3.50E+00	6.89E-03	7.88E-05	3.50E+00	2.76E-04	1.00E+00	1.93E-02	6.09E-01	4.80E-01	6.50E-02	3.77E-01	1.62E+00	Navy 1998
<b>VANADIUM</b>																				
Dose/High TRV	3.28E-03	1.31E-03	4.85E-03	6.31E-01	8.28E-04	1.97E-03	4.20E-02	5.46E+00	1.08E-02	7.88E-05	1.30E+02	1.02E-02	1.00E+00	1.93E-02	1.13E+00	2.10E+00	2.60E-01	1.25E+00	9.06E-01	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	4.85E-03	6.31E-01	8.28E-04	1.97E-03	4.20E-02	5.46E+00	1.08E-02	7.88E-05	1.30E+02	1.02E-02	1.00E+00	1.93E-02	1.13E+00	2.10E-01	2.60E-01	1.25E-01	9.06E+00	Sample and others 1996
<b>ZINC</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	2.67E+02	3.51E-01	1.97E-03	R	9.21E+02	1.81E+00	7.88E-05	1.40E+03	1.10E-01	1.00E+00	1.93E-02	1.18E+02	4.11E+02	1.75E-01	2.65E+02	4.45E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	2.67E+02	3.51E-01	1.97E-03	R	9.21E+02	1.81E+00	7.88E-05	1.40E+03	1.10E-01	1.00E+00	1.93E-02	1.18E+02	9.60E+00	2.55E-02	9.08E+00	1.30E+01	Navy 1998
<b>2,4-DIMETHYLPHENOL</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.80E+00	3.78E-01	4.96E-04	1.97E-03	2.75E+01	5.77E+00	1.14E-02	7.88E-05	2.10E-01	1.65E-05	1.00E+00	1.93E-02	6.15E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	3.28E-03	1.31E-03	1.80E+00	3.78E-01	4.96E-04	1.97E-03	2.75E+01	5.77E+00	1.14E-02	7.88E-05	2.10E-01	1.65E-05	1.00E+00	1.93E-02	6.15E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>2-METHYLPHENOL</b>																				
Dose/High TRV	3.28E-03	1.31E-03	3.00E+00	2.43E-01	3.19E-04	1.97E-03	2.71E+01	2.19E+00	4.32E-03	7.88E-05	8.10E-02	6.38E-06	1.00E+00	1.93E-02	2.41E-01	2.19E+03	1.00E+00	9.95E+02	2.42E-04	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	3.00E+00	2.43E-01	3.19E-04	1.97E-03	2.71E+01	2.19E+00	4.32E-03	7.88E-05	8.10E-02	6.38E-06	1.00E+00	1.93E-02	2.41E-01	2.19E+02	1.00E+00	9.95E+01	2.42E-03	Sample and others 1996
<b>4-METHYLPHENOL</b>																				
Dose/High TRV	3.28E-03	1.31E-03	3.00E+00	8.10E-01	1.06E-03	1.97E-03	2.71E+01	7.31E+00	1.44E-02	7.88E-05	2.70E-01	2.13E-05	1.00E+00	1.93E-02	8.02E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	3.28E-03	1.31E-03	3.00E+00	8.10E-01	1.06E-03	1.97E-03	2.71E+01	7.31E+00	1.44E-02	7.88E-05	2.70E-01	2.13E-05	1.00E+00	1.93E-02	8.02E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-NITROANILINE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.00E+00	6.20E-01	8.14E-04	1.97E-03	2.65E+01	1.64E+01	3.24E-02	7.88E-05	6.20E-01	4.88E-05	1.00E+00	1.93E-02	1.72E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	3.28E-03	1.31E-03	1.00E+00	6.20E-01	8.14E-04	1.97E-03	2.65E+01	1.64E+01	3.24E-02	7.88E-05	6.20E-01	4.88E-05	1.00E+00	1.93E-02	1.72E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-NITROPHENOL</b>																				
Dose/High TRV	3.28E-03	1.31E-03	3.00E+00	1.26E+00	1.65E-03	1.97E-03	2.71E+01	1.14E+01	2.24E-02	7.88E-05	4.20E-01	3.31E-05	1.00E+00	1.93E-02	1.25E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	3.28E-03	1.31E-03	3.00E+00	1.26E+00	1.65E-03	1.97E-03	2.71E+01	1.14E+01	2.24E-02	7.88E-05	4.20E-01	3.31E-05	1.00E+00	1.93E-02	1.25E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	5.50E-02	7.70E-01	1.01E-03	1.97E-03	2.52E+01	3.52E+02	6.94E-01	7.88E-05	1.40E+01	1.10E-03	1.00E+00	1.93E-02	3.60E+01	1.83E+02	3.00E-02	1.68E+02	2.15E-01	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	5.50E-02	7.70E-01	1.01E-03	1.97E-03	2.52E+01	3.52E+02	6.94E-01	7.88E-05	1.40E+01	1.10E-03	1.00E+00	1.93E-02	3.60E+01	1.83E+01	3.00E-02	1.68E+01	2.15E+00	Sample and others 1996
<b>BUTYLBENZYLPHthalate</b>																				
Dose/High TRV	3.28E-03	1.31E-03	5.50E-02	3.47E-02	4.55E-05	1.97E-03	2.52E+01	1.58E+01	3.12E-02	7.88E-05	6.30E-01	4.96E-05	1.00E+00	1.93E-02	1.62E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	3.28E-03	1.31E-03	5.50E-02	3.47E-02	4.55E-05	1.97E-03	2.52E+01	1.58E+01	3.12E-02	7.88E-05	6.30E-01	4.96E-05	1.00E+00	1.93E-02	1.62E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIBENZOFURAN</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.50E-01	1.95E+00	2.56E-03	1.97E-03	2.95E+01	3.83E+02	7.55E-01	7.88E-05	1.30E+01	1.02E-03	1.00E+00	1.93E-02	3.93E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	3.28E-03	1.31E-03	1.50E-01	1.95E+00	2.56E-03	1.97E-03	2.95E+01	3.83E+02	7.55E-01	7.88E-05	1.30E+01	1.02E-03	1.00E+00	1.93E-02	3.93E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIMETHYLPHthalate</b>																				
Dose/High TRV	3.28E-03	1.31E-03	4.50E+00	1.71E-01	2.24E-04	1.97E-03	2.67E+01	1.02E+00	2.00E-03	7.88E-05	3.80E-02	2.99E-06	1.00E+00	1.93E-02	1.15E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	3.28E-03	1.31E-03	4.50E+00	1.71E-01	2.24E-04	1.97E-03	2.67E+01	1.02E+00	2.00E-03	7.88E-05	3.80E-02	2.99E-06	1.00E+00	1.93E-02	1.15E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DI-N-BUTYLPHthalate</b>																				
Dose/High TRV	3.28E-03	1.31E-03	5.50E-02	1.27E-01	1.66E-04	1.97E-03	2.99E+01	6.89E+01	1.36E-01	7.88E-05	2.30E+00	1.81E-04	1.00E+00	1.93E-02	7.04E+00	1.83E+03	3.00E-02	1.68E+03	4.20E-03	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	5.50E-02	1.27E-01	1.66E-04	1.97E-03	2.99E+01	6.89E+01	1.36E-01	7.88E-05	2.30E+00	1.81E-04	1.00E+00	1.93E-02	7.04E+00	5.50E+02	3.00E-02	5.04E+02	1.40E-02	Sample and others 1996
<b>ISOPHORONE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	3.90E+00	7.80E-01	1.02E-03	1.97E-03	2.68E+01	5.37E+00	1.06E-02	7.88E-05	2.00E-01	1.58E-05	1.00E+00	1.93E-02	6.01E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	3.28E-03	1.31E-03	3.90E+00	7.80E-01	1.02E-03	1.97E-03	2.68E+01	5.37E+00	1.06E-02	7.88E-05	2.00E-01	1.58E-05	1.00E+00	1.93E-02	6.01E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PHENOL</b>																				
Dose/High TRV	3.28E-03	1.31E-03	5.10E+00	2.96E+00	3.88E-03	1.97E-03	2.66E+01	1.54E+01	3.04E-02	7.88E-05	5.80E-01	4.57E-05	1.00E+00	1.93E-02	1.78E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	3.28E-03	1.31E-03	5.10E+00	2.96E+00	3.88E-03	1.97E-03	2.66E+01	1.54E+01	3.04E-02	7.88E-05	5.80E-01	4.57E-05	1.00E+00	1.93E-02	1.78E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>2-METHYLNAPhtHAlENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	2.10E-01	9.66E-01	1.27E-03	1.97E-03	2.92E+01	1.34E+02	2.64E-01	7.88E-05	4.60E+00	3.62E-04	1.00E+00	1.93E-02	1.38E+01	1.50E+02	2.70E-01	8.85E+01	1.56E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	2.10E-01	9.66E-01	1.27E-03	1.97E-03	2.92E+01	1.34E+02	2.64E-01	7.88E-05	4.60E+00	3.62E-04	1.00E+00	1.93E-02	1.38E+01	5.00E+01	2.77E-01	2.94E+01	4.70E-01	Navy 1998
<b>ACENAPhtHENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	4.94E-04	6.48E-07	1.97E-03	1.47E+00	1.62E+01	3.18E-02	7.88E-05	1.10E+01	8.66E-04	1.00E+00	1.93E-02	1.69E+00	1.50E+02	2.70E-01	8.85E+01	1.92E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	4.94E-04	6.48E-07	1.97E-03	1.47E+00	1.62E+01	3.18E-02	7.88E-05	1.10E+01	8.66E-04	1.00E+00	1.93E-02	1.69E+00	5.00E+01	2.77E-01	2.94E+01	5.77E-02	Navy 1998

**ATTACHMENT I1 DEER MOUSE DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>ACENAPHTHYLENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	8.42E+00	1.11E-02	1.97E-03	2.29E+01	7.10E+00	1.40E-02	7.88E-05	3.10E-01	2.44E-05	1.00E+00	1.93E-02	1.30E+00	1.50E+02	2.70E-01	8.85E+01	1.47E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	8.42E+00	1.11E-02	1.97E-03	2.29E+01	7.10E+00	1.40E-02	7.88E-05	3.10E-01	2.44E-05	1.00E+00	1.93E-02	1.30E+00	5.00E+01	2.77E-01	2.94E+01	4.42E-02	Navy 1998
<b>ANTHRACENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	8.06E-01	1.06E-03	1.97E-03	2.42E+00	6.53E+00	1.29E-02	7.88E-05	2.70E+00	2.13E-04	1.00E+00	1.93E-02	7.33E-01	1.50E+02	2.70E-01	8.85E+01	8.28E-03	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	8.06E-01	1.06E-03	1.97E-03	2.42E+00	6.53E+00	1.29E-02	7.88E-05	2.70E+00	2.13E-04	1.00E+00	1.93E-02	7.33E-01	5.00E+01	2.77E-01	2.94E+01	2.50E-02	Navy 1998
<b>BENZO(a)ANTHRACENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	3.20E-01	4.20E-04	1.97E-03	1.59E+00	2.23E+01	4.38E-02	7.88E-05	1.40E+01	1.10E-03	1.00E+00	1.93E-02	2.35E+00	3.28E+01	3.05E-02	2.99E+01	7.85E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	3.20E-01	4.20E-04	1.97E-03	1.59E+00	2.23E+01	4.38E-02	7.88E-05	1.40E+01	1.10E-03	1.00E+00	1.93E-02	2.35E+00	1.31E+00	3.05E-02	1.20E+00	1.97E+00	Navy 1998
<b>BENZO(a)PYRENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	5.63E-01	7.40E-04	1.97E-03	1.33E+00	6.12E+00	1.20E-02	7.88E-05	4.60E+00	3.62E-04	1.00E+00	1.93E-02	6.81E-01	3.28E+01	3.05E-02	2.99E+01	2.28E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	5.63E-01	7.40E-04	1.97E-03	1.33E+00	6.12E+00	1.20E-02	7.88E-05	4.60E+00	3.62E-04	1.00E+00	1.93E-02	6.81E-01	1.31E+00	3.05E-02	1.20E+00	5.70E-01	Navy 1998
<b>BENZO(b)FLUORANTHENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	3.10E-01	2.36E+00	3.09E-03	1.97E-03	2.60E+00	1.98E+01	3.89E-02	7.88E-05	7.60E+00	5.99E-04	1.00E+00	1.93E-02	2.21E+00	3.28E+01	3.05E-02	2.99E+01	7.38E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	3.10E-01	2.36E+00	3.09E-03	1.97E-03	2.60E+00	1.98E+01	3.89E-02	7.88E-05	7.60E+00	5.99E-04	1.00E+00	1.93E-02	2.21E+00	1.31E+00	3.05E-02	1.20E+00	1.85E+00	Navy 1998
<b>BENZO(g,h,i)PERYLENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	9.48E-01	1.24E-03	1.97E-03	2.94E+00	6.17E+00	1.22E-02	7.88E-05	2.10E+00	1.65E-04	1.00E+00	1.93E-02	7.03E-01	3.28E+01	3.05E-02	2.99E+01	2.35E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	9.48E-01	1.24E-03	1.97E-03	2.94E+00	6.17E+00	1.22E-02	7.88E-05	2.10E+00	1.65E-04	1.00E+00	1.93E-02	7.03E-01	1.31E+00	3.05E-02	1.20E+00	5.88E-01	Navy 1998
<b>BENZO(k)FLUORANTHENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	7.78E-01	1.02E-03	1.97E-03	2.60E+00	2.39E+01	4.71E-02	7.88E-05	9.20E+00	7.25E-04	1.00E+00	1.93E-02	2.53E+00	3.28E+01	3.05E-02	2.99E+01	8.46E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	7.78E-01	1.02E-03	1.97E-03	2.60E+00	2.39E+01	4.71E-02	7.88E-05	9.20E+00	7.25E-04	1.00E+00	1.93E-02	2.53E+00	1.31E+00	3.05E-02	1.20E+00	2.12E+00	Navy 1998
<b>CHRYSENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	3.47E-01	4.55E-04	1.97E-03	2.29E+00	3.66E+01	7.22E-02	7.88E-05	1.60E+01	1.26E-03	1.00E+00	1.93E-02	3.83E+00	3.28E+01	3.05E-02	2.99E+01	1.28E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	3.47E-01	4.55E-04	1.97E-03	2.29E+00	3.66E+01	7.22E-02	7.88E-05	1.60E+01	1.26E-03	1.00E+00	1.93E-02	3.83E+00	1.31E+00	3.05E-02	1.20E+00	3.20E+00	Navy 1998
<b>DIBENZO(a,h)ANTHRACENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.30E-01	1.69E-01	2.22E-04	1.97E-03	2.31E+00	3.00E+00	5.91E-03	7.88E-05	1.30E+00	1.02E-04	1.00E+00	1.93E-02	3.23E-01	3.28E+01	3.05E-02	2.99E+01	1.08E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	1.30E-01	1.69E-01	2.22E-04	1.97E-03	2.31E+00	3.00E+00	5.91E-03	7.88E-05	1.30E+00	1.02E-04	1.00E+00	1.93E-02	3.23E-01	1.31E+00	3.05E-02	1.20E+00	2.70E-01	Navy 1998
<b>FLUORANTHENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	5.00E-01	3.70E+01	4.86E-02	1.97E-03	3.04E+00	2.25E+02	4.43E-01	7.88E-05	7.40E+01	5.83E-03	1.00E+00	1.93E-02	2.58E+01	3.28E+01	3.05E-02	2.99E+01	8.61E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	5.00E-01	3.70E+01	4.86E-02	1.97E-03	3.04E+00	2.25E+02	4.43E-01	7.88E-05	7.40E+01	5.83E-03	1.00E+00	1.93E-02	2.58E+01	1.31E+00	3.05E-02	1.20E+00	2.16E+01	Navy 1998
<b>FLUORENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	6.62E-04	8.70E-07	1.97E-03	9.57E+00	7.46E+01	1.47E-01	7.88E-05	7.80E+00	6.14E-04	1.00E+00	1.93E-02	7.65E+00	1.50E+02	2.70E-01	8.85E+01	8.64E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	6.62E-04	8.70E-07	1.97E-03	9.57E+00	7.46E+01	1.47E-01	7.88E-05	7.80E+00	6.14E-04	1.00E+00	1.93E-02	7.65E+00	5.00E+01	2.77E-01	2.94E+01	2.61E-01	Navy 1998
<b>INDENO(1,2,3-cd)PYRENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.10E-01	2.64E-01	3.47E-04	1.97E-03	2.86E+00	6.86E+00	1.35E-02	7.88E-05	2.40E+00	1.89E-04	1.00E+00	1.93E-02	7.28E-01	3.28E+01	3.05E-02	2.99E+01	2.43E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	1.10E-01	2.64E-01	3.47E-04	1.97E-03	2.86E+00	6.86E+00	1.35E-02	7.88E-05	2.40E+00	1.89E-04	1.00E+00	1.93E-02	7.28E-01	1.31E+00	3.05E-02	1.20E+00	6.09E-01	Navy 1998
<b>NAPHTHALENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.22E+01	6.10E-02	8.01E-05	1.97E-03	4.40E+00	2.20E-02	4.33E-05	7.88E-05	5.00E-03	3.94E-07	1.00E+00	1.93E-02	6.41E-03	1.50E+02	2.70E-01	8.85E+01	7.25E-05	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	1.22E+01	6.10E-02	8.01E-05	1.97E-03	4.40E+00	2.20E-02	4.33E-05	7.88E-05	5.00E-03	3.94E-07	1.00E+00	1.93E-02	6.41E-03	5.00E+01	2.77E-01	2.94E+01	2.18E-04	Navy 1998
<b>PHENANTHRENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	8.35E+00	1.10E-02	1.97E-03	1.72E+00	6.88E+01	1.35E-01	7.88E-05	4.00E+01	3.15E-03	1.00E+00	1.93E-02	7.75E+00	1.50E+02	2.70E-01	8.85E+01	8.76E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	8.35E+00	1.10E-02	1.97E-03	1.72E+00	6.88E+01	1.35E-01	7.88E-05	4.00E+01	3.15E-03	1.00E+00	1.93E-02	7.75E+00	5.00E+01	2.77E-01	2.94E+01	2.64E-01	Navy 1998
<b>PYRENE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	5.50E-02	3.74E+00	4.91E-03	1.97E-03	1.75E+00	1.19E+02	2.34E-01	7.88E-05	6.80E+01	5.36E-03	1.00E+00	1.93E-02	1.27E+01	3.28E+01	3.05E-02	2.99E+01	4.24E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	5.50E-02	3.74E+00	4.91E-03	1.97E-03	1.75E+00	1.19E+02	2.34E-01	7.88E-05	6.80E+01	5.36E-03	1.00E+00	1.93E-02	1.27E+01	1.31E+00	3.05E-02	1.20E+00	1.06E+01	Navy 1998
<b>4,4'-DDD</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	5.15E-04	6.76E-07	1.97E-03	R	2.93E-02	5.77E-05	7.88E-05	1.20E-03	9.45E-08	1.00E+00	1.93E-02	3.03E-03	1.60E+01	3.20E-01	9.12E+00	3.32E-04	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	5.15E-04	6.76E-07	1.97E-03	R	2.93E-02	5.77E-05	7.88E-05	1.20E-03	9.45E-08	1.00E+00	1.93E-02	3.03E-03	8.00E-01	3.20E-01	4.56E-01	6.64E-03	Navy 1998
<b>4,4'-DDE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	6.27E-02	8.23E-05	1.97E-03	R	8.81E+00	1.73E-02	7.88E-05	7.10E-01	5.59E-05	1.00E+00	1.93E-02	9.06E-01	1.60E+01	3.20E-01	9.12E+00	9.93E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	6.27E-02	8.23E-05	1.97E-03	R	8.81E+00	1.73E-02	7.88E-05	7.10E-01	5.59E-05	1.00E+00	1.93E-02	9.06E-01	8.00E-01	3.20E-01	4.56E-01	1.99E+00	Navy 1998

**ATTACHMENT I1 DEER MOUSE DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>4,4'-DDT</b>																				
Dose/High TRV	3.28E-03	1.31E-03	R	4.60E-02	6.03E-05	1.97E-03	R	4.34E+00	8.55E-03	7.88E-05	4.70E-01	3.70E-05	1.00E+00	1.93E-02	4.48E-01	1.60E+01	3.20E-01	9.12E+00	4.91E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	R	4.60E-02	6.03E-05	1.97E-03	R	4.34E+00	8.55E-03	7.88E-05	4.70E-01	3.70E-05	1.00E+00	1.93E-02	4.48E-01	8.00E-01	3.20E-01	4.56E-01	9.82E-01	Navy 1998
<b>ALDRIN</b>																				
Dose/High TRV	3.28E-03	1.31E-03	6.90E-01	8.97E-03	1.18E-05	1.97E-03	3.24E+01	4.21E-01	8.29E-04	7.88E-05	1.30E-02	1.02E-06	1.00E+00	1.93E-02	4.36E-02	1.00E+00	6.50E-02	7.84E-01	5.56E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	6.90E-01	8.97E-03	1.18E-05	1.97E-03	3.24E+01	4.21E-01	8.29E-04	7.88E-05	1.30E-02	1.02E-06	1.00E+00	1.93E-02	4.36E-02	1.00E-02	6.50E-02	7.84E-03	5.56E+00	Navy 1998
<b>ALPHA-BHC</b>																				
Dose/High TRV	3.28E-03	1.31E-03	2.10E-01	1.53E-04	2.01E-07	1.97E-03	2.95E+01	2.15E-02	4.24E-05	7.88E-05	7.30E-04	5.75E-08	1.00E+00	1.93E-02	2.21E-03	1.40E-01	1.00E+00	6.36E-02	3.48E-02	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	2.10E-01	1.53E-04	2.01E-07	1.97E-03	2.95E+01	2.15E-02	4.24E-05	7.88E-05	7.30E-04	5.75E-08	1.00E+00	1.93E-02	2.21E-03	1.40E-02	1.00E+00	6.36E-03	3.48E-01	Sample and others 1996
<b>ALPHA-CHLORDANE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	2.50E-02	1.20E-03	1.58E-06	1.97E-03	3.20E+01	1.54E+00	3.03E-03	7.88E-05	4.80E-02	3.78E-06	1.00E+00	1.93E-02	1.57E-01	9.20E+00	3.00E-02	8.42E+00	1.87E-02	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	2.50E-02	1.20E-03	1.58E-06	1.97E-03	3.20E+01	1.54E+00	3.03E-03	7.88E-05	4.80E-02	3.78E-06	1.00E+00	1.93E-02	1.57E-01	4.60E+00	3.00E-02	4.21E+00	3.73E-02	Sample and others 1996
<b>BETA-BHC</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.80E-01	3.96E-04	5.20E-07	1.97E-03	2.95E+01	6.49E-02	1.28E-04	7.88E-05	2.20E-03	1.73E-07	1.00E+00	1.93E-02	6.66E-03	2.00E+00	3.50E-01	1.12E+00	5.95E-03	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	1.80E-01	3.96E-04	5.20E-07	1.97E-03	2.95E+01	6.49E-02	1.28E-04	7.88E-05	2.20E-03	1.73E-07	1.00E+00	1.93E-02	6.66E-03	4.00E-01	3.50E-01	2.24E-01	2.97E-02	Sample and others 1996
<b>DELTA-BHC</b>																				
Dose/High TRV	3.28E-03	1.31E-03	9.00E-01	7.56E-03	9.93E-06	1.97E-03	2.95E+01	2.48E-01	4.88E-04	7.88E-05	8.40E-03	6.62E-07	1.00E+00	1.93E-02	2.58E-02	1.40E-01	1.00E+00	6.36E-02	4.07E-01	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	9.00E-01	7.56E-03	9.93E-06	1.97E-03	2.95E+01	2.48E-01	4.88E-04	7.88E-05	8.40E-03	6.62E-07	1.00E+00	1.93E-02	2.58E-02	1.40E-02	1.00E+00	6.36E-03	4.07E+00	Sample and others 1996
<b>DIELDRIN</b>																				
Dose/High TRV	3.28E-03	1.31E-03	4.10E-01	2.05E-01	2.69E-04	1.97E-03	R	5.31E+00	1.04E-02	7.88E-05	5.00E-01	3.94E-05	1.00E+00	1.93E-02	5.57E-01	2.00E-01	3.50E-01	1.12E-01	4.98E+00	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	4.10E-01	2.05E-01	2.69E-04	1.97E-03	R	5.31E+00	1.04E-02	7.88E-05	5.00E-01	3.94E-05	1.00E+00	1.93E-02	5.57E-01	2.00E-02	3.50E-01	1.12E-02	4.98E+01	Sample and others 1996
<b>ENDOSULFAN I</b>																				
Dose/High TRV	3.28E-03	1.31E-03	3.30E-01	7.59E-03	9.96E-06	1.97E-03	2.91E+01	6.70E-01	1.32E-03	7.88E-05	2.30E-02	1.81E-06	1.00E+00	1.93E-02	6.90E-02	1.50E+00	3.50E-01	8.40E-01	8.21E-02	Calculated <sup>16</sup>
Dose/Low TRV	3.28E-03	1.31E-03	3.30E-01	7.59E-03	9.96E-06	1.97E-03	2.91E+01	6.70E-01	1.32E-03	7.88E-05	2.30E-02	1.81E-06	1.00E+00	1.93E-02	6.90E-02	1.50E-01	3.50E-01	8.40E-02	8.21E-01	Sample and others 1996
<b>ENDOSULFAN II</b>																				
Dose/High TRV	3.28E-03	1.31E-03	3.30E-01	1.65E-02	2.17E-05	1.97E-03	2.91E+01	1.46E+00	2.87E-03	7.88E-05	5.00E-02	3.94E-06	1.00E+00	1.93E-02	1.50E-01	1.50E+00	3.50E-01	8.40E-01	1.78E-01	Calculated <sup>16</sup>
Dose/Low TRV	3.28E-03	1.31E-03	3.30E-01	1.65E-02	2.17E-05	1.97E-03	2.91E+01	1.46E+00	2.87E-03	7.88E-05	5.00E-02	3.94E-06	1.00E+00	1.93E-02	1.50E-01	1.50E-01	3.50E-01	8.40E-02	1.78E+00	Sample and others 1996
<b>ENDOSULFAN SULFATE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	3.30E-01	1.42E-02	1.86E-05	1.97E-03	2.91E+01	1.25E+00	2.47E-03	7.88E-05	4.30E-02	3.39E-06	1.00E+00	1.93E-02	1.29E-01	1.50E+00	3.50E-01	8.40E-01	1.53E-01	Calculated <sup>16</sup>
Dose/Low TRV	3.28E-03	1.31E-03	3.30E-01	1.42E-02	1.86E-05	1.97E-03	2.91E+01	1.25E+00	2.47E-03	7.88E-05	4.30E-02	3.39E-06	1.00E+00	1.93E-02	1.29E-01	1.50E-01	3.50E-01	8.40E-02	1.53E+00	Sample and others 1996
<b>ENDRIN KETONE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	8.20E-02	8.20E-04	1.08E-06	1.97E-03	3.08E+01	3.08E-01	6.06E-04	7.88E-05	1.00E-02	7.88E-07	1.00E+00	1.93E-02	3.15E-02	9.20E-01	3.00E-02	8.42E-01	3.74E-02	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	8.20E-02	8.20E-04	1.08E-06	1.97E-03	3.08E+01	3.08E-01	6.06E-04	7.88E-05	1.00E-02	7.88E-07	1.00E+00	1.93E-02	3.15E-02	9.20E-02	3.00E-02	8.42E-02	3.74E-01	Sample and others 1996
<b>ENDRIN ALDEHYDE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	8.20E-02	6.07E-03	7.97E-06	1.97E-03	3.08E+01	2.28E+00	4.48E-03	7.88E-05	7.40E-02	5.83E-06	1.00E+00	1.93E-02	2.33E-01	9.20E-01	3.00E-02	8.42E-01	2.77E-01	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	8.20E-02	6.07E-03	7.97E-06	1.97E-03	3.08E+01	2.28E+00	4.48E-03	7.88E-05	7.40E-02	5.83E-06	1.00E+00	1.93E-02	2.33E-01	9.20E-02	3.00E-02	8.42E-02	2.77E+00	Sample and others 1996
<b>GAMMA-BHC (LINDANE)</b>																				
Dose/High TRV	3.28E-03	1.31E-03	2.70E-01	7.02E-04	9.22E-07	1.97E-03	2.95E+01	7.67E-02	1.51E-04	7.88E-05	2.60E-03	2.05E-07	1.00E+00	1.93E-02	7.89E-03	3.75E+00	2.40E-02	3.59E+00	2.20E-03	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	2.70E-01	7.02E-04	9.22E-07	1.97E-03	2.95E+01	7.67E-02	1.51E-04	7.88E-05	2.60E-03	2.05E-07	1.00E+00	1.93E-02	7.89E-03	5.00E-02	1.76E-01	3.21E-02	2.46E-01	Navy 1998
<b>GAMMA-CHLORDANE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	2.50E-02	3.75E-03	4.92E-06	1.97E-03	3.20E+01	4.80E+00	9.46E-03	7.88E-05	1.50E-01	1.18E-05	1.00E+00	1.93E-02	4.91E-01	9.20E+00	3.00E-02	8.42E+00	5.83E-02	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	2.50E-02	3.75E-03	4.92E-06	1.97E-03	3.20E+01	4.80E+00	9.46E-03	7.88E-05	1.50E-01	1.18E-05	1.00E+00	1.93E-02	4.91E-01	4.60E+00	3.00E-02	4.21E+00	1.17E-01	Sample and others 1996
<b>HEPTACHLOR</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.20E-01	8.28E-04	1.09E-06	1.97E-03	3.19E+01	2.20E-01	4.33E-04	7.88E-05	6.90E-03	5.44E-07	1.00E+00	1.93E-02	2.25E-02	6.80E+00	2.04E-01	4.24E+00	5.31E-03	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	1.20E-01	8.28E-04	1.09E-06	1.97E-03	3.19E+01	2.20E-01	4.33E-04	7.88E-05	6.90E-03	5.44E-07	1.00E+00	1.93E-02	2.25E-02	1.30E-01	1.00E-01	9.36E-02	2.41E-01	Navy 1998
<b>HEPTACHLOR EPOXIDE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	2.80E-02	3.08E-03	4.04E-06	1.97E-03	3.05E+01	3.36E+00	6.61E-03	7.88E-05	1.10E-01	8.66E-06	1.00E+00	1.93E-02	3.43E-01	6.80E+00	2.04E-01	4.24E+00	8.08E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	2.80E-02	3.08E-03	4.04E-06	1.97E-03	3.05E+01	3.36E+00	6.61E-03	7.88E-05	1.10E-01	8.66E-06	1.00E+00	1.93E-02	3.43E-01	1.30E-01	1.00E-01	9.36E-02	3.67E+00	Navy 1998
<b>METHOXYCHLOR</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.10E-01	1.32E-02	1.73E-05	1.97E-03	3.06E+01	3.68E+00	7.24E-03	7.88E-05	1.20E-01	9.45E-06	1.00E+00	1.93E-02	3.76E-01	5.00E+01	3.32E-01	2.83E+01	1.33E-02	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	1.10E-01	1.32E-02	1.73E-05	1.97E-03	3.06E+01	3.68E+00	7.24E-03	7.88E-05	1.20E-01	9.45E-06	1.00E+00	1.93E-02	3.76E-01	2.50E+00	3.32E-01	1.42E+00	2.66E-01	Navy 1998

**ATTACHMENT 11 DEER MOUSE DOSE CALCULATIONS AND HAZARD QUOTIENTS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>TECHNICAL CHLORDANE</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.30E-01	7.80E-02	1.02E-04	1.97E-03	3.20E+01	1.92E+01	3.78E-02	7.88E-05	6.00E-01	4.73E-05	1.00E+00	1.93E-02	1.97E+00	9.20E+00	3.00E-02	8.42E+00	2.34E-01	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	1.30E-01	7.80E-02	1.02E-04	1.97E-03	3.20E+01	1.92E+01	3.78E-02	7.88E-05	6.00E-01	4.73E-05	1.00E+00	1.93E-02	1.97E+00	4.60E+00	3.00E-02	4.21E+00	4.67E-01	Sample and others 1996
<b>AROCLOR-1248</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.60E-02	1.92E-02	2.52E-05	1.97E-03	3.22E+01	3.86E+01	7.60E-02	7.88E-05	1.20E+00	9.45E-05	1.00E+00	1.93E-02	3.95E+00	1.00E-01	5.00E+00	3.29E-02	1.20E+02	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	1.60E-02	1.92E-02	2.52E-05	1.97E-03	3.22E+01	3.86E+01	7.60E-02	7.88E-05	1.20E+00	9.45E-05	1.00E+00	1.93E-02	3.95E+00	1.00E-02	5.00E+00	3.29E-03	1.20E+03	Sample and others 1996
<b>AROCLOR-1254</b>																				
Dose/High TRV	3.28E-03	1.31E-03	1.30E-02	1.43E-01	1.88E-04	1.97E-03	3.27E+01	3.60E+02	7.09E-01	7.88E-05	1.10E+01	8.66E-04	1.00E+00	1.93E-02	3.68E+01	6.80E-01	1.40E-02	7.25E-01	5.08E+01	Sample and others 1996
Dose/Low TRV	3.28E-03	1.31E-03	1.30E-02	1.43E-01	1.88E-04	1.97E-03	3.27E+01	3.60E+02	7.09E-01	7.88E-05	1.10E+01	8.66E-04	1.00E+00	1.93E-02	3.68E+01	6.80E-02	1.40E-02	7.25E-02	5.08E+02	Sample and others 1996
<b>AROCLOR-1260</b>																				
Dose/High TRV	3.28E-03	1.31E-03	2.90E-03	2.81E-02	3.69E-05	1.97E-03	3.47E+01	3.37E+02	6.63E-01	7.88E-05	9.70E+00	7.64E-04	1.00E+00	1.93E-02	3.44E+01	1.28E+00	2.29E-02	1.24E+00	2.78E+01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	2.90E-03	2.81E-02	3.69E-05	1.97E-03	3.47E+01	3.37E+02	6.63E-01	7.88E-05	9.70E+00	7.64E-04	1.00E+00	1.93E-02	3.44E+01	3.60E-01	2.06E-02	3.55E-01	9.68E+01	Navy 1998
<b>AROCLOR-1268</b>																				
Dose/High TRV	3.28E-03	1.31E-03	2.90E-03	8.70E-04	1.14E-06	1.97E-03	3.47E+01	1.04E+01	2.05E-02	7.88E-05	3.00E-01	2.36E-05	1.00E+00	1.93E-02	1.06E+00	1.28E+00	2.29E-02	1.24E+00	8.59E-01	Navy 1998
Dose/Low TRV	3.28E-03	1.31E-03	2.90E-03	8.70E-04	1.14E-06	1.97E-03	3.47E+01	1.04E+01	2.05E-02	7.88E-05	3.00E-01	2.36E-05	1.00E+00	1.93E-02	1.06E+00	3.60E-01	2.06E-02	3.55E-01	2.99E+00	Navy 1998

Notes:

- The formulas presented in Nagy (2001) were used to calculate ingestion rate.
- The plant ingestion rate is 100 percent of the total prey ingestion rate.
- BAFs were taken from EPA guidance (EPA 1995), primary literature, or calculated using formulas from ORNL (RAIS 2007). R = Regression equation used to generate tissue concentration.
- The plant concentration was calculated by multiplying the maximum soil concentration by the BAF or using a regression equation to generate a tissue concentration (see note 3).
- Plant daily doses were calculated by multiplying the ingestion rate (see note 2) by the tissue concentration (see note 4).
- Soil ingestion rate is 2.4 percent of prey ingestion rate.
- Maximum of all site-collected surface (0 to 4 feet) soil samples were used.
- Soil daily dose was calculated by multiplying the soil ingestion rate (see note 6) by soil concentration (see note 7).
- Body weight is taken from EPA (1993, 2003) and Office of Environmental Health Hazard Assessment (2003).
- Total daily dose is calculated using the following equation: total daily dose = ((plant daily dose + invertebrate daily dose + soil daily dose)\*SUF)/receptor species body weight.
- The derivation of TRVs is described in Navy (1998) and Sample (1996).
- The following surrogate TRVs were used: The TRV for BHC mixed isomers was used as a surrogate for alpha-, beta-, and delta-BHC. The TRV for chlordane was used as a surrogate for heptachlor and heptachlor epoxide because heptachlor and heptachlor epoxide are breakdown products of chlordane. The TRV for chlordane was also used for alpha-chlordane, gamma-chlordane, and technical chlordane. The TRV for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The TRV for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The TRV for dieldrin was used as a surrogate for aldrin because dieldrin is a metabolic breakdown product of aldrin. The TRV for PCBs was used for Aroclor-1248, -1260, and -1268.
- Allometrically adjusted TRVs were calculated using the following equation: receptor species TRV = (test species TRV) x (test species body weight / receptor species body weight)<sup>1-1.2</sup>.
- HQs were calculated using the following equation: HQ = total daily dose/allometrically adjusted TRV.
- Sufficient data are not available to derive a TRV. This chemical was evaluated qualitatively.
- When only a low TRV was available from Sample and others (1996) or EPA (2007), it was multiplied by 10 to derive the high TRV.

BAF	Bioaccumulation factor	kg/day	Kilogram per day
BHC	Benzene hexachloride	mg/day	Milligram per day
COPEC	Chemical of potential ecological concern	mg/kg	Milligram per kilogram
DDD	Dichlorodiphenyldichloroethane	mg/kg/day	Milligram per kilogram per day
DDE	Dichlorodiphenyldichloroethylene	NA	Not applicable
DDT	Dichlorodiphenyltrichloroethane	Navy	U.S. Department of the Navy, Engineering Field Activity West
EPA	U.S. Environmental Protection Agency	R	Regression equation
HQ	Hazard Quotient	SUF	Site use factor
kg	kilogram	TRV	Toxicity reference value

References:

U.S. Department of the Navy. 1998. "Developer EPA. 2007. Interim Ecological Soil Screening Levels. May. Available on-line at: <http://www.epa.gov/ecotox/ecoss/>

EPA. 1993. "Wildlife Exposure Factors Handbook". Volumes 1 and 2. Office of Research and Development. EPA/600/R-93/187. December.

EPA. 1995. "Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors." EPA-820-B-95-005.

EPA. 2003. "Region 5 RCRA Ecological Screening Levels." August 22. Available Online at: <http://www.epa.gov/reg5rcra/ca/edq1.htm>

EPA. 2007. Interim Ecological Soil Screening Lev Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

Nagy, K.A. 2001. "Food Requirements of Wild Animals: Predictive Equations for Free-Living Mammals, Reptiles, and Birds." *Nutrition Abstracts and Reviews, Series B*. Volume 71. Pages 21R-31R.

Office of Environmental Health Hazard Assessment. 2003. "California Wildlife Exposure Factor and Toxicity Database." Ecotoxicology Unit. Sacramento, California. Available Online at: [www.oehha.org/cal\\_ecotox/default.htm](http://www.oehha.org/cal_ecotox/default.htm)

Oak Ridge National Laboratory. 2007. "Risk Assessment Information System." Available Online at: <http://rais.ornl.gov/index.shtml>

Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee

**ATTACHMENT I2 CALIFORNIA GROUND SQUIRREL DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>ALUMINUM</b>																
Dose/High TRV	4.18E-02	4.18E-02	2.87E-03	1.06E+02	4.43E+00	1.00E-03	3.70E+04	3.71E+01	1.00E+00	5.16E-01	8.05E+01	1.93E+01	3.00E-02	3.41E+01	2.36E+00	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	2.87E-03	1.06E+02	4.43E+00	1.00E-03	3.70E+04	3.71E+01	1.00E+00	5.16E-01	8.05E+01	1.93E+00	3.00E-02	3.41E+00	2.36E+01	Sample and others 1996
<b>ANTIMONY</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	5.31E-01	2.22E-02	7.88E-05	1.60E+01	1.26E-03	1.00E+00	5.16E-01	4.54E-02	1.25E+00	3.00E-02	2.21E+00	2.06E-02	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	R	5.31E-01	2.22E-02	7.88E-05	1.60E+01	1.26E-03	1.00E+00	5.16E-01	4.54E-02	1.25E-01	3.00E-02	2.21E-01	2.06E-01	Sample and others 1996
<b>ARSENIC</b>																
Dose/High TRV	4.18E-02	4.18E-02	3.75E-02	4.50E+00	1.88E-01	7.88E-05	1.20E+02	9.45E-03	1.00E+00	5.16E-01	3.83E-01	4.70E+00	1.10E-01	6.40E+00	5.98E-02	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	3.75E-02	4.50E+00	1.88E-01	7.88E-05	1.20E+02	9.45E-03	1.00E+00	5.16E-01	3.83E-01	3.20E-01	3.32E-01	3.50E-01	1.09E+00	Navy 1998
<b>BARIUM</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.56E-01	3.12E+01	1.30E+00	7.88E-05	2.00E+02	1.58E-02	1.00E+00	5.16E-01	2.56E+00	1.98E+01	3.50E-01	2.14E+01	1.19E-01	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	1.56E-01	3.12E+01	1.30E+00	7.88E-05	2.00E+02	1.58E-02	1.00E+00	5.16E-01	2.56E+00	5.10E+00	4.35E-01	5.28E+00	4.84E-01	Sample and others 1996
<b>BERYLLIUM</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	4.07E-01	1.70E-02	7.88E-05	6.10E-01	4.81E-05	1.00E+00	5.16E-01	3.30E-02	6.60E+00	3.50E-01	7.13E+00	4.63E-03	Calculated <sup>16</sup>
Dose/Low TRV	4.18E-02	4.18E-02	R	4.07E-01	1.70E-02	7.88E-05	6.10E-01	4.81E-05	1.00E+00	5.16E-01	3.30E-02	6.60E-01	3.50E-01	7.13E-01	4.63E-02	Sample and others 1996
<b>CADMIUM</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	5.02E+00	2.10E-01	7.88E-05	4.58E+01	3.61E-03	1.00E+00	5.16E-01	4.13E-01	2.64E+00	3.14E-02	4.62E+00	8.94E-02	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	5.02E+00	2.10E-01	7.88E-05	4.58E+01	3.61E-03	1.00E+00	5.16E-01	4.13E-01	6.00E-02	3.22E-02	1.04E-01	3.95E+00	Navy 1998
<b>CHROMIUM</b>																
Dose/High TRV	4.18E-02	4.18E-02	4.10E-02	2.26E+01	9.42E-01	7.88E-05	5.50E+02	4.33E-02	1.00E+00	5.16E-01	1.91E+00	2.74E+04	3.50E-01	2.96E+04	6.45E-05	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	4.10E-02	2.26E+01	9.42E-01	7.88E-05	5.50E+02	4.33E-02	1.00E+00	5.16E-01	1.91E+00	2.74E+03	3.50E-01	2.96E+03	6.45E-04	Sample and others 1996
<b>COBALT</b>																
Dose/High TRV	4.18E-02	4.18E-02	7.50E-03	1.63E-01	6.80E-03	7.88E-05	2.17E+01	1.71E-03	1.00E+00	5.16E-01	1.65E-02	2.00E+01	2.00E-01	2.42E+01	6.82E-04	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	7.50E-03	1.63E-01	6.80E-03	7.88E-05	2.17E+01	1.71E-03	1.00E+00	5.16E-01	1.65E-02	1.20E+00	2.75E-01	1.36E+00	1.21E-02	Navy 1998
<b>COPPER</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	1.73E+01	7.22E-01	7.88E-05	2.54E+02	2.00E-02	1.00E+00	5.16E-01	1.44E+00	6.32E+02	2.47E-02	1.16E+03	1.24E-03	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	1.73E+01	7.22E-01	7.88E-05	2.54E+02	2.00E-02	1.00E+00	5.16E-01	1.44E+00	2.67E+00	3.00E-02	4.72E+00	3.05E-01	Navy 1998
<b>IRON</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.00E+00	1.80E+05	7.52E+03	7.88E-05	1.80E+05	1.42E+01	1.00E+00	5.16E-01	1.46E+04	NA	NA	No TRV <sup>20</sup>	No TRV <sup>20</sup>	NA
Dose/Low TRV	4.18E-02	4.18E-02	1.00E+00	1.80E+05	7.52E+03	7.88E-05	1.80E+05	1.42E+01	1.00E+00	5.16E-01	1.46E+04	NA	NA	No TRV <sup>20</sup>	No TRV <sup>20</sup>	NA
<b>LEAD</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	7.05E+01	2.94E+00	7.88E-05	2.10E+04	1.65E+00	1.00E+00	5.16E-01	8.91E+00	2.41E+02	1.87E-02	4.67E+02	1.91E-02	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	7.05E+01	2.94E+00	7.88E-05	2.10E+04	1.65E+00	1.00E+00	5.16E-01	8.91E+00	1.00E+00	2.08E-01	1.20E+00	7.43E+00	Navy 1998
<b>MANGANESE</b>																
Dose/High TRV	4.18E-02	4.18E-02	7.90E-02	1.03E+02	4.29E+00	7.88E-05	1.30E+03	1.02E-01	1.00E+00	5.16E-01	8.51E+00	1.59E+02	2.97E-02	2.82E+02	3.02E-02	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	7.90E-02	1.03E+02	4.29E+00	7.88E-05	1.30E+03	1.02E-01	1.00E+00	5.16E-01	8.51E+00	1.37E+01	3.46E-02	2.35E+01	3.62E-01	Navy 1998
<b>MERCURY</b>																
Dose/High TRV	4.18E-02	4.18E-02	6.63E-01	1.26E+00	5.26E-02	7.88E-05	1.90E+00	1.50E-04	1.00E+00	5.16E-01	1.02E-01	4.00E+00	4.28E-01	4.15E+00	2.46E-02	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	6.63E-01	1.26E+00	5.26E-02	7.88E-05	1.90E+00	1.50E-04	1.00E+00	5.16E-01	1.02E-01	2.50E-01	1.88E-01	3.06E-01	3.34E-01	Navy 1998
<b>MOLYBDENUM</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.00E+00	1.37E+01	5.72E-01	7.88E-05	1.37E+01	1.08E-03	1.00E+00	5.16E-01	1.11E+00	2.60E+00	3.00E-02	4.59E+00	2.42E-01	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	1.00E+00	1.37E+01	5.72E-01	7.88E-05	1.37E+01	1.08E-03	1.00E+00	5.16E-01	1.11E+00	2.60E-01	3.00E-02	4.59E-01	2.42E+00	Sample and others 1996
<b>NICKEL</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	3.94E+00	1.64E-01	7.88E-05	1.22E+02	9.61E-03	1.00E+00	5.16E-01	3.37E-01	3.16E+01	2.49E-01	3.66E+01	9.22E-03	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	3.94E+00	1.64E-01	7.88E-05	1.22E+02	9.61E-03	1.00E+00	5.16E-01	3.37E-01	1.33E-01	2.49E-01	1.54E-01	2.19E+00	Navy 1998
<b>SELENIUM</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	5.65E-01	2.36E-02	7.88E-05	1.10E+00	8.66E-05	1.00E+00	5.16E-01	4.59E-02	1.21E+00	2.46E-02	2.22E+00	2.06E-02	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	5.65E-01	2.36E-02	7.88E-05	1.10E+00	8.66E-05	1.00E+00	5.16E-01	4.59E-02	5.00E-02	1.87E-01	6.13E-02	7.48E-01	Navy 1998
<b>SILVER</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.40E-02	1.33E-01	5.55E-03	7.88E-05	9.50E+00	7.48E-04	1.00E+00	5.16E-01	1.22E-02	6.02E+01	8.86E+00	3.41E+01	3.58E-04	EPA 2007
Dose/Low TRV	4.18E-02	4.18E-02	1.40E-02	1.33E-01	5.55E-03	7.88E-05	9.50E+00	7.48E-04	1.00E+00	5.16E-01	1.22E-02	6.02E+00	8.86E+00	3.41E+00	3.58E-03	EPA 2007
<b>THALLIUM</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.00E+00	3.50E+00	1.46E-01	7.88E-05	3.50E+00	2.76E-04	1.00E+00	5.16E-01	2.84E-01	1.43E+00	6.50E-02	2.16E+00	1.31E-01	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	1.00E+00	3.50E+00	1.46E-01	7.88E-05	3.50E+00	2.76E-04	1.00E+00	5.16E-01	2.84E-01	4.80E-01	6.50E-02	7.26E-01	3.91E-01	Navy 1998

**ATTACHMENT I2 CALIFORNIA GROUND SQUIRREL DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>VANADIUM</b>																
Dose/High TRV	4.18E-02	4.18E-02	4.85E-03	6.31E-01	2.63E-02	7.88E-05	1.30E+02	1.02E-02	1.00E+00	5.16E-01	7.09E-02	2.10E+00	2.60E-01	2.41E+00	2.94E-02	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	4.85E-03	6.31E-01	2.63E-02	7.88E-05	1.30E+02	1.02E-02	1.00E+00	5.16E-01	7.09E-02	2.10E-01	2.60E-01	2.41E-01	2.94E-01	Sample and others 1996
<b>ZINC</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	2.67E+02	1.12E+01	7.88E-05	1.40E+03	1.10E-01	1.00E+00	5.16E-01	2.18E+01	4.11E+02	1.75E-01	5.11E+02	4.28E-02	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	2.67E+02	1.12E+01	7.88E-05	1.40E+03	1.10E-01	1.00E+00	5.16E-01	2.18E+01	9.60E+00	2.55E-02	1.75E+01	1.25E+00	Navy 1998
<b>2,4-DIMETHYLPHENOL</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.80E+00	3.78E-01	1.58E-02	7.88E-05	2.10E-01	1.65E-05	1.00E+00	5.16E-01	3.06E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	4.18E-02	4.18E-02	1.80E+00	3.78E-01	1.58E-02	7.88E-05	2.10E-01	1.65E-05	1.00E+00	5.16E-01	3.06E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>2-METHYLPHENOL</b>																
Dose/High TRV	4.18E-02	4.18E-02	3.00E+00	2.43E-01	1.01E-02	7.88E-05	8.10E-02	6.38E-06	1.00E+00	5.16E-01	1.97E-02	2.19E+03	1.00E+00	1.92E+03	1.02E-05	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	3.00E+00	2.43E-01	1.01E-02	7.88E-05	8.10E-02	6.38E-06	1.00E+00	5.16E-01	1.97E-02	2.19E+02	1.00E+00	1.92E+02	1.02E-04	Sample and others 1996
<b>4-METHYLPHENOL</b>																
Dose/High TRV	4.18E-02	4.18E-02	3.00E+00	8.10E-01	3.38E-02	7.88E-05	2.70E-01	2.13E-05	1.00E+00	5.16E-01	6.56E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	4.18E-02	4.18E-02	3.00E+00	8.10E-01	3.38E-02	7.88E-05	2.70E-01	2.13E-05	1.00E+00	5.16E-01	6.56E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-NITROANILINE</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.00E+00	6.20E-01	2.59E-02	7.88E-05	6.20E-01	4.88E-05	1.00E+00	5.16E-01	5.03E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	4.18E-02	4.18E-02	1.00E+00	6.20E-01	2.59E-02	7.88E-05	6.20E-01	4.88E-05	1.00E+00	5.16E-01	5.03E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-NITROPHENOL</b>																
Dose/High TRV	4.18E-02	4.18E-02	3.00E+00	1.26E+00	5.26E-02	7.88E-05	4.20E-01	3.31E-05	1.00E+00	5.16E-01	1.02E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	4.18E-02	4.18E-02	3.00E+00	1.26E+00	5.26E-02	7.88E-05	4.20E-01	3.31E-05	1.00E+00	5.16E-01	1.02E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>																
Dose/High TRV	4.18E-02	4.18E-02	5.50E-02	7.70E-01	3.22E-02	7.88E-05	1.40E+01	1.10E-03	1.00E+00	5.16E-01	6.44E-02	1.83E+02	3.00E-02	3.23E+02	1.99E-04	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	5.50E-02	7.70E-01	3.22E-02	7.88E-05	1.40E+01	1.10E-03	1.00E+00	5.16E-01	6.44E-02	1.83E+01	3.00E-02	3.23E+01	1.99E-03	Sample and others 1996
<b>BUTYLBENZYLPHTHALATE</b>																
Dose/High TRV	4.18E-02	4.18E-02	5.50E-02	3.47E-02	1.45E-03	7.88E-05	6.30E-01	4.96E-05	1.00E+00	5.16E-01	2.90E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	4.18E-02	4.18E-02	5.50E-02	3.47E-02	1.45E-03	7.88E-05	6.30E-01	4.96E-05	1.00E+00	5.16E-01	2.90E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIBENZOFURAN</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.50E-01	1.95E+00	8.14E-02	7.88E-05	1.30E+01	1.02E-03	1.00E+00	5.16E-01	1.60E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	4.18E-02	4.18E-02	1.50E-01	1.95E+00	8.14E-02	7.88E-05	1.30E+01	1.02E-03	1.00E+00	5.16E-01	1.60E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIMETHYLPHTHALATE</b>																
Dose/High TRV	4.18E-02	4.18E-02	4.50E+00	1.71E-01	7.14E-03	7.88E-05	3.80E-02	2.99E-06	1.00E+00	5.16E-01	1.38E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	4.18E-02	4.18E-02	4.50E+00	1.71E-01	7.14E-03	7.88E-05	3.80E-02	2.99E-06	1.00E+00	5.16E-01	1.38E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DI-N-BUTYLPHTHALATE</b>																
Dose/High TRV	4.18E-02	4.18E-02	5.50E-02	1.27E-01	5.28E-03	7.88E-05	2.30E+00	1.81E-04	1.00E+00	5.16E-01	1.06E-02	1.83E+03	3.00E-02	3.24E+03	3.27E-06	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	5.50E-02	1.27E-01	5.28E-03	7.88E-05	2.30E+00	1.81E-04	1.00E+00	5.16E-01	1.06E-02	5.50E+02	3.00E-02	9.72E+02	1.09E-05	Sample and others 1996
<b>ISOPHORONE</b>																
Dose/High TRV	4.18E-02	4.18E-02	3.90E+00	7.80E-01	3.26E-02	7.88E-05	2.00E-01	1.58E-05	1.00E+00	5.16E-01	6.32E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	4.18E-02	4.18E-02	3.90E+00	7.80E-01	3.26E-02	7.88E-05	2.00E-01	1.58E-05	1.00E+00	5.16E-01	6.32E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PHENOL</b>																
Dose/High TRV	4.18E-02	4.18E-02	5.10E+00	2.96E+00	1.24E-01	7.88E-05	5.80E-01	4.57E-05	1.00E+00	5.16E-01	2.39E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	4.18E-02	4.18E-02	5.10E+00	2.96E+00	1.24E-01	7.88E-05	5.80E-01	4.57E-05	1.00E+00	5.16E-01	2.39E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>2-METHYLNAPHTHALENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	2.10E-01	9.66E-01	4.03E-02	7.88E-05	4.60E+00	3.62E-04	1.00E+00	5.16E-01	7.89E-02	1.50E+02	2.70E-01	1.71E+02	4.62E-04	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	2.10E-01	9.66E-01	4.03E-02	7.88E-05	4.60E+00	3.62E-04	1.00E+00	5.16E-01	7.89E-02	5.00E+01	2.77E-01	5.66E+01	1.39E-03	Navy 1998
<b>ACENAPHTHENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	4.94E-04	2.06E-05	7.88E-05	1.10E+01	8.66E-04	1.00E+00	5.16E-01	1.72E-03	1.50E+02	2.70E-01	1.71E+02	1.01E-05	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	4.94E-04	2.06E-05	7.88E-05	1.10E+01	8.66E-04	1.00E+00	5.16E-01	1.72E-03	5.00E+01	2.77E-01	5.66E+01	3.04E-05	Navy 1998
<b>ACENAPHTHYLENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	8.42E+00	3.52E-01	7.88E-05	3.10E-01	2.44E-05	1.00E+00	5.16E-01	6.82E-01	1.50E+02	2.70E-01	1.71E+02	3.99E-03	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	8.42E+00	3.52E-01	7.88E-05	3.10E-01	2.44E-05	1.00E+00	5.16E-01	6.82E-01	5.00E+01	2.77E-01	5.66E+01	1.20E-02	Navy 1998
<b>ANTHRACENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	8.06E-01	3.37E-02	7.88E-05	2.70E+00	2.13E-04	1.00E+00	5.16E-01	6.56E-02	1.50E+02	2.70E-01	1.71E+02	3.85E-04	Navy 1998

**ATTACHMENT I2 CALIFORNIA GROUND SQUIRREL DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
Dose/Low TRV	4.18E-02	4.18E-02	R	8.06E-01	3.37E-02	7.88E-05	2.70E+00	2.13E-04	1.00E+00	5.16E-01	6.56E-02	5.00E+01	2.77E-01	5.66E+01	1.16E-03	Navy 1998
<b>BENZO(a)ANTHRACENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	3.20E-01	1.34E-02	7.88E-05	1.40E+01	1.10E-03	1.00E+00	5.16E-01	2.80E-02	3.28E+01	3.05E-02	5.77E+01	4.86E-04	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	3.20E-01	1.34E-02	7.88E-05	1.40E+01	1.10E-03	1.00E+00	5.16E-01	2.80E-02	1.31E+00	3.05E-02	2.31E+00	1.22E-02	Navy 1998
<b>BENZO(a)PYRENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	5.63E-01	2.35E-02	7.88E-05	4.60E+00	3.62E-04	1.00E+00	5.16E-01	4.63E-02	3.28E+01	3.05E-02	5.77E+01	8.02E-04	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	5.63E-01	2.35E-02	7.88E-05	4.60E+00	3.62E-04	1.00E+00	5.16E-01	4.63E-02	1.31E+00	3.05E-02	2.31E+00	2.01E-02	Navy 1998
<b>BENZO(b)FLUORANTHENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	3.10E-01	2.36E+00	9.84E-02	7.88E-05	7.60E+00	5.99E-04	1.00E+00	5.16E-01	1.92E-01	3.28E+01	3.05E-02	5.77E+01	3.32E-03	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	3.10E-01	2.36E+00	9.84E-02	7.88E-05	7.60E+00	5.99E-04	1.00E+00	5.16E-01	1.92E-01	1.31E+00	3.05E-02	2.31E+00	8.32E-02	Navy 1998
<b>BENZO(g,h,i)PERYLENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	9.48E-01	3.96E-02	7.88E-05	2.10E+00	1.65E-04	1.00E+00	5.16E-01	7.70E-02	3.28E+01	3.05E-02	5.77E+01	1.33E-03	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	9.48E-01	3.96E-02	7.88E-05	2.10E+00	1.65E-04	1.00E+00	5.16E-01	7.70E-02	1.31E+00	3.05E-02	2.31E+00	3.34E-02	Navy 1998
<b>BENZO(k)FLUORANTHENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	7.78E-01	3.25E-02	7.88E-05	9.20E+00	7.25E-04	1.00E+00	5.16E-01	6.44E-02	3.28E+01	3.05E-02	5.77E+01	1.12E-03	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	7.78E-01	3.25E-02	7.88E-05	9.20E+00	7.25E-04	1.00E+00	5.16E-01	6.44E-02	1.31E+00	3.05E-02	2.31E+00	2.79E-02	Navy 1998
<b>CHRYSENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	3.47E-01	1.45E-02	7.88E-05	1.60E+01	1.26E-03	1.00E+00	5.16E-01	3.05E-02	3.28E+01	3.05E-02	5.77E+01	5.28E-04	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	3.47E-01	1.45E-02	7.88E-05	1.60E+01	1.26E-03	1.00E+00	5.16E-01	3.05E-02	1.31E+00	3.05E-02	2.31E+00	1.32E-02	Navy 1998
<b>DIBENZO(a,h)ANTHRACENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.30E-01	1.69E-01	7.06E-03	7.88E-05	1.30E+00	1.02E-04	1.00E+00	5.16E-01	1.39E-02	3.28E+01	3.05E-02	5.77E+01	2.40E-04	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	1.30E-01	1.69E-01	7.06E-03	7.88E-05	1.30E+00	1.02E-04	1.00E+00	5.16E-01	1.39E-02	1.31E+00	3.05E-02	2.31E+00	6.02E-03	Navy 1998
<b>FLUORANTHENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	5.00E-01	3.70E+01	1.55E+00	7.88E-05	7.40E+01	5.83E-03	1.00E+00	5.16E-01	3.01E+00	3.28E+01	3.05E-02	5.77E+01	5.21E-02	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	5.00E-01	3.70E+01	1.55E+00	7.88E-05	7.40E+01	5.83E-03	1.00E+00	5.16E-01	3.01E+00	1.31E+00	3.05E-02	2.31E+00	1.30E+00	Navy 1998
<b>FLUORENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	6.62E-04	2.77E-05	7.88E-05	7.80E+00	6.14E-04	1.00E+00	5.16E-01	1.24E-03	1.50E+02	2.70E-01	1.71E+02	7.29E-06	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	6.62E-04	2.77E-05	7.88E-05	7.80E+00	6.14E-04	1.00E+00	5.16E-01	1.24E-03	5.00E+01	2.77E-01	5.66E+01	2.20E-05	Navy 1998
<b>INDENO(1,2,3-cd)PYRENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.10E-01	2.64E-01	1.10E-02	7.88E-05	2.40E+00	1.89E-04	1.00E+00	5.16E-01	2.17E-02	3.28E+01	3.05E-02	5.77E+01	3.76E-04	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	1.10E-01	2.64E-01	1.10E-02	7.88E-05	2.40E+00	1.89E-04	1.00E+00	5.16E-01	2.17E-02	1.31E+00	3.05E-02	2.31E+00	9.42E-03	Navy 1998
<b>NAPHTHALENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.22E+01	6.10E-02	2.55E-03	7.88E-05	5.00E-03	3.94E-07	1.00E+00	5.16E-01	4.94E-03	1.50E+02	2.70E-01	1.71E+02	2.89E-05	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	1.22E+01	6.10E-02	2.55E-03	7.88E-05	5.00E-03	3.94E-07	1.00E+00	5.16E-01	4.94E-03	5.00E+01	2.77E-01	5.66E+01	8.72E-05	Navy 1998
<b>PHENANTHRENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	8.35E+00	3.48E-01	7.88E-05	4.00E+01	3.15E-03	1.00E+00	5.16E-01	6.81E-01	1.50E+02	2.70E-01	1.71E+02	3.99E-03	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	8.35E+00	3.48E-01	7.88E-05	4.00E+01	3.15E-03	1.00E+00	5.16E-01	6.81E-01	5.00E+01	2.77E-01	5.66E+01	1.20E-02	Navy 1998
<b>PYRENE</b>																
Dose/High TRV	4.18E-02	4.18E-02	5.50E-02	3.74E+00	1.56E-01	7.88E-05	6.80E+01	5.36E-03	1.00E+00	5.16E-01	3.13E-01	3.28E+01	3.05E-02	5.77E+01	5.42E-03	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	5.50E-02	3.74E+00	1.56E-01	7.88E-05	6.80E+01	5.36E-03	1.00E+00	5.16E-01	3.13E-01	1.31E+00	3.05E-02	2.31E+00	1.36E-01	Navy 1998
<b>4,4'-DDD</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	5.15E-04	2.15E-05	7.88E-05	1.20E-03	9.45E-08	1.00E+00	5.16E-01	4.18E-05	1.60E+01	3.20E-01	1.76E+01	2.38E-06	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	5.15E-04	2.15E-05	7.88E-05	1.20E-03	9.45E-08	1.00E+00	5.16E-01	4.18E-05	8.00E-01	3.20E-01	8.80E-01	4.75E-05	Navy 1998
<b>4,4'-DDE</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	6.27E-02	2.62E-03	7.88E-05	7.10E-01	5.59E-05	1.00E+00	5.16E-01	5.18E-03	1.60E+01	3.20E-01	1.76E+01	2.94E-04	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	6.27E-02	2.62E-03	7.88E-05	7.10E-01	5.59E-05	1.00E+00	5.16E-01	5.18E-03	8.00E-01	3.20E-01	8.80E-01	5.89E-03	Navy 1998
<b>4,4'-DDT</b>																
Dose/High TRV	4.18E-02	4.18E-02	R	4.60E-02	1.92E-03	7.88E-05	4.70E-01	3.70E-05	1.00E+00	5.16E-01	3.79E-03	1.60E+01	3.20E-01	1.76E+01	2.15E-04	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	R	4.60E-02	1.92E-03	7.88E-05	4.70E-01	3.70E-05	1.00E+00	5.16E-01	3.79E-03	8.00E-01	3.20E-01	8.80E-01	4.31E-03	Navy 1998
<b>ALDRIN</b>																
Dose/High TRV	4.18E-02	4.18E-02	6.90E-01	8.97E-03	3.75E-04	7.88E-05	1.30E-02	1.02E-06	1.00E+00	5.16E-01	7.28E-04	1.00E+00	6.50E-02	1.51E+00	4.81E-04	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	6.90E-01	8.97E-03	3.75E-04	7.88E-05	1.30E-02	1.02E-06	1.00E+00	5.16E-01	7.28E-04	1.00E-02	6.50E-02	1.51E-02	4.81E-02	Navy 1998
<b>ALPHA-BHC</b>																

**ATTACHMENT I2 CALIFORNIA GROUND SQUIRREL DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
Dose/High TRV	4.18E-02	4.18E-02	2.10E-01	1.53E-04	6.40E-06	7.88E-05	7.30E-04	5.75E-08	1.00E+00	5.16E-01	1.25E-05	1.40E-01	1.00E+00	1.23E-01	1.02E-04	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	2.10E-01	1.53E-04	6.40E-06	7.88E-05	7.30E-04	5.75E-08	1.00E+00	5.16E-01	1.25E-05	1.40E-02	1.00E+00	1.23E-02	1.02E-03	Sample and others 1996
<b>ALPHA-CHLORDANE</b>																
Dose/High TRV	4.18E-02	4.18E-02	2.50E-02	1.20E-03	5.01E-05	7.88E-05	4.80E-02	3.78E-06	1.00E+00	5.16E-01	1.04E-04	9.20E+00	3.00E-02	1.63E+01	6.43E-06	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	2.50E-02	1.20E-03	5.01E-05	7.88E-05	4.80E-02	3.78E-06	1.00E+00	5.16E-01	1.04E-04	4.60E+00	3.00E-02	8.13E+00	1.29E-05	Sample and others 1996
<b>BETA-BHC</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.80E-01	3.96E-04	1.65E-05	7.88E-05	2.20E-03	1.73E-07	1.00E+00	5.16E-01	3.24E-05	2.00E+00	3.50E-01	2.16E+00	1.50E-05	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	1.80E-01	3.96E-04	1.65E-05	7.88E-05	2.20E-03	1.73E-07	1.00E+00	5.16E-01	3.24E-05	4.00E-01	3.50E-01	4.32E-01	7.49E-05	Sample and others 1996
<b>DELTA-BHC</b>																
Dose/High TRV	4.18E-02	4.18E-02	9.00E-01	7.56E-03	3.16E-04	7.88E-05	8.40E-03	6.62E-07	1.00E+00	5.16E-01	6.13E-04	1.40E-01	1.00E+00	1.23E-01	5.00E-03	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	9.00E-01	7.56E-03	3.16E-04	7.88E-05	8.40E-03	6.62E-07	1.00E+00	5.16E-01	6.13E-04	1.40E-02	1.00E+00	1.23E-02	5.00E-02	Sample and others 1996
<b>DIELDRIN</b>																
Dose/High TRV	4.18E-02	4.18E-02	4.10E-01	2.05E-01	8.56E-03	7.88E-05	5.00E-01	3.94E-05	1.00E+00	5.16E-01	1.67E-02	2.00E-01	3.50E-01	2.16E-01	7.71E-02	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	4.10E-01	2.05E-01	8.56E-03	7.88E-05	5.00E-01	3.94E-05	1.00E+00	5.16E-01	1.67E-02	2.00E-02	3.50E-01	2.16E-02	7.71E-01	Sample and others 1996
<b>ENDOSULFAN I</b>																
Dose/High TRV	4.18E-02	4.18E-02	3.30E-01	7.59E-03	3.17E-04	7.88E-05	2.30E-02	1.81E-06	1.00E+00	5.16E-01	6.18E-04	1.50E+00	3.50E-01	1.62E+00	3.81E-04	Calculated <sup>16</sup>
Dose/Low TRV	4.18E-02	4.18E-02	3.30E-01	7.59E-03	3.17E-04	7.88E-05	2.30E-02	1.81E-06	1.00E+00	5.16E-01	6.18E-04	1.50E-01	3.50E-01	1.62E-01	3.81E-03	Sample and others 1996
<b>ENDOSULFAN II</b>																
Dose/High TRV	4.18E-02	4.18E-02	3.30E-01	1.65E-02	6.89E-04	7.88E-05	5.00E-02	3.94E-06	1.00E+00	5.16E-01	1.34E-03	1.50E+00	3.50E-01	1.62E+00	8.28E-04	Calculated <sup>16</sup>
Dose/Low TRV	4.18E-02	4.18E-02	3.30E-01	1.65E-02	6.89E-04	7.88E-05	5.00E-02	3.94E-06	1.00E+00	5.16E-01	1.34E-03	1.50E-01	3.50E-01	1.62E-01	8.28E-03	Sample and others 1996
<b>ENDOSULFAN SULFATE</b>																
Dose/High TRV	4.18E-02	4.18E-02	3.30E-01	1.42E-02	5.93E-04	7.88E-05	4.30E-02	3.39E-06	1.00E+00	5.16E-01	1.15E-03	1.50E+00	3.50E-01	1.62E+00	7.12E-04	Calculated <sup>16</sup>
Dose/Low TRV	4.18E-02	4.18E-02	3.30E-01	1.42E-02	5.93E-04	7.88E-05	4.30E-02	3.39E-06	1.00E+00	5.16E-01	1.15E-03	1.50E-01	3.50E-01	1.62E-01	7.12E-03	Sample and others 1996
<b>ENDRIN KETONE</b>																
Dose/High TRV	4.18E-02	4.18E-02	8.20E-02	8.20E-04	3.42E-05	7.88E-05	1.00E-02	7.88E-07	1.00E+00	5.16E-01	6.79E-05	9.20E-01	3.00E-02	1.63E+00	4.18E-05	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	8.20E-02	8.20E-04	3.42E-05	7.88E-05	1.00E-02	7.88E-07	1.00E+00	5.16E-01	6.79E-05	9.20E-02	3.00E-02	1.63E-01	4.18E-04	Sample and others 1996
<b>ENDRIN ALDEHYDE</b>																
Dose/High TRV	4.18E-02	4.18E-02	8.20E-02	6.07E-03	2.53E-04	7.88E-05	7.40E-02	5.83E-06	1.00E+00	5.16E-01	5.02E-04	9.20E-01	3.00E-02	1.63E+00	3.09E-04	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	8.20E-02	6.07E-03	2.53E-04	7.88E-05	7.40E-02	5.83E-06	1.00E+00	5.16E-01	5.02E-04	9.20E-02	3.00E-02	1.63E-01	3.09E-03	Sample and others 1996
<b>GAMMA-BHC (LINDANE)</b>																
Dose/High TRV	4.18E-02	4.18E-02	2.70E-01	7.02E-04	2.93E-05	7.88E-05	2.60E-03	2.05E-07	1.00E+00	5.16E-01	5.72E-05	3.75E+00	2.40E-02	6.93E+00	8.26E-06	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	2.70E-01	7.02E-04	2.93E-05	7.88E-05	2.60E-03	2.05E-07	1.00E+00	5.16E-01	5.72E-05	5.00E-02	1.76E-01	6.20E-02	9.23E-04	Navy 1998
<b>GAMMA-CHLORDANE</b>																
Dose/High TRV	4.18E-02	4.18E-02	2.50E-02	3.75E-03	1.57E-04	7.88E-05	1.50E-01	1.18E-05	1.00E+00	5.16E-01	3.26E-04	9.20E+00	3.00E-02	1.63E+01	2.01E-05	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	2.50E-02	3.75E-03	1.57E-04	7.88E-05	1.50E-01	1.18E-05	1.00E+00	5.16E-01	3.26E-04	4.60E+00	3.00E-02	8.13E+00	4.02E-05	Sample and others 1996
<b>HEPTACHLOR</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.20E-01	8.28E-04	3.46E-05	7.88E-05	6.90E-03	5.44E-07	1.00E+00	5.16E-01	6.81E-05	6.80E+00	2.04E-01	8.19E+00	8.31E-06	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	1.20E-01	8.28E-04	3.46E-05	7.88E-05	6.90E-03	5.44E-07	1.00E+00	5.16E-01	6.81E-05	1.30E-01	1.00E-01	1.80E-01	3.77E-04	Navy 1998
<b>HEPTACHLOR EPOXIDE</b>																
Dose/High TRV	4.18E-02	4.18E-02	2.80E-02	3.08E-03	1.29E-04	7.88E-05	1.10E-01	8.66E-06	1.00E+00	5.16E-01	2.66E-04	6.80E+00	2.04E-01	8.19E+00	3.25E-05	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	2.80E-02	3.08E-03	1.29E-04	7.88E-05	1.10E-01	8.66E-06	1.00E+00	5.16E-01	2.66E-04	1.30E-01	1.00E-01	1.80E-01	1.47E-03	Navy 1998
<b>METHOXYCHLOR</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.10E-01	1.32E-02	5.51E-04	7.88E-05	1.20E-01	9.45E-06	1.00E+00	5.16E-01	1.09E-03	5.00E+01	3.32E-01	5.46E+01	1.99E-05	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	1.10E-01	1.32E-02	5.51E-04	7.88E-05	1.20E-01	9.45E-06	1.00E+00	5.16E-01	1.09E-03	2.50E+00	3.32E-01	2.73E+00	3.98E-04	Navy 1998
<b>TECHNICAL CHLORDANE</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.30E-01	7.80E-02	3.26E-03	7.88E-05	6.00E-01	4.73E-05	1.00E+00	5.16E-01	6.40E-03	9.20E+00	3.00E-02	1.63E+01	3.94E-04	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	1.30E-01	7.80E-02	3.26E-03	7.88E-05	6.00E-01	4.73E-05	1.00E+00	5.16E-01	6.40E-03	4.60E+00	3.00E-02	8.13E+00	7.88E-04	Sample and others 1996
<b>AROCLOR-1248</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.60E-02	1.92E-02	8.02E-04	7.88E-05	1.20E+00	9.45E-05	1.00E+00	5.16E-01	1.74E-03	1.00E-01	5.00E+00	6.35E-02	2.74E-02	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	1.60E-02	1.92E-02	8.02E-04	7.88E-05	1.20E+00	9.45E-05	1.00E+00	5.16E-01	1.74E-03	1.00E-02	5.00E+00	6.35E-03	2.74E-01	Sample and others 1996
<b>AROCLOR-1254</b>																
Dose/High TRV	4.18E-02	4.18E-02	1.30E-02	1.43E-01	5.97E-03	7.88E-05	1.10E+01	8.66E-04	1.00E+00	5.16E-01	1.33E-02	6.80E-01	1.40E-02	1.40E+00	9.47E-03	Sample and others 1996
Dose/Low TRV	4.18E-02	4.18E-02	1.30E-02	1.43E-01	5.97E-03	7.88E-05	1.10E+01	8.66E-04	1.00E+00	5.16E-01	1.33E-02	6.80E-02	1.40E-02	1.40E-01	9.47E-02	Sample and others 1996

**ATTACHMENT I2 CALIFORNIA GROUND SQUIRREL DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>AROCLOR-1260</b>																
Dose/High TRV	4.18E-02	4.18E-02	2.90E-03	2.81E-02	1.17E-03	7.88E-05	9.70E+00	7.64E-04	1.00E+00	5.16E-01	3.76E-03	1.28E+00	2.29E-02	2.39E+00	1.57E-03	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	2.90E-03	2.81E-02	1.17E-03	7.88E-05	9.70E+00	7.64E-04	1.00E+00	5.16E-01	3.76E-03	3.60E-01	2.06E-02	6.85E-01	5.48E-03	Navy 1998
<b>AROCLOR-1268</b>																
Dose/High TRV	4.18E-02	4.18E-02	2.90E-03	8.70E-04	3.63E-05	7.88E-05	3.00E-01	2.36E-05	1.00E+00	5.16E-01	1.16E-04	1.28E+00	2.29E-02	2.39E+00	4.87E-05	Navy 1998
Dose/Low TRV	4.18E-02	4.18E-02	2.90E-03	8.70E-04	3.63E-05	7.88E-05	3.00E-01	2.36E-05	1.00E+00	5.16E-01	1.16E-04	3.60E-01	2.06E-02	6.85E-01	1.70E-04	Navy 1998

Notes:

- The formulas presented in Nagy (2001) were used to calculate ingestion rate.
- The plant ingestion rate is 100 percent of the total prey ingestion rate.
- BAFs were taken from EPA guidance (EPA 1995), primary literature, or calculated using formulas from ORNL (RAIS 2007). R = Regression equation used to generate tissue concentration.
- The plant concentration was calculated by multiplying the maximum soil concentration by the BAF or using a regression equation to generate a tissue concentration (see note 3).
- Plant daily doses were calculated by multiplying the ingestion rate (see note 2) by the tissue concentration (see note 4).
- Soil ingestion rate is 2.4 percent of prey ingestion rate.
- Maximum of all site-collected surface (0 to 4 feet) soil samples were used.
- Soil daily dose was calculated by multiplying the soil ingestion rate (see note 6) by soil concentration (see note 7).
- Body weight is taken from EPA (1993, 2003) and Office of Environmental Health Hazard Assessment (2003).
- Total daily dose is calculated using the following equation: total daily dose = [(plant daily dose + invertebrate daily dose + soil daily dose)\*SUF]/receptor species body weight.
- The derivation of TRVs is described in Navy (1998) and Sample (1996).
- The following surrogate TRVs were used: The TRV for BHC mixed isomers was used as a surrogate for alpha-, beta-, and delta-BHC. The TRV for chlordane was used as a surrogate for heptachlor and heptachlor epoxide because heptachlor and heptachlor epoxide are breakdown products of chlordane. The TRV for chlordane was also used for alpha-chlordane, gamma-chlordane, and technical chlordane. The TRV for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The TRV for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The TRV for dieldrin was used as a surrogate for aldrin because dieldrin is a metabolic breakdown product of aldrin. The TRV for PCBs was used for Aroclor-1248, -1260, and -1268.
- Allometrically adjusted TRVs were calculated using the following equation: receptor species TRV = (test species TRV) x (test species body weight / receptor species body weight)<sup>1-1.4</sup>.
- HQs were calculated using the following equation: HQ = total daily dose/allometrically adjusted TRV.
- Sufficient data are not available to derive a TRV. This chemical was evaluated qualitatively.
- When only a low TRV was available from Sample and others (1996) or EPA (2007), it was multiplied by 10 to derive the high TRV.

BAF	Bioaccumulation factor	kg/day	Kilogram per day
BHC	Benzene hexachloride	mg/day	Milligram per day
COPEC	Chemical of potential ecological concern	mg/kg	Milligram per kilogram
DDD	Dichlorodiphenyldichloroethane	mg/kg/day	Milligram per kilogram per day
DDE	Dichlorodiphenyldichloroethylene	NA	Not applicable
DDT	Dichlorodiphenyltrichloroethane	Navy	U.S. Department of the Navy, Engineering Field Activity West
EPA	U.S. Environmental Protection Agency	R	Regression equation
HQ	Hazard Quotient	SUF	Site use factor
kg	kilogram	TRV	Toxicity reference value

References:

U.S. Department of the Navy. 1998. "Development of EPA 2007 Interim Ecological Soil Screening Levels." Available on-line at: <http://www.epa.gov/ecotox/ecoss/>

EPA. 1993. "Wildlife Exposure Factors Handbook". Volumes 1 and 2. Office of Research and Development. EPA/600/R-93/187. December.

EPA. 1995. "Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors." EPA-820-B-95-005.

EPA. 2003. "Region 5 RCRA Ecological Screening Levels." August 22. Available Online at: <http://www.epa.gov/reg5rcra/ca/edql.htm>

EPA. 2007. Interim Ecological Soil Screening Levels. Sample, B.E., D.M. Opreko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

Nagy, K.A. 2001. "Food Requirements of Wild Animals: Predictive Equations for Free-Living Mammals, Reptiles, and Birds." *Nutrition Abstracts and Reviews, Series B*. Volume 71. Pages 21R-31R.

Office of Environmental Health Hazard Assessment. 2003. "California Wildlife Exposure Factor and Toxicity Database." Ecotoxicology Unit. Sacramento, California. Available Online at: [www.oehha.org/cal\\_ecotox/default.htm](http://www.oehha.org/cal_ecotox/default.htm)

Oak Ridge National Laboratory. 2007. "Risk Assessment Information System." Available Online at: <http://rais.ornl.gov/index.shtml>

Sample, B.E., D.M. Opreko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

**ATTACHMENT I3 ALAMEDA SONG SPARROW DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>ALUMINIUM</b>																				
Dose/High TRV	5.68E-03	2.84E-03	2.87E-03	1.06E+02	3.01E-01	2.84E-03	4.30E-02	1.59E+03	4.52E+00	4.54E-04	3.70E+04	1.68E+01	1.00E+00	2.50E-02	3.42E+03	1.10E+03	1.55E-01	7.62E+02	4.49E+00	Calculated <sup>16</sup>
Dose/Low TRV	5.68E-03	2.84E-03	2.87E-03	1.06E+02	3.01E-01	2.84E-03	4.30E-02	1.59E+03	4.52E+00	4.54E-04	3.70E+04	1.68E+01	1.00E+00	2.50E-02	3.42E+03	1.10E+02	1.55E-01	7.62E+01	4.49E+01	Sample and others 1996
<b>ANTIMONY</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	5.31E-01	1.51E-03	2.84E-03	1.00E+00	1.60E+01	4.54E-02	4.54E-04	1.60E+01	7.27E-03	1.00E+00	2.50E-02	2.17E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	5.31E-01	1.51E-03	2.84E-03	1.00E+00	1.60E+01	4.54E-02	4.54E-04	1.60E+01	7.27E-03	1.00E+00	2.50E-02	2.17E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>ARSENIC</b>																				
Dose/High TRV	5.68E-03	2.84E-03	3.75E-02	4.50E+00	1.28E-02	2.84E-03	R	7.09E+00	2.01E-02	4.54E-04	1.20E+02	5.45E-02	1.00E+00	2.50E-02	3.50E+00	2.20E+01	1.17E+00	1.02E+01	3.43E-01	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	3.75E-02	4.50E+00	1.28E-02	2.84E-03	R	7.09E+00	2.01E-02	4.54E-04	1.20E+02	5.45E-02	1.00E+00	2.50E-02	3.50E+00	5.50E+00	1.17E+00	2.55E+00	1.37E+00	Navy 1998
<b>BARIUM</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.56E-01	3.12E+01	8.86E-02	2.84E-03	9.10E-02	1.82E+01	5.17E-02	4.54E-04	2.00E+02	9.08E-02	1.00E+00	2.50E-02	9.24E+00	4.17E+01	1.21E-01	3.04E+01	3.04E-01	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	1.56E-01	3.12E+01	8.86E-02	2.84E-03	9.10E-02	1.82E+01	5.17E-02	4.54E-04	2.00E+02	9.08E-02	1.00E+00	2.50E-02	9.24E+00	2.08E+01	1.21E-01	1.52E+01	6.09E-01	Sample and others 1996
<b>BERYLLIUM</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	4.07E-01	1.16E-03	2.84E-03	4.50E-02	2.75E-02	7.79E-05	4.54E-04	6.10E-01	2.77E-04	1.00E+00	2.50E-02	6.04E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	4.07E-01	1.16E-03	2.84E-03	4.50E-02	2.75E-02	7.79E-05	4.54E-04	6.10E-01	2.77E-04	1.00E+00	2.50E-02	6.04E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>CADMIUM</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	5.02E+00	1.42E-02	2.84E-03	R	1.73E+02	4.92E-01	4.54E-04	4.58E+01	2.08E-02	1.00E+00	2.50E-02	2.11E+01	1.04E+01	8.40E-02	8.18E+00	2.57E+00	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	R	5.02E+00	1.42E-02	2.84E-03	R	1.73E+02	4.92E-01	4.54E-04	4.58E+01	2.08E-02	1.00E+00	2.50E-02	2.11E+01	8.00E-02	7.98E-01	4.00E-02	5.26E+02	Navy 1998
<b>CHROMIUM</b>																				
Dose/High TRV	5.68E-03	2.84E-03	4.10E-02	2.26E+01	6.40E-02	2.84E-03	3.06E-01	1.68E+02	4.78E-01	4.54E-04	5.50E+02	2.50E-01	1.00E+00	2.50E-02	3.17E+01	5.00E+00	1.25E+00	2.29E+00	1.38E+01	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	4.10E-02	2.26E+01	6.40E-02	2.84E-03	3.06E-01	1.68E+02	4.78E-01	4.54E-04	5.50E+02	2.50E-01	1.00E+00	2.50E-02	3.17E+01	1.00E+00	1.25E+00	4.57E-01	6.92E+01	Sample and others 1996
<b>COBALT</b>																				
Dose/High TRV	5.68E-03	2.84E-03	7.50E-03	1.63E-01	4.62E-04	2.84E-03	1.22E-01	2.65E+00	7.51E-03	4.54E-04	2.17E+01	9.86E-03	1.00E+00	2.50E-02	7.13E-01	7.61E+01	2.92E-01	4.66E+01	1.53E-02	Calculated <sup>16</sup>
Dose/Low TRV	5.68E-03	2.84E-03	7.50E-03	1.63E-01	4.62E-04	2.84E-03	1.22E-01	2.65E+00	7.51E-03	4.54E-04	2.17E+01	9.86E-03	1.00E+00	2.50E-02	7.13E-01	7.61E+00	2.92E-01	4.66E+00	1.53E-01	EPA 2007
<b>COPPER</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	1.73E+01	4.91E-02	2.84E-03	5.15E-01	1.31E+02	3.71E-01	4.54E-04	2.54E+02	1.15E-01	1.00E+00	2.50E-02	2.14E+01	5.23E+01	4.09E-01	2.99E+01	7.17E-01	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	R	1.73E+01	4.91E-02	2.84E-03	5.15E-01	1.31E+02	3.71E-01	4.54E-04	2.54E+02	1.15E-01	1.00E+00	2.50E-02	2.14E+01	2.30E+00	6.39E-01	1.20E+00	1.78E+01	Navy 1998
<b>IRON</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.00E+00	1.80E+05	5.11E+02	2.84E-03	1.00E+00	1.80E+05	5.11E+02	4.54E-04	1.80E+05	8.18E+01	1.00E+00	2.50E-02	4.41E+04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	1.00E+00	1.80E+05	5.11E+02	2.84E-03	1.00E+00	1.80E+05	5.11E+02	4.54E-04	1.80E+05	8.18E+01	1.00E+00	2.50E-02	4.41E+04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>LEAD</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	7.05E+01	2.00E-01	2.84E-03	R	2.47E+03	7.02E+00	4.54E-04	2.10E+04	9.54E+00	1.00E+00	2.50E-02	6.70E+02	8.75E+00	8.00E-01	4.38E+00	1.53E+02	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	R	7.05E+01	2.00E-01	2.84E-03	R	2.47E+03	7.02E+00	4.54E-04	2.10E+04	9.54E+00	1.00E+00	2.50E-02	6.70E+02	1.40E-02	8.40E-02	1.10E-02	6.10E+04	Navy 1998
<b>MANGANESE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	7.90E-02	1.03E+02	2.92E-01	2.84E-03	R	5.92E+01	1.68E-01	4.54E-04	1.30E+03	5.90E-01	1.00E+00	2.50E-02	4.20E+01	7.76E+02	1.97E-01	5.14E+02	8.17E-02	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	7.90E-02	1.03E+02	2.92E-01	2.84E-03	R	5.92E+01	1.68E-01	4.54E-04	1.30E+03	5.90E-01	1.00E+00	2.50E-02	4.20E+01	7.76E+01	1.97E-01	5.14E+01	8.17E-01	Navy 1998
<b>MERCURY</b>																				
Dose/High TRV	5.68E-03	2.84E-03	6.63E-01	1.26E+00	3.58E-03	2.84E-03	1.69E+00	3.22E+00	9.13E-03	4.54E-04	1.90E+00	8.63E-04	1.00E+00	2.50E-02	5.43E-01	1.80E-01	1.00E+00	8.61E-02	6.31E+00	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	6.63E-01	1.26E+00	3.58E-03	2.84E-03	1.69E+00	3.22E+00	9.13E-03	4.54E-04	1.90E+00	8.63E-04	1.00E+00	2.50E-02	5.43E-01	3.90E-02	1.00E+00	1.86E-02	2.91E+01	Navy 1998
<b>MOLYBDENUM</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.00E+00	1.37E+01	3.89E-02	2.84E-03	R	2.11E+00	5.99E-03	4.54E-04	1.37E+01	6.22E-03	1.00E+00	2.50E-02	2.04E+00	3.53E+01	1.50E+00	1.56E+01	1.31E-01	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	1.00E+00	1.37E+01	3.89E-02	2.84E-03	R	2.11E+00	5.99E-03	4.54E-04	1.37E+01	6.22E-03	1.00E+00	2.50E-02	2.04E+00	3.50E+00	1.50E+00	1.54E+00	1.32E+00	Sample and others 1996
<b>NICKEL</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	3.94E+00	1.12E-02	2.84E-03	1.06E+00	1.29E+02	3.67E-01	4.54E-04	1.22E+02	5.54E-02	1.00E+00	2.50E-02	1.73E+01	5.53E+01	5.80E-01	2.95E+01	5.88E-01	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	R	3.94E+00	1.12E-02	2.84E-03	1.06E+00	1.29E+02	3.67E-01	4.54E-04	1.22E+02	5.54E-02	1.00E+00	2.50E-02	1.73E+01	1.38E+00	6.13E-01	7.28E-01	2.38E+01	Navy 1998
<b>SELENIUM</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	5.65E-01	1.60E-03	2.84E-03	R	9.95E-01	2.82E-03	4.54E-04	1.10E+00	5.00E-04	1.00E+00	2.50E-02	1.97E-01	9.30E-01	1.11E+00	4.36E-01	4.52E-01	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	R	5.65E-01	1.60E-03	2.84E-03	R	9.95E-01	2.82E-03	4.54E-04	1.10E+00	5.00E-04	1.00E+00	2.50E-02	1.97E-01	2.30E-01	1.11E+00	1.08E-01	1.83E+00	Navy 1998
<b>SILVER</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.40E-02	1.33E-01	3.78E-04	2.84E-03	2.05E+00	1.94E+01	5.51E-02	4.54E-04	9.50E+00	4.31E-03	1.00E+00	2.50E-02	2.39E+00	2.02E+01	6.62E-01	1.05E+01	2.28E-01	EPA 2007
Dose/Low TRV	5.68E-03	2.84E-03	1.40E-02	1.33E-01	3.78E-04	2.84E-03	2.05E+00	1.94E+01	5.51E-02	4.54E-04	9.50E+00	4.31E-03	1.00E+00	2.50E-02	2.39E+00	2.02E+00	6.62E-01	1.05E+00	2.28E+00	EPA 2007

**ATTACHMENT I3 ALAMEDA SONG SPARROW DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/k g/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>THALLIUM</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.00E+00	3.50E+00	9.94E-03	2.84E-03	1.00E+00	3.50E+00	9.94E-03	4.54E-04	3.50E+00	1.59E-03	1.00E+00	2.50E-02	8.58E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	1.00E+00	3.50E+00	9.94E-03	2.84E-03	1.00E+00	3.50E+00	9.94E-03	4.54E-04	3.50E+00	1.59E-03	1.00E+00	2.50E-02	8.58E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>VANADIUM</b>																				
Dose/High TRV	5.68E-03	2.84E-03	4.85E-03	6.31E-01	1.79E-03	2.84E-03	4.20E-02	5.46E+00	1.55E-02	4.54E-04	1.30E+02	5.90E-02	1.00E+00	2.50E-02	3.05E+00	1.14E+02	1.17E+00	5.28E+01	5.78E-02	Calculated <sup>16</sup>
Dose/Low TRV	5.68E-03	2.84E-03	4.85E-03	6.31E-01	1.79E-03	2.84E-03	4.20E-02	5.46E+00	1.55E-02	4.54E-04	1.30E+02	5.90E-02	1.00E+00	2.50E-02	3.05E+00	1.14E+01	1.17E+00	5.28E+00	5.78E-01	Sample and others 1996
<b>ZINC</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	2.67E+02	7.59E-01	2.84E-03	R	9.21E+02	2.61E+00	4.54E-04	1.40E+03	6.36E-01	1.00E+00	2.50E-02	1.60E+02	1.72E+02	9.55E-01	8.30E+01	1.93E+00	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	R	2.67E+02	7.59E-01	2.84E-03	R	9.21E+02	2.61E+00	4.54E-04	1.40E+03	6.36E-01	1.00E+00	2.50E-02	1.60E+02	1.72E+01	9.55E-01	8.30E+00	1.93E+01	Navy 1998
<b>2,4-DIMETHYLPHENOL</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.80E+00	3.78E-01	1.07E-03	2.84E-03	2.75E+01	5.77E+00	1.64E-02	4.54E-04	2.10E-01	9.54E-05	1.00E+00	2.50E-02	7.02E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	1.80E+00	3.78E-01	1.07E-03	2.84E-03	2.75E+01	5.77E+00	1.64E-02	4.54E-04	2.10E-01	9.54E-05	1.00E+00	2.50E-02	7.02E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>2-METHYLPHENOL</b>																				
Dose/High TRV	5.68E-03	2.84E-03	3.00E+00	2.43E-01	6.90E-04	2.84E-03	2.71E+01	2.19E+00	6.23E-03	4.54E-04	8.10E-02	3.68E-05	1.00E+00	2.50E-02	2.78E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	3.00E+00	2.43E-01	6.90E-04	2.84E-03	2.71E+01	2.19E+00	6.23E-03	4.54E-04	8.10E-02	3.68E-05	1.00E+00	2.50E-02	2.78E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-METHYLPHENOL</b>																				
Dose/High TRV	5.68E-03	2.84E-03	3.00E+00	8.10E-01	2.30E-03	2.84E-03	2.71E+01	7.31E+00	2.08E-02	4.54E-04	2.70E-01	1.23E-04	1.00E+00	2.50E-02	9.27E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	3.00E+00	8.10E-01	2.30E-03	2.84E-03	2.71E+01	7.31E+00	2.08E-02	4.54E-04	2.70E-01	1.23E-04	1.00E+00	2.50E-02	9.27E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-NITROANILINE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.00E+00	6.20E-01	1.76E-03	2.84E-03	2.65E+01	1.64E+01	4.66E-02	4.54E-04	6.20E-01	2.82E-04	1.00E+00	2.50E-02	1.95E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	1.00E+00	6.20E-01	1.76E-03	2.84E-03	2.65E+01	1.64E+01	4.66E-02	4.54E-04	6.20E-01	2.82E-04	1.00E+00	2.50E-02	1.95E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-NITROPHENOL</b>																				
Dose/High TRV	5.68E-03	2.84E-03	3.00E+00	1.26E+00	3.58E-03	2.84E-03	2.71E+01	1.14E+01	3.23E-02	4.54E-04	4.20E-01	1.91E-04	1.00E+00	2.50E-02	1.44E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	3.00E+00	1.26E+00	3.58E-03	2.84E-03	2.71E+01	1.14E+01	3.23E-02	4.54E-04	4.20E-01	1.91E-04	1.00E+00	2.50E-02	1.44E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	5.50E-02	7.70E-01	2.19E-03	2.84E-03	2.52E+01	3.52E+02	1.00E+00	4.54E-04	1.40E+01	6.36E-03	1.00E+00	2.50E-02	4.03E+01	1.10E+01	1.55E-01	7.64E+00	5.28E+00	Calculated <sup>16</sup>
Dose/Low TRV	5.68E-03	2.84E-03	5.50E-02	7.70E-01	2.19E-03	2.84E-03	2.52E+01	3.52E+02	1.00E+00	4.54E-04	1.40E+01	6.36E-03	1.00E+00	2.50E-02	4.03E+01	1.10E+00	1.55E-01	7.64E-01	5.28E+01	Sample and others 1996
<b>BUTYLBENZYLPHTHALATE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	5.50E-02	3.47E-02	9.84E-05	2.84E-03	2.52E+01	1.58E+01	4.50E-02	4.54E-04	6.30E-01	2.86E-04	1.00E+00	2.50E-02	1.81E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	5.50E-02	3.47E-02	9.84E-05	2.84E-03	2.52E+01	1.58E+01	4.50E-02	4.54E-04	6.30E-01	2.86E-04	1.00E+00	2.50E-02	1.81E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIBENZOFURAN</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.50E-01	1.95E+00	5.54E-03	2.84E-03	2.95E+01	3.83E+02	1.09E+00	4.54E-04	1.30E+01	5.90E-03	1.00E+00	2.50E-02	4.40E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	1.50E-01	1.95E+00	5.54E-03	2.84E-03	2.95E+01	3.83E+02	1.09E+00	4.54E-04	1.30E+01	5.90E-03	1.00E+00	2.50E-02	4.40E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIMETHYLPHTHALATE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	4.50E+00	1.71E-01	4.85E-04	2.84E-03	2.67E+01	1.02E+00	2.88E-03	4.54E-04	3.80E-02	1.73E-05	1.00E+00	2.50E-02	1.35E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	4.50E+00	1.71E-01	4.85E-04	2.84E-03	2.67E+01	1.02E+00	2.88E-03	4.54E-04	3.80E-02	1.73E-05	1.00E+00	2.50E-02	1.35E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DI-N-BUTYLPHTHALATE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	5.50E-02	1.27E-01	3.59E-04	2.84E-03	2.99E+01	6.89E+01	1.95E-01	4.54E-04	2.30E+00	1.04E-03	1.00E+00	2.50E-02	7.87E+00	1.10E+00	1.55E-01	7.64E-01	1.03E+01	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	5.50E-02	1.27E-01	3.59E-04	2.84E-03	2.99E+01	6.89E+01	1.95E-01	4.54E-04	2.30E+00	1.04E-03	1.00E+00	2.50E-02	7.87E+00	1.10E-01	1.55E-01	7.64E-02	1.03E+02	Sample and others 1996
<b>ISOPHORONE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	3.90E+00	7.80E-01	2.21E-03	2.84E-03	2.68E+01	5.37E+00	1.52E-02	4.54E-04	2.00E-01	9.08E-05	1.00E+00	2.50E-02	7.01E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	3.90E+00	7.80E-01	2.21E-03	2.84E-03	2.68E+01	5.37E+00	1.52E-02	4.54E-04	2.00E-01	9.08E-05	1.00E+00	2.50E-02	7.01E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PHENOL</b>																				
Dose/High TRV	5.68E-03	2.84E-03	5.10E+00	2.96E+00	8.40E-03	2.84E-03	2.66E+01	1.54E+01	4.38E-02	4.54E-04	5.80E-01	2.63E-04	1.00E+00	2.50E-02	2.10E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	5.10E+00	2.96E+00	8.40E-03	2.84E-03	2.66E+01	1.54E+01	4.38E-02	4.54E-04	5.80E-01	2.63E-04	1.00E+00	2.50E-02	2.10E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>2-METHYLNAPHTHALENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	2.10E-01	9.66E-01	2.74E-03	2.84E-03	2.92E+01	1.34E+02	3.81E-01	4.54E-04	4.60E+00	2.09E-03	1.00E+00	2.50E-02	1.54E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	2.10E-01	9.66E-01	2.74E-03	2.84E-03	2.92E+01	1.34E+02	3.81E-01	4.54E-04	4.60E+00	2.09E-03	1.00E+00	2.50E-02	1.54E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>ACENAPHTHENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	4.94E-04	1.40E-06	2.84E-03	1.47E+00	1.62E+01	4.59E-02	4.54E-04	1.10E+01	5.00E-03	1.00E+00	2.50E-02	2.04E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	4.94E-04	1.40E-06	2.84E-03	1.47E+00	1.62E+01	4.59E-02	4.54E-04	1.10E+01	5.00E-03	1.00E+00	2.50E-02	2.04E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA

**ATTACHMENT 13 ALAMEDA SONG SPARROW DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>ACENAPHTHYLENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	8.42E+00	2.39E-02	2.84E-03	2.29E+01	7.10E+00	2.02E-02	4.54E-04	3.10E-01	1.41E-04	1.00E+00	2.50E-02	1.77E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	8.42E+00	2.39E-02	2.84E-03	2.29E+01	7.10E+00	2.02E-02	4.54E-04	3.10E-01	1.41E-04	1.00E+00	2.50E-02	1.77E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>ANTHRACENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	8.06E-01	2.29E-03	2.84E-03	2.42E+00	6.53E+00	1.85E-02	4.54E-04	2.70E+00	1.23E-03	1.00E+00	2.50E-02	8.82E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	8.06E-01	2.29E-03	2.84E-03	2.42E+00	6.53E+00	1.85E-02	4.54E-04	2.70E+00	1.23E-03	1.00E+00	2.50E-02	8.82E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(a)ANTHRACENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	3.20E-01	9.09E-04	2.84E-03	1.59E+00	2.23E+01	6.32E-02	4.54E-04	1.40E+01	6.36E-03	1.00E+00	2.50E-02	2.82E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	3.20E-01	9.09E-04	2.84E-03	1.59E+00	2.23E+01	6.32E-02	4.54E-04	1.40E+01	6.36E-03	1.00E+00	2.50E-02	2.82E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(a)PYRENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	5.63E-01	1.60E-03	2.84E-03	1.33E+00	6.12E+00	1.74E-02	4.54E-04	4.60E+00	2.09E-03	1.00E+00	2.50E-02	8.42E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	5.63E-01	1.60E-03	2.84E-03	1.33E+00	6.12E+00	1.74E-02	4.54E-04	4.60E+00	2.09E-03	1.00E+00	2.50E-02	8.42E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(b)FLUORANTHENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	3.10E-01	2.36E+00	6.69E-03	2.84E-03	2.60E+00	1.98E+01	5.61E-02	4.54E-04	7.60E+00	3.45E-03	1.00E+00	2.50E-02	2.65E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	3.10E-01	2.36E+00	6.69E-03	2.84E-03	2.60E+00	1.98E+01	5.61E-02	4.54E-04	7.60E+00	3.45E-03	1.00E+00	2.50E-02	2.65E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(g,h,i)PERYLENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	9.48E-01	2.69E-03	2.84E-03	2.94E+00	6.17E+00	1.75E-02	4.54E-04	2.10E+00	9.54E-04	1.00E+00	2.50E-02	8.47E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	9.48E-01	2.69E-03	2.84E-03	2.94E+00	6.17E+00	1.75E-02	4.54E-04	2.10E+00	9.54E-04	1.00E+00	2.50E-02	8.47E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(k)FLUORANTHENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	7.78E-01	2.21E-03	2.84E-03	2.60E+00	2.39E+01	6.79E-02	4.54E-04	9.20E+00	4.18E-03	1.00E+00	2.50E-02	2.97E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	7.78E-01	2.21E-03	2.84E-03	2.60E+00	2.39E+01	6.79E-02	4.54E-04	9.20E+00	4.18E-03	1.00E+00	2.50E-02	2.97E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>CHRYSENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	3.47E-01	9.84E-04	2.84E-03	2.29E+00	3.66E+01	1.04E-01	4.54E-04	1.60E+01	7.27E-03	1.00E+00	2.50E-02	4.49E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	3.47E-01	9.84E-04	2.84E-03	2.29E+00	3.66E+01	1.04E-01	4.54E-04	1.60E+01	7.27E-03	1.00E+00	2.50E-02	4.49E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIBENZO(a,h)ANTHRACENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.30E-01	1.69E-01	4.80E-04	2.84E-03	2.31E+00	3.00E+00	8.52E-03	4.54E-04	1.30E+00	5.90E-04	1.00E+00	2.50E-02	3.84E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	1.30E-01	1.69E-01	4.80E-04	2.84E-03	2.31E+00	3.00E+00	8.52E-03	4.54E-04	1.30E+00	5.90E-04	1.00E+00	2.50E-02	3.84E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>FLUORANTHENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	5.00E-01	3.70E+01	1.05E-01	2.84E-03	3.04E+00	2.25E+02	6.39E-01	4.54E-04	7.40E+01	3.36E-02	1.00E+00	2.50E-02	3.11E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	5.00E-01	3.70E+01	1.05E-01	2.84E-03	3.04E+00	2.25E+02	6.39E-01	4.54E-04	7.40E+01	3.36E-02	1.00E+00	2.50E-02	3.11E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>FLUORENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	6.62E-04	1.88E-06	2.84E-03	9.57E+00	7.46E+01	2.12E-01	4.54E-04	7.80E+00	3.54E-03	1.00E+00	2.50E-02	8.62E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	6.62E-04	1.88E-06	2.84E-03	9.57E+00	7.46E+01	2.12E-01	4.54E-04	7.80E+00	3.54E-03	1.00E+00	2.50E-02	8.62E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>INDENO(1,2,3-cd)PYRENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.10E-01	2.64E-01	7.49E-04	2.84E-03	2.86E+00	6.86E+00	1.95E-02	4.54E-04	2.40E+00	1.09E-03	1.00E+00	2.50E-02	8.53E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	1.10E-01	2.64E-01	7.49E-04	2.84E-03	2.86E+00	6.86E+00	1.95E-02	4.54E-04	2.40E+00	1.09E-03	1.00E+00	2.50E-02	8.53E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>NAPHTHALENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.22E+01	6.10E-02	1.73E-04	2.84E-03	4.40E+00	2.20E-02	6.24E-05	4.54E-04	5.00E-03	2.27E-06	1.00E+00	2.50E-02	9.51E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	1.22E+01	6.10E-02	1.73E-04	2.84E-03	4.40E+00	2.20E-02	6.24E-05	4.54E-04	5.00E-03	2.27E-06	1.00E+00	2.50E-02	9.51E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PHENANTHRENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	8.35E+00	2.37E-02	2.84E-03	1.72E+00	6.88E+01	1.95E-01	4.54E-04	4.00E+01	1.82E-02	1.00E+00	2.50E-02	9.49E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	R	8.35E+00	2.37E-02	2.84E-03	1.72E+00	6.88E+01	1.95E-01	4.54E-04	4.00E+01	1.82E-02	1.00E+00	2.50E-02	9.49E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PYRENE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	5.50E-02	3.74E+00	1.06E-02	2.84E-03	1.75E+00	1.19E+02	3.38E-01	4.54E-04	6.80E+01	3.09E-02	1.00E+00	2.50E-02	1.52E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	5.50E-02	3.74E+00	1.06E-02	2.84E-03	1.75E+00	1.19E+02	3.38E-01	4.54E-04	6.80E+01	3.09E-02	1.00E+00	2.50E-02	1.52E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4,4'-DDD</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	5.15E-04	1.46E-06	2.84E-03	R	2.93E-02	8.32E-05	4.54E-04	1.20E-03	5.45E-07	1.00E+00	2.50E-02	3.41E-03	1.50E+00	1.00E+00	7.17E-01	4.75E-03	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	R	5.15E-04	1.46E-06	2.84E-03	R	2.93E-02	8.32E-05	4.54E-04	1.20E-03	5.45E-07	1.00E+00	2.50E-02	3.41E-03	9.00E-03	3.50E+00	3.35E-03	1.02E+00	Navy 1998
<b>4,4'-DDE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	6.27E-02	1.78E-04	2.84E-03	R	8.81E+00	2.50E-02	4.54E-04	7.10E-01	3.22E-04	1.00E+00	2.50E-02	1.02E+00	6.00E-01	1.00E+00	2.87E-01	3.56E+00	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	R	6.27E-02	1.78E-04	2.84E-03	R	8.81E+00	2.50E-02	4.54E-04	7.10E-01	3.22E-04	1.00E+00	2.50E-02	1.02E+00	9.00E-03	3.50E+00	3.35E-03	3.05E+02	Navy 1998

**ATTACHMENT I3 ALAMEDA SONG SPARROW DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/k g/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>4,4'-DDT</b>																				
Dose/High TRV	5.68E-03	2.84E-03	R	4.60E-02	1.30E-04	2.84E-03	R	4.34E+00	1.23E-02	4.54E-04	4.70E-01	2.13E-04	1.00E+00	2.50E-02	5.07E-01	1.50E+00	1.00E+00	7.17E-01	7.07E-01	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	R	4.60E-02	1.30E-04	2.84E-03	R	4.34E+00	1.23E-02	4.54E-04	4.70E-01	2.13E-04	1.00E+00	2.50E-02	5.07E-01	9.00E-03	3.50E+00	3.35E-03	1.51E+02	Navy 1998
<b>ALDRIN</b>																				
Dose/High TRV	5.68E-03	2.84E-03	6.90E-01	8.97E-03	2.55E-05	2.84E-03	3.24E+01	4.21E-01	1.19E-03	4.54E-04	1.30E-02	5.90E-06	1.00E+00	2.50E-02	4.90E-02	7.70E-01	4.66E-01	4.29E-01	1.14E-01	Calculated <sup>15</sup>
Dose/Low TRV	5.68E-03	2.84E-03	6.90E-01	8.97E-03	2.55E-05	2.84E-03	3.24E+01	4.21E-01	1.19E-03	4.54E-04	1.30E-02	5.90E-06	1.00E+00	2.50E-02	4.90E-02	7.70E-02	4.66E-01	4.29E-02	1.14E+00	Sample and others 1996
<b>ALPHA-BHC</b>																				
Dose/High TRV	5.68E-03	2.84E-03	2.10E-01	1.53E-04	4.35E-07	2.84E-03	2.95E+01	2.15E-02	6.12E-05	4.54E-04	7.30E-04	3.32E-07	1.00E+00	2.50E-02	2.48E-03	2.25E+00	1.50E-01	1.57E+00	1.58E-03	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	2.10E-01	1.53E-04	4.35E-07	2.84E-03	2.95E+01	2.15E-02	6.12E-05	4.54E-04	7.30E-04	3.32E-07	1.00E+00	2.50E-02	2.48E-03	5.60E-01	1.50E-01	3.91E-01	6.33E-03	Sample and others 1996
<b>ALPHA-CHLORDANE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	2.50E-02	1.20E-03	3.41E-06	2.84E-03	3.20E+01	1.54E+00	4.36E-03	4.54E-04	4.80E-02	2.18E-05	1.00E+00	2.50E-02	1.76E-01	1.07E+01	6.40E-02	8.87E+00	1.98E-02	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	2.50E-02	1.20E-03	3.41E-06	2.84E-03	3.20E+01	1.54E+00	4.36E-03	4.54E-04	4.80E-02	2.18E-05	1.00E+00	2.50E-02	1.76E-01	2.14E+00	6.40E-02	1.77E+00	9.90E-02	Sample and others 1996
<b>BETA-BHC</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.80E-01	3.96E-04	1.12E-06	2.84E-03	2.95E+01	6.49E-02	1.84E-04	4.54E-04	2.20E-03	9.99E-07	1.00E+00	2.50E-02	7.46E-03	2.25E+00	1.50E-01	1.57E+00	4.74E-03	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	1.80E-01	3.96E-04	1.12E-06	2.84E-03	2.95E+01	6.49E-02	1.84E-04	4.54E-04	2.20E-03	9.99E-07	1.00E+00	2.50E-02	7.46E-03	5.60E-01	1.50E-01	3.91E-01	1.91E-02	Sample and others 1996
<b>DELTA-BHC</b>																				
Dose/High TRV	5.68E-03	2.84E-03	9.00E-01	7.56E-03	2.15E-05	2.84E-03	2.95E+01	2.48E-01	7.04E-04	4.54E-04	8.40E-03	3.82E-06	1.00E+00	2.50E-02	2.92E-02	2.25E+00	1.50E-01	1.57E+00	1.85E-02	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	9.00E-01	7.56E-03	2.15E-05	2.84E-03	2.95E+01	2.48E-01	7.04E-04	4.54E-04	8.40E-03	3.82E-06	1.00E+00	2.50E-02	2.92E-02	5.60E-01	1.50E-01	3.91E-01	7.45E-02	Sample and others 1996
<b>DIELDRIN</b>																				
Dose/High TRV	5.68E-03	2.84E-03	4.10E-01	2.05E-01	5.82E-04	2.84E-03	R	5.31E+00	1.51E-02	4.54E-04	5.00E-01	2.27E-04	1.00E+00	2.50E-02	6.35E-01	7.70E-01	4.66E-01	4.29E-01	1.48E+00	Calculated <sup>15</sup>
Dose/Low TRV	5.68E-03	2.84E-03	4.10E-01	2.05E-01	5.82E-04	2.84E-03	R	5.31E+00	1.51E-02	4.54E-04	5.00E-01	2.27E-04	1.00E+00	2.50E-02	6.35E-01	7.70E-02	4.66E-01	4.29E-02	1.48E+01	Sample and others 1996
<b>ENDOSULFAN I</b>																				
Dose/High TRV	5.68E-03	2.84E-03	3.30E-01	7.59E-03	2.15E-05	2.84E-03	2.91E+01	6.70E-01	1.90E-03	4.54E-04	2.30E-02	1.04E-05	1.00E+00	2.50E-02	7.73E-02	1.00E+02	4.00E-01	5.74E+01	1.35E-03	Calculated <sup>15</sup>
Dose/Low TRV	5.68E-03	2.84E-03	3.30E-01	7.59E-03	2.15E-05	2.84E-03	2.91E+01	6.70E-01	1.90E-03	4.54E-04	2.30E-02	1.04E-05	1.00E+00	2.50E-02	7.73E-02	1.00E+01	4.00E-01	5.74E+00	1.35E-02	Sample and others 1996
<b>ENDOSULFAN II</b>																				
Dose/High TRV	5.68E-03	2.84E-03	3.30E-01	1.65E-02	4.68E-05	2.84E-03	2.91E+01	1.46E+00	4.13E-03	4.54E-04	5.00E-02	2.27E-05	1.00E+00	2.50E-02	1.68E-01	1.00E+02	4.00E-01	5.74E+01	2.93E-03	Calculated <sup>15</sup>
Dose/Low TRV	5.68E-03	2.84E-03	3.30E-01	1.65E-02	4.68E-05	2.84E-03	2.91E+01	1.46E+00	4.13E-03	4.54E-04	5.00E-02	2.27E-05	1.00E+00	2.50E-02	1.68E-01	1.00E+01	4.00E-01	5.74E+00	2.93E-02	Sample and others 1996
<b>ENDOSULFAN SULFATE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	3.30E-01	1.42E-02	4.03E-05	2.84E-03	2.91E+01	1.25E+00	3.56E-03	4.54E-04	4.30E-02	1.95E-05	1.00E+00	2.50E-02	1.45E-01	1.00E+02	4.00E-01	5.74E+01	2.52E-03	Calculated <sup>15</sup>
Dose/Low TRV	5.68E-03	2.84E-03	3.30E-01	1.42E-02	4.03E-05	2.84E-03	2.91E+01	1.25E+00	3.56E-03	4.54E-04	4.30E-02	1.95E-05	1.00E+00	2.50E-02	1.45E-01	1.00E+01	4.00E-01	5.74E+00	2.52E-02	Sample and others 1996
<b>ENDRIN ALDEHYDE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	8.20E-02	6.07E-03	1.72E-05	2.84E-03	3.08E+01	2.28E+00	6.46E-03	4.54E-04	7.40E-02	3.36E-05	1.00E+00	2.50E-02	2.61E-01	1.00E-01	1.81E-01	6.73E-02	3.87E+00	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	8.20E-02	6.07E-03	1.72E-05	2.84E-03	3.08E+01	2.28E+00	6.46E-03	4.54E-04	7.40E-02	3.36E-05	1.00E+00	2.50E-02	2.61E-01	1.00E-02	1.81E-01	6.73E-03	3.87E+01	Sample and others 1996
<b>ENDRIN KETONE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	8.20E-02	8.20E-04	2.33E-06	2.84E-03	3.08E+01	3.08E-01	8.73E-04	4.54E-04	1.00E-02	4.54E-06	1.00E+00	2.50E-02	3.52E-02	1.00E-01	1.81E-01	6.73E-02	5.23E-01	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	8.20E-02	8.20E-04	2.33E-06	2.84E-03	3.08E+01	3.08E-01	8.73E-04	4.54E-04	1.00E-02	4.54E-06	1.00E+00	2.50E-02	3.52E-02	1.00E-02	1.81E-01	6.73E-03	5.23E+00	Sample and others 1996
<b>GAMMA-BHC (LINDANE)</b>																				
Dose/High TRV	5.68E-03	2.84E-03	2.70E-01	7.02E-04	1.99E-06	2.84E-03	2.95E+01	7.67E-02	2.18E-04	4.54E-04	2.60E-03	1.18E-06	1.00E+00	2.50E-02	8.84E-03	2.00E+01	1.00E+00	9.56E+00	9.24E-04	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	2.70E-01	7.02E-04	1.99E-06	2.84E-03	2.95E+01	7.67E-02	2.18E-04	4.54E-04	2.60E-03	1.18E-06	1.00E+00	2.50E-02	8.84E-03	2.00E+00	1.00E+00	9.56E-01	9.24E-03	Sample and others 1996
<b>GAMMA-CHLORDANE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	2.50E-02	3.75E-03	1.06E-05	2.84E-03	3.20E+01	4.80E+00	1.36E-02	4.54E-04	1.50E-01	6.81E-05	1.00E+00	2.50E-02	5.49E-01	1.07E+01	6.40E-02	8.87E+00	6.19E-02	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	2.50E-02	3.75E-03	1.06E-05	2.84E-03	3.20E+01	4.80E+00	1.36E-02	4.54E-04	1.50E-01	6.81E-05	1.00E+00	2.50E-02	5.49E-01	2.14E+00	6.40E-02	1.77E+00	3.09E-01	Sample and others 1996
<b>HEPTACHLOR</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.20E-01	8.28E-04	2.35E-06	2.84E-03	3.19E+01	2.20E-01	6.24E-04	4.54E-04	6.90E-03	3.13E-06	1.00E+00	2.50E-02	2.52E-02	1.07E+01	6.40E-02	8.87E+00	2.84E-03	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	1.20E-01	8.28E-04	2.35E-06	2.84E-03	3.19E+01	2.20E-01	6.24E-04	4.54E-04	6.90E-03	3.13E-06	1.00E+00	2.50E-02	2.52E-02	2.14E+00	6.40E-02	1.77E+00	1.42E-02	Sample and others 1996
<b>HEPTACHLOR EPOXIDE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	2.80E-02	3.08E-03	8.74E-06	2.84E-03	3.05E+01	3.36E+00	9.53E-03	4.54E-04	1.10E-01	5.00E-05	1.00E+00	2.50E-02	3.83E-01	1.07E+01	6.40E-02	8.87E+00	4.32E-02	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	2.80E-02	3.08E-03	8.74E-06	2.84E-03	3.05E+01	3.36E+00	9.53E-03	4.54E-04	1.10E-01	5.00E-05	1.00E+00	2.50E-02	3.83E-01	2.14E+00	6.40E-02	1.77E+00	2.16E-01	Sample and others 1996
<b>METHOXYCHLOR</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.10E-01	1.32E-02	3.75E-05	2.84E-03	3.06E+01	3.68E+00	1.04E-02	4.54E-04	1.20E-01	5.45E-05	1.00E+00	2.50E-02	4.21E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	5.68E-03	2.84E-03	1.10E-01	1.32E-02	3.75E-05	2.84E-03	3.06E+01	3.68E+00	1.04E-02	4.54E-04	1.20E-01	5.45E-05	1.00E+00	2.50E-02	4.21E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA

**ATTACHMENT I3 ALAMEDA SONG SPARROW DOSE CALCULATIONS AND HAZARD QUOTIENTS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>TECHNICAL CHLORDANE</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.30E-01	7.80E-02	2.21E-04	2.84E-03	3.20E+01	1.92E+01	5.45E-02	4.54E-04	6.00E-01	2.73E-04	1.00E+00	2.50E-02	2.20E+00	1.07E+01	6.40E-02	8.87E+00	2.48E-01	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	1.30E-01	7.80E-02	2.21E-04	2.84E-03	3.20E+01	1.92E+01	5.45E-02	4.54E-04	6.00E-01	2.73E-04	1.00E+00	2.50E-02	2.20E+00	2.14E+00	6.40E-02	1.77E+00	1.24E+00	Sample and others 1996
<b>AROCLOR-1248</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.60E-02	1.92E-02	5.45E-05	2.84E-03	3.22E+01	3.86E+01	1.10E-01	4.54E-04	1.20E+00	5.45E-04	1.00E+00	2.50E-02	4.41E+00	1.27E+00	1.72E+00	5.45E-01	8.09E+00	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	1.60E-02	1.92E-02	5.45E-05	2.84E-03	3.22E+01	3.86E+01	1.10E-01	4.54E-04	1.20E+00	5.45E-04	1.00E+00	2.50E-02	4.41E+00	9.00E-02	8.00E-01	4.50E-02	9.79E+01	Navy 1998
<b>AROCLOR-1254</b>																				
Dose/High TRV	5.68E-03	2.84E-03	1.30E-02	1.43E-01	4.06E-04	2.84E-03	3.27E+01	3.60E+02	1.02E+00	4.54E-04	1.10E+01	5.00E-03	1.00E+00	2.50E-02	4.11E+01	1.80E+00	1.00E+00	8.61E-01	4.78E+01	Sample and others 1996
Dose/Low TRV	5.68E-03	2.84E-03	1.30E-02	1.43E-01	4.06E-04	2.84E-03	3.27E+01	3.60E+02	1.02E+00	4.54E-04	1.10E+01	5.00E-03	1.00E+00	2.50E-02	4.11E+01	1.80E-02	1.00E+00	8.61E-03	4.78E+03	Sample and others 1996
<b>AROCLOR-1260</b>																				
Dose/High TRV	5.68E-03	2.84E-03	2.90E-03	2.81E-02	7.98E-05	2.84E-03	3.47E+01	3.37E+02	9.55E-01	4.54E-04	9.70E+00	4.41E-03	1.00E+00	2.50E-02	3.84E+01	1.27E+00	1.72E+00	5.45E-01	7.04E+01	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	2.90E-03	2.81E-02	7.98E-05	2.84E-03	3.47E+01	3.37E+02	9.55E-01	4.54E-04	9.70E+00	4.41E-03	1.00E+00	2.50E-02	3.84E+01	9.00E-02	8.00E-01	4.50E-02	8.53E+02	Navy 1998
<b>AROCLOR-1268</b>																				
Dose/High TRV	5.68E-03	2.84E-03	2.90E-03	8.70E-04	2.47E-06	2.84E-03	3.47E+01	1.04E+01	2.95E-02	4.54E-04	3.00E-01	1.36E-04	1.00E+00	2.50E-02	1.19E+00	1.27E+00	1.72E+00	5.45E-01	2.18E+00	Navy 1998
Dose/Low TRV	5.68E-03	2.84E-03	2.90E-03	8.70E-04	2.47E-06	2.84E-03	3.47E+01	1.04E+01	2.95E-02	4.54E-04	3.00E-01	1.36E-04	1.00E+00	2.50E-02	1.19E+00	9.00E-02	8.00E-01	4.50E-02	2.64E+01	Navy 1998

Notes:

- The formulas presented in Nagy (2001) were used to calculate ingestion rate.
- The plant ingestion rate is 100 percent of the total prey ingestion rate.
- BAFs were taken from EPA guidance (EPA 1995), primary literature, or calculated using formulas from ORNL (RAIS 2007). R = Regression equation used to generate tissue concentration.
- The plant concentration was calculated by multiplying the maximum soil concentration by the BAF or using a regression equation to generate a tissue concentration (see note 3).
- Plant daily doses were calculated by multiplying the ingestion rate (see note 2) by the tissue concentration (see note 4).
- Soil ingestion rate is 2.4 percent of prey ingestion rate.
- Maximum of all site-collected surface (0 to 4 feet) soil samples were used.
- Soil daily dose was calculated by multiplying the soil ingestion rate (see note 6) by soil concentration (see note 7).
- Body weight is taken from EPA (1993, 2003) and Office of Environmental Health Hazard Assessment (2003).
- Total daily dose is calculated using the following equation: total daily dose = ((plant daily dose + invertebrate daily dose + soil daily dose)\*SUF)/receptor species body weight.
- The derivation of TRVs is described in Navy (1998) and Sample (1996).
- The following surrogate TRVs were used: The TRV for BHC mixed isomers was used as a surrogate for alpha-, beta-, and delta-BHC. The TRV for chlordane was used as a surrogate for heptachlor and heptachlor epoxide because heptachlor and heptachlor epoxide are breakdown products of chlordane. The TRV for chlordane was also used for alpha-chlordane, gamma-chlordane, and technical chlordane. The TRV for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The TRV for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The TRV for dieldrin was used as a surrogate for aldrin because dieldrin is a metabolic breakdown product of aldrin. The TRV for PCBs was used for Aroclor-1248, -1260, and -1268.
- Allometrically adjusted TRVs were calculated using the following equation: receptor species TRV = (test species TRV) x (test species body weight / receptor species body weight)<sup>1-1.2</sup>.
- HQs were calculated using the following equation: HQ = total daily dose/allometrically adjusted TRV.
- Sufficient data are not available to derive a TRV. This chemical was evaluated qualitatively.
- When only a low TRV was available from Sample and others (1996) or EPA (2007), it was multiplied by 10 to derive the high TRV.

BAF	Bioaccumulation factor	kg/day	Kilogram per day
BHC	Benzene hexachloride	mg/day	Milligram per day
COPEC	Chemical of potential ecological concern	mg/kg	Milligram per kilogram
DDD	Dichlorodiphenyldichloroethane	mg/kg/day	Milligram per kilogram per day
DDE	Dichlorodiphenyldichloroethylene	NA	Not applicable
DDT	Dichlorodiphenyltrichloroethane	Navy	U.S. Department of the Navy, Engineering Field Activity West
EPA	U.S. Environmental Protection Agency	R	Regression equation
HQ	Hazard Quotient	SUF	Site use factor
kg	kilogram	TRV	Toxicity reference value

References:

- U.S. Department of the Navy. 1998. "Development of Interim Ecological Soil Screening Levels." Available on-line at: <http://www.epa.gov/ecotox/ecossil/>
- EPA. 1993. "Wildlife Exposure Factors Handbook". Volumes 1 and 2. Office of Research and Development. EPA/600/R-93/187. December.
- EPA. 1995. "Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors." EPA-820-B-95-005.
- EPA. 2003. "Region 5 RCRA Ecological Screening Levels." August 22. Available Online at: <http://www.epa.gov/reg5rcra/ca/edql.htm>
- EPA. 2007. Interim Ecological Soil Screening Levels. B.E., D.M. Opreko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.
- Nagy, K.A. 2001. "Food Requirements of Wild Animals: Predictive Equations for Free-Living Mammals, Reptiles, and Birds." *Nutrition Abstracts and Reviews, Series B*. Volume 71. Pages 21R-31R.
- Office of Environmental Health Hazard Assessment. 2003. "California Wildlife Exposure Factor and Toxicity Database." Ecotoxicology Unit. Sacramento, California. Available Online at: [www.oehha.org/cal\\_ecotox/default.htm](http://www.oehha.org/cal_ecotox/default.htm)
- Oak Ridge National Laboratory. 2007. "Risk Assessment Information System." Available Online at: <http://rais.ornl.gov/index.shtml>
- Sample, B.E., D.M. Opreko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

**ATTACHMENT I4 AMERICAN ROBIN DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/k g/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>ALUMINUM</b>																				
Dose/High TRV	1.23E-02	3.07E-03	2.87E-03	1.06E+02	3.26E-01	9.21E-03	4.30E-02	1.59E+03	1.46E+01	1.23E-03	3.70E+04	4.54E+01	1.00E+00	7.73E-02	7.81E+02	1.10E+03	1.55E-01	9.55E+02	8.18E-01	Calculated <sup>16</sup>
Dose/Low TRV	1.23E-02	3.07E-03	2.87E-03	1.06E+02	3.26E-01	9.21E-03	4.30E-02	1.59E+03	1.46E+01	1.23E-03	3.70E+04	4.54E+01	1.00E+00	7.73E-02	7.81E+02	1.10E+02	1.55E-01	9.55E+01	8.18E+00	Sample and others 1996
<b>ANTIMONY</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	5.31E-01	1.63E-03	9.21E-03	1.00E+00	1.60E+01	1.47E-01	1.23E-03	1.60E+01	1.96E-02	1.00E+00	7.73E-02	2.18E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	5.31E-01	1.63E-03	9.21E-03	1.00E+00	1.60E+01	1.47E-01	1.23E-03	1.60E+01	1.96E-02	1.00E+00	7.73E-02	2.18E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>ARSENIC</b>																				
Dose/High TRV	1.23E-02	3.07E-03	3.75E-02	4.50E+00	1.38E-02	9.21E-03	R	7.09E+00	6.53E-02	1.23E-03	1.20E+02	1.47E-01	1.00E+00	7.73E-02	2.93E+00	2.20E+01	1.17E+00	1.28E+01	2.29E-01	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	3.75E-02	4.50E+00	1.38E-02	9.21E-03	R	7.09E+00	6.53E-02	1.23E-03	1.20E+02	1.47E-01	1.00E+00	7.73E-02	2.93E+00	5.50E+00	1.17E+00	3.19E+00	9.17E-01	Navy 1998
<b>BARIUM</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.56E-01	3.12E+01	9.57E-02	9.21E-03	9.10E-02	1.82E+01	1.68E-01	1.23E-03	2.00E+02	2.45E-01	1.00E+00	7.73E-02	6.58E+00	4.17E+01	1.21E-01	3.81E+01	1.73E-01	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	1.56E-01	3.12E+01	9.57E-02	9.21E-03	9.10E-02	1.82E+01	1.68E-01	1.23E-03	2.00E+02	2.45E-01	1.00E+00	7.73E-02	6.58E+00	2.08E+01	1.21E-01	1.90E+01	3.46E-01	Sample and others 1996
<b>BERYLLIUM</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	4.07E-01	1.25E-03	9.21E-03	4.50E-02	2.75E-02	2.53E-04	1.23E-03	6.10E-01	7.49E-04	1.00E+00	7.73E-02	2.91E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	4.07E-01	1.25E-03	9.21E-03	4.50E-02	2.75E-02	2.53E-04	1.23E-03	6.10E-01	7.49E-04	1.00E+00	7.73E-02	2.91E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>CADMIUM</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	5.02E+00	1.54E-02	9.21E-03	R	1.73E+02	1.59E+00	1.23E-03	4.58E+01	5.62E-02	1.00E+00	7.73E-02	2.15E+01	1.04E+01	8.40E-02	1.03E+01	2.10E+00	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	R	5.02E+00	1.54E-02	9.21E-03	R	1.73E+02	1.59E+00	1.23E-03	4.58E+01	5.62E-02	1.00E+00	7.73E-02	2.15E+01	8.00E-02	7.98E-01	5.02E-02	4.30E+02	Navy 1998
<b>CHROMIUM</b>																				
Dose/High TRV	1.23E-02	3.07E-03	4.10E-02	2.26E+01	6.92E-02	9.21E-03	3.06E-01	1.68E+02	1.55E+00	1.23E-03	5.50E+02	6.75E-01	1.00E+00	7.73E-02	2.97E+01	5.00E+00	1.25E+00	2.87E+00	1.04E+01	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	4.10E-02	2.26E+01	6.92E-02	9.21E-03	3.06E-01	1.68E+02	1.55E+00	1.23E-03	5.50E+02	6.75E-01	1.00E+00	7.73E-02	2.97E+01	1.00E+00	1.25E+00	5.73E-01	5.18E+01	Sample and others 1996
<b>COBALT</b>																				
Dose/High TRV	1.23E-02	3.07E-03	7.50E-03	1.63E-01	4.99E-04	9.21E-03	1.22E-01	2.65E+00	2.44E-02	1.23E-03	2.17E+01	2.66E-02	1.00E+00	7.73E-02	6.66E-01	7.61E+01	2.92E-01	5.83E+01	1.14E-02	Calculated <sup>16</sup>
Dose/Low TRV	1.23E-02	3.07E-03	7.50E-03	1.63E-01	4.99E-04	9.21E-03	1.22E-01	2.65E+00	2.44E-02	1.23E-03	2.17E+01	2.66E-02	1.00E+00	7.73E-02	6.66E-01	7.61E+00	2.92E-01	5.83E+00	1.14E-01	EPA 2007
<b>COPPER</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	1.73E+01	5.30E-02	9.21E-03	5.15E-01	1.31E+02	1.20E+00	1.23E-03	2.54E+02	3.12E-01	1.00E+00	7.73E-02	2.03E+01	5.23E+01	4.09E-01	3.75E+01	5.42E-01	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	R	1.73E+01	5.30E-02	9.21E-03	5.15E-01	1.31E+02	1.20E+00	1.23E-03	2.54E+02	3.12E-01	1.00E+00	7.73E-02	2.03E+01	2.30E+00	6.39E-01	1.51E+00	1.35E+01	Navy 1998
<b>IRON</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.00E+00	1.80E+05	5.52E+02	9.21E-03	1.00E+00	1.80E+05	1.66E+03	1.23E-03	1.80E+05	2.21E+02	1.00E+00	7.73E-02	3.14E+04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	1.00E+00	1.80E+05	5.52E+02	9.21E-03	1.00E+00	1.80E+05	1.66E+03	1.23E-03	1.80E+05	2.21E+02	1.00E+00	7.73E-02	3.14E+04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>LEAD</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	7.05E+01	2.16E-01	9.21E-03	R	2.47E+03	2.28E+01	1.23E-03	2.10E+04	2.58E+01	1.00E+00	7.73E-02	6.31E+02	8.75E+00	8.00E-01	5.48E+00	1.15E+02	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	R	7.05E+01	2.16E-01	9.21E-03	R	2.47E+03	2.28E+01	1.23E-03	2.10E+04	2.58E+01	1.00E+00	7.73E-02	6.31E+02	1.40E-02	8.40E-02	1.38E-02	4.58E+04	Navy 1998
<b>MANGANESE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	7.90E-02	1.03E+02	3.15E-01	9.21E-03	R	5.92E+01	5.45E-01	1.23E-03	1.30E+03	1.60E+00	1.00E+00	7.73E-02	3.18E+01	7.76E+02	1.97E-01	6.44E+02	4.93E-02	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	7.90E-02	1.03E+02	3.15E-01	9.21E-03	R	5.92E+01	5.45E-01	1.23E-03	1.30E+03	1.60E+00	1.00E+00	7.73E-02	3.18E+01	7.76E+01	1.97E-01	6.44E+01	4.93E-01	Navy 1998
<b>MERCURY</b>																				
Dose/High TRV	1.23E-02	3.07E-03	6.63E-01	1.26E+00	3.87E-03	9.21E-03	1.69E+00	3.22E+00	2.96E-02	1.23E-03	1.90E+00	2.33E-03	1.00E+00	7.73E-02	4.63E-01	1.80E-01	1.00E+00	1.08E-01	4.29E+00	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	6.63E-01	1.26E+00	3.87E-03	9.21E-03	1.69E+00	3.22E+00	2.96E-02	1.23E-03	1.90E+00	2.33E-03	1.00E+00	7.73E-02	4.63E-01	3.90E-02	1.00E+00	2.34E-02	1.98E+01	Navy 1998
<b>MOLYBDENUM</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.00E+00	1.37E+01	4.20E-02	9.21E-03	R	2.11E+00	1.94E-02	1.23E-03	1.37E+01	1.68E-02	1.00E+00	7.73E-02	1.01E+00	3.53E+01	1.50E+00	1.95E+01	5.19E-02	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	1.00E+00	1.37E+01	4.20E-02	9.21E-03	R	2.11E+00	1.94E-02	1.23E-03	1.37E+01	1.68E-02	1.00E+00	7.73E-02	1.01E+00	3.50E+00	1.50E+00	1.93E+00	5.24E-01	Sample and others 1996
<b>NICKEL</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	3.94E+00	1.21E-02	9.21E-03	1.06E+00	1.29E+02	1.19E+00	1.23E-03	1.22E+02	1.50E-01	1.00E+00	7.73E-02	1.75E+01	5.53E+01	5.80E-01	3.69E+01	4.73E-01	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	R	3.94E+00	1.21E-02	9.21E-03	1.06E+00	1.29E+02	1.19E+00	1.23E-03	1.22E+02	1.50E-01	1.00E+00	7.73E-02	1.75E+01	1.38E+00	6.13E-01	9.12E-01	1.92E+01	Navy 1998
<b>SELENIUM</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	5.65E-01	1.73E-03	9.21E-03	R	9.95E-01	9.16E-03	1.23E-03	1.10E+00	1.35E-03	1.00E+00	7.73E-02	1.58E-01	9.30E-01	1.11E+00	5.46E-01	2.90E-01	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	R	5.65E-01	1.73E-03	9.21E-03	R	9.95E-01	9.16E-03	1.23E-03	1.10E+00	1.35E-03	1.00E+00	7.73E-02	1.58E-01	2.30E-01	1.11E+00	1.35E-01	1.17E+00	Navy 1998
<b>SILVER</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.40E-02	1.33E-01	4.08E-04	9.21E-03	2.05E+00	1.94E+01	1.79E-01	1.23E-03	9.50E+00	1.17E-02	1.00E+00	7.73E-02	2.47E+00	2.02E+01	6.62E-01	1.31E+01	1.88E-01	EPA 2007
Dose/Low TRV	1.23E-02	3.07E-03	1.40E-02	1.33E-01	4.08E-04	9.21E-03	2.05E+00	1.94E+01	1.79E-01	1.23E-03	9.50E+00	1.17E-02	1.00E+00	7.73E-02	2.47E+00	2.02E+00	6.62E-01	1.31E+00	1.88E+00	EPA 2007

**ATTACHMENT I4 AMERICAN ROBIN DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/k g/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>THALLIUM</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.00E+00	3.50E+00	1.07E-02	9.21E-03	1.00E+00	3.50E+00	3.22E-02	1.23E-03	3.50E+00	4.30E-03	1.00E+00	7.73E-02	6.11E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	1.00E+00	3.50E+00	1.07E-02	9.21E-03	1.00E+00	3.50E+00	3.22E-02	1.23E-03	3.50E+00	4.30E-03	1.00E+00	7.73E-02	6.11E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>VANADIUM</b>																				
Dose/High TRV	1.23E-02	3.07E-03	4.85E-03	6.31E-01	1.93E-03	9.21E-03	4.20E-02	5.46E+00	5.03E-02	1.23E-03	1.30E+02	1.60E-01	1.00E+00	7.73E-02	2.74E+00	1.14E+02	1.17E+00	6.62E+01	4.14E-02	Calculated <sup>16</sup>
Dose/Low TRV	1.23E-02	3.07E-03	4.85E-03	6.31E-01	1.93E-03	9.21E-03	4.20E-02	5.46E+00	5.03E-02	1.23E-03	1.30E+02	1.60E-01	1.00E+00	7.73E-02	2.74E+00	1.14E+01	1.17E+00	6.62E+00	4.14E-01	Sample and others 1996
<b>ZINC</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	2.67E+02	8.20E-01	9.21E-03	R	9.21E+02	8.47E+00	1.23E-03	1.40E+03	1.72E+00	1.00E+00	7.73E-02	1.42E+02	1.72E+02	9.55E-01	1.04E+02	1.37E+00	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	R	2.67E+02	8.20E-01	9.21E-03	R	9.21E+02	8.47E+00	1.23E-03	1.40E+03	1.72E+00	1.00E+00	7.73E-02	1.42E+02	1.72E+01	9.55E-01	1.04E+01	1.37E+01	Navy 1998
<b>2,4-DIMETHYLPHENOL</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.80E+00	3.78E-01	1.16E-03	9.21E-03	2.75E+01	5.77E+00	5.31E-02	1.23E-03	2.10E-01	2.58E-04	1.00E+00	7.73E-02	7.05E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	1.80E+00	3.78E-01	1.16E-03	9.21E-03	2.75E+01	5.77E+00	5.31E-02	1.23E-03	2.10E-01	2.58E-04	1.00E+00	7.73E-02	7.05E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>2-METHYLPHENOL</b>																				
Dose/High TRV	1.23E-02	3.07E-03	3.00E+00	2.43E-01	7.46E-04	9.21E-03	2.71E+01	2.19E+00	2.02E-02	1.23E-03	8.10E-02	9.94E-05	1.00E+00	7.73E-02	2.72E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	3.00E+00	2.43E-01	7.46E-04	9.21E-03	2.71E+01	2.19E+00	2.02E-02	1.23E-03	8.10E-02	9.94E-05	1.00E+00	7.73E-02	2.72E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-METHYLPHENOL</b>																				
Dose/High TRV	1.23E-02	3.07E-03	3.00E+00	8.10E-01	2.49E-03	9.21E-03	2.71E+01	7.31E+00	6.73E-02	1.23E-03	2.70E-01	3.31E-04	1.00E+00	7.73E-02	9.07E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	3.00E+00	8.10E-01	2.49E-03	9.21E-03	2.71E+01	7.31E+00	6.73E-02	1.23E-03	2.70E-01	3.31E-04	1.00E+00	7.73E-02	9.07E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-NITROANILINE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.00E+00	6.20E-01	1.90E-03	9.21E-03	2.65E+01	1.64E+01	1.51E-01	1.23E-03	6.20E-01	7.61E-04	1.00E+00	7.73E-02	1.99E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	1.00E+00	6.20E-01	1.90E-03	9.21E-03	2.65E+01	1.64E+01	1.51E-01	1.23E-03	6.20E-01	7.61E-04	1.00E+00	7.73E-02	1.99E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-NITROPHENOL</b>																				
Dose/High TRV	1.23E-02	3.07E-03	3.00E+00	1.26E+00	3.87E-03	9.21E-03	2.71E+01	1.14E+01	1.05E-01	1.23E-03	4.20E-01	5.15E-04	1.00E+00	7.73E-02	1.41E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	3.00E+00	1.26E+00	3.87E-03	9.21E-03	2.71E+01	1.14E+01	1.05E-01	1.23E-03	4.20E-01	5.15E-04	1.00E+00	7.73E-02	1.41E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	5.50E-02	7.70E-01	2.36E-03	9.21E-03	2.52E+01	3.52E+02	3.24E+00	1.23E-03	1.40E+01	1.72E-02	1.00E+00	7.73E-02	4.22E+01	1.10E+01	1.55E-01	9.57E+00	4.41E+00	Calculated <sup>16</sup>
Dose/Low TRV	1.23E-02	3.07E-03	5.50E-02	7.70E-01	2.36E-03	9.21E-03	2.52E+01	3.52E+02	3.24E+00	1.23E-03	1.40E+01	1.72E-02	1.00E+00	7.73E-02	4.22E+01	1.10E+00	1.55E-01	9.57E-01	4.41E+01	Sample and others 1996
<b>BUTYLBENZYLPHthalate</b>																				
Dose/High TRV	1.23E-02	3.07E-03	5.50E-02	3.47E-02	1.06E-04	9.21E-03	2.52E+01	1.58E+01	1.46E-01	1.23E-03	6.30E-01	7.73E-04	1.00E+00	7.73E-02	1.90E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	5.50E-02	3.47E-02	1.06E-04	9.21E-03	2.52E+01	1.58E+01	1.46E-01	1.23E-03	6.30E-01	7.73E-04	1.00E+00	7.73E-02	1.90E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIBENZOFURAN</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.50E-01	1.95E+00	5.98E-03	9.21E-03	2.95E+01	3.83E+02	3.53E+00	1.23E-03	1.30E+01	1.60E-02	1.00E+00	7.73E-02	4.59E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	1.50E-01	1.95E+00	5.98E-03	9.21E-03	2.95E+01	3.83E+02	3.53E+00	1.23E-03	1.30E+01	1.60E-02	1.00E+00	7.73E-02	4.59E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIMETHYLPHthalate</b>																				
Dose/High TRV	1.23E-02	3.07E-03	4.50E+00	1.71E-01	5.25E-04	9.21E-03	2.67E+01	1.02E+00	9.35E-03	1.23E-03	3.80E-02	4.66E-05	1.00E+00	7.73E-02	1.28E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	4.50E+00	1.71E-01	5.25E-04	9.21E-03	2.67E+01	1.02E+00	9.35E-03	1.23E-03	3.80E-02	4.66E-05	1.00E+00	7.73E-02	1.28E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DI-N-BUTYLPHthalate</b>																				
Dose/High TRV	1.23E-02	3.07E-03	5.50E-02	1.27E-01	3.88E-04	9.21E-03	2.99E+01	6.89E+01	6.34E-01	1.23E-03	2.30E+00	2.82E-03	1.00E+00	7.73E-02	8.24E+00	1.10E+00	1.55E-01	9.57E-01	8.61E+00	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	5.50E-02	1.27E-01	3.88E-04	9.21E-03	2.99E+01	6.89E+01	6.34E-01	1.23E-03	2.30E+00	2.82E-03	1.00E+00	7.73E-02	8.24E+00	1.10E-01	1.55E-01	9.57E-02	8.61E+01	Sample and others 1996
<b>ISOPHORONE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	3.90E+00	7.80E-01	2.39E-03	9.21E-03	2.68E+01	5.37E+00	4.94E-02	1.23E-03	2.00E-01	2.45E-04	1.00E+00	7.73E-02	6.73E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	3.90E+00	7.80E-01	2.39E-03	9.21E-03	2.68E+01	5.37E+00	4.94E-02	1.23E-03	2.00E-01	2.45E-04	1.00E+00	7.73E-02	6.73E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PHENOL</b>																				
Dose/High TRV	1.23E-02	3.07E-03	5.10E+00	2.96E+00	9.08E-03	9.21E-03	2.66E+01	1.54E+01	1.42E-01	1.23E-03	5.80E-01	7.12E-04	1.00E+00	7.73E-02	1.96E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	5.10E+00	2.96E+00	9.08E-03	9.21E-03	2.66E+01	1.54E+01	1.42E-01	1.23E-03	5.80E-01	7.12E-04	1.00E+00	7.73E-02	1.96E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>2-METHYLNAPHTHALENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	2.10E-01	9.66E-01	2.96E-03	9.21E-03	2.92E+01	1.34E+02	1.24E+00	1.23E-03	4.60E+00	5.65E-03	1.00E+00	7.73E-02	1.61E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	2.10E-01	9.66E-01	2.96E-03	9.21E-03	2.92E+01	1.34E+02	1.24E+00	1.23E-03	4.60E+00	5.65E-03	1.00E+00	7.73E-02	1.61E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>ACENAPHTHENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	4.94E-04	1.51E-06	9.21E-03	1.47E+00	1.62E+01	1.49E-01	1.23E-03	1.10E+01	1.35E-02	1.00E+00	7.73E-02	2.10E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	4.94E-04	1.51E-06	9.21E-03	1.47E+00	1.62E+01	1.49E-01	1.23E-03	1.10E+01	1.35E-02	1.00E+00	7.73E-02	2.10E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA

**ATTACHMENT I4 AMERICAN ROBIN DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>ACENAPHTHYLENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	8.42E+00	2.58E-02	9.21E-03	2.29E+01	7.10E+00	6.53E-02	1.23E-03	3.10E-01	3.80E-04	1.00E+00	7.73E-02	1.18E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	8.42E+00	2.58E-02	9.21E-03	2.29E+01	7.10E+00	6.53E-02	1.23E-03	3.10E-01	3.80E-04	1.00E+00	7.73E-02	1.18E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>ANTHRACENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	8.06E-01	2.47E-03	9.21E-03	2.42E+00	6.53E+00	6.01E-02	1.23E-03	2.70E+00	3.31E-03	1.00E+00	7.73E-02	8.53E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	8.06E-01	2.47E-03	9.21E-03	2.42E+00	6.53E+00	6.01E-02	1.23E-03	2.70E+00	3.31E-03	1.00E+00	7.73E-02	8.53E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(a)ANTHRACENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	3.20E-01	9.82E-04	9.21E-03	1.59E+00	2.23E+01	2.05E-01	1.23E-03	1.40E+01	1.72E-02	1.00E+00	7.73E-02	2.89E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	3.20E-01	9.82E-04	9.21E-03	1.59E+00	2.23E+01	2.05E-01	1.23E-03	1.40E+01	1.72E-02	1.00E+00	7.73E-02	2.89E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(a)PYRENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	5.63E-01	1.73E-03	9.21E-03	1.33E+00	6.12E+00	5.63E-02	1.23E-03	4.60E+00	5.65E-03	1.00E+00	7.73E-02	8.24E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	5.63E-01	1.73E-03	9.21E-03	1.33E+00	6.12E+00	5.63E-02	1.23E-03	4.60E+00	5.65E-03	1.00E+00	7.73E-02	8.24E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(b)FLUORANTHENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	3.10E-01	2.36E+00	7.23E-03	9.21E-03	2.60E+00	1.98E+01	1.82E-01	1.23E-03	7.60E+00	9.33E-03	1.00E+00	7.73E-02	2.57E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	3.10E-01	2.36E+00	7.23E-03	9.21E-03	2.60E+00	1.98E+01	1.82E-01	1.23E-03	7.60E+00	9.33E-03	1.00E+00	7.73E-02	2.57E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(g,h,i)PERYLENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	9.48E-01	2.91E-03	9.21E-03	2.94E+00	6.17E+00	5.68E-02	1.23E-03	2.10E+00	2.58E-03	1.00E+00	7.73E-02	8.06E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	9.48E-01	2.91E-03	9.21E-03	2.94E+00	6.17E+00	5.68E-02	1.23E-03	2.10E+00	2.58E-03	1.00E+00	7.73E-02	8.06E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(k)FLUORANTHENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	7.78E-01	2.39E-03	9.21E-03	2.60E+00	2.39E+01	2.20E-01	1.23E-03	9.20E+00	1.13E-02	1.00E+00	7.73E-02	3.03E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	7.78E-01	2.39E-03	9.21E-03	2.60E+00	2.39E+01	2.20E-01	1.23E-03	9.20E+00	1.13E-02	1.00E+00	7.73E-02	3.03E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>CHRYSENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	3.47E-01	1.06E-03	9.21E-03	2.29E+00	3.66E+01	3.37E-01	1.23E-03	1.60E+01	1.96E-02	1.00E+00	7.73E-02	4.63E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	3.47E-01	1.06E-03	9.21E-03	2.29E+00	3.66E+01	3.37E-01	1.23E-03	1.60E+01	1.96E-02	1.00E+00	7.73E-02	4.63E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIBENZO(a,h)ANTHRACENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.30E-01	1.69E-01	5.19E-04	9.21E-03	2.31E+00	3.00E+00	2.76E-02	1.23E-03	1.30E+00	1.60E-03	1.00E+00	7.73E-02	3.85E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	1.30E-01	1.69E-01	5.19E-04	9.21E-03	2.31E+00	3.00E+00	2.76E-02	1.23E-03	1.30E+00	1.60E-03	1.00E+00	7.73E-02	3.85E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>FLUORANTHENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	5.00E-01	3.70E+01	1.14E-01	9.21E-03	3.04E+00	2.25E+02	2.07E+00	1.23E-03	7.40E+01	9.08E-02	1.00E+00	7.73E-02	2.94E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	5.00E-01	3.70E+01	1.14E-01	9.21E-03	3.04E+00	2.25E+02	2.07E+00	1.23E-03	7.40E+01	9.08E-02	1.00E+00	7.73E-02	2.94E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>FLUORENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	6.62E-04	2.03E-06	9.21E-03	9.57E+00	7.46E+01	6.87E-01	1.23E-03	7.80E+00	9.57E-03	1.00E+00	7.73E-02	9.01E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	6.62E-04	2.03E-06	9.21E-03	9.57E+00	7.46E+01	6.87E-01	1.23E-03	7.80E+00	9.57E-03	1.00E+00	7.73E-02	9.01E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>INDENO(1,2,3-cd)PYRENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.10E-01	2.64E-01	8.10E-04	9.21E-03	2.86E+00	6.86E+00	6.32E-02	1.23E-03	2.40E+00	2.95E-03	1.00E+00	7.73E-02	8.66E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	1.10E-01	2.64E-01	8.10E-04	9.21E-03	2.86E+00	6.86E+00	6.32E-02	1.23E-03	2.40E+00	2.95E-03	1.00E+00	7.73E-02	8.66E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>NAPHTHALENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.22E+01	6.10E-02	1.87E-04	9.21E-03	4.40E+00	2.20E-02	2.03E-04	1.23E-03	5.00E-03	6.14E-06	1.00E+00	7.73E-02	5.12E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	1.22E+01	6.10E-02	1.87E-04	9.21E-03	4.40E+00	2.20E-02	2.03E-04	1.23E-03	5.00E-03	6.14E-06	1.00E+00	7.73E-02	5.12E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PHENANTHRENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	8.35E+00	2.56E-02	9.21E-03	1.72E+00	6.88E+01	6.33E-01	1.23E-03	4.00E+01	4.91E-02	1.00E+00	7.73E-02	9.16E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	R	8.35E+00	2.56E-02	9.21E-03	1.72E+00	6.88E+01	6.33E-01	1.23E-03	4.00E+01	4.91E-02	1.00E+00	7.73E-02	9.16E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PYRENE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	5.50E-02	3.74E+00	1.15E-02	9.21E-03	1.75E+00	1.19E+02	1.10E+00	1.23E-03	6.80E+01	8.35E-02	1.00E+00	7.73E-02	1.54E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	5.50E-02	3.74E+00	1.15E-02	9.21E-03	1.75E+00	1.19E+02	1.10E+00	1.23E-03	6.80E+01	8.35E-02	1.00E+00	7.73E-02	1.54E+01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4,4'-DDD</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	5.15E-04	1.58E-06	9.21E-03	R	2.93E-02	2.70E-04	1.23E-03	1.20E-03	1.47E-06	1.00E+00	7.73E-02	3.53E-03	1.50E+00	1.00E+00	8.99E-01	3.93E-03	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	R	5.15E-04	1.58E-06	9.21E-03	R	2.93E-02	2.70E-04	1.23E-03	1.20E-03	1.47E-06	1.00E+00	7.73E-02	3.53E-03	9.00E-03	3.50E+00	4.20E-03	8.41E-01	Navy 1998
<b>4,4'-DDE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	6.27E-02	1.92E-04	9.21E-03	R	8.81E+00	8.11E-02	1.23E-03	7.10E-01	8.71E-04	1.00E+00	7.73E-02	1.06E+00	6.00E-01	1.00E+00	3.60E-01	2.96E+00	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	R	6.27E-02	1.92E-04	9.21E-03	R	8.81E+00	8.11E-02	1.23E-03	7.10E-01	8.71E-04	1.00E+00	7.73E-02	1.06E+00	9.00E-03	3.50E+00	4.20E-03	2.53E+02	Navy 1998

**ATTACHMENT I4 AMERICAN ROBIN DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/k g/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>4,4'-DDT</b>																				
Dose/High TRV	1.23E-02	3.07E-03	R	4.60E-02	1.41E-04	9.21E-03	R	4.34E+00	4.00E-02	1.23E-03	4.70E-01	5.77E-04	1.00E+00	7.73E-02	5.27E-01	1.50E+00	1.00E+00	8.99E-01	5.86E-01	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	R	4.60E-02	1.41E-04	9.21E-03	R	4.34E+00	4.00E-02	1.23E-03	4.70E-01	5.77E-04	1.00E+00	7.73E-02	5.27E-01	9.00E-03	3.50E+00	4.20E-03	1.25E+02	Navy 1998
<b>ALDRIN</b>																				
Dose/High TRV	1.23E-02	3.07E-03	6.90E-01	8.97E-03	2.75E-05	9.21E-03	3.24E+01	4.21E-01	3.87E-03	1.23E-03	1.30E-02	1.60E-05	1.00E+00	7.73E-02	5.07E-02	7.70E-01	4.66E-01	5.38E-01	9.43E-02	Calculated <sup>16</sup>
Dose/Low TRV	1.23E-02	3.07E-03	6.90E-01	8.97E-03	2.75E-05	9.21E-03	3.24E+01	4.21E-01	3.87E-03	1.23E-03	1.30E-02	1.60E-05	1.00E+00	7.73E-02	5.07E-02	7.70E-02	4.66E-01	5.38E-02	9.43E-01	Sample and others 1996
<b>ALPHA-BHC</b>																				
Dose/High TRV	1.23E-02	3.07E-03	2.10E-01	1.53E-04	4.70E-07	9.21E-03	2.95E+01	2.15E-02	1.98E-04	1.23E-03	7.30E-04	8.96E-07	1.00E+00	7.73E-02	2.58E-03	2.25E+00	1.50E-01	1.97E+00	1.31E-03	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	2.10E-01	1.53E-04	4.70E-07	9.21E-03	2.95E+01	2.15E-02	1.98E-04	1.23E-03	7.30E-04	8.96E-07	1.00E+00	7.73E-02	2.58E-03	5.60E-01	1.50E-01	4.90E-01	5.27E-03	Sample and others 1996
<b>ALPHA-CHLORDANE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	2.50E-02	1.20E-03	3.68E-06	9.21E-03	3.20E+01	1.54E+00	1.41E-02	1.23E-03	4.80E-02	5.89E-05	1.00E+00	7.73E-02	1.84E-01	1.07E+01	6.40E-02	1.11E+01	1.65E-02	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	2.50E-02	1.20E-03	3.68E-06	9.21E-03	3.20E+01	1.54E+00	1.41E-02	1.23E-03	4.80E-02	5.89E-05	1.00E+00	7.73E-02	1.84E-01	2.14E+00	6.40E-02	2.22E+00	8.27E-02	Sample and others 1996
<b>BETA-BHC</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.80E-01	3.96E-04	1.22E-06	9.21E-03	2.95E+01	6.49E-02	5.98E-04	1.23E-03	2.20E-03	2.70E-06	1.00E+00	7.73E-02	7.78E-03	2.25E+00	1.50E-01	1.97E+00	3.95E-03	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	1.80E-01	3.96E-04	1.22E-06	9.21E-03	2.95E+01	6.49E-02	5.98E-04	1.23E-03	2.20E-03	2.70E-06	1.00E+00	7.73E-02	7.78E-03	5.60E-01	1.50E-01	4.90E-01	1.59E-02	Sample and others 1996
<b>DELTA-BHC</b>																				
Dose/High TRV	1.23E-02	3.07E-03	9.00E-01	7.56E-03	2.32E-05	9.21E-03	2.95E+01	2.48E-01	2.28E-03	1.23E-03	8.40E-03	1.03E-05	1.00E+00	7.73E-02	3.00E-02	2.25E+00	1.50E-01	1.97E+00	1.52E-02	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	9.00E-01	7.56E-03	2.32E-05	9.21E-03	2.95E+01	2.48E-01	2.28E-03	1.23E-03	8.40E-03	1.03E-05	1.00E+00	7.73E-02	3.00E-02	5.60E-01	1.50E-01	4.90E-01	6.11E-02	Sample and others 1996
<b>DIELDRIN</b>																				
Dose/High TRV	1.23E-02	3.07E-03	4.10E-01	2.05E-01	6.29E-04	9.21E-03	R	5.31E+00	4.88E-02	1.23E-03	5.00E-01	6.14E-04	1.00E+00	7.73E-02	6.48E-01	7.70E-01	4.66E-01	5.38E-01	1.21E+00	Calculated <sup>16</sup>
Dose/Low TRV	1.23E-02	3.07E-03	4.10E-01	2.05E-01	6.29E-04	9.21E-03	R	5.31E+00	4.88E-02	1.23E-03	5.00E-01	6.14E-04	1.00E+00	7.73E-02	6.48E-01	7.70E-02	4.66E-01	5.38E-02	1.21E+01	Sample and others 1996
<b>ENDOSULFAN I</b>																				
Dose/High TRV	1.23E-02	3.07E-03	3.30E-01	7.59E-03	2.33E-05	9.21E-03	2.91E+01	6.70E-01	6.17E-03	1.23E-03	2.30E-02	2.82E-05	1.00E+00	7.73E-02	8.04E-02	1.00E+02	4.00E-01	7.20E+01	1.12E-03	Calculated <sup>16</sup>
Dose/Low TRV	1.23E-02	3.07E-03	3.30E-01	7.59E-03	2.33E-05	9.21E-03	2.91E+01	6.70E-01	6.17E-03	1.23E-03	2.30E-02	2.82E-05	1.00E+00	7.73E-02	8.04E-02	1.00E+01	4.00E-01	7.20E+00	1.12E-02	Sample and others 1996
<b>ENDOSULFAN II</b>																				
Dose/High TRV	1.23E-02	3.07E-03	3.30E-01	1.65E-02	5.06E-05	9.21E-03	2.91E+01	1.46E+00	1.34E-02	1.23E-03	5.00E-02	6.14E-05	1.00E+00	7.73E-02	1.75E-01	1.00E+02	4.00E-01	7.20E+01	2.43E-03	Calculated <sup>16</sup>
Dose/Low TRV	1.23E-02	3.07E-03	3.30E-01	1.65E-02	5.06E-05	9.21E-03	2.91E+01	1.46E+00	1.34E-02	1.23E-03	5.00E-02	6.14E-05	1.00E+00	7.73E-02	1.75E-01	1.00E+01	4.00E-01	7.20E+00	2.43E-02	Sample and others 1996
<b>ENDOSULFAN SULFATE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	3.30E-01	1.42E-02	4.35E-05	9.21E-03	2.91E+01	1.25E+00	1.15E-02	1.23E-03	4.30E-02	5.28E-05	1.00E+00	7.73E-02	1.50E-01	1.00E+02	4.00E-01	7.20E+01	2.09E-03	Calculated <sup>16</sup>
Dose/Low TRV	1.23E-02	3.07E-03	3.30E-01	1.42E-02	4.35E-05	9.21E-03	2.91E+01	1.25E+00	1.15E-02	1.23E-03	4.30E-02	5.28E-05	1.00E+00	7.73E-02	1.50E-01	1.00E+01	4.00E-01	7.20E+00	2.09E-02	Sample and others 1996
<b>ENDRIN KETONE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	8.20E-02	8.20E-04	2.52E-06	9.21E-03	3.08E+01	3.08E-01	2.83E-03	1.23E-03	1.00E-02	1.23E-05	1.00E+00	7.73E-02	3.68E-02	1.00E-01	1.81E-01	8.44E-02	4.37E-01	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	8.20E-02	8.20E-04	2.52E-06	9.21E-03	3.08E+01	3.08E-01	2.83E-03	1.23E-03	1.00E-02	1.23E-05	1.00E+00	7.73E-02	3.68E-02	1.00E-02	1.81E-01	8.44E-03	4.37E+00	Sample and others 1996
<b>ENDRIN ALDEHYDE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	8.20E-02	6.07E-03	1.86E-05	9.21E-03	3.08E+01	2.28E+00	2.10E-02	1.23E-03	7.40E-02	9.08E-05	1.00E+00	7.73E-02	2.73E-01	1.00E-01	1.81E-01	8.44E-02	3.23E+00	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	8.20E-02	6.07E-03	1.86E-05	9.21E-03	3.08E+01	2.28E+00	2.10E-02	1.23E-03	7.40E-02	9.08E-05	1.00E+00	7.73E-02	2.73E-01	1.00E-02	1.81E-01	8.44E-03	3.23E+01	Sample and others 1996
<b>GAMMA-BHC (LINDANE)</b>																				
Dose/High TRV	1.23E-02	3.07E-03	2.70E-01	7.02E-04	2.15E-06	9.21E-03	2.95E+01	7.67E-02	7.06E-04	1.23E-03	2.60E-03	3.19E-06	1.00E+00	7.73E-02	9.21E-03	2.00E+01	1.00E+00	1.20E+01	7.68E-04	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	2.70E-01	7.02E-04	2.15E-06	9.21E-03	2.95E+01	7.67E-02	7.06E-04	1.23E-03	2.60E-03	3.19E-06	1.00E+00	7.73E-02	9.21E-03	2.00E+00	1.00E+00	1.20E+00	7.68E-03	Sample and others 1996
<b>GAMMA-CHLORDANE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	2.50E-02	3.75E-03	1.15E-05	9.21E-03	3.20E+01	4.80E+00	4.42E-02	1.23E-03	1.50E-01	1.84E-04	1.00E+00	7.73E-02	5.75E-01	1.07E+01	6.40E-02	1.11E+01	5.17E-02	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	2.50E-02	3.75E-03	1.15E-05	9.21E-03	3.20E+01	4.80E+00	4.42E-02	1.23E-03	1.50E-01	1.84E-04	1.00E+00	7.73E-02	5.75E-01	2.14E+00	6.40E-02	2.22E+00	2.59E-01	Sample and others 1996
<b>HEPTACHLOR</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.20E-01	8.28E-04	2.54E-06	9.21E-03	3.19E+01	2.20E-01	2.02E-03	1.23E-03	6.90E-03	8.47E-06	1.00E+00	7.73E-02	2.63E-02	1.07E+01	6.40E-02	1.11E+01	2.37E-03	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	1.20E-01	8.28E-04	2.54E-06	9.21E-03	3.19E+01	2.20E-01	2.02E-03	1.23E-03	6.90E-03	8.47E-06	1.00E+00	7.73E-02	2.63E-02	2.14E+00	6.40E-02	2.22E+00	1.18E-02	Sample and others 1996
<b>HEPTACHLOR EPOXIDE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	2.80E-02	3.08E-03	9.45E-06	9.21E-03	3.05E+01	3.36E+00	3.09E-02	1.23E-03	1.10E-01	1.35E-04	1.00E+00	7.73E-02	4.01E-01	1.07E+01	6.40E-02	1.11E+01	3.61E-02	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	2.80E-02	3.08E-03	9.45E-06	9.21E-03	3.05E+01	3.36E+00	3.09E-02	1.23E-03	1.10E-01	1.35E-04	1.00E+00	7.73E-02	4.01E-01	2.14E+00	6.40E-02	2.22E+00	1.81E-01	Sample and others 1996
<b>METHOXYCHLOR</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.10E-01	1.32E-02	4.05E-05	9.21E-03	3.06E+01	3.68E+00	3.38E-02	1.23E-03	1.20E-01	1.47E-04	1.00E+00	7.73E-02	4.40E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	1.23E-02	3.07E-03	1.10E-01	1.32E-02	4.05E-05	9.21E-03	3.06E+01	3.68E+00	3.38E-02	1.23E-03	1.20E-01	1.47E-04	1.00E+00	7.73E-02	4.40E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA

**ATTACHMENT 14 AMERICAN ROBIN DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Plant Ingestion Rate <sup>2</sup> (kg/day)	Plant BAF <sup>3</sup> (unitless)	Plant Concentration <sup>4</sup> (mg/kg)	Plant Daily Dose <sup>5</sup> (mg/day)	Invertebrate Ingestion Rate <sup>2</sup> (kg/day)	Invertebrate BAF <sup>3</sup> (unitless)	Invertebrate Concentration <sup>4</sup> (mg/kg)	Invertebrate Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>TECHNICAL CHLORDANE</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.30E-01	7.80E-02	2.39E-04	9.21E-03	3.20E+01	1.92E+01	1.77E-01	1.23E-03	6.00E-01	7.36E-04	1.00E+00	7.73E-02	2.30E+00	1.07E+01	6.40E-02	1.11E+01	2.07E-01	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	1.30E-01	7.80E-02	2.39E-04	9.21E-03	3.20E+01	1.92E+01	1.77E-01	1.23E-03	6.00E-01	7.36E-04	1.00E+00	7.73E-02	2.30E+00	2.14E+00	6.40E-02	2.22E+00	1.04E+00	Sample and others 1996
<b>AROCLOR-1248</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.60E-02	1.92E-02	5.89E-05	9.21E-03	3.22E+01	3.86E+01	3.55E-01	1.23E-03	1.20E+00	1.47E-03	1.00E+00	7.73E-02	4.62E+00	1.27E+00	1.72E+00	6.83E-01	6.76E+00	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	1.60E-02	1.92E-02	5.89E-05	9.21E-03	3.22E+01	3.86E+01	3.55E-01	1.23E-03	1.20E+00	1.47E-03	1.00E+00	7.73E-02	4.62E+00	9.00E-02	8.00E-01	5.64E-02	8.19E+01	Navy 1998
<b>AROCLOR-1254</b>																				
Dose/High TRV	1.23E-02	3.07E-03	1.30E-02	1.43E-01	4.39E-04	9.21E-03	3.27E+01	3.60E+02	3.32E+00	1.23E-03	1.10E+01	1.35E-02	1.00E+00	7.73E-02	4.31E+01	1.80E+00	1.00E+00	1.08E+00	3.99E+01	Sample and others 1996
Dose/Low TRV	1.23E-02	3.07E-03	1.30E-02	1.43E-01	4.39E-04	9.21E-03	3.27E+01	3.60E+02	3.32E+00	1.23E-03	1.10E+01	1.35E-02	1.00E+00	7.73E-02	4.31E+01	1.80E-02	1.00E+00	1.08E-02	3.99E+03	Sample and others 1996
<b>AROCLOR-1260</b>																				
Dose/High TRV	1.23E-02	3.07E-03	2.90E-03	2.81E-02	8.63E-05	9.21E-03	3.47E+01	3.37E+02	3.10E+00	1.23E-03	9.70E+00	1.19E-02	1.00E+00	7.73E-02	4.02E+01	1.27E+00	1.72E+00	6.83E-01	5.89E+01	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	2.90E-03	2.81E-02	8.63E-05	9.21E-03	3.47E+01	3.37E+02	3.10E+00	1.23E-03	9.70E+00	1.19E-02	1.00E+00	7.73E-02	4.02E+01	9.00E-02	8.00E-01	5.64E-02	7.13E+02	Navy 1998
<b>AROCLOR-1268</b>																				
Dose/High TRV	1.23E-02	3.07E-03	2.90E-03	8.70E-04	2.67E-06	9.21E-03	3.47E+01	1.04E+01	9.58E-02	1.23E-03	3.00E-01	3.68E-04	1.00E+00	7.73E-02	1.24E+00	1.27E+00	1.72E+00	6.83E-01	1.82E+00	Navy 1998
Dose/Low TRV	1.23E-02	3.07E-03	2.90E-03	8.70E-04	2.67E-06	9.21E-03	3.47E+01	1.04E+01	9.58E-02	1.23E-03	3.00E-01	3.68E-04	1.00E+00	7.73E-02	1.24E+00	9.00E-02	8.00E-01	5.64E-02	2.21E+01	Navy 1998

Notes:

- The formulas presented in Nagy (2001) were used to calculate ingestion rate.
- The plant ingestion rate is 100 percent of the total prey ingestion rate.
- BAFs were taken from EPA guidance (EPA 1995), primary literature, or calculated using formulas from ORNL (RAIS 2007). R = Regression equation used to generate tissue concentration.
- The plant concentration was calculated by multiplying the maximum soil concentration by the BAF or using a regression equation to generate a tissue concentration (see note 3).
- Plant daily doses were calculated by multiplying the ingestion rate (see note 2) by the tissue concentration (see note 4).
- Soil ingestion rate is 2.4 percent of prey ingestion rate.
- Maximum of all site-collected surface (0 to 4 feet) soil samples were used.
- Soil daily dose was calculated by multiplying the soil ingestion rate (see note 6) by soil concentration (see note 7).
- Body weight is taken from EPA (1993, 2003) and Office of Environmental Health Hazard Assessment (2003).
- Total daily dose is calculated using the following equation: total daily dose = ((plant daily dose + invertebrate daily dose + soil daily dose) \* SUF) / receptor species body weight.
- The derivation of TRVs is described in Navy (1998) and Sample (1996).
- The following surrogate TRVs were used: The TRV for BHC mixed isomers was used as a surrogate for alpha-, beta-, and delta-BHC. The TRV for chlordane was used as a surrogate for heptachlor and heptachlor epoxide because heptachlor and heptachlor epoxide are breakdown products of chlordane. The TRV for chlordane was also used for alpha-chlordane, gamma-chlordane, and technical chlordane. The TRV for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The TRV for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The TRV for dieldrin was used as a surrogate for aldrin because dieldrin is a metabolic breakdown product of aldrin. The TRV for PCBs was used for Aroclor-1248, -1260, and -1268.
- Allometrically adjusted TRVs were calculated using the following equation: receptor species TRV = (test species TRV) x (test species body weight / receptor species body weight)<sup>(1-1/2)</sup>.
- HQs were calculated using the following equation: HQ = total daily dose/allometrically adjusted TRV.
- Sufficient data are not available to derive a TRV. This chemical was evaluated qualitatively.
- When only a low TRV was available from Sample and others (1996) or EPA (2007), it was multiplied by 10 to derive the high TRV.

BAF	Bioaccumulation factor	kg/day	Kilogram per day
BHC	Benzene hexachloride	mg/day	Milligram per day
COPEC	Chemical of potential ecological concern	mg/kg	Milligram per kilogram
DDD	Dichlorodiphenyldichloroethane	mg/kg/day	Milligram per kilogram per day
DDE	Dichlorodiphenyldichloroethylene	NA	Not applicable
DDT	Dichlorodiphenyltrichloroethane	Navy	U.S. Department of the Navy, Engineering Field Activity West
EPA	U.S. Environmental Protection Agency	R	Regression equation
HQ	Hazard Quotient	SUF	Site use factor
kg	kilogram	TRV	Toxicity reference value

References:

U.S. Department of the Navy. 1998. "Development of Ecotoxicity Screening Levels." EPA. 2007. Interim Ecological Soil Screening Levels. May. Available on-line at: <http://www.epa.gov/ecotox/ecoss/>

EPA. 1993. "Wildlife Exposure Factors Handbook". Volumes 1 and 2. Office of Research and Development. EPA/600/R-93/187. December.

EPA. 1995. "Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors." EPA-820-B-95-005.

EPA. 2003. "Region 5 RCRA Ecological Screening Levels." August 22. Available Online at: <http://www.epa.gov/reg5rcra/ca/edql.htm>

EPA. 2007. Interim Ecological Soil Screening Levels. Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

Nagy, K.A. 2001. "Food Requirements of Wild Animals: Predictive Equations for Free-Living Mammals, Reptiles, and Birds." *Nutrition Abstracts and Reviews, Series B*. Volume 71. Pages 21R-31R.

Office of Environmental Health Hazard Assessment. 2003. "California Wildlife Exposure Factor and Toxicity Database." Ecotoxicology Unit. Sacramento, California. Available Online at: [www.oehha.org/cal\\_ecotox/default.htm](http://www.oehha.org/cal_ecotox/default.htm)

Oak Ridge National Laboratory. 2007. "Risk Assessment Information System." Available Online at: <http://rais.ornl.gov/index.shtml>

Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

**ATTACHMENT I5 RED-TAILED HAWK DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Mammal Ingestion Rate <sup>2</sup> (kg/day)	Mammal BAF <sup>3</sup> (unitless)	Mammal Concentration <sup>4</sup> (mg/kg)	Mammal Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>ALUMINUM</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.71E-02	6.33E+02	5.09E+01	5.63E-04	3.70E+04	2.08E+01	1.00E+00	9.57E-01	7.49E+01	1.10E+03	1.55E-01	1.58E+03	4.75E-02	Calculated <sup>16</sup>
Dose/Low TRV	8.04E-02	8.04E-02	1.71E-02	6.33E+02	5.09E+01	5.63E-04	3.70E+04	2.08E+01	1.00E+00	9.57E-01	7.49E+01	1.10E+02	1.55E-01	1.58E+02	4.75E-01	Sample and others 1996
<b>ANTIMONY</b>																
Dose/High TRV	8.04E-02	8.04E-02	BTF	8.27E-01	6.65E-02	5.63E-04	1.60E+01	9.00E-03	1.00E+00	9.57E-01	7.89E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	BTF	8.27E-01	6.65E-02	5.63E-04	1.60E+01	9.00E-03	1.00E+00	9.57E-01	7.89E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>ARSENIC</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	3.96E-01	3.18E-02	5.63E-04	1.20E+02	6.75E-02	1.00E+00	9.57E-01	1.04E-01	2.20E+01	1.17E+00	2.11E+01	4.91E-03	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	R	3.96E-01	3.18E-02	5.63E-04	1.20E+02	6.75E-02	1.00E+00	9.57E-01	1.04E-01	5.50E+00	1.17E+00	5.28E+00	1.97E-02	Navy 1998
<b>BARIUM</b>																
Dose/High TRV	8.04E-02	8.04E-02	BTF	3.71E-01	2.98E-02	5.63E-04	2.00E+02	1.13E-01	1.00E+00	9.57E-01	1.49E-01	4.17E+01	1.21E-01	6.31E+01	2.36E-03	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	BTF	3.71E-01	2.98E-02	5.63E-04	2.00E+02	1.13E-01	1.00E+00	9.57E-01	1.49E-01	2.08E+01	1.21E-01	3.15E+01	4.73E-03	Sample and others 1996
<b>BERYLLIUM</b>																
Dose/High TRV	8.04E-02	8.04E-02	BTF	2.17E-02	1.75E-03	5.63E-04	6.10E-01	3.43E-04	1.00E+00	9.57E-01	2.18E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	BTF	2.17E-02	1.75E-03	5.63E-04	6.10E-01	3.43E-04	1.00E+00	9.57E-01	2.18E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>CADMIUM</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	1.73E+00	1.39E-01	5.63E-04	4.58E+01	2.58E-02	1.00E+00	9.57E-01	1.72E-01	1.04E+01	8.40E-02	1.70E+01	1.02E-02	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	R	1.73E+00	1.39E-01	5.63E-04	4.58E+01	2.58E-02	1.00E+00	9.57E-01	1.72E-01	8.00E-02	7.98E-01	8.30E-02	2.08E+00	Navy 1998
<b>CHROMIUM</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	2.38E+01	1.91E+00	5.63E-04	5.50E+02	3.10E-01	1.00E+00	9.57E-01	2.32E+00	5.00E+00	1.25E+00	4.74E+00	4.90E-01	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	R	2.38E+01	1.91E+00	5.63E-04	5.50E+02	3.10E-01	1.00E+00	9.57E-01	2.32E+00	1.00E+00	1.25E+00	9.48E-01	2.45E+00	Sample and others 1996
<b>COBALT</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	6.41E-01	5.15E-02	5.63E-04	2.17E+01	1.22E-02	1.00E+00	9.57E-01	6.66E-02	7.61E+01	2.92E-01	9.65E+01	6.90E-04	Calculated <sup>16</sup>
Dose/Low TRV	8.04E-02	8.04E-02	R	6.41E-01	5.15E-02	5.63E-04	2.17E+01	1.22E-02	1.00E+00	9.57E-01	6.66E-02	7.61E+00	2.92E-01	9.65E+00	6.90E-03	EPA 2007
<b>COPPER</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	1.71E+01	1.38E+00	5.63E-04	2.54E+02	1.43E-01	1.00E+00	9.57E-01	1.59E+00	5.23E+01	4.09E-01	6.19E+01	2.57E-02	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	R	1.71E+01	1.38E+00	5.63E-04	2.54E+02	1.43E-01	1.00E+00	9.57E-01	1.59E+00	2.30E+00	6.39E-01	2.49E+00	6.37E-01	Navy 1998
<b>IRON</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.80E+05	1.45E+04	5.63E-04	1.80E+05	1.01E+02	1.00E+00	9.57E-01	1.52E+04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.80E+05	1.45E+04	5.63E-04	1.80E+05	1.01E+02	1.00E+00	9.57E-01	1.52E+04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>LEAD</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	8.80E+01	7.07E+00	5.63E-04	2.10E+04	1.18E+01	1.00E+00	9.57E-01	1.97E+01	8.75E+00	8.00E-01	9.07E+00	2.18E+00	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	R	8.80E+01	7.07E+00	5.63E-04	2.10E+04	1.18E+01	1.00E+00	9.57E-01	1.97E+01	1.40E-02	8.40E-02	2.28E-02	8.67E+02	Navy 1998
<b>MANGANESE</b>																
Dose/High TRV	8.04E-02	8.04E-02	2.05E-02	2.67E+01	2.14E+00	5.63E-04	1.30E+03	7.32E-01	1.00E+00	9.57E-01	3.00E+00	7.76E+02	1.97E-01	1.07E+03	2.82E-03	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	2.05E-02	2.67E+01	2.14E+00	5.63E-04	1.30E+03	7.32E-01	1.00E+00	9.57E-01	3.00E+00	7.76E+01	1.97E-01	1.07E+02	2.82E-02	Navy 1998
<b>MERCURY</b>																
Dose/High TRV	8.04E-02	8.04E-02	5.43E-02	1.03E-01	8.29E-03	5.63E-04	1.90E+00	1.07E-03	1.00E+00	9.57E-01	9.78E-03	1.80E-01	1.00E+00	1.78E-01	5.48E-02	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	5.43E-02	1.03E-01	8.29E-03	5.63E-04	1.90E+00	1.07E-03	1.00E+00	9.57E-01	9.78E-03	3.90E-02	1.00E+00	3.87E-02	2.53E-01	Navy 1998

**ATTACHMENT I5 RED-TAILED HAWK DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Mammal Ingestion Rate <sup>2</sup> (kg/day)	Mammal BAF <sup>3</sup> (unitless)	Mammal Concentration <sup>4</sup> (mg/kg)	Mammal Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>MOLYBDENUM</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.37E+01	1.10E+00	5.63E-04	1.37E+01	7.71E-03	1.00E+00	9.57E-01	1.16E+00	3.53E+01	1.50E+00	3.23E+01	3.59E-02	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.37E+01	1.10E+00	5.63E-04	1.37E+01	7.71E-03	1.00E+00	9.57E-01	1.16E+00	3.50E+00	1.50E+00	3.20E+00	3.62E-01	Sample and others 1996
<b>NICKEL</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	7.33E+00	5.89E-01	5.63E-04	1.22E+02	6.87E-02	1.00E+00	9.57E-01	6.87E-01	5.53E+01	5.80E-01	6.11E+01	1.13E-02	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	R	7.33E+00	5.89E-01	5.63E-04	1.22E+02	6.87E-02	1.00E+00	9.57E-01	6.87E-01	1.38E+00	6.13E-01	1.51E+00	4.56E-01	Navy 1998
<b>SELENIUM</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	6.84E-01	5.50E-02	5.63E-04	1.10E+00	6.19E-04	1.00E+00	9.57E-01	5.81E-02	9.30E-01	1.11E+00	9.03E-01	6.43E-02	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	R	6.84E-01	5.50E-02	5.63E-04	1.10E+00	6.19E-04	1.00E+00	9.57E-01	5.81E-02	2.30E-01	1.11E+00	2.23E-01	2.60E-01	Navy 1998
<b>SILVER</b>																
Dose/High TRV	8.04E-02	8.04E-02	4.00E-03	3.80E-02	3.06E-03	5.63E-04	9.50E+00	5.35E-03	1.00E+00	9.57E-01	8.78E-03	2.02E+01	6.62E-01	2.17E+01	4.04E-04	EPA 2007
Dose/Low TRV	8.04E-02	8.04E-02	4.00E-03	3.80E-02	3.06E-03	5.63E-04	9.50E+00	5.35E-03	1.00E+00	9.57E-01	8.78E-03	2.02E+00	6.62E-01	2.17E+00	4.04E-03	EPA 2007
<b>THALLIUM</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	3.50E+00	2.81E-01	5.63E-04	3.50E+00	1.97E-03	1.00E+00	9.57E-01	2.96E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	3.50E+00	2.81E-01	5.63E-04	3.50E+00	1.97E-03	1.00E+00	9.57E-01	2.96E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>VANADIUM</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.29E-01	1.68E+01	1.35E+00	5.63E-04	1.30E+02	7.32E-02	1.00E+00	9.57E-01	1.49E+00	1.14E+02	1.17E+00	1.10E+02	1.36E-02	Calculated <sup>16</sup>
Dose/Low TRV	8.04E-02	8.04E-02	1.29E-01	1.68E+01	1.35E+00	5.63E-04	1.30E+02	7.32E-02	1.00E+00	9.57E-01	1.49E+00	1.14E+01	1.17E+00	1.10E+01	1.36E-01	Sample and others 1996
<b>ZINC</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	1.31E+02	1.05E+01	5.63E-04	1.40E+03	7.88E-01	1.00E+00	9.57E-01	1.18E+01	1.72E+02	9.55E-01	1.72E+02	6.87E-02	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	R	1.31E+02	1.05E+01	5.63E-04	1.40E+03	7.88E-01	1.00E+00	9.57E-01	1.18E+01	1.72E+01	9.55E-01	1.72E+01	6.87E-01	Navy 1998
<b>2,4-DIMETHYLPHENOL</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	2.10E-01	1.69E-02	5.63E-04	2.10E-01	1.18E-04	1.00E+00	9.57E-01	1.78E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	2.10E-01	1.69E-02	5.63E-04	2.10E-01	1.18E-04	1.00E+00	9.57E-01	1.78E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>2-METHYLPHENOL</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	8.10E-02	6.51E-03	5.63E-04	8.10E-02	4.56E-05	1.00E+00	9.57E-01	6.85E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	8.10E-02	6.51E-03	5.63E-04	8.10E-02	4.56E-05	1.00E+00	9.57E-01	6.85E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-METHYLPHENOL</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	2.70E-01	2.17E-02	5.63E-04	2.70E-01	1.52E-04	1.00E+00	9.57E-01	2.28E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	2.70E-01	2.17E-02	5.63E-04	2.70E-01	1.52E-04	1.00E+00	9.57E-01	2.28E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-NITROANILINE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	6.20E-01	4.98E-02	5.63E-04	6.20E-01	3.49E-04	1.00E+00	9.57E-01	5.25E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	6.20E-01	4.98E-02	5.63E-04	6.20E-01	3.49E-04	1.00E+00	9.57E-01	5.25E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4-NITROPHENOL</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	4.20E-01	3.38E-02	5.63E-04	4.20E-01	2.36E-04	1.00E+00	9.57E-01	3.55E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	4.20E-01	3.38E-02	5.63E-04	4.20E-01	2.36E-04	1.00E+00	9.57E-01	3.55E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BIS(2-ETHYLHEXYL)PHTHALATE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.40E+01	1.13E+00	5.63E-04	1.40E+01	7.88E-03	1.00E+00	9.57E-01	1.18E+00	1.10E+01	1.55E-01	1.58E+01	7.48E-02	Calculated <sup>16</sup>
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.40E+01	1.13E+00	5.63E-04	1.40E+01	7.88E-03	1.00E+00	9.57E-01	1.18E+00	1.10E+00	1.55E-01	1.58E+00	7.48E-01	Sample and others 1996

**ATTACHMENT I5 RED-TAILED HAWK DOSE CALCULATIONS AND HAZARD QUOTIENTS**

Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Mammal Ingestion Rate <sup>2</sup> (kg/day)	Mammal BAF <sup>3</sup> (unitless)	Mammal Concentration <sup>4</sup> (mg/kg)	Mammal Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>BUTYLBENZYLPHthalate</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	6.30E-01	5.07E-02	5.63E-04	6.30E-01	3.55E-04	1.00E+00	9.57E-01	5.33E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	6.30E-01	5.07E-02	5.63E-04	6.30E-01	3.55E-04	1.00E+00	9.57E-01	5.33E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIBENZOFURAN</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.30E+01	1.05E+00	5.63E-04	1.30E+01	7.32E-03	1.00E+00	9.57E-01	1.10E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.30E+01	1.05E+00	5.63E-04	1.30E+01	7.32E-03	1.00E+00	9.57E-01	1.10E+00	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIMETHYLPHthalate</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	3.80E-02	3.06E-03	5.63E-04	3.80E-02	2.14E-05	1.00E+00	9.57E-01	3.21E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	3.80E-02	3.06E-03	5.63E-04	3.80E-02	2.14E-05	1.00E+00	9.57E-01	3.21E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DI-N-BUTYLPHthalate</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	2.30E+00	1.85E-01	5.63E-04	2.30E+00	1.29E-03	1.00E+00	9.57E-01	1.95E-01	1.10E+00	1.55E-01	1.58E+00	1.23E-01	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	2.30E+00	1.85E-01	5.63E-04	2.30E+00	1.29E-03	1.00E+00	9.57E-01	1.95E-01	1.10E-01	1.55E-01	1.58E-01	<b>1.23E+00</b>	Sample and others 1996
<b>ISOPHORONE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	2.00E-01	1.61E-02	5.63E-04	2.00E-01	1.13E-04	1.00E+00	9.57E-01	1.69E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	2.00E-01	1.61E-02	5.63E-04	2.00E-01	1.13E-04	1.00E+00	9.57E-01	1.69E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PHENOL</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	5.80E-01	4.66E-02	5.63E-04	5.80E-01	3.26E-04	1.00E+00	9.57E-01	4.91E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	5.80E-01	4.66E-02	5.63E-04	5.80E-01	3.26E-04	1.00E+00	9.57E-01	4.91E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>2-METHYLNAPHTHALENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	4.60E+00	3.70E-01	5.63E-04	4.60E+00	2.59E-03	1.00E+00	9.57E-01	3.89E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	4.60E+00	3.70E-01	5.63E-04	4.60E+00	2.59E-03	1.00E+00	9.57E-01	3.89E-01	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>ACENAPHTHENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	1.10E+01	6.19E-03	1.00E+00	9.57E-01	6.47E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	1.10E+01	6.19E-03	1.00E+00	9.57E-01	6.47E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>ACENAPHTHYLENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	3.10E-01	1.74E-04	1.00E+00	9.57E-01	1.82E-04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	3.10E-01	1.74E-04	1.00E+00	9.57E-01	1.82E-04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>ANTHRACENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	2.70E+00	1.52E-03	1.00E+00	9.57E-01	1.59E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	2.70E+00	1.52E-03	1.00E+00	9.57E-01	1.59E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(a)ANTHRACENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	1.40E+01	7.88E-03	1.00E+00	9.57E-01	8.23E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	1.40E+01	7.88E-03	1.00E+00	9.57E-01	8.23E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(a)PYRENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	4.60E+00	2.59E-03	1.00E+00	9.57E-01	2.71E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	4.60E+00	2.59E-03	1.00E+00	9.57E-01	2.71E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(b)FLUORANTHENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	7.60E+00	4.28E-03	1.00E+00	9.57E-01	4.47E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	7.60E+00	4.28E-03	1.00E+00	9.57E-01	4.47E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA

**ATTACHMENT I5 RED-TAILED HAWK DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Mammal Ingestion Rate <sup>2</sup> (kg/day)	Mammal BAF <sup>3</sup> (unitless)	Mammal Concentration <sup>4</sup> (mg/kg)	Mammal Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>BENZO(g,h,i)PERYLENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	2.10E+00	1.18E-03	1.00E+00	9.57E-01	1.23E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	2.10E+00	1.18E-03	1.00E+00	9.57E-01	1.23E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>BENZO(k)FLUORANTHENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	9.20E+00	5.18E-03	1.00E+00	9.57E-01	5.41E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	9.20E+00	5.18E-03	1.00E+00	9.57E-01	5.41E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>CHRYSENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	1.60E+01	9.00E-03	1.00E+00	9.57E-01	9.41E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	1.60E+01	9.00E-03	1.00E+00	9.57E-01	9.41E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>DIBENZO(a,h)ANTHRACENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	1.30E+00	7.32E-04	1.00E+00	9.57E-01	7.65E-04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	1.30E+00	7.32E-04	1.00E+00	9.57E-01	7.65E-04	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>FLUORANTHENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	7.40E+01	4.16E-02	1.00E+00	9.57E-01	4.35E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	7.40E+01	4.16E-02	1.00E+00	9.57E-01	4.35E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>FLUORENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	7.80E+00	4.39E-03	1.00E+00	9.57E-01	4.59E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	7.80E+00	4.39E-03	1.00E+00	9.57E-01	4.59E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>INDENO(1,2,3-cd)PYRENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	2.40E+00	1.35E-03	1.00E+00	9.57E-01	1.41E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	2.40E+00	1.35E-03	1.00E+00	9.57E-01	1.41E-03	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>NAPHTHALENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	5.00E-03	2.81E-06	1.00E+00	9.57E-01	2.94E-06	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	5.00E-03	2.81E-06	1.00E+00	9.57E-01	2.94E-06	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PHENANTHRENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	4.00E+01	2.25E-02	1.00E+00	9.57E-01	2.35E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	4.00E+01	2.25E-02	1.00E+00	9.57E-01	2.35E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>PYRENE</b>																
Dose/High TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	6.80E+01	3.83E-02	1.00E+00	9.57E-01	4.00E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	0.00E+00	0.00E+00	0.00E+00	5.63E-04	6.80E+01	3.83E-02	1.00E+00	9.57E-01	4.00E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>4,4'-DDD</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	1.25E-01	1.01E-02	5.63E-04	1.20E-03	6.75E-07	1.00E+00	9.57E-01	1.05E-02	1.50E+00	1.00E+00	1.49E+00	7.09E-03	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	R	1.25E-01	1.01E-02	5.63E-04	1.20E-03	6.75E-07	1.00E+00	9.57E-01	1.05E-02	9.00E-03	3.50E+00	6.94E-03	1.52E+00	Navy 1998
<b>4,4'-DDE</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	8.70E+00	7.00E-01	5.63E-04	7.10E-01	4.00E-04	1.00E+00	9.57E-01	7.32E-01	6.00E-01	1.00E+00	5.95E-01	1.23E+00	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	R	8.70E+00	7.00E-01	5.63E-04	7.10E-01	4.00E-04	1.00E+00	9.57E-01	7.32E-01	9.00E-03	3.50E+00	6.94E-03	1.05E+02	Navy 1998
<b>4,4'-DDT</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	1.88E+00	1.51E-01	5.63E-04	4.70E-01	2.65E-04	1.00E+00	9.57E-01	1.58E-01	1.50E+00	1.00E+00	1.49E+00	1.06E-01	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	R	1.88E+00	1.51E-01	5.63E-04	4.70E-01	2.65E-04	1.00E+00	9.57E-01	1.58E-01	9.00E-03	3.50E+00	6.94E-03	2.28E+01	Navy 1998

**ATTACHMENT 15 RED-TAILED HAWK DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Mammal Ingestion Rate <sup>2</sup> (kg/day)	Mammal BAF <sup>3</sup> (unitless)	Mammal Concentration <sup>4</sup> (mg/kg)	Mammal Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>ALDRIN</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.30E-02	1.05E-03	5.63E-04	1.30E-02	7.32E-06	1.00E+00	9.57E-01	1.10E-03	7.70E-01	4.66E-01	8.89E-01	1.24E-03	Calculated <sup>16</sup>
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.30E-02	1.05E-03	5.63E-04	1.30E-02	7.32E-06	1.00E+00	9.57E-01	1.10E-03	7.70E-02	4.66E-01	8.89E-02	1.24E-02	Sample and others 1996
<b>ALPHA-BHC</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	7.30E-04	5.87E-05	5.63E-04	7.30E-04	4.11E-07	1.00E+00	9.57E-01	6.18E-05	2.25E+00	1.50E-01	3.26E+00	1.89E-05	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	7.30E-04	5.87E-05	5.63E-04	7.30E-04	4.11E-07	1.00E+00	9.57E-01	6.18E-05	5.60E-01	1.50E-01	8.11E-01	7.61E-05	Sample and others 1996
<b>ALPHA-CHLORDANE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	4.80E-02	3.86E-03	5.63E-04	4.80E-02	2.70E-05	1.00E+00	9.57E-01	4.06E-03	1.07E+01	6.40E-02	1.84E+01	2.21E-04	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	4.80E-02	3.86E-03	5.63E-04	4.80E-02	2.70E-05	1.00E+00	9.57E-01	4.06E-03	2.14E+00	6.40E-02	3.68E+00	1.10E-03	Sample and others 1996
<b>BETA-BHC</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	2.20E-03	1.77E-04	5.63E-04	2.20E-03	1.24E-06	1.00E+00	9.57E-01	1.86E-04	2.25E+00	1.50E-01	3.26E+00	5.71E-05	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	2.20E-03	1.77E-04	5.63E-04	2.20E-03	1.24E-06	1.00E+00	9.57E-01	1.86E-04	5.60E-01	1.50E-01	8.11E-01	2.29E-04	Sample and others 1996
<b>DELTA-BHC</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	8.40E-03	6.75E-04	5.63E-04	8.40E-03	4.73E-06	1.00E+00	9.57E-01	7.11E-04	2.25E+00	1.50E-01	3.26E+00	2.18E-04	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	8.40E-03	6.75E-04	5.63E-04	8.40E-03	4.73E-06	1.00E+00	9.57E-01	7.11E-04	5.60E-01	1.50E-01	8.11E-01	8.76E-04	Sample and others 1996
<b>DIELDRIN</b>																
Dose/High TRV	8.04E-02	8.04E-02	R	4.65E+00	3.74E-01	5.63E-04	5.00E-01	2.81E-04	1.00E+00	9.57E-01	3.91E-01	7.70E-01	4.66E-01	8.89E-01	4.40E-01	Calculated <sup>16</sup>
Dose/Low TRV	8.04E-02	8.04E-02	R	4.65E+00	3.74E-01	5.63E-04	5.00E-01	2.81E-04	1.00E+00	9.57E-01	3.91E-01	7.70E-02	4.66E-01	8.89E-02	4.40E+00	Sample and others 1996
<b>ENDOSULFAN I</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	2.30E-02	1.85E-03	5.63E-04	2.30E-02	1.29E-05	1.00E+00	9.57E-01	1.95E-03	1.00E+02	4.00E-01	1.19E+02	1.63E-05	Calculated <sup>16</sup>
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	2.30E-02	1.85E-03	5.63E-04	2.30E-02	1.29E-05	1.00E+00	9.57E-01	1.95E-03	1.00E+01	4.00E-01	1.19E+01	1.63E-04	Sample and others 1996
<b>ENDOSULFAN II</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	5.00E-02	4.02E-03	5.63E-04	5.00E-02	2.81E-05	1.00E+00	9.57E-01	4.23E-03	1.00E+02	4.00E-01	1.19E+02	3.55E-05	Calculated <sup>16</sup>
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	5.00E-02	4.02E-03	5.63E-04	5.00E-02	2.81E-05	1.00E+00	9.57E-01	4.23E-03	1.00E+01	4.00E-01	1.19E+01	3.55E-04	Sample and others 1996
<b>ENDOSULFAN SULFATE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	4.30E-02	3.46E-03	5.63E-04	4.30E-02	2.42E-05	1.00E+00	9.57E-01	3.64E-03	1.00E+02	4.00E-01	1.19E+02	3.06E-05	Calculated <sup>16</sup>
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	4.30E-02	3.46E-03	5.63E-04	4.30E-02	2.42E-05	1.00E+00	9.57E-01	3.64E-03	1.00E+01	4.00E-01	1.19E+01	3.06E-04	Sample and others 1996
<b>ENDRIN KETONE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.00E-02	8.04E-04	5.63E-04	1.00E-02	5.63E-06	1.00E+00	9.57E-01	8.46E-04	1.00E-01	1.81E-01	1.40E-01	6.06E-03	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.00E-02	8.04E-04	5.63E-04	1.00E-02	5.63E-06	1.00E+00	9.57E-01	8.46E-04	1.00E-02	1.81E-01	1.40E-02	6.06E-02	Sample and others 1996
<b>ENDRIN ALDEHYDE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	7.40E-02	5.95E-03	5.63E-04	7.40E-02	4.16E-05	1.00E+00	9.57E-01	6.26E-03	1.00E-01	1.81E-01	1.40E-01	4.49E-02	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	7.40E-02	5.95E-03	5.63E-04	7.40E-02	4.16E-05	1.00E+00	9.57E-01	6.26E-03	1.00E-02	1.81E-01	1.40E-02	4.49E-01	Sample and others 1996
<b>GAMMA-BHC (LINDANE)</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	2.60E-03	2.09E-04	5.63E-04	2.60E-03	1.46E-06	1.00E+00	9.57E-01	2.20E-04	2.00E+01	1.00E+00	1.98E+01	1.11E-05	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	2.60E-03	2.09E-04	5.63E-04	2.60E-03	1.46E-06	1.00E+00	9.57E-01	2.20E-04	2.00E+00	1.00E+00	1.98E+00	1.11E-04	Sample and others 1996
<b>GAMMA-CHLORDANE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.50E-01	1.21E-02	5.63E-04	1.50E-01	8.44E-05	1.00E+00	9.57E-01	1.27E-02	1.07E+01	6.40E-02	1.84E+01	6.90E-04	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.50E-01	1.21E-02	5.63E-04	1.50E-01	8.44E-05	1.00E+00	9.57E-01	1.27E-02	2.14E+00	6.40E-02	3.68E+00	3.45E-03	Sample and others 1996

**ATTACHMENT I5 RED-TAILED HAWK DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Mammal Ingestion Rate <sup>2</sup> (kg/day)	Mammal BAF <sup>3</sup> (unitless)	Mammal Concentration <sup>4</sup> (mg/kg)	Mammal Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
<b>HEPTACHLOR</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	6.90E-03	5.55E-04	5.63E-04	6.90E-03	3.88E-06	1.00E+00	9.57E-01	5.84E-04	1.07E+01	6.40E-02	1.84E+01	3.18E-05	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	6.90E-03	5.55E-04	5.63E-04	6.90E-03	3.88E-06	1.00E+00	9.57E-01	5.84E-04	2.14E+00	6.40E-02	3.68E+00	1.59E-04	Sample and others 1996
<b>HEPTACHLOR EPOXIDE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.10E-01	8.84E-03	5.63E-04	1.10E-01	6.19E-05	1.00E+00	9.57E-01	9.31E-03	1.07E+01	6.40E-02	1.84E+01	5.06E-04	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.10E-01	8.84E-03	5.63E-04	1.10E-01	6.19E-05	1.00E+00	9.57E-01	9.31E-03	2.14E+00	6.40E-02	3.68E+00	2.53E-03	Sample and others 1996
<b>METHOXYCHLOR</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.20E-01	9.65E-03	5.63E-04	1.20E-01	6.75E-05	1.00E+00	9.57E-01	1.02E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.20E-01	9.65E-03	5.63E-04	1.20E-01	6.75E-05	1.00E+00	9.57E-01	1.02E-02	NA	NA	No TRV <sup>15</sup>	No TRV <sup>15</sup>	NA
<b>TECHNICAL CHLORDANE</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	6.00E-01	4.82E-02	5.63E-04	6.00E-01	3.38E-04	1.00E+00	9.57E-01	5.08E-02	1.07E+01	6.40E-02	1.84E+01	2.76E-03	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	6.00E-01	4.82E-02	5.63E-04	6.00E-01	3.38E-04	1.00E+00	9.57E-01	5.08E-02	2.14E+00	6.40E-02	3.68E+00	1.38E-02	Sample and others 1996
<b>AROCLOR-1248</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.20E+00	9.65E-02	5.63E-04	1.20E+00	6.75E-04	1.00E+00	9.57E-01	1.02E-01	1.27E+00	1.72E+00	1.13E+00	8.98E-02	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.20E+00	9.65E-02	5.63E-04	1.20E+00	6.75E-04	1.00E+00	9.57E-01	1.02E-01	9.00E-02	8.00E-01	9.33E-02	<b>1.09E+00</b>	Navy 1998
<b>AROCLOR-1254</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	1.10E+01	8.84E-01	5.63E-04	1.10E+01	6.19E-03	1.00E+00	9.57E-01	9.31E-01	1.80E+00	1.00E+00	1.78E+00	5.22E-01	Sample and others 1996
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	1.10E+01	8.84E-01	5.63E-04	1.10E+01	6.19E-03	1.00E+00	9.57E-01	9.31E-01	1.80E-02	1.00E+00	1.78E-02	<b>5.22E+01</b>	Sample and others 1996
<b>AROCLOR-1260</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	9.70E+00	7.80E-01	5.63E-04	9.70E+00	5.46E-03	1.00E+00	9.57E-01	8.21E-01	1.27E+00	1.72E+00	1.13E+00	7.26E-01	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	9.70E+00	7.80E-01	5.63E-04	9.70E+00	5.46E-03	1.00E+00	9.57E-01	8.21E-01	9.00E-02	8.00E-01	9.33E-02	<b>8.80E+00</b>	Navy 1998
<b>AROCLOR-1268</b>																
Dose/High TRV	8.04E-02	8.04E-02	1.00E+00	3.00E-01	2.41E-02	5.63E-04	3.00E-01	1.69E-04	1.00E+00	9.57E-01	2.54E-02	1.27E+00	1.72E+00	1.13E+00	2.25E-02	Navy 1998
Dose/Low TRV	8.04E-02	8.04E-02	1.00E+00	3.00E-01	2.41E-02	5.63E-04	3.00E-01	1.69E-04	1.00E+00	9.57E-01	2.54E-02	9.00E-02	8.00E-01	9.33E-02	2.72E-01	Navy 1998

**ATTACHMENT I5 RED-TAILED HAWK DOSE CALCULATIONS AND HAZARD QUOTIENTS**  
 Remedial Investigation Report for Installation Restoration Site 34, Alameda Point, Alameda, California

COPEC	Total Prey Ingestion Rate <sup>1</sup> (kg/day)	Mammal Ingestion Rate <sup>2</sup> (kg/day)	Mammal BAF <sup>3</sup> (unitless)	Mammal Concentration <sup>4</sup> (mg/kg)	Mammal Daily Dose <sup>5</sup> (mg/day)	Soil Ingestion Rate <sup>6</sup> (kg/day)	Soil Concentration <sup>7</sup> (mg/kg)	Soil Daily Dose <sup>8</sup> (mg/day)	SUF	Body Weight <sup>9</sup> (kg)	Total Daily Dose <sup>10</sup> (mg/kg/day)	TRV <sup>11,12</sup> (mg/kg/day)	Test Species Body Weight <sup>11,12</sup> (kg)	Allometrically Adjusted TRV <sup>13</sup> (mg/kg/day)	HQ <sup>14</sup> (based on adjusted TRV)	Source of TRV
-------	--	--	---------------------------------------	--	--	--	--	--	-----	----------------------------------	---	-------------------------------------	---	--	---	---------------

Notes:

- The formulas presented in Nagy (2001) were used to calculate ingestion rate.
- The plant ingestion rate is 100 percent of the total prey ingestion rate.
- BAFs were taken from EPA guidance (EPA 1995), primary literature, or calculated using formulas from ORNL (RAIS 2007). R = Regression equation used to generate tissue concentration.
- The plant concentration was calculated by multiplying the maximum soil concentration by the BAF or using a regression equation to generate a tissue concentration (see note 3).
- Plant daily doses were calculated by multiplying the ingestion rate (see note 2) by the tissue concentration (see note 4).
- Soil ingestion rate is 2.4 percent of prey ingestion rate.
- Maximum of all site-collected surface (0 to 4 feet) soil samples were used.
- Soil daily dose was calculated by multiplying the soil ingestion rate (see note 6) by soil concentration (see note 7).
- Body weight is taken from EPA (1993, 2003) and Office of Environmental Health Hazard Assessment (2003).
- Total daily dose is calculated using the following equation: total daily dose = [(plant daily dose + invertebrate daily dose + soil daily dose)\*SUF]/receptor species body weight.
- The derivation of TRVs is described in Navy (1998) and Sample (1996).
- The following surrogate TRVs were used: The TRV for BHC mixed isomers was used as a surrogate for alpha-, beta-, and delta-BHC. The TRV for chlordane was used as a surrogate for heptachlor and heptachlor epoxide because heptachlor and heptachlor epoxide are breakdown products of chlordane. The TRV for chlordane was also used for alpha-chlordane, gamma-chlordane, and technical chlordane. The TRV for endosulfan was used as a surrogate for endosulfan I, endosulfan II, and endosulfan sulfate. The TRV for endrin was used as a surrogate for endrin ketone and endrin aldehyde. The TRV for dieldrin was used as a surrogate for aldrin because dieldrin is a metabolic breakdown product of aldrin. The TRV for PCBs was used for Aroclor-1248, -1260, and -1268.
- Allometrically adjusted TRVs were calculated using the following equation: receptor species TRV = (test species TRV) x (test species body weight / receptor species body weight)<sup>(1-1.4)</sup>.
- HQs were calculated using the following equation: HQ = total daily dose/allometrically adjusted TRV.
- Sufficient data are not available to derive a TRV. This chemical was evaluated qualitatively.
- When only a low TRV was available from Sample and others (1996) or EPA (2007), it was multiplied by 10 to derive the high TRV.

BAF	Bioaccumulation factor	kg/day	Kilogram per day
BHC	Benzene hexachloride	mg/day	Milligram per day
COPEC	Chemical of potential ecological concern	mg/kg	Milligram per kilogram
DDD	Dichlorodiphenyldichloroethane	mg/kg/day	Milligram per kilogram per day
DDE	Dichlorodiphenyldichloroethylene	NA	Not applicable
DDT	Dichlorodiphenyltrichloroethane	Navy	U.S. Department of the Navy, Engineering Field Activity West
EPA	U.S. Environmental Protection Agency	R	Regression equation
HQ	Hazard Quotient	SUF	Site use factor
kg	kilogram	TRV	Toxicity reference value

References:

U.S. Department of the Navy. 1998. "Development of Toxicity Reference Values for Wildlife." EPA. 2007. Interim Ecological Soil Screening Levels. May. Available on-line at: <http://www.epa.gov/ecotox/ecoss/>

EPA. 1993. "Wildlife Exposure Factors Handbook". Volumes 1 and 2. Office of Research and Development. EPA/600/R-93/187. December.

EPA. 1995. "Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors." EPA-820-B-95-005.

EPA. 2003. "Region 5 RCRA Ecological Screening Levels." August 22. Available Online at: <http://www.epa.gov/reg5rcra/ca/edql.htm>

EPA. 2007. Interim Ecological Soil Screening Levels. Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

Nagy, K.A. 2001. "Food Requirements of Wild Animals: Predictive Equations for Free-Living Mammals, Reptiles, and Birds." *Nutrition Abstracts and Reviews, Series B*. Volume 71. Pages 21R-31R.

Office of Environmental Health Hazard Assessment. 2003. "California Wildlife Exposure Factor and Toxicity Database." Ecotoxicology Unit. Sacramento, California. Available Online at: [www.oehha.org/cal\\_ecotox/default.htm](http://www.oehha.org/cal_ecotox/default.htm)

Oak Ridge National Laboratory. 2007. "Risk Assessment Information System." Available Online at: <http://rais.ornl.gov/index.shtml>

Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

**APPENDIX J**  
**RESPONSES TO REGULATORY AGENCY COMMENTS ON THE DRAFT**  
**REMEDIAL INVESTIGATION REPORT AND DRAFT FINAL REMEDIAL**  
**INVESTIGATION REPORT FOR INSTALLATION RESTORATION SITE 34**

---

**RESPONSES TO REGULATORY AGENCY COMMENTS ON THE  
DRAFT REMEDIAL INVESTIGATION REPORT FOR INSTALLATION RESTORATION  
SITE 34, FORMER NORTHWEST SHOP AREA, ALAMEDA POINT,  
ALAMEDA, CALIFORNIA**

---

This document presents the U.S. Department of the Navy's responses to comments from the regulatory agencies on the "Draft Remedial Investigation [RI] Report for Installation Restoration [IR] Site 34, Former Northwest Shop Area, Alameda Point, Alameda, California," dated September 6, 2007. The comments addressed below were received from the U.S. Environmental Protection Agency (EPA) on November 20, 2007, from the Department of Toxic Substances Control (DTSC) Geologic Services Unit (GSU) and the DTSC Human and Ecological Risk Division (HERD) on December 6, 2007, and from the California Department of Fish and Game, Office of Spill Prevention and Response (DFG-OSPR), on December 21, 2007.

**RESPONSES TO COMMENTS FROM EPA**

**General Comments**

- 1. Comment:** The future use of the site is a golf course and recreation area, but there is little discussion of how future land use will affect the fate and transport of contaminants. For example, a golf course needs frequent watering, which would increase the vertical flux of water through the soil. This could increase leaching of contaminants from soil into the groundwater. Please provide more information about future site use may impact contaminant fate and transport.

**Response:** It is not possible to forecast the potential effects of golf course management, including irrigation or pesticide application, on contamination that might be present at Site 34. Any such discussion would be speculative and conjectural at this point. The feasibility study (FS) will consider future land use in evaluating options to address contamination at Site 34.

- 2. Comment:** More sampling at Site 34 may be necessary to accurately define the lateral and vertical extent of soil contamination. In a few cases, the lateral extent of contamination has been established, but the vertical extent has not been delineated. For example, boring DP15 has samples from as deep as 7 feet below ground surface (ft bgs), and is the deepest boring in that area of Site 34. Some of the concentrations from DP15 at a depth of 7 ft exceed background and/or preliminary remediation goal (PRG) levels. Since samples were not collected from greater depths, the vertical extent of contamination remains uncertain. Similarly, Well MW-24, which has analytical results that exceed background and/or PRG levels, is fairly isolated in the

northwest corner of the site. Some of the same analytes exceeded screening criteria in samples collected from Boring DP06 but other nearby borings were not analyzed for the same suite of chemicals, so the lateral extent of contamination has not been delineated. Delineation of the extent of contamination appears to be necessary at the Feasibility Study or Remedial Design stage. Please consider more sampling in order to fully characterize the lateral and vertical extent of soil contamination at Site 34.

**Response:** It is the Navy's position that data are adequate to characterize the lateral and vertical extent of chemicals in soil and groundwater for the purposes of preparing the RI report and conducting risk assessments. The Navy also believes that the four areas of concern (AOC) presented in the draft RI report and an additional area north of Building 331, which will be added to the draft final report (see response to DTSC GSU specific comment 11), adequately represent potential risk to receptors, as defined by the risk assessments, and warrant further evaluation in an FS.

Additional samples in the area northeast of Building 331 (within the vicinity of DP16) and to the southwest (within the vicinity of DP02) (see response to EPA human health risk assessment [HHRA] general comment 2) will be collected in support of the FS; however, these results will not be available for the RI report. Sampling location DP15 is within the AOC along the former railroad and south of former Building 331. MW-24 and DP06 are within the AOC in the northwest corner of Site 34. These locations are already proposed for further investigation in the FS. If additional characterization of these other areas is needed, the Navy believes the information can be collected at the remedial design stage.

3. **Comment:** Additional sampling may be necessary to adequately characterize the groundwater at Site 34. There are only five wells present near Site 34, and only three of those are actually located within the site. There is a small section where the elevation data is supposedly more reliable (solid contours), but this area is located just to the west of Site 34. It appears from these two figures that more complete groundwater data from Site 34 and the surrounding areas is needed. Please consider collecting more groundwater data in order to provide more accurate fate and transport information for groundwater contaminants at Site 34.

**Response:** The Navy acknowledges that a reliable potentiometric surface contour cannot be drawn with the highest degree of accuracy using the available data. However, it is the Navy's position that the current level of accuracy is adequate to assess groundwater contamination for this RI report. In addition to the five monitoring wells mentioned by the reviewer, the

groundwater data from more than 25 direct-push samples were also used to evaluate groundwater contamination.

## SPECIFIC COMMENTS

1. **Comment:** Section 1.3.3, IR Site Description and Operations, Page 1-5; Table 1-1, Summary of Historical Uses, Investigations and Findings for IR Site 34 Buildings; and Figure 1-3, Site Features: The text of Section 1.3.3 says there are 15 transformers located within Site 34 and Table 1-1 indicates that 10 transformers were observed at IR Site 34, but Figure 1-3 shows only one transformer as indicated by the designated symbol from the legend. This transformer is also outside the site boundary line, just to the west. Please resolve the discrepancy in the number of reported transformers and include all transformers, whether currently present or not on Figure 1-3. Then, please evaluate whether samples for polychlorinated biphenyl (PCBs) analysis were collected from each of the current or former transformer locations and discuss this in Section 4.

**Response:** Fifteen transformers were located at Site 34. Six were located in Building 474, and one each were located in Buildings 330, 331, 343, 344, 472, 475, 476, 477, and 479. No transformers remain at Site 34. Section 1.3.3, Table 1-1, and Figure 1-3 will be edited to show the 15 transformers previously located on Site 34. There was no evidence of a release to the surface soils near the transformers during base operations or during the environmental baseline survey (EBS), and many of the transformers were located on concrete slabs that would prevent any releases to subsurface soils. Therefore, specific samples were not collected at previous transformer locations for analysis of polychlorinated biphenyls (PCBs). However, additional text will be added to the draft final RI report describing PCB concentrations in soil samples collected within the vicinity of the buildings formerly containing the transformers. PCBs are likely related to the use of oils at the site and the former temporary storage and treatment area (TSTA).

2. **Comment:** Figure 1-3, Site Features: All of the features listed in Table 1-1 should be shown and labeled on this figure. For example, the storm drain outlets and open space areas 1 and 2 are not labeled. In addition, total petroleum hydrocarbon (TPH) corrective action areas (CAA) 14 and CAA A should be included on this figure, since they are discussed in the text. Please label the storm drain outlets and open space areas 1 and 2 and review Table 1-1 to ensure that all features are included and labeled. Also, please include CAA 14 and CAA A on this figure.

**Response:** Figure 1-3 will be updated with all applicable site features.

3. **Comment:** Figure 1-4, IR Site 34 Soil Sampling Locations and Figure 1-5, Groundwater Sample Locations: Neither of these figures includes GB-14, but a log for this location is included in Appendix B. Please revise these figures to include location GB-14.

**Response:** Offshore geotechnical boring GB-14 was not part of the RI and was inadvertently included in Appendix B. Refer to Section 2.3 for site geology. Boring log GB-14 will be removed from the appendix.

4. **Comment:** Table 1-1, Summary of Historical Uses, Investigations, and Findings for IR Site 34 Buildings: For Buildings 472 and 474 as well as Open Space 1, the only item listed under Field Observations is “findings were not identified.” This statement is vague because it is unclear whether it means that no observations were made or observations were made but there were no significant findings. Please revise the statement in Table 1-1 so the meaning of the statement is clear.

**Response:** The statement will be revised to clarify that no observations were made about conditions at the building in the EBS report.

5. **Comment:** Section 2.4, Hydrogeology, Page 2-3: There are no approximate depths to aquifers and/or water-bearing zones included in the text. The hydrogeology descriptions would be more informative if information about depths to the various aquifers mentioned were included in the text. Please consider adding depth information to the hydrogeology sections.

**Response:** Depth to aquifers and water-bearing zones will be included in the text.

6. **Comment:** Section 2.4.1, Regional Hydrogeology, Page 2-3 and Section 2.4.2, Alameda Point and IR Site 34 Hydrogeology, Page 2-3: Section 2.4.1 states there are four primary aquifers found in the Eastern Bay Area, while Section 2.4.2 states there are two water-bearing zones and the Alameda Aquifer present at Alameda Point. There is no relationship drawn between these two hydrogeologic descriptions (i.e. the Newark Aquifer is equivalent to the Second Water-Bearing Zone). Please explain how the regional hydrogeology corresponds to the site hydrogeology.

**Response:** Additional text will be added to Sections 2.4.1 and 2.4.2 to describe the correlation between site hydrogeology and regional hydrogeology.

7. **Comment:** Section 2.6, Surface Water Drainage System and Tides, Page 2-6: The first paragraph of the section discusses the tidal influences on the

First Water-Bearing Zone (FWBZ), but does not discuss tidal influences on the Second Water-Bearing Zone (SWBZ). Please discuss tidal influence on the SWBZ.

**Response:** A description of the tidal influences on the second-water bearing zone (SWBZ) will be added to Section 2.6.

8. **Comment:** Section 2.7, Ecological Habitats, Page 2-7: The first sentence of the section states there are nine wildlife habitats present at Alameda Point. The bulleted section following the first paragraph only lists seven of these nine. Please include the two remaining habitat types or provide a reason for their exclusion.

**Response:** The text that describes ecological habitat in the executive summary, Section 2.7, Section 3.6, Section 7.0, and Appendix I of the draft RI report will be revised to be consistent with the following habitats:

- Open Water Area
- Grassland
- Landscaped or Developed
- Intensively Developed
- Airfield (Paved) Area
- Rock Breakwaters and Rip Rap

These habitats are described in the Final Environmental Impact Report for NAS Alameda dated December 2003 and are supplemented by a site visit and information from the California Wildlife Habitat Relationships System (CDFG 2005).

9. **Comment:** Figure 2-2, Schematic Geologic Cross Section A-A' and Figure 2-3, Schematic Geologic Cross Section B-B': It is unclear why these cross-sections only depict the top 10 feet of fill, since this is not sufficient for understanding the hydrogeology of IR 34. There are a number of borings and wells that were completed to depths between 15 and 241.5 feet. At a minimum, the cross-sections should include the units screened by the monitoring wells and the units sampled in the deeper direct push groundwater sample locations. Please relocate and revise the cross-sections to include the monitoring well borings and deeper direct push locations and to depict the units screened by the monitoring wells.

**Response:** The cross section figures will be revised to include the units screened by monitoring wells and the units sampled by deeper direct-push locations. The cross-sections were modified to include monitoring wells, and the shallow boring DP19 was not used in revised cross sections.

10. **Comment:** Figure 2-2, Schematic Geologic Cross Section A-A', Figure 2-3, Schematic Geologic Cross Section B-B' and Appendix B, Soil Boring Logs: Many of the water levels displayed on the cross sections were not measured; the values were estimated. According to the boring logs in Appendix B, the water levels at DP07, DP08 and DP10 were not measured. Please include a notation on the figures about estimated water levels or do not include inferred values on the cross sections.

**Response:** The cross section figures will be revised to remove the inferred values for water levels.

11. **Comment:** Figure 2-3, Schematic Geologic Cross Section B-B' and Appendix B, Soil Boring Logs: According to the boring logs found in Appendix B, DP19 should have clayey sand extending from the surface to a depth of 0.5 ft. The cross section does not depict this portion of clayey sand. Please revise the cross section to display the clayey sand.

**Response:** The cross-sections were modified to include monitoring wells; therefore, shallow boring DP19 was not used in the revised cross sections. See response to EPA specific comment 9.

12. **Comment:** Figure 2-4, Groundwater Elevation Map First Water Bearing Zone (Basewide): The figure has no site boundaries for Site 34 on the map. Site 34 is the focus of the RI, so the site boundaries should be included on the map. Also, the map includes contours for the SWBZ, so this should be reflected in the title of the figure. Please alter the figure to include site boundaries for Site 34, and consider changing the title of the figure to indicate SWBZ data is also included.

**Response:** Site boundaries will be included on Figure 2-4. In addition, the title of the figure will be modified to indicate that the SWBZ has been included.

13. **Comment:** Section 4.1.1, Metals in Soil, Arsenic, Page 4-2: The text states that arsenic contamination at 1.5 and 2.5 ft bgs was not related to surface contamination and that a source for subsurface arsenic contamination was not apparent, but a soluble form of arsenic was used as an additive to anti-fouling paints (see *Marine Fouling and Its Prevention*, United States Naval Institute, 1952) so arsenic in the subsurface could

be related to dissolution of arsenic in paint chips and dust that is found in used sandblast abrasive. In addition, arsenic was used as a pesticide and for wood treatment. Please revise the text to include a discussion of the possible sources of arsenic.

**Response:** The text will be revised to state that, although a source of subsurface arsenic contamination at locations HS1N and DP12 was not apparent, some of the arsenic detected may have resulted from dissolution of paint chips, paint dust, pesticides, and treated wood that were generated during historical operations at the site. However, sources related to historical operations at Site 34 are no longer believed to remain on site.

14. **Comment:** Section 4.1.1, Metals in Soil, Vanadium, Page 4-4: It is unclear why the second to last sentence in the paragraph on vanadium refers to cadmium. Please revise the text to explain the relevance of an observation about cadmium to the discussion of vanadium in soil or delete the reference to cadmium.

**Response:** Cadmium in the referenced text will be revised to vanadium.

15. **Comment:** Section 4.1.6, Polychlorinated Biphenyls in Soil, Page 4-7, Figure 4-9, Analytical Results for Aroclor 1254 in Soil Samples, and Figure 4-10, Analytical Results for Aroclor 1260 in Soil Samples: It is unclear why the text states that all PCB concentrations exceeding PRGs were in samples within 0.5 ft of the surface, with the exception of HS1N. According to Figures 4-9 and 4-10, locations 004-Z03-004 and DP02 have samples collected from depths greater than 0.5 ft that exceed either residential or industrial PRG levels. Please revise the text to be consistent with the data displayed in Figures 4-9 and 4-10.

**Response:** The text in Section 4.1.6, Polychlorinated Biphenyls in Soil, will be revised to the following for consistency with the data displayed in Figures 4-9 and 4-10: "Most of the PCB concentrations detected above PRGs were in samples collected within 0.5 feet of the ground surface. PCB concentrations were detected above PRGs deeper than 0.5 feet bgs in the following samples: a sample from 0.5 to 0.9 feet bgs at DP02 (Aroclor-1254 and Aroclor-1260), a sample from 0.5 to 1.0 feet bgs at 004-Z03-004 (Aroclor-1260), and a sample from 2.0 to 2.5 feet bgs at HS1N (Aroclor-1260)."

16. **Comment:** Section 4.1.3, Summary of Contamination in Soil and Figure 4-14, Areas of Concern in Soil Based on Nature and Extent Evaluation and Section 8.1.1.1, Nature and Extent Soil Results, Page 8-2: The requirement that there have to be three adjacent points to identify an

area of concern (AOC) is too arbitrary because there are areas where there are only two sampling points, like the area northwest of Building 331 where only DP12 and DP17 were completed. Also, samples from areas with stained soils should not be dismissed (e.g., DP16) without considering whether groundwater has been impacted; in the case of DP16, numerous fuel-related constituents were detected in groundwater, so it appears that contaminants are being dissolved from the stained soil. In addition, many locations were not analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and pesticides, but there are areas where multiple contaminants were detected in one boring that should have been designated as AOCs. The areas northwest of Building 331 (DP12 and DP17 – arsenic, chromium, lead, and polynuclear aromatic hydrocarbons [PAHs]); southeast of Building 331 (HS3S – arsenic, lead), and north of Building 331 (DP16 – arsenic, lead, PCBs and 004-Z03-004 - PCBs) should be designated as AOCs. Similarly, DP02 should be included in the western AOC because chromium was detected above the industrial PRG and PCBs were detected above the residential PRG. Please designate these areas northwest, southeast, and south of Building 331 as AOCs on Figure 4-14 and expand the western AOC to include location DP02.

**Response:** The intent of Section 4.1.8, Summary of Contamination in Soil, and Figure 4-14 is not to dismiss areas with stained soils, locations where samples were not analyzed for specific analytical groups, or areas with fewer sampling locations. Rather, as the discussion of the nature and extent presented in Section 4.0 had focused only on chemical concentrations that exceed comparison criteria (preliminary remediation goals [PRG]; environmental screening levels [ESLs] for diesel, gasoline, and motor oil; and background), the intent of Section 4.1.8 and Figure 4-14 is to further highlight the nature and extent of chemicals likely to pose potential risk, based on the risk assessments, and to identify areas where residual soil contamination appears to be limited. Section 4.1.8 will be revised to more clearly indicate this, and references to the following will be removed from the text and figure: comparison criteria of a cluster of three or more adjacent sample points, chemicals that exceed industrial PRGs and ESLs, and metals that exceed two times the background comparison will be removed from the text and figure.

An additional AOC in soil (arsenic, lead, PCBs, naphthalene, and TPH) to the north of Building 331, which includes locations DP12, DP16, and DP17, will be added to the draft final RI report (see response to DTSC GSU specific comment 11) and identified as an AOC requiring further investigation in an FS.

An AOC in soil (PCBs) will be identified in Section 4.1.8 and Figure 4-14 near the southwest corner of former Building 343 and east of former Building 475, which includes PW13 and PW18. However, this area will not be recommended in Section 8.2 as an AOC requiring further investigation in an FS. See response to EPA specific comment 23.

The AOC located in the southwest corner of the site will be expanded to include location DP02 due to PCBs and VOCs. Although chromium was detected above the industrial PRG at DP02, chromium was not identified a risk driver in the risk assessments and further action is not proposed for this chemical.

Location HS3S was not included within an AOC because of the relatively low concentrations detected at this location. Lead was detected at a concentration equal to the Cal-modified PRG but did not exceed it. Although arsenic was detected above background in surface soil (0.5 feet below ground surface [bgs]) at location HS3S (one of 10 locations), the detected concentration of 17 milligrams per kilogram (mg/kg) is within an order of magnitude of the background concentration for the site. In addition, the three highest concentrations of arsenic were detected in soil between 1.5 and 2.5 feet bgs. These locations, HS1N (120 mg/kg), DP12 (62 mg/kg), and 018-007-034 (52.1 mg/kg), are already included within AOCs proposed for further evaluation in the FS (northwest corner, north of Building 331). Arsenic was only detected above background in surface soil within an order of magnitude of the background concentration for the site at the remaining locations; therefore, these locations were also not included within the AOCs.

17. **Comment:** Section 4.2.1, Metals in Groundwater, Page 4-10, Pages 4-10 through 4-12; Section 4.2.5, Pesticides in Groundwater, Page 4-15; and Section 4.3, Nature and Extent Conclusions, Page 4-17: It is unclear why data from wells and sampling points near the Oakland Inner Harbor (i.e., MW-23, MW-24, DP06, DP11, DP12, DP16, and DP17) were not compared to California Toxics Rule (CTR) Criteria for metals and pesticides since aquatic receptors could be impacted by contaminants in groundwater that is discharged to the Harbor. While these locations are 40 to 60 feet from the Harbor and CTR criteria apply to surface water, the CTR criteria should be used to evaluate whether there are potential impacts to aquatic life and whether groundwater needs to be considered in the Feasibility Study (FS). Please screen groundwater data from the points listed above using CTR criteria and revise the RI Report to include the results of this evaluation.

**Response:** The screening level ecological risk assessment (SLERA) compared all groundwater data with the California Toxics Rule (CTR) criteria. It was

not necessary to include this comparison in the Section 4 evaluations since the SLERA addresses potential effects of groundwater contamination on ecological receptors, as represented by the CTR.

18. **Comment:** Figure 4-18, Results for Cis-1, 2-Dichloroethene in Groundwater: The contour lines on this figure intersect. There are two areas where the 0.1 microgram per liter ( $\mu\text{g/L}$ ) contour intersects other contours with values of 0.2  $\mu\text{g/L}$  (e.g., DP09 and DP15). In the vicinity of DP12, the 0.1  $\mu\text{g/L}$  contour crosses the 0.7  $\mu\text{g/L}$  contour. Please revise the figure so the contour lines do not intersect.

**Response:** Figure 4-18 will be corrected using conventional contour methods, and plume data will be re-contoured.

19. **Comment:** Section 5.2.1.1, Arsenic, Page 5-5: The text should not conclude that the “arsenic mobility is low” if it was used in a pesticide formulation. Arsenic was used as a pesticide and as an antifouling additive to paint, so it must have been present in a soluble (i.e., bioavailable) form and has likely dissolved from spent sandblast abrasive materials. The fate and transport discussion should incorporate information on these uses of arsenic (for example, see *Marine Fouling and Its Prevention*, United States Naval Institute, 1952). Please revise the text to discuss the likely behavior of soluble arsenic at Site 34.

**Response:** The text will be revised, as requested, to state that, in addition to occurring naturally in soils and groundwater in California, arsenic in soil may be attributed to dissolution of arsenic in paint chips and dust, pesticide use, and wood treatment, which may have been present in a soluble form.

Please note, however, that the text in Section 5.2.1.1 does not conclude that the mobility of arsenic is low. Rather, the text states, as quoted below, that redox conditions control the ionic species of metals and that different ionic species of arsenic have differing aqueous solubilities. “In oxidizing conditions, the relatively insoluble arsenate species of arsenic predominates and arsenic mobility is low. In reducing conditions, the more soluble arsenite species predominates and is more likely to dissolve into the groundwater and mobilize arsenic (Van Deuren others 2002).”

20. **Comment:** Section 5.2.1.2, Iron, Page 5-5: The text states there are two common iron ions,  $\text{Fe}^{+2}$  and  $\text{Fe}^{+3}$ , present in groundwater and that sorption depends on the type of ion and the optimum pH range for that particular ion, but it is unclear how this applies to Site 34. Please discuss which ion is more prevalent and how this, along with pH levels, will affect the mobility/sorption of iron at Site 34.

**Response:** The text will be revised to include additional information about how this mechanism might apply at Site 34 and how site-specific conditions affect the mechanism.

21. **Comment:** Section 5.2.1.3, Lead, Page 5-5: The text states that lead sorption is pH dependent, but pH values for the groundwater at Site 34 are not given. Please include pH data for Site 34 and discuss how these pH levels will impact lead sorption at Site 34.

**Response:** The text will be revised to include additional site-specific information about pH and how it would influence lead sorption.

22. **Comment:** Section 5.4, Fate and Transport Summary, Page 5-13: The second to last bulleted point states chemicals are not migrating along storm sewer line pathways based on data collected. No information is given about the data and specific sample locations, nor is there discussion regarding which characteristics of the data indicate that no preferential migration is occurring. Please include specific information in the text to support the statement that no preferential migration is occurring along sewer lines.

**Response:** The text will be revised in the referenced section to include sampling results that show groundwater in samples collected from locations DP12 and DP17 along the storm sewer line are not contaminated; thus, there is no evidence that preferential migration is occurring. Locations DP12 and DP17 are only 10 and 5 feet, respectively, from the storm drain line.

23. **Comment:** Section 8.2, Recommendations, Page 8-7: It is unclear if the recommendation for addressing PCBs in locations PW13 and PW-18, where Aroclor 1248 was detected above the Industrial and Residential PRGs, respectively. PW13 also had Aroclor 1254, Aroclor 1260, and Aroclor 1268 above residential PRGs. Similarly, since Aroclor-1260 exceeded the Industrial PRG in DP06 and the Residential Goal in HS1n, FS5, and HS1E, this area should also be addressed. Please clarify if these areas are recommended for evaluation in the FS.

**Response:** Sample locations FS5, HS1N, HS1E, and DP06 are located within an AOC identified in the northwestern corner of the site (see Figure 4-14 in the draft RI report), which is recommended for further evaluation in an FS. Though PCBs were detected in samples collected at PW13 and PW18 at concentrations greater than the residential PRG (and, in one case, greater than the industrial PRG), these two locations will not be specifically identified for further evaluation in an FS. The highest cancer risk of an individual PCB is 5.6E-06 and is associated with future residential

exposure to Aroclor-1248 in soil from both 0 to 2 feet and 0 to 4 feet bgs. The corresponding noncancer hazard is 1.1. The cancer risk for the future resident is at the lower end of the risk management range of 1E-06 to 1E-04; the noncancer hazard is essentially equal to the noncancer hazard threshold of 1.0. The cancer risk for both Aroclor-1254 and Aroclor-1260 was 2.5E-06, and both noncancer hazards were less than 0.5. Aroclor-1268 did not exceed either the cancer risk or the noncancer hazard threshold. In addition, the PCB that posed the highest cancer risk (Aroclor-1248) is infrequently detected at the site (2 percent). The RI report will not recommend the area near sample locations PW13 and PW18 for further evaluation in the FS, based on the relatively low risk of PCBs and their infrequent detection. However, risk management decisions made during development of the FS could include these locations for further evaluation if necessary.

## MINOR COMMENTS

- Comment:** Acronyms should be defined in the text the first time each is used. Frequently, the full name will be given initially in the text of the Draft Remedial Investigation Report (the RI Report) for Installation Restoration Site 34, but no acronym is included. Later in the text only the acronym is used. Please define all acronyms the first time they are used.

**Response:** Acronyms in the text will be defined the first time they are used.

- Comment:** Figure 2-3, Schematic Geologic Cross Section B-B': The labels at the top of the cross section indicate that it extends south to north, but the inset figure depicts Cross Section B-B' as an East-West cross section. Please resolve this discrepancy.

**Response:** Figure 2-3 will be corrected with the appropriate east-west cross-section labels.

- Comment:** Figure 2-5, IR Site 34 Groundwater Elevation Map: Units for the groundwater elevation are not listed on the figure. Also, the dashed contours, which are areas where data are uncertain, are not defined in the legend. Please provide units for the groundwater elevation data and include a definition for the dashed contours in the legend.

**Response:** Figure 2-5 will be edited to include groundwater elevation units and a definition in the legend for the dashed contours.

4. **Comment:** Section 3.5.3, Toxicity Assessment, Page 3-10: In the paragraph following the first bulleted portion of the section, the third sentence discusses the OEHHA SF. The “C” was omitted, and “SF” should be “CSF.” Please correct this typographic error.

**Response:** The text will be corrected.

5. **Comment:** Section 4.1.1, Metals in Soil, Page 4-2 and Figure 4-2, Analytical Results for Chromium in Soil Samples: The paragraph discussing chromium states that 35 locations exceed residential PRG levels based on x-ray fluorescence (XRF) screening results, yet Figure 4-2 shows 36 locations exceeding residential PRG levels according to XRF screening. Please resolve this discrepancy.

**Response:** The text will be revised to reflect that X-ray fluorescence (XRF) results at 36 locations exceed residential PRGs. In addition, the following revisions will be made to Figure 4-2: (1) all sample locations will be labeled and (2) shading will be removed from location HS6A (was shown north of location HS6W-5W in the draft report). It should be noted that 37 locations were originally shown as exceeding residential PRGs in Figure 4-2; see location PW-7A that was obscured by the concentration labels in the draft figure. In addition, sample 105-S34-157, which was incorrectly associated with location PW2 in Table D-2 of the draft report, will be associated with PW1 in the draft final table. Samples associated with location HS6S will also be correctly identified with location HS6S-5W in Table D-2.

6. **Comment:** Section 4.1.1, Metals in Soil, Page 4-3 and Figure 4-4, Analytical Results for Lead in Soil Samples: The paragraph discussing lead states 17 locations exceed residential PRG levels based on XRF screening results, but Figure 4-4 shows only 16 locations exceeding residential PRG levels according to XRF screening. Also, the text states that 29 samples exceed residential PRG levels, but Figure 4-4 shows 30 samples exceeding residential PRG levels. Please resolve these discrepancies.

**Response:** The text regarding residential PRGs and XRF samples is correct in both Section 4.1.1 and Figure 4-4. The text states, “XRF screening results for 106 soil samples suggested lead concentrations in soil exceeded ... California-modified residential PRG (150 milligrams per kilogram [mg/kg]) in 17 samples. Lead exceeded the PRG in 17 samples at 16 locations (two at location HS1N, at depths of 0 to 0.5 and 2 to 2.5 foot bgs).

The text regarding the 29 samples that exceeded the California-modified residential PRG is correct in both Section 4.1.1 and Table 4-1. As stated in the text, "... lead *exceeded* the California-modified residential PRG (150 mg/kg) in 29 samples..." (emphasis added). Figure 4-4 reflects that lead concentrations *are equal to or exceed* the PRG in 30 samples. As shown on Figure 4-4, lead at location HS3S was detected at a concentration of 150 mg/kg, which is equal to the PRG.

However, text in Section 4.1.1 of the draft report will be revised to reflect that the background screening criteria for lead is 29.7 mg/kg, not 37.7 mg/kg, and was exceeded in 48 out of 105 samples, and not 45 samples as stated.

7. **Comment:** Section 4.1.4, Polycyclic Aromatic Hydrocarbons in Soil, Page 4-6 and Figure 4-6, Analytical Results for Benzo(a)pyrene Equivalent in Soil Samples: The chart included in this section lists a value of 1.28 milligrams per kilogram (mg/kg) as the benzo(a)pyrene equivalent for sample location 004-003-008 at a depth of 6 ft but on Figure 4-6, this same sample has a value of 1.26 mg/kg listed. Please resolve this discrepancy.

**Response:** The benzo(a)pyrene (B[a]P) equivalent for sample location 004-003-008 is 1.26 mg/kg. The chart in Section 4.1.4, Polycyclic Aromatic Hydrocarbons in Soil, will be revised to be consistent with Figure 4-6. A new table will be added to Section 4 to show the B(a)P equivalents for each of the 54 samples identified in Figure 4-6.

In addition, five revisions will be made to Figure 4-6: (1) the B(a)P equivalent for samples without any detections of PAHs that have been assigned toxicity equivalence factors (TEFs) will be changed to "NC" for not calculated, rather than the current designation of zero; (2) sample 018-004-020 (0 to 0.5 feet bgs) will be added to the figure; (3) the B(a)P equivalents for both samples listed for DP13 will be corrected to read "NC" because the analytical results identified them as non-detections; (4) the B(a)P equivalent for the sample collected at 1 foot at location DP15 will be corrected to read 0.000004 mg/kg rather than 0.001404 mg/kg; and (5) the depth of the B(a)P equivalent sample listed at 0 feet at DP05 will be corrected to read 7 feet.

8. **Comment:** Section 4.1.6, Polychlorinated Biphenyls in Soil, Page 4-7 and Figure 4-10, Analytical Results for Aroclor 1260 in Soil Samples: The section states 20 locations exceed residential PRG levels, but Figure 4-10 shows 22 locations exceeding residential PRG levels. Please resolve this discrepancy.

**Response:** Figure 4-10 displays the locations of 22 samples of Aroclor-1260 that equal or exceed the EPA residential PRG of 0.22 mg/kg. Of those 22 samples, two locations equal the PRG, and 20 locations exceed the PRG. The text will be revised to state that concentrations *equaled or* exceeded the EPA residential PRG in 22 samples for Aroclor-1260.

9. **Comment:** Section 4.2.1, Metals in Groundwater, Page 4-11: Figure 4-18 is referenced on the third line as depicting metals in groundwater exceeding background concentrations; however, Figure 4-18 is titled Results for cis-1,2-Dichloroethene in Groundwater and displays no metal concentrations. Please edit the text to reference the correct figure.

**Response:** The text identified in the comment was intended to reference Figure 4-15, which presents arsenic concentrations. This text will be revised accordingly.

10. **Comment:** Figure 4-2, Analytical Results for Chromium in Soil Samples: The symbol indicating the location of DP12 is incorrect. The blue dot is used, but because the first sample exceeds residential PRG levels, the orange dot should be used. Please change the symbol on Figure 4-2.

**Response:** The point location of DP12 will be corrected to “orange” on Figure 4-2.

## HUMAN HEALTH RISK ASSESSMENT

### GENERAL COMMENTS

1. **Comment:** In the Executive Summary, *Summary of Groundwater Nature and Extent*, of the RI Report, it is noted that the text indicates that groundwater at Site 34 is impacted with VOCs, metals and PAHs that were detected at concentrations exceeding USEPA Region 9 tap water PRGs. However, the RI Report indicates that the sources for the groundwater contamination have either been removed or are confined to several specific areas. Furthermore, according to Section 2.5, of the RI Report, groundwater beneath the central portions of Alameda Point (including Site 34) is not currently employed for drinking water, irrigation, or industrial supply. However, Section 2.5 advances on page 2-5 that “Based on the federal criteria for TDS [total dissolved solids] and yield, groundwater within the FWBZ [first water-bearing zone] was determined to be a potential source of drinking water (EPA Class II Aquifer)”. Future exposure scenarios applicable to potential domestic and industrial uses of groundwater have been deemed incomplete in Figure H-1, *Human Health Conceptual Site Model*

(CSM) for Site 34, and have been eliminated from quantitative evaluation in this RI. With that, there is concern that risks and hazards associated with future groundwater domestic and industrial uses have been eliminated without demonstrating sufficient evidence. In the human health risk assessment (HHRA), please consider including an assessment of the exposures potentially incurred via future domestic and industrial groundwater uses given that the first underlying water bearing unit's yield is suggested to be sufficiently high and of sufficient quality or provide further justification for the elimination of the aforesaid future groundwater exposure scenarios.

**Response:** It is the Navy's position that a quantitative evaluation of risk and hazards potentially associated with domestic and industrial use of groundwater is not necessary, as groundwater beneath the central portions of Alameda Point (including Site 34) is not currently used for drinking water, irrigation, or industrial supply, nor is it reasonably expected to serve as a public drinking water supply. Section 2.5 of the draft final RI report will be revised to clarify that this conclusion is based on the following justification: (1) drinking water is supplied to Alameda Point by the East Bay Municipal Utilities District; (2) the Regional Water Quality Control Board (Water Board) provided the Navy with a letter exempting groundwater west of Saratoga Street at Alameda Point, which includes groundwater beneath Site 34 from the beneficial use of drinking water, (3) although the FWBZ qualifies as a Class II aquifer under federal guidelines, the Base Realignment and Closure (BRAC) Cleanup Team (BCT) concluded that groundwater at the site is unlikely to be used as a source of drinking water, and (4) Alameda County well construction standards require that all wells be sealed and screened below the first confining layer in a shallow aquifer system and the FWBZ is a shallow unconfined aquifer.

2. **Comment:** It appears that bulk soil concentrations have been employed to assess the vapor intrusion (VI) pathway. According to USEPA's 2002 *OSWER Draft Guidance for Evaluating Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)*, soil gas is preferred to bulk soil concentrations in the assessment of the VI pathway. A more representative assessment of exposure to indoor air via the VI pathway may be ascertained if subslab soil gas samples are collected from underneath any existing on-site structures. However, since the RI Report indicates that all existing structures were removed between 1996 and 2000, shallow soil gas samples, targeted at maximally-impacted areas, may provide a reasonable surrogate for subslab soil gas. Hence, to provide a more plausible assessment of exposure to indoor air via the VI pathway,

please consider the collection of soil gas samples reflective of maximally-impacted areas.

**Response:** This issue was discussed at the 10 January BCT meeting. It was agreed that the Navy will collect additional samples in the vicinity of DP02 to verify previous results. The additional sampling will be targeted to include soil gas if site conditions (such as high water table) do not interfere. These results will not be available for the RI report, but will be included in the FS.

3. **Comment:** The justification provided for exclusion of quantitative evaluation of dermal contact with groundwater by a future construction worker does not appear to be sufficient (i.e., construction in saturated trench conditions is generally avoided and dewatering is quickly implemented for construction activities). Considering the depth to groundwater is within 10 ft bgs and direct contact with groundwater is a plausible exposure pathway for a construction worker receptor during trenching activities, a quantitative assessment of this exposure pathway is preferred as a component of the baseline assessment, even if this potential exposure will be addressed through the implementation of institutional controls (e.g., personal protective equipment and/or standard industrial practices like pumping and installation of sheet piling). Please, at a minimum, provide a quantitative evaluation of the aforesaid exposure pathway for a construction worker receptor or please include a discussion in Section H9.0, *Uncertainty Analysis*, to account for the exclusion of this relevant exposure pathway. Such a qualitative discussion should include an assessment of the relative risks posed by the complete exposure pathways to receptor populations at issue and the degree to which the exclusion of the dermal exposure pathway is likely to impact 1) the total quantitative point estimates of risk and hazard and 2) the ultimate risk management recommendations made to USEPA.

**Response:** Dermal exposure to groundwater by the future construction worker was excluded from further evaluation per the Final RI Work Plan, IR Site 34 (SulTech 2006). This approach is consistent with other Alameda Point HHRAs recently conducted for Sites 28 and 32, both of which excluded the dermal contact with groundwater exposure pathway for the future construction worker. The premise for excluding the dermal exposure to groundwater pathway at all of these sites (Site 28, 32, and 34) was that standard industrial practices would keep contact with groundwater within the excavations to a minimum; thus, the pathway was considered negligible, as it was an insignificant source of exposure for the construction worker. Exclusion of this exposure pathway is discussed in

Section H5.3.2, Construction Worker Exposure Pathways, of the Site 34 HHRA. Thus, the report will not be revised as a result of this comment.

4. **Comment:** The 1997 USEPA Exposure Factors Handbook was used as a primary guidance for deriving exposure factors, such as produce consumption rates and time attributed to leisure activities. Please note that for the evaluation of the child scenarios, exposure data should be obtained from USEPA's Child-Specific Exposure Factors Handbook (2006) (ChEFH). Please ensure that the child exposure factors applied in the risk assessment are consistent with those in ChEFH.

**Response:** The 1997 Exposure Factors Handbook (EPA 1997, as cited in the RI report) was used as a reference for the residential child homegrown produce intake rate (0.0174 gram per day) and the residential child inhalation rate (0.42 cubic meter per hour). These produce intake and inhalation rates were accepted in the Final RI Work Plan, IR Site 34 (SulTech 2006, as cited in the RI report) and are consistent with the exposure assumptions recently used at Alameda Point Sites 28 and 32. In addition, EPA's 2006 Child-Specific Exposure Factors Handbook is not yet finalized and is in an external review stage of development. However, a quantitative evaluation will be added to Section H9.0, Uncertainty Analysis, to discuss the values presented in the proposed guidance and their potential impact on the risk assessment.

In addition, Table H4.3, EPA Risk Assessment Guidance for superfund (RAGS) Part D Table 4, Values Used for Daily Intake, CTE Soil Exposures, will be revised to show the central tendency exposure (CTE) produce intake rates of 0.03 kilogram per day (kg/day) for the adult resident and 0.00642 kg/day for the child resident; the values currently shown in Table H4.3 are based on the reasonable maximum exposure (RME) scenario. These CTE values are currently reflected in the HHRA.

In addition, an error was noted in the intake calculations for the produce ingestion pathway. It was assumed that a certain percentage of the dietary intake was homegrown (40 percent for the RME scenario and 20 percent for the CTE scenario); however, the fraction ingested is already assumed in the produce ingestion rate provided by EPA 1997. Therefore, the HHRA will be revised to remove the additional adjustment for ingestion.

5. **Comment:** There is concern that some of the risk drivers not recommended for further evaluation in the feasibility study (FS) has been eliminated without sufficient justification. For example, while chromium is driving the risk for a construction worker receptor, the HHRA indicates that since chromium is only a risk driver for a single population receptor and is based on "total chromium" (which

accounts for the toxicity of the more toxic hexavalent form) that the RI Report is not recommending it for further consideration in the FS. However, such does not confer adequate justification for eliminating a chemical when chromium risk for a construction worker receptor falls within the risk management range of 1E-04 and 1E-06 (i.e., 1.3E-05). Please reevaluate the omission of chromium and other risk drivers presented in Section 8.1.4, *Risk Driver Evaluation*, in any subsequent revisions of the RI Report.

**Response:** Additional discussion will be provided in Section 8.1.4, Risk Driver Evaluation, on the omission of risk drivers identified in the draft RI report.

In addition, chromium was incorrectly identified as a risk driver. Please see DTSC HERD specific comment 6. Section 8.1.4, Risk Driver Evaluation, will be revised to remove chromium as a risk driver.

Furthermore, an error was found in the chemical-specific parameters worksheet (VLOOKUP) within the vapor intrusion (VI) model. The Henry's law constant (HLC) for heptachlor provided in the VI model is 1.48 atmospheres cubic meter per mole (atm-m<sup>3</sup>/mol). However, according to EPA's on-line database, "On-line Tools for Site Assessment Calculation" for Estimated HLCs (<http://www.epa.gov/athens/learn2model/part-two/onsite/esthenry.htm>), the HLC for heptachlor is 0.00109 atm-m<sup>3</sup>/mol. The HHRA will be revised to correct the HLC error, which will eliminate heptachlor as a risk driver.

## SPECIFIC COMMENTS

- Comment:** Section 6.4.1.4, Polycyclic Aromatic Hydrocarbons, Pages 6-6 to 6-7: Section 6.4.1.4 discusses how the evaluation of carcinogenic PAHs has been assessed employing a screening level of 0.62 mg/kg for an average benzo(a)pyrene [B(a)P]-equivalent concentration (and is a health-protective screening level agreed upon in previous discussions between the Navy and regulatory agencies). Although a potency equivalency factor (PEF) approach is an acceptable procedure to assess the potency of PAHs, the RI Report does not seem to comprise this particular quantitative evaluation. Considering a number of PAHs have been identified in the HHRA as risk drivers, yet are not recommended for further evaluation in the FS, please provide the quantitative basis of the exclusion of further consideration of the PAHs, such as benzo(a)pyrene and dibenzo(a,h)anthracene. That is, it does not appear that the weighting scheme for PAHs and their resulting cancer potency values have been provided as part of this HHRA.

**Response:** The B(a)P equivalent approach is first presented in Section 3.3, which includes a table of EPA TEFs used in the B(a)P equivalency evaluation. The table in Section 3.3 will be revised to also include the California EPA (Cal/EPA) TEFs. A new table (Table 4-3) will be added to Section 4, Nature and Extent of Contamination, to show the B(a)P equivalents for each of the 54 PAH samples identified in Figure 4-6. The new table will also present the site-wide average B(a)P equivalent concentrations based on the EPA and Cal/EPA TEFs. The HHRA in Appendix H provides the cancer risk and noncancer hazard estimates for individual PAHs. The draft final RI report will be revised to provide additional quantitative rationale for identifying the risk drivers as necessary.

2. **Comment:** Appendix H, Section 5.5.2.2, Exposure Parameters for Incidental Ingestion of Soil, Page H-16: Soil ingestion rates applicable to an adult and a child recreator have been adjusted downward from 100 mg/day to 5.6 mg/day and 200 mg/day to 12.5 mg/day, respectively. This adjustment is based on 16 walking hours and is not a typical adjustment. As a result of adjusting the soil ingestion rates downward for an adult and a child recreator, soil dermal contact appears to be driving the total risk for this receptor population. There is concern that adjustment to the ingestion rates for an adult and child recreator may underestimate ingestion risk and, in turn, the total point estimates of risk and hazard attributable to exposures incurred under a recreational land use condition. In any revisions to this deliverable, please consider the use of unadjusted ingestion rates (i.e., using 100 mg/day for an adult and 200 mg/day for a child) or potential account for this potential underestimation of total risk and hazard in the uncertainty section of the HHRA.

**Response:** The HHRA will be revised to assume ingestion rates of 100 mg/kg for the adult recreator and 200 mg/kg for the child recreator. However, the RME exposure duration will be adjusted from 350 days per year to 75 days per year. Both of these assumptions (ingestion rate and exposure duration) are consistent with the assumptions used at the adjacent Alameda Point Site 32, where a golf course is the planned reuse. Recreational use of the site as a golf course for 75 days a year is equivalent to approximately 6 to 7 rounds of golf per month.

3. **Comment:** Appendix H, Human Health Risk Assessment, Tables H-2.1 through H-2.3: The last couple columns of Tables H-2.1 through H-2.3 appear to have been truncated. Please revise these tables so that they contain the appropriate screening information.

**Response:** Tables H-2.1 through H-2.3 of Appendix H, Human Health Risk Assessment, will be revised to include all columns, specifically the last three columns that were truncated during document production.

## ECOLOGICAL RISK ASSESSMENT

### GENERAL COMMENTS

- 1. Comment:** 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, and naphthalene were detected at the facility fence lines so the risk characterization should discuss any spatial or temporal lines of evidence describing the nature and extent of these potentially mobile chemicals, even though the Screening Level Ecological Risk Assessment (SLERA) provides strong evidence that they are unlikely to be a risk issue to ecological receptors. The only potential future pathway of concern described in the document relates to site materials reaching the off-site bay area. These potentially mobile chemicals could represent a pending risk concern. The RI Report needs to provide more information on the groundwater pathway and the VOC chemical nature and extent (as related to temporal and spatial conditions) to bring this pathway to closure.

**Response:** As requested, additional text to describe the horizontal migration of groundwater will be added to Section 7.5 of the draft final RI report (conclusions of the SLERA) and Section I2.7.2 of the SLERA to clarify the groundwater exposure pathway. Text will be added to state that several factors suggest that chemicals will not discharge to the Oakland Inner Harbor at concentrations of concern. These factors include the low-flow velocities of groundwater, the low concentrations of chemicals in groundwater, the high potential for retardation along the groundwater flow path, and tidal action and surface water flow that create a mixing zone at the interface with the Oakland Inner Harbor.

Text will also be added to Section I6.1.2 of the SLERA (risk refinement, aquatic wildlife) stating that residual VOCs were also detected in shallow soils near the facility fence lines in one or two samples and are unlikely to migrate from soil to groundwater because VOCs have a high tendency to volatilize if exposed to air. Thus, VOCs present in soils near the ground surface are expected to volatilize to the atmosphere. This text is already provided in Section 5.2.2 (fate and transport of VOCs).

- 2. Comment:** The risk summaries for Lead and Aroclor-1248 in soil need to be better substantiated in the Executive Summary (page ES-9) and

several portions of the RI text (Section 7.5, page 7-9, subsection I6.2.2). The text states that 'barren habitat is unattractive to wildlife because of lack of shelter' and that soil is unlikely to cause contamination to the wetland. These statements are not supported and need further detail. Please cite biological survey information to support the statement about lack of habitat within barren areas, and describe why the transport of soils by storm water flow is not a concern for the wetland.

**Response:** As requested, the referenced text will be revised to state that Site 34 is considered an Intensively Developed area based on the Alameda Point Golf Course Environmental Impact Report (Alameda Reuse and Redevelopment Authority 2006), descriptions of the habitat supplemented by a site visit, and information from the California Wildlife Habitat Relationships System (California Department of Fish and Game [CDFG] 2005). Intensively Developed areas have little vegetation and typical urban wildlife, such as California ground squirrels, scrub jays, and American robins, may be observed in these areas, but to a lesser extent than in the landscaped/developed areas, because less foraging habitat is available in these areas. Although chemicals may contribute to ecological risk at IR Site 34, based on the SLERA, a baseline ERA is not recommended because the SLERA likely overestimated risk, there is a lack of current suitable habitat, and future land use would not generate significant ideal habitat for wildlife.

Regarding transport of soils by storm water flow to the two potential wetland areas, the following text will be added to Section 7.5 of the draft final RI report and Appendix I stating that it is unlikely that surface water runoff from IR Site 34 would affect the potential seasonal wetland located within the southwestern corner of the site because the site topography would prevent it from reaching this potential wetland. Although surface water generally flows towards the wetland located north of the site, precipitation typically evaporates into the atmosphere, infiltrates to groundwater, or runs off into the storm drain system. In addition, the wetland areas provide minimal habitat to support plant and invertebrate populations and is tidally inundated at such a frequency as to not present suitable habitat for small mammals.

3. **Comment:** The risk summaries for the groundwater Chemicals of Potential Ecological Concern (COPECs) need further supporting evidence. For instance, the text in the Executive Summary (ES-9) indicates that 'following further evaluation of the COPECs, no groundwater risk drivers were identified'. It is not clear in the RI what the 'further evaluation' steps for the groundwater COPECs entailed. In addition, the information in Section 7 (page 7-7) indicates that 'sampling

location and date, sample collection method' were incorporated in the groundwater COPEC screening process. It is not clear how these types of information were applied to the screening process. It appears that the soil removal efforts were used as part of the data evaluation process. Please summarize the steps by which groundwater COPECs were refined.

**Response:** No specific steps were used to refine the COPECs for groundwater, as a qualitative evaluation was conducted; Appendix I explains specifically how the supplemental literature search, and the sampling locations, dates, and methods, were used to evaluate each COPEC for groundwater. For example, cobalt was not retained as a COPEC because potentially significant concentrations of cobalt in groundwater were detected only within the SWBZ. Furthermore, these concentrations were determined to be insignificant given a dilution and attenuation factor of 10, which represents a reasonable minimum value between the point of measurement and the ultimate discharge into Oakland Inner Harbor. Mercury was not retained because it was detected in one direct-push sample but not detected in monitoring well samples.

Text in the executive summary and Section 7.0 will be revised to clarify that qualitative evaluations were conducted chemical by chemical to further evaluate each COPEC for groundwater. The evaluations included a comparison of each COPEC's 95<sup>th</sup> percentile of the upper confidence limit (95UCL) and maximum concentration to the threshold criteria and to additional criteria from literature searches. The evaluations further consider sampling locations (for example, FWBZ versus SWBZ, at locations with other elevated metals), sampling dates, sampling methods (for example, monitoring well versus direct push), and the groundwater data set (for example, exposure point concentration [EPC] driven by outlier). Additional details of this qualitative evaluation are discussed in Section I6.1.2 of Appendix I, and a summary of these evaluations is presented in Table I-24.

4. **Comment:** The SLERA uses a 95% Upper Confidence Level estimate (95UCL) for the Exposure Point Concentration (EPC). It is not clear if the maximum observed concentration is used in lieu of the 95UCL when the latter exceeds the former (e.g. page 3-14, page 7-1, Uncertainty analysis in Appendix I). In addition, it appears that the SLERA does not follow standard Navy SLERA procedures by applying the use of the 95UCL. Please revise the text to better describe when the maximum, or the 95 UCL, was selected as the EPC and why standard guidance procedures were not followed. In addition, it is recommended to use both the arithmetic mean and the 95UCL as EPCs for lead and Aroclor 1248 in the refined risk characterization.

**Please review the risk conclusions and discuss any additional supporting evidence that may result from using these alternative EPCs.**

**Response:** The text will be revised to be consistent. In the initial risk estimation for soil (Step 2), EPCs were based on the maximum detection of each COPEC and were assumed to represent site-wide concentrations of COPECs. However, the lower of the 95UCL and the maximum detected concentration was used as the EPC for each COPEC in the refined risk estimation for soil (Step 3a). The EPC in the qualitative evaluation for groundwater was the lower of the maximum concentration and the 95UCL. The 95UCL concentration was calculated only for the chemicals that were associated with more than three detections. This approach is consistent with the RI work plan for Site 34 (Tetra Tech 2006, as cited in the RI report), which states that the EPC will be based on the maximum detected concentration for each medium (soil and groundwater) and will be refined if the ERA is to proceed to a baseline ERA.

As suggested, the SLERA will also be revised to include the arithmetic mean for lead in the refined risk characterization. Consistent with the response to EPA: ERA general comment 6, a refined HQ will not be presented for Aroclor 1248 in the draft final SLERA because it has a frequency of detection of less than 5 percent. In addition, the HQs for aluminum will be recalculated using the correct maximum soil concentration of 37,000 mg/kg rather than the incorrect concentration of 33,000 mg/kg presented in the draft RI report.

**5. Comment:** The wildlife exposure calculations were based on a “mixed” diet (plant + inverts) for the deer mouse, song sparrow, and American robin (see p. I-13, and Tables I-16, I-18, and I-19). This approach contradicts the Navy’s ERA guidance which states that the diet will be considered to consist of whichever type of food is most contaminated. Please revise the document to include food chain modeling that incorporates the standard guidance approaches. These new risk calculations can then be compared to the mixed diet food chain results as a comparative risk analysis tool.

**Response:** The approach used in the SLERA is consistent with the RI work plan for Site 34 (Tetra Tech 2006, as cited in the RI report) and Navy guidance. Navy guidance states, “the diet will be considered to consist of whichever type of food is most contaminated, ... To derive an exposure estimate, the preliminary CSM should be used to identify all potential complete pathways to the receptor. Once these pathways are identified, individual dose models ... should be developed for each pathway. A dose is

calculated for each COPEC exposure pathway, and a total dose is estimated by summing the doses for all appropriate pathways.”

6. **Comment:** The use of ‘frequency of detection’ as a COPEC screening tool is inconsistently used within this SLERA. EPA guidance allows for a further refinement of COPECs in Step 3.A based on frequency of detection, assuming that the data sets used in the screening evaluation meet the criteria for completeness, comparability, representativeness, precision, and accuracy. If so, then COPECs detected in less than 5% of the samples are typically eliminated from further consideration. That would remove most of the VOCs, SVOCs (except PAHs), and pesticides (see Table I-1). This topic is alluded to in the last paragraph of section I2.3 on p. I-6. However, this variable (i.e., <5% detection) was included in the ground water data summary table (see I-23), but doesn’t appear to have been used in decision-making. Please revise the document to consistently present the use of frequency of detection as a COPEC screening tool for both soil and groundwater.

**Response:** Frequency of detection was not used as a COPEC screening tool in the draft SLERA. As stated in Section I2.3, “The initial list of soil COPECs includes all chemicals detected above the detection limit at least once.” The text continued, “Retaining each chemical detected at least once as a COPEC likely leads to an overestimation of risk. Although frequency of detection was included in Table I-23, summary of the groundwater qualitative evaluation, no chemicals were excluded from further evaluation because of frequency of detection.”

As suggested, COPECs with HQs greater than 1 will be further evaluated in Step 3a using a frequency of detection criterion of less than 5 percent. In the draft final RI report, refined HQs will only be prepared for those soil COPECs with a detection frequency of 5 percent or greater and a hazard quotient (HQ) greater than 1.

## SPECIFIC COMMENTS

1. **Comment:** Executive Summary, Screening-Level Ecological Risk Assessment and Step 3A Risk Refinement, page ES-8 bottom paragraph: ‘Direct soil ingestion’ should be added to the suite of exposure pathways listed as being evaluated in the second sentence of this paragraph. Please make this change.

**Response:** The text will be revised to state that direct soil ingestion, ingestion via the food chain, and horizontal migration of groundwater to surface water were

identified as potentially complete exposure pathways for ecological receptors.

2. **Comment:** Section 7.1, Problem Formulation, Page 7-2, third paragraph: The statement that the physical and chemical characteristics of the COPECs provide evidence that these chemicals will not migrate is unsupported. It is recommended to support this claim based on site-related data. Please describe the spatial trends that may exist between soil and groundwater COPEC concentrations and any temporal change observed between the two rounds of groundwater sampling.

**Response:** As requested, additional information on the spatial trends of chemicals of interest between soil and groundwater will be added to the fate and transport section of the draft final RI report (Section 5.0). Please note that the referenced text in Section 7.1 does not state that COPECs will not migrate. Rather, as quoted below, the text states that COPECs will bind preferentially to soil and lists potential pathways for movement of chemicals. "As part of the fate and transport evaluation, the physical and chemical properties of the COPECs were evaluated. Based on these properties, all of the COPECs, except for VOCs, could bind preferentially to the soil and are relatively insoluble in water. The major movement of COPECs would be through erosion processes (such as wind and surface water runoff); infiltration to subsurface soil and groundwater; and groundwater discharge to surface water."

3. **Comment:** Section 7.1, Problem Formulation, Page 7-2, fourth paragraph: It appears that frequency of detection was used as a line of evidence for the risk characterization, but specific details are not provided. Please describe any 'cut-off' thresholds or rationale behind this line of evidence.

**Response:** The reference text in Section 7.1 refers only to one of several reasons that risk from VOCs in soil was not quantitatively evaluated. The text will be revised to state that no soil pathways for VOCs were quantitatively evaluated in this SLERA, for several reasons, as follows. First, toxicity reference values (TRV) are not typically available to evaluate the risk of dietary ingestion, so assessing risk related to VOCs is tenuous at best. Furthermore, since VOCs volatilize rapidly and do not bioaccumulate, risk from VOCs in soil is generally insignificant. Finally, although inhalation modeling may be used to evaluate inhalation risk; VOCs were not considered to pose a significant threat since the detection frequency of these chemicals is low.

However, as suggested in ERA general comment 6 above, COPECs with HQs greater than 1 will be further evaluated in Step 3a using a frequency

of detection criterion of less than 5 percent. In the draft final RI report, refined HQs will be prepared only for the soil COPECs with a detection frequency of 5 percent or greater and a HQ greater than 1.

4. **Comment:** Subsection 7.3.1, SLERA and Step 3a Risk Refinement Results for Soil, Page 7-4: Please separate out the chemicals that yielded hazard quotients (HQs) greater than 1 vs those where no toxicity reference values (TRVs) were available (second sentence).

**Response:** As requested, the referenced text will be revised to differentiate between the chemicals with HQs greater than 1 and those with no TRV available.

5. **Comment:** Table 7-1, Chemicals of Potential Ecological Concern in Soil at IR Site 34 and Table 7-2, Chemicals of Potential Ecological Concern in Groundwater at IR Site 34: The frequency of detection should be included in these tables. Please make this change.

**Response:** As requested, the frequency of detection will be added to Tables 7-1 and 7-2 in the draft final RI report.

6. **Comment:** Table 7-3, Bird and Mammal Hazard Quotients (Step 2) and Table 7-4, Bird and Mammal Hazard Quotients (Step 3A): These tables highlight significant HQ results that are not mentioned in Section 7.0 (e.g., cadmium). Please summarize the risk characterizations for these chemicals with highlighted HQs in order to bring the risk conclusions to closure.

**Response:** Section 7.0 is designed only as a summary of the SLERA results; therefore, the Navy believes it reflects an appropriate level of detail, which includes a summary of the Step 2 and Step 3a results in the text, a presentation of HQs in Tables 7-3 and 7-4, and references to a more detailed review of the HQs in Appendix I.

7. **Comment:** Appendix I, Section I2.3, Selection of Chemicals of Potential Ecological Concern, Page I-6, first paragraph. The text does not provide a transparent description of COPEC elimination. There appears to be a disconnect in the logic used in this paragraph. Removing common elements of calcium, potassium, magnesium and sodium as COPECs dropped the number of COPECs from 97 to 82. However, additional COPECs appear to have been eliminated, or retained since the sum total is shown to be 90. Please revise this information to clearly describe the COPEC list and the steps taken to eliminate certain COPECs from the evaluation.

**Response:** Chemicals in soil were eliminated as COPECs if they were not detected above the quantitation limit or if they were identified as essential nutrients (such as calcium, magnesium, potassium, and sodium). The reference text in Section I2.3 will be revised to state that COPECs for soil were identified from analytical data collected from 0 to 4 feet bgs. Any chemical that was not detected above the quantitation limit was eliminated as a COPEC. Of the remaining chemicals, calcium, magnesium, potassium, and sodium also were eliminated as COPECs because they are essential nutrients, which are toxic only at levels higher than were found at the site. As a result, 20 metals, 16 VOCs, 12 SVOCs, 17 PAHs, 20 pesticides, 4 PCBs, and 4 TPHs were retained for further evaluation. Table I-2 provides descriptive statistics for these initial COPECs, including the 95UCL.

Groundwater COPECs were identified from analytical data collected from wells located at IR Site 34. Any chemical that was not detected above the quantitation limit was eliminated as a COPEC, retaining all chemicals detected above the detection limit at least once. As a result, 24 metals, 29 VOCs, 3 SVOCs, 20 PAHs, 15 pesticides, and 3 TPHs were retained for further evaluation. Descriptive statistics are provided for these initial COPECs, and the 95UCL was calculated (see Table I-3).

8. **Comment:** Appendix I, Section I2.3, Selection of Chemicals of Potential Ecological Concern, Page I-6, first paragraph: This paragraph should mention which soil benchmark sources were used to select soil COPECs. It is unclear whether the standard EcoSSL benchmarks were relied upon as part of this process. Please revise this text to clarify the soil benchmarks used for the SLERA and be sure to accommodate the use of the standard EcoSSL values.

**Response:** Soil benchmark sources were not used in the selection process for COPECs in soil. See response to EPA ERA specific comment 7 above. Only chemicals that were not detected above the quantitation limit and essential nutrients were eliminated as COPECs for soil.

9. **Comments:** Appendix I, Section I2.3, Selection of Chemicals of Potential Ecological Concern, Page I-6, second paragraph: It appears that acute benchmarks were used as part of the SLERA as screening benchmarks for selecting COPECs. Screening benchmarks are supposed to be conservative as per both EPA and Navy guidance. It is therefore incorrect to include the acute effects surface water benchmarks as part of the screening process. Please remove these values from the screening process.

**Response:** The benchmarks referenced in the comment were not used for selecting COPECs. Therefore, the text in Section I2.3 will be revised accordingly. See response to EPA ERA specific comment 7 above.

The qualitative evaluation of the effects of COPECs on aquatic wildlife included an initial groundwater screening using aquatic comparison values (threshold criteria or benchmarks, as referred to in the comment) and further evaluation of those chemicals retained from this initial screening. Text on this qualitative evaluation will be included only in Section I6.1.2 of the draft final SLERA.

10. **Comment:** Appendix I: This Appendix includes a summary of the surface water screening criteria (Table I-9), however there is no equivalent table for soils screening criteria. In addition, it is unclear what the order of preference was used to select the soil and groundwater screening criteria. Please revise the RI Report to provide summary lists of the screening criteria for each media, and the rationale behind the selection of preferred criteria.

**Response:** As explained in responses to EPA ERA specific comments 7 through 9, above, COPECs were not selected using screening criteria. The values in Table I-9, Groundwater Threshold Criteria, are aquatic comparison values used in the qualitative evaluation of the effects of COPECs on aquatic wildlife. As a quantitative evaluation of soil was conducted, toxicity reference values for soil were used and are provided in Tables I-4 through I-8.

## RESPONSES TO COMMENTS FROM DTSC GSU

### GENERAL COMMENTS AND RECOMMENDATIONS

**A: Comment:** GSU questions the source and extent of the volatile organic compounds (VOCs) detected in the shallow soil sample from boring DP02. While the levels of VOCs in this sample are below the residential screening criteria (with the exception of 1,4-dichlorobenzene at a concentration of 6.8 milligrams per kilogram [mg/kg]), several of these compounds were found to be human health risk drivers under the residential scenario. Sufficient sampling has not been performed to determine the source and extent of VOCs in soil and groundwater in this area. It is possible that their presence is related to the former fuel lines (CAA A) and/or storm sewer lines that traverse this area and additional investigation of these features may be warranted. In addition, chromium was found at an elevated

concentration (550 J mg/kg) in shallow soil at this location, and the extent has not been delineated.

**Recommendation**

**GSU recommends that the Navy consider performing additional sampling for VOCs and metals in the vicinity of boring DP02 to determine the source, distribution, and significance of contamination in soil and groundwater at this location.**

**Response:** As discussed at the 10 January 2008 BCT meeting, the Navy will collect additional samples in the vicinity of DP02 to verify the levels of VOCs. Chromium at 550 mg/kg is not a chemical of interest since it has been demonstrated that the chromium is present as trivalent chromium rather than hexavalent chromium (see also response to DTSC HERD specific comment 6).

**B. Comment:** **GSU disagrees that the lateral extent of arsenic (at location DP12) and lead (at locations DP12, DP16, and DP17) have been adequately delineated. Further investigation of the extent of these metals in soil, and possible impacts to groundwater, is needed to support the FS.**

**Recommendation**

**GSU recommends that the Navy collect additional metals data to delineate the extent of arsenic and lead contamination north and northwest of Building 331.**

**Response:** It is the Navy's position that data are adequate to characterize the lateral and vertical extent of chemicals in soil and groundwater for the purposes of the RI report and conducting risk assessments. Additional samples within the vicinity of DP16 near the northeastern corner of Building 331 (see response to DTSC specific comment 11 and DTSC GSU comment C) and within the vicinity of DP02 (see response to EPA HHRA general comment 2) will be collected in support of the FS; however, these results will not be available for the RI report. If additional characterization of other areas is needed, the Navy believes the information can be collected at the remedial design stage.

**C. Comment:** **A black, fine sand (SP) layer with a strong diesel odor was encountered at the groundwater interface in boring DP16 located near the northeast corner of Building 331. Soil samples were not collected from this layer for chemical analysis, but samples collected above this layer were found to contain elevated lead and several polynuclear aromatic hydrocarbons (PAHs) including benzo(a)pyrene**

and naphthalene. In addition, several fuel-related VOCs were detected in the groundwater sample collected at this location, as well as SVOCs, PAHs, and pesticides. Sufficient sampling has not been performed to determine the source or extent of contamination that may be associated with the residual fuel layer in this area.

**Recommendation**

GSU recommends that the Navy collect additional data to delineate the source and extent of contamination that may be related to residual fuel contamination in the vicinity of Building 331.

**Response:** The Navy will collect additional samples near the northeastern corner of Building 331 to further characterize the fine sand (SP) layer with a strong diesel odor that was encountered at the groundwater interface in boring DP16.

**D. Comment:** It is not clear what criteria were used to determine the locations of the five monitoring wells installed during the second mobilization phase of the RI. The RI Work Plan stated that groundwater data from the first mobilization would be compared to Environmental Protection Agency (EPA) vapor intrusion criteria (2002) and aquatic criteria (California Toxics Rule [CTR], National Ambient Water Quality Criteria [NAWQC], etc.) to determine the need for and locations of new monitoring wells. However, the Draft RI Report has modified the comparison criteria as indicated in Section 3.3 – *Methods and Approach for Nature and Extent Evaluation* (see Specific Comment 7). It appears that aquatic criteria have not been used to screen groundwater in the nature and extent evaluations presented in the Draft RI Report.

**Recommendation**

Please clarify the comparison criteria that were used to screen groundwater data to determine the locations of the five monitoring wells that were installed during the second mobilization. GSU recommends that further justification be provided in the Draft Final RI Report for the use of the modified screening values and that appropriate aquatic criteria are also used to screen groundwater data.

**Response:** The text will be revised to clarify the criteria used to select the locations of the five monitoring wells. It should be noted that appropriate aquatic criteria were used to evaluate groundwater data in the SLERA. It should not be necessary to duplicate that effort in the nature and extent section.

## SPECIFIC COMMENTS AND RECOMMENDATIONS

1. **Comment:** Section 1.3.3.1 – Historical Ownership and Operations. The storm sewer line description in the second full paragraph on page 1-6 and shown on Figure 1-3 is not consistent with the depiction shown on other figures in the Draft RI Report (see Figure 1-5 and figures in Section 4). Please confirm the location of the storm sewer lines at IR Site 34 and provide an accurate description and depiction of these features throughout the Draft Final RI Report.

**Response:** Figures and feature descriptions will be edited for consistency throughout the RI report.

2. **Comment:** Section 1.3.4.1 – 1994-1998 EBS Investigation, Phase 2A EBS Investigation. The first paragraph of this section states that samples were analyzed for TPH and metals, only, but the results indicated that Aroclor-1260 was detected in one sample. Please resolve this apparent discrepancy.

**Response:** The text in Section 1.3.4.1, Phase 2A EBS Investigation, will be revised to state that samples were analyzed for metals, TPH as extractables, TPH as purgeables, and/or pesticides/PCBs.

In addition, the text will be revised to reflect that surface soil samples were collected from four locations (004-001-001, 004-001-002, 004-002-003, and 004-Z03-004).

3. **Comment:** Section 1.3.4.2 – TPH CAA Investigations. Please indicate the locations of the CAAs discussed in this section on a map.

**Response:** The locations of CAA 14 and CAA A will be added to Figure 1-3.

4. **Comment:** Section 2.3.2 – IR Site 34 Geology. Please indicate on the cross-sections (Figures 2-2 and 2-3) whether water levels were estimated or measured.

**Response:** The figures will be modified to show measured water levels. Estimated water levels will be identified as such.

5. **Comment:** Section 2.4.2 – Alameda Point and IR Site 34 Hydrogeology.

a. Water level data from monitoring well MW-24 should not be used to contour the potentiometric surface of the first water-bearing zone (FWBZ) because this well

is screened in the second water-bearing zone (SWBZ) from approximately 45 to 60 feet below ground surface (bgs). Please do not use water level data from this well to contour the potentiometric surface of the FWBZ.

- b. Please include the monitoring well construction details for all monitoring wells at IR Site 34 in a table in the Draft Final RI Report.
- c. Please provide all available water level depth and elevation data in a table in the Draft Final RI Report.
- d. Please indicate the date of groundwater level measurements presented on Figure 2-5.
- e. It is recommended that the dashed lines extending across the eastern half of IR Site 34 be removed from Figure 2-5 because there is no groundwater elevation data in this area upon which to base this interpretation. Any dashed lines that remain on the figure should be defined in the legend.
- f. Please include estimates of the average linear groundwater flow velocities at IR Site 34 using the available site-specific data for hydraulic gradient and hydraulic conductivity. Professional judgment can be used to estimate the effective porosity. This information can be used to support conclusions about the rate of groundwater movement for the conceptual site model (CSM) presented in Section 5.3.
- g. Please update Table 2-1 with site-specific information obtained during the RI.

- Response:**
- a. Comment noted, water levels from well MW-24 will not be used to contour the potentiometric surface of the first water-bearing zone.
  - b. Well construction details will be included in a table as requested.
  - c. Water level and monitoring well elevation data will be included in a table as requested.
  - d. The date of groundwater level measurements will be included.
  - e. The dashed lines noted in the comment will be removed from the figure. If any dashed lines remain in the figure, the legend will be revised to define their meaning.
  - f. Average groundwater velocities will be included in the draft final RI Report.

g. Table 2-1 will be revised to include site-specific information obtained during the RI.

6. **Comment:** Section 3.0 – Investigation Approach and Scope. The Draft Final RI Report should include a subsection that discusses implementation of the RI field work and any deviations from the RI Work Plan. For example,

- The number of step-out samples that were required to be analyzed based on the step-out criteria specified in the RI Work Plan should be indicated.
- Any proposed locations that were unable to be sampled should be identified.
- Any sample locations that were moved from the locations specified in the RI Work Plan should be discussed.

Actual locations and depths of borings and wells should be compared to proposed locations and depths if significant deviations occurred, along with an explanation as to why the deviation was necessary. For example, the locations of DP06, DP12, and DP16 were moved from the north side of the fence line as indicated in the RI Work Plan (Figure 5-2) to the south side of the fence line as indicated in the Draft RI Report (Figure 4-1). According to the responses to comments on the Draft RI Work Plan, DP16 was specifically moved to the location north of the fence line to address a concern by EPA regarding potential surface runoff and transport to the Oakland Inner Harbor from Building 331.

Please discuss field implementation and RI Work Plan deviations in the Draft Final RI Report.

**Response:** A subsection will be included in Section 1.3.4.4 of the draft final RI report to address the reviewer's concerns. That subsection will discuss field implementation of the RI work plan and any deviations from the work plan.

7. **Comment:** Section 3.3 – Methods and Approach for Nature and Extent Evaluation. The RI Work Plan specified that groundwater data would be compared to screening levels from the EPA guidance on vapor intrusion (2002) and aquatic screening values (CTR, NAWQC, etc.). In the Draft RI Report, however, the screening criteria were modified to use EPA tap water Preliminary Remediation Goals (PRGs), Water Board groundwater environmental screening levels for vapor intrusion concerns (ESLs), and Alameda Point background values for metals in groundwater. It should be noted that Alameda Point background groundwater values have never been approved by

the regulatory agencies. Secondly, it is unclear why aquatic criteria were not used as comparison criteria for the nature and extent discussions since IR Site 34 is adjacent to Oakland Inner Harbor.

GSU recommends that further justification be provided in the Draft Final RI Report for the use of the modified screening values and that appropriate aquatic criteria also be used to screen groundwater data.

**Response:** The vapor intrusion and aquatic screening criteria identified within the nature and extent approach section of the RI work plan were intended to guide collection of data in an iterative fashion at Site 34. Vapor intrusion and aquatic criteria were not used as comparison criteria for the nature and extent discussions in the RI report, as these pathways were evaluated as a part of the human health and ecological risk assessments. Risk from the vapor intrusion pathway was modeled in the HHRA, and the SLERA evaluated risk to aquatic life from groundwater using the aquatic screening values.

At this time, the Navy cannot provide a response to HERD's concerns regarding the groundwater data set, as the HERD memorandum of 12 June 2006 addresses soil and not the background groundwater data set. The Navy is preparing a separate response to the HERD comments on the background soil data set. In general, the Navy does not agree with the HERD analysis and does not believe the methods used are adequate to warrant removal of data from the data set.

8. **Comment:** Section 4.1.1 – Metals in Soil. Please include a figure showing the distribution of cadmium in soil at IR Site 34.

**Response:** A figure will be prepared to show the distribution of cadmium in soil.

9. **Comment:** Section 4.1.3 – Polycyclic Aromatic Hydrocarbons in Soil. This section states that the black clayey sand layer with a strong diesel odor encountered in boring DP16 (approximately 2.75 to 3.75 feet bgs) was not noted in other borings and does not appear to represent site-wide conditions or a large mass of contaminated media. However, it should be noted that the nearest borings drilled to this depth are 80 to 100 feet away and cross-gradient from the location of boring DP16. There does not appear to be sufficient information to determine the extent or mass of this layer, or contamination associated with this layer.

Please remove statements regarding the mass of this layer from the Draft Final RI Report. Please also discuss the fate and transport of

**residual contamination that may be associated with this layer in Section 5 of the Draft Final RI Report.**

**Response:** The Navy agrees that additional characterization of the fine sand (SP) layer with a strong diesel odor near the northeast corner of Building is necessary (see response to DTSC GSU specific comment 11); however, it does not view this issue as site-wide. Sufficient samples have been collected across the site to conclude that this location represents an anomalous situation from a site-wide perspective. In addition, the extent of the contamination is defined by samples below the gross contamination and by samples collected to the south and west. The statements about mass are related to the presence of PAHs across the site and are pertinent in that context.

**10. Comment:** **Section 4.1.6 – Polychlorinated Biphenyls in Soil.** GSU requests that the analytical results for PCBs in soil be discussed in relation to the locations of former transformers at IR Site 34. The locations of former transformers should be identified, and the Draft Final RI Report should describe the sufficiency of the investigation to characterize potential releases from these features. GSU cannot concur with the adequacy of the investigation for PCBs without this information.

**Response:** The draft final RI report will be revised to include former transformer locations on figures that detail PCB results at the site. Additional text will be added to the draft final RI report describing PCB concentrations in soil samples collected within the vicinity of the buildings formerly containing the transformers. However, there was no evidence of a release to the surface soils near the transformers during base operations or during the EBS, and many of the transformers were located on concrete slabs that would prevent any releases to subsurface soils. See response to EPA specific comment 2. PCBs are likely related to the use of oils at the site and the former TSTA.

**11. Comment:** **Section 4.1.8 – Summary of Contamination in Soil.** This section identifies areas where elevated chemical concentrations were found “in a cluster of three or more adjacent sample points.” However, the criterion used to define a cluster of adjacent points is not clear. Some isolated locations were found to have elevated concentrations of one or more chemicals, but nearby samples were not collected to form a “cluster.” For example, on the north and northwest side of Building 331, lead and arsenic were found above industrial PRGs, and the extent of these metals was not delineated. It appears that metals in these samples were not determined to form a “cluster” because nearby samples were not collected. In addition, Aroclor-1260 and

PAHs were found above industrial screening levels north of Building 331, and the extent of these chemicals was not delineated. This area was also found to contain a layer of black sand with a strong diesel odor at approximately 2.5 to 3.5 feet bgs. The source of this residual fuel layer and the extent of contamination that may be associated with it have not been evaluated.

Based on these factors, GSU recommends that the area north and northwest of Building 331 be considered an area of concern for soil and possible groundwater impacts. Additional investigation is recommended to determine the extent of contamination and to support the FS.

**Response:** Section 4.1.8 will be revised as described in the response to EPA specific comment 16.

Additional soil and groundwater sampling will also be proposed for the area northeast of Building 331. However, based on results for samples collected in the area, there is no evidence of impacts to groundwater.

12. **Comment:** Section 4.2.2 – Volatile Organic Compounds in Groundwater, TCE and cis-1,2-DCE. The method used to contour variable concentrations within the trichloroethylene and cis-1,2-dichloroethylene (cis-1,2-DCE) “plumes” shown on Figures 4-17 and 4-18, respectively, is unconventional. In addition, contour intervals should not overlap as shown on the eastern side of the cis-1,2-DCE plume on Figure 4-18. GSU suggests that the Navy consider re-contouring the data using contour intervals of 0.1 micrograms per liter ( $\mu\text{g/L}$ ), 0.5  $\mu\text{g/L}$ , and 1  $\mu\text{g/L}$ .

**Response:** The plumes on Figures 4-17 and 4-18 will be redrawn. The contour intervals will be selected to more closely reflect the data. Please note that the detection limit for VOCs in groundwater is 0.5 micrograms per liter ( $\mu\text{g/L}$ ); therefore, the outermost contour on the plume map should be 0.5  $\mu\text{g/L}$ . Contours for lower concentrations cannot be supported by the data because the concentrations reported as “estimated” are below the detection limit and by definition are uncertain.

13. **Comment:** Section 4.2 – Nature and Extent of Groundwater Contamination. Due to the proximity of IR Site 34 to Oakland Inner Harbor, GSU requests that appropriate aquatic criteria be used to screen groundwater data for the nature and extent evaluations in addition to EPA tap water PRGs and Water Board ESLs. Furthermore, the subsequent subsections of Section 4.2 focus on comparisons to EPA tap water

PRGs and do not discuss vapor intrusion criteria. Please include a discussion of the analytical results for groundwater relative to aquatic criteria and screening criteria for vapor intrusion concerns.

**Response:** Analytical results for groundwater are evaluated against aquatic criteria and screening criteria for vapor intrusion in the ecological and human health risk assessments (Sections 6.0 and 7.0). A reference to these evaluations will be added to Section 4.2.

14. **Comment:** Section 5.1.3 – Infiltrating Precipitation or Fluctuating Groundwater Table. This section states that the potential for chemicals to leach from soil to groundwater depends on the concentration and solubility of the chemicals present in the soil, precipitation infiltration rate and volume, and frequency and duration of tidal inundation and seasonal variations. The text goes on to discuss the site specific seasonal and tidal conditions at IR Site 34. However, the text does not elaborate on the role of solubility, concentration, and precipitation infiltration on leaching potential. Please elaborate on the role of solubility and concentration as well as infiltration in this section in the Draft Final RI Report.

**Response:** The text will be revised to clarify the roles of infiltration and the fluctuating groundwater table. The intent is not to address all factors that affect groundwater concentrations, but instead to focus on migration pathways.

15. **Comment:** Section 5.1.4 – Groundwater Migration. This section states that based on the single deep boring (MW-24) drilled at the site, an 18-foot thick clay layer separates the shallow and deep aquifers. However, the lithologic log for boring MW-24 indicates the presence of silty clay and clay extending from 22 feet bgs to 51 feet bgs, or approximately 29 vertical feet. Please clarify the interpretation of the clay layer thickness.

Also, please include information for DP17 and DP18 which were deep borings drilled to 44 feet bgs during the RI field work. A fine-grained lithology that would serve as an aquitard was not encountered in boring DP17 located along the north-central property fence line adjacent to the storm sewer. A clay aquitard between the FWBZ and deeper sand units was encountered in boring DP18 located adjacent to former GAP 78. Please revise the discussion in this section to include lithologic data from borings DP17 and DP18.

**Response:** Text will be revised to clarify the lithologic composition and the location or absence of the aquitard between the first and second water-bearing zones.

16. **Comment:** Section 5.1.5 – Subsurface Conduits. It is stated that borings DP12 and DP13 were drilled to evaluate the potential for the storm sewer line to act as a preferential flow pathway but according to Figure 1-5, DP13 was drilled approximately 30 feet west of the storm sewer line and approximately 30 feet north of the nearest catch basin. It is not clear how this location would serve to provide information on the possibility that preferential migration is occurring through the storm sewer lines. Please clarify and/or revise this discussion.

**Response:** The intent was to evaluate whether the storm bedding material was acting as a preferential flow path. Text will be revised to clarify that locations DP12 and DP17 are located 10 and 5 feet, respectively, from the storm drain line. See response to EPA Specific Comment 22.

17. **Comment:** Section 8.2 – Recommendations.

- a. GSU requests that the limits of the areas recommended for further consideration in an FS be indicated on a figure in the Draft Final RI Report.
- b. GSU requests that the Navy include recommendations for additional investigation of the VOCs and chromium found at boring DP02, and the arsenic and lead in soil north and northwest of Building 331 (See General Comments A and B).
- c. Section 4.1.7 of the Draft RI Report indicates that TPH-diesel and TPH-motor oil contamination at DP06, DP16 and MW-24 has not been delineated. Soil data from MW-24 indicate that TPH-diesel concentrations increase with depth, and groundwater samples were not collected from the FWBZ at this location. Soil data from DP06 indicate that TPH-diesel and TPH-motor oil concentrations increase with depth. DP16 contained a black sand layer with a strong diesel odor at the groundwater interface (see General Comment C). GSU requests that the Navy include recommendations for further investigation of fuel-related contamination in soil and groundwater at these locations.

- Response:**
- a. A figure indicating the limits of the areas recommended for further consideration in an FS will be created.
  - b. The Navy intends to conduct additional investigation at DP02 and in the area north of Building 331.

c. The RI report will be revised to include a recommendation for additional investigation of fuel-related contamination in soil and groundwater at DP16. DP06 and MW24 are located within AOCs; therefore, if additional characterization of these areas is needed, the Navy believes the information can be collected at the remedial design stage.

## RESPONSES TO COMMENTS FROM DTSC HERD

### GENERAL COMMENTS

1. **Comment:** In review of the RI Report work plan dated January 13, 2006, HERD recommended that the human health risk assessment be dual-tracked with one human health risk and/or hazard estimate result based solely on the U.S. EPA Region 9 toxicity values and exposure parameters and the other result based on California EPA (CalEPA) toxicity values and exposure parameters. With the exception of the Toxicity Equivalency Factors (TEFs) used for PAHs this recommendation was followed. The CalEPA estimate of PAH carcinogenic risk, based on OEHHA TEFs, must be presented in the CalEPA summary. This will increase the PAH contribution to carcinogenic risk.

Aroclor 1268 was detected at, and enters into the HHRA, for IR Site 34. Some explanation should be provided for the presence of this Aroclor, which does not occur at other NASA IR sites, or at a minimum is extremely rare at NASA.

Terrestrial plant and soil invertebrate communities must be included in the ERA for IR Site 34.

- Response:** Conclusions and decisions in the RI report are based on nature and extent and results of the EPA human health risk assessment (Method 1). However, for comparison and dual-tracking purposes, the RI report will be revised to present the Cal/EPA B(a)P equivalent concentrations. The table and text in Section 3.3, Methods and Approach for Nature and Extent Evaluation, will be revised to list the OEHHA TEFs. Furthermore, the chart in Section 4.1.4, Polycyclic Aromatic Hydrocarbons in Soil, will be revised to show both EPA and Cal/EPA B(a)P equivalents for comparison; no additional samples are expected to exceed the screening level of 0.62 mg/kg. In addition, a new table (Table 4-3) will be added to Section 4 to show the EPA and Cal/EPA B(a)P equivalents for each of the 54 samples identified in Figure 4-6. The site-wide average B(a)P equivalent based on EPA and OEHHA TEFs will also be presented in the new table for comparison. The draft final RI report will be revised to present comparisons to the Cal/EPA B(a)P equivalents where necessary.

Based on the Agency for Toxic Substances and Disease Registry's (ATSDR's) toxicological profile for PCBs (ATSDR 2000), 99 percent of PCBs used in the U.S. were manufactured by Monsanto Chemical Company in Illinois. Until 1971, Aroclor-1268 was one of many Aroclors manufactured and used in the U.S. After 1971, manufacturing was limited to only a few Aroclors. According to Table 5-1 of ATSDR (2000), the typical end uses of Aroclor-1268 were as a plasticizer (in rubbers and synthetic resins) and as a wax extender. It is unknown why Aroclor-1268 was detected at Site 34; PCBs at the site are attributed to historical railroad and sandblasting activities, including the potential release of oils from sand blasting equipment, and temporary storage of PCB- and lead-contaminated soil excavated from Site 15.

Site 34 is within an Intensively Developed area and provides little vegetation and minimal habitat to support plant and invertebrate populations (see response to EPA ERA general comment 2). It is the Navy's position that an evaluation of terrestrial plant and soil invertebrate communities in the SLERA for IR Site 34 is not necessary as these pathways should be considered incomplete based on the type of habitat present at the site. This approach is also consistent with the SLERA's prepared for Sites 14 and 15, which are adjacent to Site 34 and are also located within the Intensively Developed area (see Figure I-4 in Appendix I).

### SPECIFIC COMMENTS

- 1. Comment:** Future use of IR Site 34 is 'designated' as part of a golf course area (Executive Summary, page ES-1). Incremental cancer risk and non-cancer hazard estimates (Section 6.0; Appendix H) for some exposure scenarios indicate that a deed restriction, or some legal instrument of equivalent strength, should be put in place if future use is the basis for no-further action.

**Response:** The FS will assess the need for or appropriate use of institutional controls.

- 2. Comment:** HERD previously commented on specific issues with the 'pink' fill data base in a June 12, 2006 memorandum to the DTSC Project Manager. The 'pink' background data set (Executive Summary, Page ES-2) for mercury and silver contains outliers which should be removed prior to use in statistical tests for background concentration. Please see Specific Comment number 18 below.

**Response:** The Navy is formulating a separate response to the HERD memorandum of June 12, 2006. At this time, the Navy does not intend to make any changes to the methods or data sets used to evaluate background.

3. **Comment:** There is no risk assessment significance to the presence of 'metals' at concentrations 'at least two times background comparison value' (Executive Summary, page ES-3). The sentence should be amended to indicate simply that metals are present above background concentrations.

**Response:** The statement will be revised as requested.

4. **Comment:** The four areas of IR 34 identified as areas of concern (Executive Summary, page ES-3) should be carefully evaluated when considering remedial alternatives.

**Response:** Comment noted. The intent of identifying the AOCs was to ensure they are comprehensively evaluated in the FS.

5. **Comment:** Future residential use is indicated as 'unlikely' (Executive Summary, page ES-5). Development plans at closing or closed Department of Defense (DoD) facilities frequently change. Unless, future residential use is prohibited, the residential use scenario be carried forward into any Feasibility Study (FS) for IR 34.

**Response:** The text was included to ensure the FS will acknowledge that limitations to the future use are likely at this site. The residential use scenario will be included in the FS.

6. **Comment:** Soil Contaminants of Concern (COCs), summarized in the Executive Summary, are not recommended to be carried forward to the FS without sufficient justification. Chromium is excluded because 'risk from chromium may have been slightly overestimated depending on the actual levels of hexavalent and trivalent chromium at IR Site 34' (Executive Summary, page ES-7). The results of the samples submitted for analysis of hexavalent chromium should be presented or referenced. Geographic distribution of the five of 105 soil samples where chromium exceeded the EPA residential Preliminary Remedial Goal (PRG) should also be presented in support of the proposal to not carry chromium forward into the FS.

**Response:** The HHRA evaluated chromium detected in soil as total chromium (one-to-six ratio of hexavalent chromium to trivalent chromium). A total of 105 soil samples were submitted to a fixed laboratory for analysis of

metals; total chromium was detected in 100 percent of the samples. In addition, 22 of the 105 soil samples plus two additional soil samples were submitted to a fixed laboratory for analysis of hexavalent chromium. Analytical results for the 24 samples show that hexavalent chromium is not detected in soil at Site 34. Therefore, the HHRA will be revised to evaluate chromium as trivalent chromium rather than total chromium. In the draft RI report, chromium was identified as a risk driver only for the future construction worker exposure scenario. A cancer risk would not be calculated since trivalent chromium is not carcinogenic. The noncancer hazard for the future construction worker would be unchanged from the values presented in the draft RI report: 0.00024 for exposure to soil from 0 to 2 feet bgs and 0.00022 for exposure to soil from 0 to 4 feet bgs. Both of the noncancer hazards are less than the noncancer threshold of 1.0; therefore, chromium will no longer be considered a risk driver in the draft final RI report.

7. **Comment:** HERD would concur with the proposal to not carry Polycyclic Aromatic Hydrocarbons (PAHs) forward into the FS based on an average Benzo(a)pyrene [B(a)P] equivalent concentration less than the agreed-upon 0.62 mg/kg (Executive Summary, page ES-7) as long as the CalEPA B(a)P equivalent concentration based on OEHHA TEFs is less than this risk management criterion. The two conditions on not carrying PAHs forward are: 1) an estimate of the carcinogenic risk, which includes the risk associated with PAHs, must be supplied in the risk assessment; and, 2) localized areas of elevated PAH concentration (i.e., 'hot spots') may require retention of PAHs regardless of average concentration.

**Response:** Please see the response to DTSC HERD general comment 1.

8. **Comment:** The un-used portion of EBS Parcel 16 and the unnamed portion of land between IR Site 34 and the OIH are excluded from this RI Report 'because no activity occurred in these areas (Section 1.3.3.1, page 1-6). The 1994 EBS Report discusses all areas within IR Site 34. HERD defers to the DTSC Project Manager for concurrence on this decision.

**Response:** Section 1.3.3.1 states, "The portion of EBS Parcel 16 that lies within IR Site 34 and the unnamed portion of land between the EBS parcels and the Oakland Inner Harbor are not discussed further because no activity occurred in these areas. The EBS Report discusses all areas within the IR Site 34 boundaries (ERM-West 1994)." The text will be revised to state that no activity occurred within the portion of EBS Parcel 16 that lies within IR Site 34 and that no activity occurred within the unnamed portion

of land between the EBS parcels and the Oakland Inner Harbor (ERM-West 1994, as cited in the RI report).

9. **Comment:** Please indicate in the text (Section 1.3.4.4, page 1-14) the rationale for selecting the locations where soil samples were collected deeper (i.e., 'subsurface') than 2 feet below ground surface (bgs).

**Response:** The text will be revised to include the rationale for selecting locations where samples were collected deeper than 2 feet bgs.

10. **Comment:** The construction worker scenario must include dermal exposure. Dermal exposure is typically included in the construction worker scenario and is included in the construction worker scenario at the adjacent Alameda Annex. If desired, an additional calculation which does not include dermal exposure based on common construction practices for dewatering below grade excavations (Section 3.5.2.1, page 3-8) can be included in the HHRA.

**Response:** Please see the response to EPA HHRA general comment 3.

11. **Comment:** Hexavalent chromium is listed as an IR Site 34 analytical method (Section 3.1, page 3-1). The results of these hexavalent chromium analyses should be the basis for any conclusion regarding the over- or under-estimation of carcinogenic risk associated with hexavalent chromium analyses in 24 soil samples (Section 4.1.1, page 4-2). Please see Specific Comment number 6 above.

**Response:** Please see response to DTSC HERD specific comment 6.

12. **Comment:** IR Site 34 groundwater concentrations were compared to the NASA groundwater background data set (Tetra Tech, 1998) to determine which inorganic elements were elevated above background (Section 3.2, page 3-3; Table 3-3). HERD completed an internal review of the proposed NASA groundwater background data set in 2006 as part of the review of the 'pink', 'yellow' and 'blue' NASA soil background data sets contained in a June 12, 2006 memorandum to the DTSC Project Manager. The groundwater background data set for the following elements were determined to be deficient or require revision:

aluminum	Potentially two populations with the upper population beginning at about 410 µg/L to 440 µg/L.
antimony	n=194 with only 3 Detected; 13 Detected and Estimated (J-qualified).

beryllium	1 Detected and 17 Estimated (J-qualified). Insufficient detected concentrations.
cadmium	n=194 total; 22 Estimated (J-qualified). Insufficient detected concentrations.
chromium	One outlier at 82.4 µg/L should be removed. Remainder acceptable.
cobalt	n=194 total; 1 Detected; 11 Estimated (J-qualified). Insufficient detected concentrations.
iron	One outlier at 24,400 µg/L should be removed.
lead	One outlier at 28.4 µg/L should be removed. Remainder acceptable.
manganese	Concentrations above 1500 µg/L may be separate population.
mercury	n=198 total; 2 Detected; 2 Estimated (J-qualified). Insufficient detected concentrations.
nickel	Two obvious outliers with concentrations of 138 µg/L and 151 µg/L should be removed. Remainder of data set insufficient given shape of probability plots.
selenium	[n=193 total; 0 Detected; 1 Estimated (J-qualified). Insufficient detected concentrations.
silver	n=188; 1 Detected; 3 Estimated (J-qualified). Insufficient detected concentrations.
thallium	n=193 total; 0 Detected; 3 Estimated (J-qualified). Insufficient detected concentrations.
zinc	One obvious outlier at 46,800 µg/L and seven additional outliers at concentrations ranging from 226 µg/L to 90.7 µg/L should be removed.

**Given these deficiencies in the NASA groundwater background data set HERD recommends that any conclusion based on comparison to groundwater background be carefully evaluated.**

**Response:** The HERD memorandum of 12 June 2006 addresses soil and not the background groundwater data set. At this time, the Navy cannot provide an evaluation of the analysis HERD completed on the groundwater data set. The Navy is preparing a separate response to the HERD comments on the background soil data set. In general, the Navy does not agree with the HERD analysis and does not believe the methods used are adequate to warrant removal of data from the data set.

**13. Comment:** The Toxicity Equivalency Factors (TEFs) used to normalize the concentration of carcinogenic PAHs to a B(a)P-equivalent concentration (Section 3.3, page 3-5) are not those recommended by HERD. The TEF for benzo(k)fluoranthene should be 0.1 rather than 0.01 and the TEF for chrysene should be 0.01 rather than 0.001. These differences will increase the estimate of B(a)P soil concentration for comparison to the NASA-specific risk management agreed-upon concentration of 0.62 mg/kg.

**Response:** Please see the response to DTSC HERD general comment 1.

**14. Comment:** The TEFs listed (Section 3.3, page 3-5) for PAHs and those recommended by CalEPA are:

Polycyclic Aromatic Hydrocarbon	CalEPA TEF	TEF Listed
Benz(a)pyrene	1.0	1.0
Benzo(a)anthracene	0.1	0.1
Benzo(b)fluoranthene	0.1	0.1

<b>Benzo(k)fluoranthene</b>	<b>0.1</b>	<b>0.01</b>
Dibenz(a,h)anthracene	0.34	1.0
Indeno(1,2,3-c,d)perylene	0.1	0.1
<b>Chrysene</b>	<b>0.01</b>	<b>0.001</b>

All the remedial alternative comparisons to B(a)P-equivalent cancer risk soil concentrations are incorrect to some unknown degree dependent on the concentration of benzo(k)fluoranthene and chrysene. The CalEPA estimate of B(a)P soil concentration (Method 2) should be made with the most protective TEF.

**Response:** Please see the response to DTSC HERD general comment 1. In addition, note that the Cal/EPA TEF listed above for dibenzo(a,h)anthracene should be 1.1 (based on the inhalation pathway) rather than the listed 0.34 (based on the oral pathway) (OEHHA 2001).

15. **Comment:** HERD reviewed the following components of the HHRA and has no recommendations on the methodology used. Rather than providing specific comments for each, the HHRA component for which HERD has no recommendations or additional requirements are:

- a. HHRA Exposure Scenarios (Section 3.5.2.1, page 3-8) except the construction worker scenario;
- b. HHRA Exposure Point Concentrations (EPCs) for Soil (Section 3.5.2.2, page 3-9);
- c. HHRA Indoor Air Vapor Intrusion Methodology (Section 3.5.2.2, page 3-9);
- d. HHRA Toxicity Value Hierarchy (Section 3.5.3, page 3-10), and;
- e. Lead Evaluation (Section 3.5.3, page 3-11).

This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.

**Response:** Comment noted.

16. **Comment:** There is no discussion for the exclusion of plants and/or the soil invertebrate community as representative components of the IR Site 34 to be evaluated in the Ecological Risk Assessment (ERA) (Section 3.6.2, page 3-15). Development of risk characterization for these biological components is a data gap which must be addressed.

**Response:** Text that describes the habitat will be revised (see response to EPA specific comment 8 and EPA ERA general comment 2) to further support this exclusion. As Site 34 is within the Intensively Developed area and

supports little vegetation, it is the Navy's position that this pathway is incomplete and that an evaluation of terrestrial plant and soil invertebrate communities in the SLERA for IR Site 34 is not necessary.

17. **Comment:** HERD reviewed the following components of the ERA and has no recommendations on the methodology used. Rather than providing specific comments for each, the HHRA component for which HERD has no recommendations or additional requirements are:
- a. ERA Vertebrate Representative Species (Measurement Endpoints) (Section 3.6.2, page 3-15);
  - b. ERA Groundwater Toxicity Evaluation Criteria (Section 3.6.2, page 3-16);
  - c. ERA Vertebrate Exposure Factors (e.g., Site Use Factor) (Section 3.6.4, page 3-17), and;
  - d. ERA Vertebrate Toxicity Reference Values (Section 3.6.2, page 3-19).

This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.

**Response:** Comment noted.

18. **Comment:** All inorganic elements except beryllium, mercury and silver are greater than the pink soil background concentrations selected as representative of IR Site 34 soil (Section 6.1, page 6-1). This is an indication that inorganic elements representative of increased risk and/or hazard should be given special consideration when evaluating remedial alternatives.

**Response:** Comment noted; inorganic elements determined to be chemicals of concern that are greater than background will be considered in evaluating remedial alternatives.

19. **Comment:** Please include a table displaying the total risk and/or hazard for the CalEPA methodology (Method 2), similar to that presented for the EPA methodology (Method 1) (Table 6-1).

**Response:** A table similar to Table 6-1 will be added to Section 6, Baseline Human Health Risk Assessment, to present the total, incremental, and background risks based on the Cal/EPA methodology (Method 2).

20. **Comment:** All five of the Volatile Organic Compounds (VOCs) identified as risk drivers for soil were found at the same sample location (Section

6.4.1.2, page 6-5). Soil sampling location DP2 should be re-sampled should further soil sampling be performed in this area.

**Response:** The Navy intends to collect additional samples at this location.

21. **Comment:** HERD does not necessarily agree that COCs may be dropped from detailed consideration where the Hazard Quotient (HQ) based on the low TRV (TRV<sub>low</sub>) exceeds one but the HQ based on the high TRV (TRV<sub>high</sub>) does not exceed one. However, HERD does not object to the site-specific reduction in COCs made here after review of the ratio of these two HQs and the specific COCs removed and retained (Tables 7-3 and 7-4).

**Response:** Comment noted.

22. **Comment:** No evidence is provided in support of the conclusion that the wetland to the north of IR Site 34 is 'not likely' to be affected by site related chemicals (Section 7.5, page 7-9; Section 8.1.5, page 8-6). Groundwater is described as discharging at a depth deeper than the wetland, even though IR Site 34 soil sampling depth was limited to 4 feet bgs due to the presence of groundwater. If the wetland to the north of IR Site 34 is less than 4 feet below IR Site 34 ground surface it should be clearly stated.

**Response:** Text that describes groundwater as discharging at a depth deeper than the wetland will be removed from the report. Additional text in support of the conclusion that the wetland north of IR Site 34 does not require further investigation or assessment of ecological risk will be added to Sections 7.5 and 8.1.5. Although site-related chemicals in soil may contribute to ecological risk at Site 34 based on the SLERA, results of soil samples collected from the potential wetland area north of the site indicate the wetland is not contaminated. Therefore, it is not identified as an AOC. In addition, further investigation or assessment of ecological risk is not recommended based on the SLERA because the SLERA likely overestimated risk, there is a lack of current suitable habitat, and future land use would not generate much ideal habitat for wildlife. The potential wetland areas provide minimal habitat to support plant and invertebrate populations and do not include suitable habitat for small mammals. In addition, it is unlikely that this area will be used by nesting birds because of high marine vessel activity in the Oakland Inner Harbor.

Although groundwater generally flows toward the potential wetland located north of the site, the potential wetland is not likely to be affected by site-related chemicals because it lies between a series of parallel rock

riprap walls. These walls together form a terrace of land that is the shoreline and is tidally inundated at such a frequency so that it would not present suitable habitat for small mammals. Dilution would occur as groundwater mixes with surface water (Oakland Inner Harbor), and COPECs for groundwater were identified based on the assumption that no dilution, retardation, or degradation will occur between the location where the groundwater COPECs were detected and the Oakland Inner Harbor and wetland.

As the SLERA likely overestimated risk to the wetland, further investigation or assessment of ecological risk is also not recommended for the wetland. The SLERA likely overestimated risk to the wetland because chemicals will not discharge to the potential wetland at concentrations of concern and the wetland provides minimal habitat to support plant, invertebrate, or small mammal populations.

Furthermore, it is unlikely that groundwater or surface water runoff from Site 34 would affect the potential seasonal wetland located within the southwestern corner of the site because the site topography would prevent it from reaching this potential wetland.

**23. Comment:** HERD agrees with the four areas identified for further consideration (Section 8.1.1.1, page 8-2; Section 8.2, page 8-7) based on the soil concentrations present.

**Response:** Comment noted.

**24. Comment:** HERD defers to the Regional Water Quality Control Board San Francisco Region (SFRWQCB) for evaluation of Total Petroleum Hydrocarbon (TPH)-affected groundwater with frequency of detection for diesel and motor oil petroleum hydrocarbons greater than 50 percent (Section 8.1.1.2, page 8-3) and for TPH-affected soils (Section 8.2, page 8-7) even though the primary sources appear to have been removed.

**Response:** Comment noted.

**25. Comment:** The methods for calculating Exposure Point Concentrations (EPCs) were reviewed and use the most recent U.S. EPA ProUCL software application (Appendix G) as recommended by HERD. This comment is meant for the DTSC Project Manager and no response is required by the Navy or the Navy contractor.

**Response:** Comment noted.

26. **Comment:** The methodology for conducting the screening of inorganic elements to the soil background data set (i.e., 'pink' background data set) and the groundwater background data set were reviewed (Appendix G) and conform to the current HERD recommendations. This comment is meant for the DTSC Project Manager and no response is required by the Navy or the Navy contractor.

**Response:** Comment noted.

#### SPECIFIC COMMENTS HUMAN HEALTH RISK ASSESSMENT (APPENDIX H)

1. **Comment:** Screening of the IR Site 34 concentration of inorganic elements against the 'pink' soil background data set (PRC, 1997) indicate that all inorganic elements tested, with the exception of beryllium, mercury and silver, were greater than 'pink' background soil concentrations (Section H4.4, page H-5). The background comparison for mercury and silver may be in error. HERD identified, in a June 12, 2006 memorandum containing the review of the 'pink' data set, an outlier in the mercury 'pink' background data set of 2.71 mg/kg and an outlier in the silver 'pink' background data set of 5.64 mg/kg which should be removed prior to statistical testing. One possible conclusion from this result is that IR Site 34 soils are contaminated by past Navy activities for all inorganic elements other than beryllium.

**Response:** The Navy is providing a response to the general issue of background soil in a separate document. The Navy does not agree with the HERD memorandum of June 12, 2006. The data set will not be adjusted at this time.

2. **Comment:** The construction worker scenario must include dermal exposure. Dermal exposure is typically included in the construction worker scenario and is included in the construction worker scenario at the adjacent Alameda Annex. If desired, an additional calculation which does not include dermal exposure based on common construction practices for dewatering below grade excavations (Section H5.3.2, page H-7) can be included in the HHRA.

**Response:** Please see the response to EPA HHRA general comment 3.

3. **Comment:** Indoor air exposure model parameters (Section H5.4.2, page H-10 through H-13; Table H1-1) for the Johnson and Ettinger (J&E) model were checked and are acceptable EPA and DTSC recommendations.

This comment is meant for the DTSC Project Manager and no response is required by the Navy or the Navy contractor.

**Response:** Comment noted

4. **Comment:** General exposure parameters for the residential, industrial, construction worker, and recreational user scenarios (Section H5.5.1, page H-15 through H-18; Table H-4.1 through H-4.4) were reviewed and are acceptable EPA and/or DTSC recommendations or reasonable values based on best professional judgment. This comment is meant for the DTSC Project Manager and no response is required by the Navy or the Navy contractor.

**Response:** Comment noted.

5. **Comment:** The hierarchy presented for the selection of cancers slope factors (CSFs) (Section H6.2, page H-21) and non-cancer Reference Doses (RfDs) (Section H6.1, page H-19) including the route-to-route extrapolation methodology (Section H6.3, page H-22) were reviewed and are acceptable to HERD. This comment is meant for the DTSC Project Manager and no response is required by the Navy or the Navy contractor.

**Response:** Comment noted.

6. **Comment:** There appears to be no outline of the TEF values proposed for PAHs, as presented in the main text (Section 3.3, page 3-5). The TEFs used to normalize the concentration of carcinogenic PAHs to a B(a)P-equivalent concentration are not those recommended by HERD. The TEF for benzo(k)fluoranthene should be 0.1 rather than 0.01 and the TEF for chrysene should be 0.01 rather than 0.001. These differences will increase the estimate of B(a)P soil concentration for comparison to the NASA-specific risk management agreed-upon concentration of 0.62 mg/kg. The CalEPA estimate of B(a)P soil concentration (Method 2) should be made with the most protective TEF.

**Response:** Please see the response to DTSC HERD general comment 1.

7. **Comment:** HERD concurs with the methodology and parameters used to evaluate the potential human health effects associated with lead exposure (Section H7.3, page H-25; Section H8.3, page H-35; Tables H-10.1 and H-10.2). This comment is meant for the DTSC Project Manager and no response is required by the Navy or the Navy contractor.

**Response:** Comment noted.

8. **Comment:** The evaluation of naphthalene as a carcinogen in the CalEPA (Method 2) HHRA commercial/industrial worker scenario (Section H8.1.1, page H-27) is the primary cause of the difference between the EPA (Method 1) and CalEPA (Method 2) estimate of cancer risk. This comment is meant for the DTSC Project Manager and no response is required by the Navy or the Navy contractor.

**Response:** Comment noted.

9. **Comment:** The attribution of an oral CSF for trichloroethene (TCE) to DTSC is incorrect (Section H8.1.3, page H-30). The CalEPA Office of Environmental Health Hazard Assessment (OEHHA) is the CalEPA entity responsible for setting CalEPA toxicity values. Please amend this sentence in the text to indicate that 'OEHHA has established an oral SF..' or 'DTSC requires an oral SF..'.

**Response:** The fifth paragraph of Section H8.1.3 will be revised to state: "OEHHA has established an oral SF ..."

10. **Comment:** Essentially, three of the four corners of IR Site 34 are recommended as areas for further consideration along with the area of the former railroad track (Section 8.1.1.1, page 8-2). HERD concurs with this identification in the HHRA.

**Response:** Comment noted.

11. **Comment;** HERD recommends that some risk management evaluation of remedial alternatives be performed for unrestricted use based on the residential exposure scenario cancer risk estimates (Section H8.1.3, page H-29) and non-cancer Hazard Index (HI) (Section H8.2.3, page H-34). The average soil lead concentration of 520 mg/kg (Section H8.3, page H-36) should enter into the risk management evaluation.

**Response:** The risk management evaluation will be conducted as part of the FS in considering remedial alternative.

## SPECIFIC COMMENTS

### ECOLOGICAL RISK ASSESSMENT (APPENDIX I)

- Comment:** The figure (Figure I-3) presenting the Conceptual Site Model (CSM) (Section I2.0, page I-2) contains both dotted lines and dashed lines while the footnote indicates that solid lines are complete exposure pathway, dashes indicate incomplete exposure pathways. Some of the lines, whether dashed or dotted, appear to be transport pathways (e.g., soil to sediment or soil to air) rather than exposure pathways. Please amend the figure or the footnotes.

**Response:** The footnote will be revised to state that the solid lines refer to complete exposure or transport pathways, and that the dashes indicate incomplete pathways.

- Comment:** Wetlands exist along the fence line to the north of the site and to the south of the site (Section I2.2.1, page I-3). The wetland to the south appears to be approximately 150 feet from a larger wetland indicated as '23D' (Figure I-5). These wetlands have not been formally delineated (Section I2.2.A, page I-4). The California Department of Fish and Game should be consulted to determine whether a formal wetland delineation is required for the seasonal wetland to the south or the saline emergent wetland to the north.

**Response:** The draft RI report was provided to CDFG. Based on the recent Environmental Impact Report prepared for the proposed Alameda Point Golf Course, there are no delineated wetlands within IR Site 34 except for the emergent wetlands located along the Oakland Inner Harbor (Alameda Reuse and Redevelopment Authority 2006). The Navy would also note that formal wetland delineations are required for CERCLA actions only if remedial action is proposed for the wetland. VOCs, pesticides, and PCBs in soil within the southwestern corner of the site are recommended for further consideration in the FS. A formal wetland delineation will be conducted should remedial action be proposed in the areas near the potential seasonal wetlands.

- Comment:** The two sentences attempting to distinguish the toxic effects of inorganic elements from those attributable to Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs) (Section I2.5, page I-7) should be amended or removed. Whether an inorganic element toxic effect is restricted to developmental and reproductive effects is affected by many factors (e.g., concentration and/or length of exposure).

**Response:** The referenced text in Section I2.5 will be removed from the draft final RI report.

4. **Comment:** Please correct the third sentence in the discussion of the CSM (Section I2.7, page I-8) which contains a typographic error that repeats a partial list of Contaminants of Potential Ecological Concern (COPECs).

**Response:** The third sentence in Section I2.6, Conceptual Site Model, will be revised to state that investigations at IR Site 34 indicated the presence of metals, VOCs, SVOCs, PAHs, pesticides, PCBs, and petroleum hydrocarbons.

5. **Comment:** The terrestrial plant and soil invertebrate communities are not included in the proposed assessment endpoints for IR Site 34 (Section I2.7, page I-9). Assessment endpoints and measurement endpoints for these two significant ecological components must be included in the ERA.

**Response:** It is the Navy's position that an evaluation of terrestrial plant and soil invertebrate communities in the SLERA for Site 34 is not necessary as Site 34 is within the Intensively Developed area and has little vegetation and minimal habitat to support plant and invertebrate populations. Therefore, this pathway was considered incomplete.

6. **Comment:** HERD agrees to the source hierarchy for terrestrial receptors (Section I3.1, page I-11) and aquatic receptors (Section I3.2, page I-11). Additional sources will be necessary for evaluation of the terrestrial plant and soil invertebrate communities.

**Response:** It is the Navy's position that an evaluation of terrestrial plant and soil invertebrate communities in the ERA for Site 34 is not necessary as Site 34 is within the Intensively Developed area and has little vegetation and minimal habitat to support plant and invertebrate populations.

7. **Comment:** The generic exposure factors (e.g., site use factor and bioavailability) used for the Screening Level ERA (SLERA) (Section I3.3, page I-12; Table I-10 through I-15) are acceptable. The species-specific exposure factors (e.g., body weight) were reviewed (Tables I-16 through I-20) are acceptable. This comment is meant for the DTSC Project Manager and no response is required by the Navy or the Navy contractor.

**Response:** Comment noted.

8. **Comment:** Aroclor 1268 is one of the Polychlorinated Biphenyl (PCB) mixtures retained for further analysis based on the results of the SLERA (Section I5.0, page I-19). This Aroclor mixture has not been detected or at least evaluated in any other ERA for NASA. A more detailed description of the source of Aroclor 1268 at IR Site 34 should be included in the IR Site 34 Site Description (Section 1.3, page 1-3 and/or Section 1.3.3, page 1-5).

**Response:** The intent of Sections 1.3, Background, and 1.3.3, IR Site 34 Description and Operations, is to provide general introductory descriptions of the activities conducted at Site 34 rather than a detailed description of potential sources of chemicals that are later identified in the risk assessments. What is known about activities conducted at the site is provided in these sections of the draft RI report. More detailed descriptions of the nature and extent and potential sources of PCBs in soil were provided in Section 4.1.6, Polychlorinated Biphenyls in Soil, and Section 4.1.8, Summary of Contamination in Soil, of the draft RI report. As stated in the text, PCBs appear to be limited to the ground surface, and were clustered along the western site boundary, between former Buildings 343 and 344, and on the north and south sides of former Building 331, with isolated elevated levels identified at former Building 604 and in off-site step-out samples near former Building 345.

9. **Comment:** HERD accepts the areas identified as posing potential ecological hazard for terrestrial vertebrate receptors in the refined ERA (Section I6.0, pages I-19 through I-23). These areas are essentially the four corners of IR Site 34. This comment is meant for the DTSC Project Manager and no response is required by the Navy or the Navy contractor.

**Response:** Comment noted.

10. **Comment:** The comparison of groundwater concentrations to aquatic hazard criteria is indicated as Table I-20 in the text (Section I6.1.2, page I-24). A qualitative yes/no listing of the groundwater COPECs against available aquatic criteria is presented in Table I-23. The identification of the groundwater COPECs exceeding specific aquatic criteria is actually Table I-24. Please amend the text.

**Response:** The text will be amended to reference Table I-24.

11. **Comment:** Groundwater sample location DP-5 is the source of sample results exceeding criteria for multiple groundwater COPECs (e.g., mercury, PAHs) (Section I6.1.2, pages I-23 through I-27). Soil at sample

location of DP-5 should be considered as a candidate for any further soil actions.

**Response:** The FS will consider the need for further actions at all locations where there are chemicals of concern.

12. **Comment:** HERD is unwilling to consider the proposal that either IR Site 34 wetland is not affected (Section I6.2.2, page I-28) until the California Department of Fish and Game determines whether a formal wetland delineation is required and/or the southern wetland serves as an extension of habitat for the more extensive wetland location indicated at 23D (Figure I-5).

**Response:** The draft RI report has been provided to CDFG. The biological survey conducted during the field investigation did not show that the wetland south of the site is connected to the possible wetland area on site.

13. **Comment:** Please clearly describe, or reference, the monitoring well information for monitoring wells along OIH which indicates that groundwater discharges to OIH at depths greater than the wetland to the north of IR Site 34 (Section I6.2.2, page I-28). Soil samples were collected at IR Site 34 only to depths of 4 feet bgs due to the presence of groundwater. As the wetland to the north of IR Site 34 has been described as an 'emergent saline wetland' a groundwater discharge to OIH at approximate depths of 4 feet bgs would seem within the bounding depths of this wetland.

**Response:** Text that describes groundwater as discharging at a depth deeper than the wetland will be removed from the report. Additional text in support of the conclusion that the wetland north of IR Site 34 does not require further investigation or assessment of ecological risk will be added to Sections 7.5 and 8.1.5. See response to DTSC HERD specific comment 22.

14. **Comment:** While some of the soil COPECs are present at concentrations which pose potential ecological hazard, lack of current significant terrestrial habitat and potential future use as part of a golf course (Section I6.2.2, page I-28) are the basis for concluding that there is currently minimal terrestrial habitat. Any changes in land use which lead to the development of significant terrestrial habitat will require re-evaluation of the potential ecological hazard.

**Response:** Comment noted.

## DTSC CONCLUSIONS

The majority of HERD recommendations and requirements outlined in the January 13, 2006, HERD review of the Draft Final Work Plan for IR Site 34 have been incorporated into this draft Remedial Investigation Report. However, there remain several outstanding issues such as use of the OEHHA Toxicity Equivalency Factors (TEFs) for the CalEPA estimate (Method 2) of PAH risk in the Human Health Risk Assessment (HHRA).

Evaluation of potential hazard to the terrestrial plant community and the soil invertebrate community must be added to the Ecological Risk Assessment (ERA).

The presence of Aroclor 1268 at IR Site 34, when this Aroclor mixture has not been reported for other Naval Station Alameda sites must be explained or at least further discussed.

Essentially, three of the four corners of IR Site 34 are identified as areas for further consideration along with an area of the former railroad track. HERD accepts this conclusion of the HHRA.

The California Department of Fish and Game (DFG) should be consulted to determine whether a formal wetland delineation is required for the two small wetlands associated with IR Site 34. The DFG should also be asked to determine whether the small seasonal wetland in IR Site 34 serves as a significant extension of the larger wetland indicated to the south in area 23D.

**Response:** The RI report will be revised to present the Cal/EPA B(a)P equivalent concentrations. (See response to DTSC HERD general comment 1.)

The Navy has determined that an evaluation of terrestrial plant and soil invertebrate communities in the SLERA for Site 34 is not necessary as Site 34 is within the Intensively Developed area and has little vegetation and minimal habitat to support plant and invertebrate populations.

PCBs are likely from the temporary storage of PCB- and lead-contaminated soil excavated from IR Site 15. Potential sources of PCBs in soil were provided in Section 4.1.6, Polychlorinated Biphenyls in Soil, and Section 4.1.8, Summary of Contamination in Soil, of the draft RI report.

Comment noted regarding the four AOCs identified in the draft RI report for further consideration in the FS. In addition, it should be noted that the area north and northwest of Building 331 will also be identified as an AOC in the draft final RI report. (See response to DTSC GSU specific comment 11.)

A formal wetland delineation is required only if remedial action is proposed for the wetlands. VOCs, pesticides, and PCBs in soil within the southwestern corner of the site are recommended for further consideration in the FS. A formal wetland delineation will be conducted should remedial action be proposed in this area near the potential seasonal wetland.

## RESPONSE TO COMMENTS BY DFG-OSPR

### GENERAL COMMENTS

- 1. Comment:** DFG-OSPR appreciates this opportunity to provide guidance on the planned cleanup at Alameda Point, Alameda. This memo will serve to inform the Navy of our continuing interest in coordinating any natural resource issues, as one of the designated State natural resource trustees. This may be necessary should release(s) of any hazardous materials at the subject site affect State natural resources.

**Response:** Comment noted.

- 2. Comment:** DFG-OSPR is in general concurrence with the detailed review provided by Dr. James Polisini of the Department of Toxic Substances Control (DTSC) on November 28, 2007. The DFG has only a few new comments on the above document beyond those expressed by DTSC.

**Response:** Comment noted.

### SPECIFIC COMMENTS

- 1. Comment:** Page 3-19, Section 3.6.4: Please add statements or paragraphs as follows: Chemicals of potential ecological concern (COPECs) with hazard quotient (HQ) below one with the low toxicity reference values (TRVs) would not be expected to pose unacceptable risks to ecological receptors, while those with HQ in excess of one with the high TRVs would pose unacceptable level of risks and would require remediation. For COPEC concentrations that are between the low and high TRVs, a management decision will be required to determine if the level of risk is acceptable or if site-specific bioavailability and exposure data need to be incorporated to refine the risk assessment.

**Response:** The Navy believes it is not appropriate to incorporate the requested text. Consistent with EPA and Navy guidance, the purpose of a SLERA is to use conservative assumptions and existing data to make a decision

whether to continue or not to continue the assessment of ecological risk (the baseline ERA). It is not to determine if the level of risk is unacceptable and would require remediation. Hazard quotients were calculated as preliminary risk estimates, and refined exposure estimates were developed in accordance with Step 3a of Navy policy and EPA guidance if the HQ was greater than 1. If the SLERA had concluded that further assessment was necessary, a baseline ERA would have been conducted.

2. **Comment:** Page 7-8, Section 7.4: A number of factors that contribute to uncertainty were not adequately addressed in this section. For example, no attempt is made to account for the potential additive or synergistic effects of multiple contaminants.

**Response:** The SLERA approach is consistent with the RI work plan for Site 34 (Tetra Tech 2006, as cited in the RI report) that is based on EPA and Navy guidance. It is not intended to reduce all uncertainty; rather, it is a screening process intended to use conservative assumptions and existing data to make a decision whether to continue or not to continue the assessment of ecological risk (the baseline ERA). If it had been determined that further assessment was necessary, a baseline ERA would have addressed which, if any, of the chemicals truly pose an unacceptable risk by using a more site-specific and technically rigorous process. However, the SLERA has concluded that a baseline ERA is not necessary at Site 34.

3. **Comment:** Page 7-8, Section 7.4: Since groundwater in Site 34 is hydrologically connected to surface water in San Francisco Bay and is tidally influenced, there is potential for migration of contaminants from Site 34 to the aquatic environment and selected aquatic receptors, either by surface runoff or subsurface flow. Please address this concern in Section 7.4.

**Response:** Potential risk from groundwater is addressed in Section 7.3.2 of the RI report. Exposure of aquatic life to COPECs through groundwater migration to the Oakland Inner Harbor is evaluated as a complete pathway, and the exposure point concentrations for groundwater COPECs were compared with three sets of aquatic comparison criteria. Surface water runoff from the site generally infiltrates to groundwater before it reaches San Francisco Bay, with smaller amounts entering the storm drain system; therefore, this pathway was considered essentially incomplete.

4. **Comment:** Page 1-28, Section 16.2.2: For wetland delineation, DTSC deferred to DFG's consultation. DFG-OSPR reiterates that the Navy should recognize that DFG consistently uses the U.S. Fish and Wildlife

Service (USFWS) definition of wetland in its wetland policy (<http://www.fgc.ca.gov/html/p4misc.html>). The DFG wetland policy is a To-Be-Considered guideline which recommends that wetland characterization utilize USFWS definition of wetlands (USFWS, 1979). The USFWS definition utilizes hydric soils, saturation or inundation, and vegetative criteria, and requires the presence of at least one of these criteria (rather than all three) in order to classify an area as a wetland. Therefore, the USFWS criteria for wetland characterization is more stringent than the U.S. Army Corp of Engineers (COE) criteria. In order to uphold the DFG policy, we must utilize USFWS criteria for wetland delineation at Alameda Point and other BRAC sites. The new wetland delineation report would be unacceptable if only COE criteria for wetland delineation were applied at Alameda Point.

**Response:** Potential wetland areas identified in the remedial investigation report were evaluated in the Alameda Point Golf Course Final Environmental Impact Report (Alameda Reuse and Redevelopment Authority (2006). The Navy does not believe that wetland delineation is necessary at this time. Furthermore, It is the Navy's position that a formal wetland delineation would be required, and in accordance with U.S. Army Corp of Engineers (COE) criteria, only if remedial action is proposed for the wetland. VOCs, pesticides, and PCBs in soil in the southwestern corner of the site are recommended for further consideration in the FS. A formal wetland delineation will be conducted using COE criteria should remedial action be proposed in this area near the potential seasonal wetland.

**5. Comment:** Page 1-28, Section 16.2.2: Before the seasonal wetland is delineated, DFG-OSPR cannot accept the statement that "wetlands identified both on and around IR Site 34 may provide minimal suitable habitat for ecological receptors." It is not clear from the discussion on this page how the wetland was characterized. DFG-OSPR strongly recommends that the wetland delineation be made by a qualified biologist. The biologist utilizes site information and background materials to prepare what is commonly referred to as a Wetland Delineation Report. DFG-OSPR recommends the following outline to present the project information in a report format.

- I. Summary**
- II. Introduction**
  - A. Description of Project
  - B. Purpose of Assessment
- III. Project Setting**
  - A. Vegetation community
  - B. Hydrology

- C. Soils
- IV. Methodology**
  - A. Pre-survey investigations
  - B. Field survey
- V. Results**
  - A. Summary table of wetland impacts
  - B. Wetland functions and values
    - 1. Description of existing functions and values
    - 2. Potential impacts
- VI. Discussion**
  - A. Avoidance and minimization recommendations
  - B. Mitigation recommendations
- VII. References Cited**
- VIII. Personal Communications Cited**
- IX. Appendices**
  - A. Project maps showing proposed USFWS and COE jurisdictional areas (1:100 scale map preferred)
  - B. Data Forms - Wetland Delineation
  - C. National Wetlands Inventory map, where available

**Response:** It is the Navy's position that a formal wetland delineation is not necessary to assess risk at Site 34 and would be required only if remedial action is proposed for the wetland. Additional text will be added to the report stating that Site 34 is within an Intensively Developed area, which has little vegetation and less foraging habitat than is available in surrounding areas. In addition, the wetlands provide minimal habitat to support plant and invertebrate populations and is tidally inundated at such a frequency that it would not present suitable habitat for small mammals. This characterization is based on an environmental impact report prepared by the City of Alameda and a biological surveys conducted by the Navy. Furthermore, based on a review of the California Natural Diversity Database (2007), special-status plant and animal species are not expected to occur at Site 34.

### **DFG-OSPR CONCLUSIONS**

As detailed above, the report has several areas of concern to DFG-OSPR that should be addressed. DFG-OSPR recommends that the Navy provide a revised report that clearly addresses these concerns.

Before this RI report is acceptable with respect to ecological risk, the seasonal wetland should be delineated. We request additional time to evaluate the response to a request for the wetland delineation. In the meantime, the Navy may proceed with Site 34, with the clear understanding that additional action may be required after DFG reviews the Response to Comments for the formal wetland delineation.

Literature Cited

Alameda Reuse and Redevelopment Authority. 2006. Alameda Point Golf Course, Final Environmental Impact Report. Prepared by EDAW, Inc. San Francisco, CA.

**RESPONSE TO REGULATORY AGENCY COMMENTS ON THE DRAFT FINAL  
REMEDIAL INVESTIGATION REPORT FOR INSTALLATION RESTORATION SITE  
34, FORMER NORTHWEST SHOP AREA, ALAMEDA POINT, ALAMEDA,  
CALIFORNIA**

---

This document presents the U.S. Department of the Navy's response to regulatory agency comments on the "Draft Final Remedial Investigation [RI] Report for Installation Restoration [IR] Site 34, Former Northwest Shop Area, Alameda Point, Alameda, California," dated March 6, 2008. The comments addressed below were received from the U.S. Environmental Protection Agency (EPA) on April 7, 2008 and from the Department of Toxic Substances Control (DTSC) Geologic Services Unit (GSU) and the DTSC Human and Ecological Risk Division (HERD) on April 4, 2008.

**RESPONSES TO COMMENTS FROM EPA**

**General Comments**

1. **Comment:** Response to Specific Comment 16: It is unclear why the request to designate HS3S as an area for further delineation during the remedial design was dismissed. This location is along a former railroad track, so additional samples east-southeast and west-northwest of this location (i.e., along the railroad) are needed to evaluate whether there is additional contamination along the rail line. The extent of contamination to the south of this location has not been delineated. In addition, the X-ray fluorescence (XRF) results indicate higher concentrations for lead and chromium than the laboratory results; given the heterogeneity of soil this data should be considered when evaluating the need for further sampling. Also, analyses for polynuclear aromatic hydrocarbons (PAHs) were not done for the HS3S samples; since this location is along a former railroad analyses should include PAHs and semi-volatile constituents of creosote. Please recommend HS3S for delineation during the remedial design to evaluate the extent of arsenic, chromium, lead, PAHs, and creosote in the vicinity of HS3S.

**Response:** The Navy reviewed the sampling data within the vicinity of HS3S and along the former rail line. The Navy believes that sufficient sampling has been conducted to evaluate the contamination within these areas. There are at least 12 other samples located along the rail line. Although HS3S was not analyzed for PAHs and SVOCs, this location was analyzed for metals, and there are other samples collected along the rail line that were analyzed for PAHs and SVOCs. Furthermore, the remedial investigations at IR Site 14 and IR Site 15 (west and east of IR Site 34, respectively) did

not show significant contamination of soils by PAHs or SVOCs. There has not been any impact on soil contamination by the rail line observed at other IR Sites.

Based on the analysis of these samples and other IR Sites, there is no consistent pattern to conclude that the rail line has been a significant source of contamination at IR Site 34. Accordingly, the Navy intends to remove text in the Executive Summary and in Section 8 that attributes soil contamination to use and subsequent fill of the historical railroad.

The XRF results were used during the remedial investigation site characterization to determine which samples would be analyzed by the analytical laboratory. XRF analyses are known to be biased high and there was no intent for the XRF results to be used other than as a screening tool. In addition, the heterogeneity of the soil is not relevant to the XRF results. Rather the heterogeneity is important in determining if sampling is sufficient to conduct the necessary evaluations.

The Navy is satisfied that sufficient samples were collected to support the risk evaluations for the site. The Navy does not believe there is sufficient uncertainty to warrant additional sampling around HS3S.

2. **Comment:** Response to Specific Comment 23: **Since the highest risk associated with the polychlorinated biphenyls (PCBs) in PW13 and PW18 was 5.7E-06 (Table 6-6) for a potential future residential receptor and the total risk associated with PCBs is 1.2E-05 (Table 6-6), institutional controls are needed to ensure that the area is not used for residences in the future. Also, please note that the risk cited in the response does not agree with Table 6-6. Please recommend all locations with PCBs for inclusion in the Feasibility Study.**

**Response:** The feasibility study will evaluate PCBs for appropriate remedial action. The Navy acknowledges that the risks cited in the response were incorrect. The values presented in Table 6-6 are the values from the human health risk assessment.

RESPONSES TO COMMENTS FROM DTSC CAL CENTER CLEANUP PROGRAM

**General Comments**

1. **Comment:** In our previous letter regarding this Site (Review of the draft Remedial Investigation Report for Site 34, dated December, 6, 2007) DTSC stated,

Of particular note is Dr. Polisini's... comment ...which references the detailed memorandum that DTSC submitted to the Navy reading HERD's evaluation of the Alameda Point soil background data set. In your response to Dr. Polsini's ...comment ... please indicate 1) whether the Navy is going to adjust the background data set in response to the HERD memorandum of July 12, 2006, and 2) when DTSC can expect that adjustment.

Subsequently the Navy responded,

The Navy is preparing a separate response to the HERD comments on the background soil data set. In general, the Navy does not agree with the HERD analysis and does not believe the methods used are adequate to warrant removal of data from the data set.

DTSC is looking forward to receiving the Navy's analysis and resolving this outstanding issue.

**Response:** The Navy will submit its analysis in the near future. The Navy would like to reiterate HERD's conclusion in Specific Comment 3 below that implementing the requested changes in the data set would not affect the conclusions of the IR Site 34 SLERA.

2. **Comment:** Dr. Polisini's Comment 3 (attached) references Comment 12 from the HERD review of the draft Remedial Investigation Report. Please note Dr. Polisini's recommendation that the Alameda Point groundwater background data set should be revised to account for HERD comments.

**Response:** The Navy is preparing a technical memorandum that addresses the issue of data outliers and non-detect values in the soil and groundwater

background sets for Alameda Point. The tech memo will be focused to address the specific issues raised by Dr. Polisini.

3. **Comment:** Comment number 5 in the attached memorandum contains a repeated recommendation that a wetland delineation be performed using the U.S. Fish and Wildlife Service wetland criteria. DTSC subsequently consulted with the California Fish and Game and we agree with the Navy's commitment to complete a wetland delineation in the future, if required.

**Response:** As noted in the Response to Specific Comment number 5, this issue will be addressed through the feasibility study as necessary.

4. **Comment:** Comment number 6 in the attached memorandum contains a recommendation to collect additional soil samples at soil boring location DP-5. Since the Navy indicated that the need for additional soil sampling will be evaluated in a Feasibility Study, DTSC will likely reiterate this last comment in our review of the draft Feasibility Study for Site 34, if additional sampling is not recommended in the vicinity of soil boring location DP-5.

**Response:** After further review and the clarification provided by DTSC Comment 6 below, the Navy is revising its original response to this issue. DTSC HERD Specific Comment number 6 below, requests additional sampling in the vicinity of DP-5 if soil samples at this location showed elevated concentrations for the constituents found elevated in groundwater samples. Please refer to response to Specific Comment number 6 below. In summary, the Navy does not believe there is a need to conduct additional sampling at DP-5, at this time.

## RESPONSES TO COMMENTS FROM DTSC HERD

### General Comments

The majority of the RTC, and accompanying changes to the Human Health Risk Assessment (HHRA) and Screening Ecological Risk Assessment (SLERA) are adequate. However, several issues remain to be resolved.

### Specific Comments

1. **Comment:** Response to Specific Comment number 2: The response states that the Navy does not intend to change methods or data sets used to evaluate

background. HERD has not requested any changes to methodology only that the data sets provide a reasonable estimate of soil and/or groundwater background concentrations. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractor.

**Response:** Comment noted.

2. **Comment:** Response to Specific Comment number 10: The response indicates, by reference to the response to EPA HHRA General Comment number 3, that dermal exposure will not be evaluated for the construction worker scenario based on similar exclusion for IR Site 28 and IR Site 32. The same response is provided to HERD Specific Comment number 2 on the HHRA (Appendix J, page 50). HERD continues to recommend that dermal exposure be included in the construction worker scenario based on shallow groundwater. However, the DTSC Project Manager should be aware that the construction worker scenario estimates of risk and/or hazard would be greater than those presented in this HHRA if this exposure pathway were included.

**Response:** The Navy agrees that a construction worker scenario that included exposure to groundwater would be greater than currently presented in the IR Site 34 RI Report. However, the Navy does not believe that a construction worker scenario involving exposure to groundwater necessarily represents a reasonable exposure scenario. Workers would have to dewater an excavation to be able to perform any practical type of work. In addition, it is not reasonable to expect that a worker is going to be constantly exposed to groundwater during any reasonable exposure duration.

3. **Comment:** Response to Specific Comment number 12: The HERD comment did not mean to indicate that the HERD June 12, 2006 memorandum addressed groundwater. The table presented in the comment, and included below, outlines discrepancies in the groundwater background data set originally furnished for HERD review in 2006:

aluminum	Potentially two populations with the upper population beginning at about 410 µg/L to 440 µg/L.
antimony	n=194 with only 3 Detected; 13 Detected and Estimated (J-qualified).
beryllium	1 Detected and 17 Estimated (J-qualified). Insufficient detected concentrations.
cadmium	n=194 total; 22 Estimated (J-qualified). Insufficient detected concentrations.
chromium	One outlier at 82.4 µg/L should be removed. Remainder acceptable.
cobalt	n=194 total; 1 Detected; 11 Estimated (J-qualified). Insufficient detected concentrations.
iron	One outlier at 24,400 µg/L should be removed.

lead	One outlier at 28.4 µg/L should be removed. Remainder acceptable.
manganese	Concentrations above 1500 µg/L may be separate population.
mercury	n=198 total; 2 Detected; 2 Estimated (J-qualified). Insufficient detected concentrations.
nickel	Two obvious outliers with concentrations of 138 µg/L and 151 µg/L should be removed. Remainder of data set insufficient given shape of probability plots.
selenium	[n=193 total; 0 Detected; 1 Estimated (J-qualified). Insufficient detected concentrations.
silver	n=188; 1 Detected; 3 Estimated (J-qualified). Insufficient detected concentrations.
thallium	n=193 total; 0 Detected; 3 Estimated (J-qualified). Insufficient detected concentrations.
zinc	One obvious outlier at 46,800 µg/L and seven additional outliers at concentrations ranging from 226 µg/L to 90.7 µg/L should be removed.

As part of the HERD review of the document titled *Draft Final Feasibility Study Report IR Site 2, Westbeach Landfill and Wetlands, Alameda Point, California*, dated April 4, 2007, and subsequent conference calls, HERD was furnished the 'current' NASA groundwater background data set as an attachment to a March 5, 2008 electronic mail message. The filename of this Excel dataset is BCK\_GW\_METALS\_111202.xls. The HERD notes regarding the extremely low frequency of detection and/or apparent outliers included in the table above, originally prepared as part of a 2006 HERD internal review of the groundwater dataset, are still present in the groundwater background data set furnished for IR Site 2 in March of 2008. While there might be some argument about the 'methodology' of using cumulative frequency plots to identify outliers, there cannot be an argument with the identification of elements with frequency of detections of 0.01 (2/198) for mercury or 0.00 for selenium (0/193) and thallium (0/193). The NASA groundwater background data set should be revised to account for these HERD comments.

A comparison of the detected groundwater concentrations (Appendix I, Section I6.1.2, pages I-24 through I-26) indicates that any reasonable estimate of groundwater background, taking into account the HERD review of the data set, would have no impact on the conclusions of the potential adverse aquatic effects associated with the eight inorganic elements selected for the U.S. EPA Ecological Risk Assessment Step 3A refined evaluation.

**Response:** With respect to the IR Site 34 RI Report, it should be noted that no background screening was conducted for selenium and thallium because there were no detected concentrations. For mercury, there are some detected concentrations; however, the Navy agrees that the detection frequency precludes any meaningful conclusions about distributions or statistical significance.

4. **Comment:** Response to Specific Comment number 16; Appendix I (SLERA) Specific Comment numbers 5 and 6: **HERD accepts the enlarged habitat description of the current IR Site 34 as sufficient to exclude the plant and/or soil invertebrate community from the SLERA performed. However, changes in planned future use which lead to the establishment of significant terrestrial habitat may require revision of the terrestrial ERA to include these biological components.**

**Response:** Comment noted; however, the Navy is not concurring with the potential for revisions to the SLERA to account for changes in future land use.

5. **Comment:** Response to Specific Comment number 22 and Appendix I (SLERA) Specific Comment number 2: **HERD continues to recommend that a wetland delineation be performed using the U.S. Fish and Wildlife Service wetland criteria as implemented by the Department of Fish and Game (DFG). DFG Comment number 4 (Appendix J, page 59) and DFG Comment number 5 (Appendix J, page 60) also outline a wetland delineation for the applicable areas. The DFG requirements for the evaluator and the reporting format are provided.**

**Response:** The Navy will consider conducting wetland delineation after evaluation of the remedial alternatives recommended in the feasibility study.

6. **Comment:** Response to Appendix I (SLERA) Specific Comment number 11: **The intention of this comment was not to indicate that soil concentrations were elevated at groundwater sample location DP-5, but that elevated groundwater concentrations may be an indication of elevated soil concentrations. If soil sample results are available from groundwater sample location DP-5 which indicate soil concentrations are not elevated, that would be an adequate response. Otherwise, HERD recommends soil sampling at location DP-5 at the same time the Navy collects additional soil samples at location DP-2 as indicated in response to Specific Comment number 20.**

**Response:** The Navy reviewed the sampling results at DP-5 from the Remedial Investigation. Soil samples were taken at 0.5 ft, 2 ft, and 7 ft bgs at this location. With the exception of arsenic, analytical results of the soil samples did not correspond with any other elevated results for groundwater samples collected. This includes, but is not limited to, mercury, TPH, and, PAHs. Although arsenic was elevated in both soil and groundwater at DP-5, arsenic was not identified as a risk driver under the residential use scenario at DP-5. Therefore, the Navy does not believe additional soil sampling is necessary. Consequently, the Navy would like

to withdraw its original response in the Response to Comments on the Draft Final Remedial Investigation Report that additional sampling at DP-5 would be conducted.